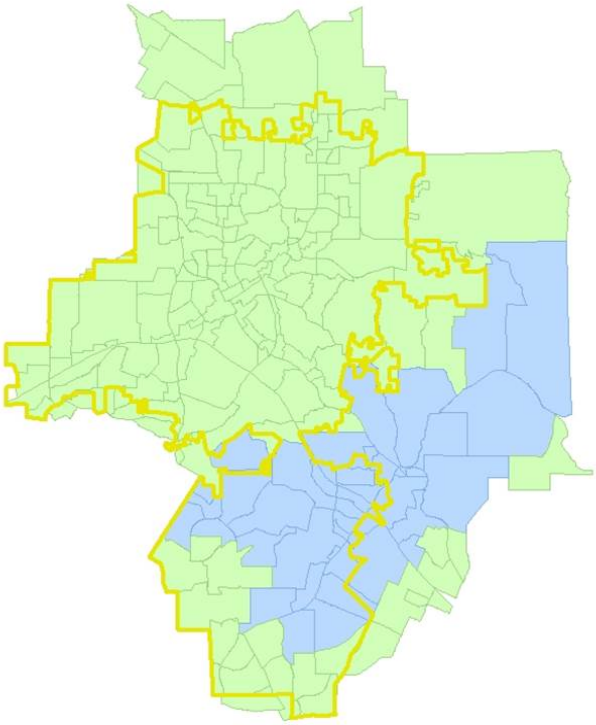

Sewer Master Plan 2017 Update

City of Vista Comprehensive Sewer Management Plan

August 2017

Prepared for

City of Vista
Buena Sanitation District

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Acronyms

ABS	acrylonitrile butadiene styrene
ADWF	average dry weather flow
AWWF	average wet weather flow
BII	base inflow and infiltration
CCTV	closed-circuit television
City	City of Vista
DIP	ductile iron pipe
District	Buena Sanitation District
EDU	equivalent dwelling unit
EWA	Encina Wastewater Authority
GIS	Geographical Information System
gpd	gallons per day
JPA	Joint Powers Authority
MGD	million gallons per day
PDWF	peak dry-weather flow
PF	peaking factor
PVC	poly vinyl chloride
PWWF	peak wet weather flow
RDII	rainfall-derived inflow and infiltration
SANDAG	San Diego Association of Governments
SWMM	Storm Water Management Model
VCP	vitrified clay pipe
VWD	Vallecitos Water District

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1 Introduction

This report presents the findings and recommendations of the 2017 Sewer Master Plan Update (Master Plan) for the City of Vista (City) and Buena Sanitation District (District). The report provides a comprehensive review of the sewer system and identifies capital improvements necessary to adapt to current and future conditions, including planned land development projects, while providing reliable and economical service to the existing customers.

The purpose of the Master Plan Update is to:

1. **Review Planning Criteria and Hydraulic System Models:** Review the City's performance criteria, and update the Info Storm Water Management Model (SWMM) system hydraulic model to account for new facilities and development and to maintain integration with the City's Geographical Information System (GIS);
2. **Refine the CIP:** Refine the current and long-term (2030) Capital Improvement Program (CIP) for both the City and District service areas, and document an objective basis for the setting of sewer rates.

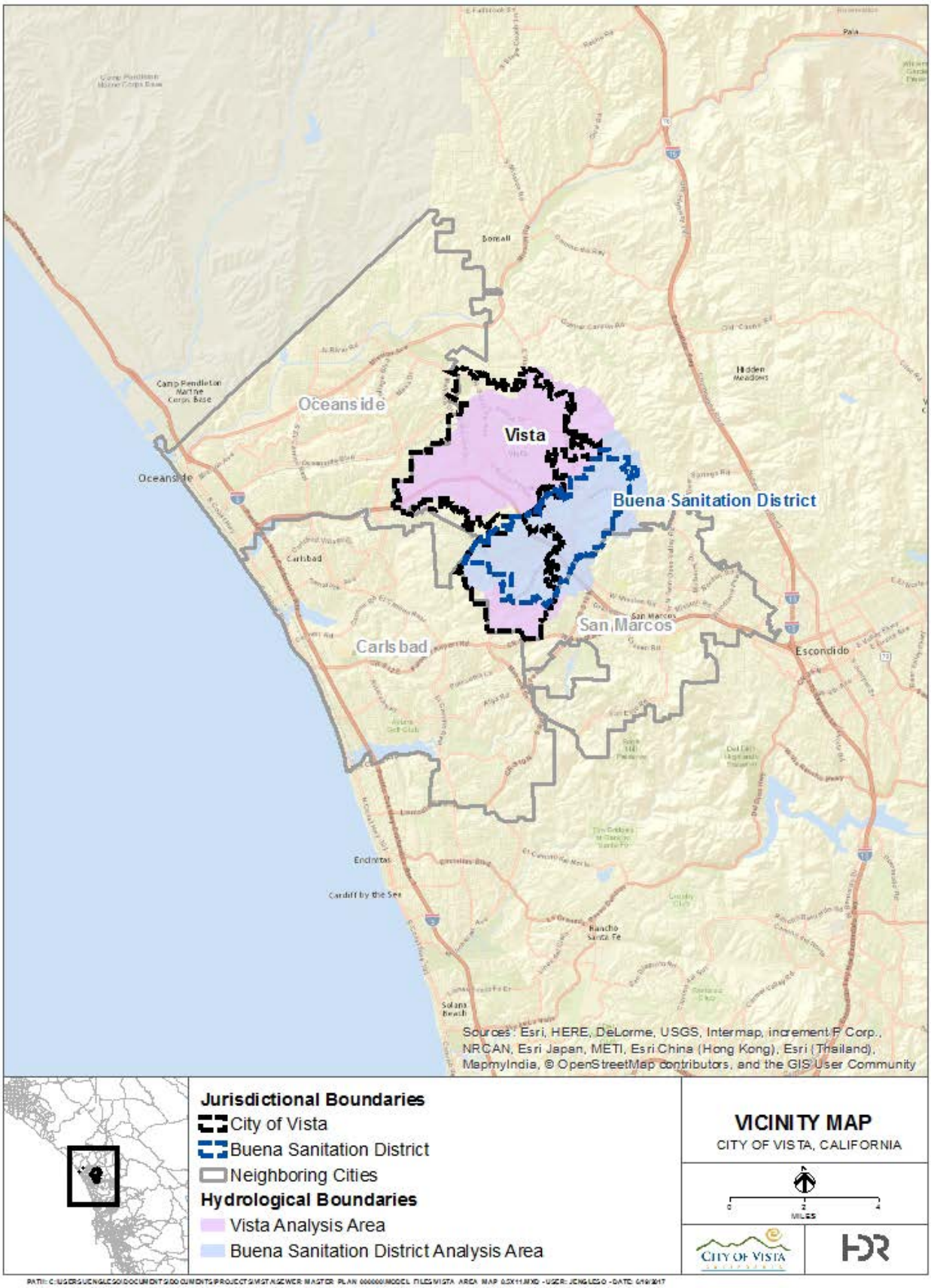
1.1 Study Area

The City owns and operates over 215 miles of sewer collection pipelines and one small capacity pump station, the Raceway Pump Station. Vista and the City of Carlsbad jointly own and operate two additional large capacity pump stations (Agua Hedionda and Buena Vista Pump Stations) and associated pipelines. The District, which is an entity of the City, owns and operates 101 miles of sewer collection pipelines and one large capacity pump station. Both collection systems convey sewage to the Encina Water Pollution Control Facility (EWPCF) for treatment.

The study area for this master plan is defined by a combination of political and physical boundaries. Because the physical extent of the drainage area includes areas up to the ridgeline in the San Marcos Mountains, the study area includes areas outside of the political boundaries of the City and the District. Figure 1-1 shows the limits of the current service area and the boundaries of the study area.

The total study area is approximately 33 square miles or 21,120 acres. This includes all areas maintained by the City/District and areas that can flow by gravity into the system regardless of jurisdiction.

Figure 1-1. Vicinity Map



1.2 Organizational History

Master Plans for the Vista/Buena sewer service area have been prepared regularly since 1982. A list of the historical documents is provided below.

1. Master Plan of Sewerage, March 1982 prepared by Fraser Wilson and Associates
2. Master Plan of Sewerage, May 1993 prepared by Wilson and Associates
3. Sewer Master Plan Update, January 2008 prepared by Dudek

Based on information from these previous Master Plans and other more current references, the organizational history of the Vista/Buena sewer collection system is provided below.

1.2.1 City of Vista

The Vista Sanitary District was originally formed in 1928 to provide sewer service to a small area of downtown Vista. In 1946, the Vista Sanitary District authorized an election for the dissolution of the District to initiate the transformation from a Sanitary District to a Sanitation District.

The San Diego County Board of Supervisors was the governing body of the Sanitation District until the incorporation of the City of Vista in 1963. At that time the Vista City Council became the ex officio Board of Directors of the District. The Vista Sanitation District entered into a Joint Powers Agreement (JPA) with the City of Carlsbad and subsequently connected to the newly constructed Encina Water Pollution Control Facility (EWPCF) in 1965.

In 1983, the Vista Sanitation District was dissolved and all rights and obligations of the Vista Sanitation District were assumed by the City. All sanitation functions are now accomplished by the City staff and an enterprise fund has been set up to keep sanitation funds separate from general fund revenues.

1.2.2 Buena Sanitation District

The District was organized in 1960 with the San Diego County Board of Supervisors acting as its governing body. The District connected to the Encina Water Pollution Control Facility in September of 1965. In 1983, the Board of Directors of the District was restructured in accordance with the Health and Safety Code to a three member board. Two of the members were from the San Diego County Board of Supervisors and one from the Vista City Council.

In 1990, population changes in the District required a change of representation on the Board. The Board of Directors was changed to two representatives from the Vista City Council and one representative from the San Diego County Board of Supervisors. Thus, the City obtained the controlling vote on the District Board.

In October 1998, as a result of population changes in the District, the San Diego County Board of Supervisors adopted Resolution No. 98-289, designating the City as the Board of Directors of the District.

As the City and District have grown, pockets of adjacent communities that are best served through transfer agreements and participation in the JPA have been identified. To provide service to these areas, the City/District has entered into Service Agreements with the City of San Marcos, San Diego County, City of Carlsbad, City of Oceanside, Vallecitos Water District (VWD), and Encina Wastewater Authority (EWA).

1.2.3 Encina Wastewater Authority

In 1961 the Vista Sanitation District and the City of Carlsbad agreed to create a JPA for the purpose of acquiring and constructing a sub-regional sewer collection and treatment system. In 1963, the City incorporated and assumed membership of the JPA. Between 1964 and 1971, four additional partners became members of the JPA. These six public agencies own the EWA through a JPA that facilitates cost sharing and enables economies of scale the owners could not achieve independently. In addition to the City and the District, EWA's member agency owners include: the City of Carlsbad; the City of Encinitas; the VWD; and the Leucadia Wastewater District. The EWA service area and key facilities are shown in Figure 1-2. Note that the Shadowridge Reclamation Facility, shown on the figure, is owned by the District but was decommissioned in 2003.

Figure 1-2. EWA Service Area

Source: http://www.encinajpa.com/about-ewa/member-agencies

From 1963 to 1979, the County of San Diego managed the JPA. In 1965, the JPA completed the construction of the 4.5 million gallon per day (MGD) Encina Water Pollution Control Facility. A Phase I expansion in 1971 increased treatment capacity of the EWPCF to 6.75 MGD. In 1975, the Phase II expansion extended the Encina Ocean Outfall and increase capacity of the treatment facility to 13.75 MGD.

The Leucadia Wastewater District managed the JPA from 1979 to 1988. During this time, the Phase III expansion increased capacity of the EWCPF to 22.5 MGD, enhanced the facilities to meet secondary treatment standards and added effluent pumping facilities to the Ocean Outfall system. Cogeneration facilities were also placed into service.

In 1988, the JPA amended their agreement and created an independent public entity called the Encina Administrative Agency (EAA) to operate, maintain and administer the EWPCF, and the Agua Hedionda and Buena Vista Pumps Stations. In 1991 the EAA changed its name to the EWA.

Phase IV expansion of the EWPCF was completed in 1992, increasing liquid treatment to 36 MGD and solids treatment capacity to 38 MGD, providing flow equalization and odor control facilities. Phase V expansion to 43.3 MGD was completed in 2009 to expand capacity to meet anticipated wastewater flows through 2025.

In 2016, wastewater flows to the EWPCF totaled 20.76 MGD; approximately 26 percent of that flow originated from the City and approximately 7 percent originated from District.

1.3 Purpose of the Wastewater Master Plan Update

The City and the District have contracted with HDR to prepare a Sewer Master Plan Update. This 2017 report provides an updated hydraulic model that reflects updated GIS information associated with the sewer facilities. Future sewer flow projections are based on the adopted land uses, as defined in the City of Vista 2030 General Plan and the current land use plans of other jurisdictions within the sewer service area boundaries. These projections are consistent with the Series 13 regional population and employment growth forecasts developed by the San Diego Association of Governments (SANDAG).

This Sewer Master Plan Update establishes a structured program of system improvements. Capital improvement plan (CIP) projects were identified through hydraulic modeling and capacity analysis and condition assessment of existing facilities. The identified improvements will minimize the potential for system overflows and facilitate compliance with the State's Waste Discharge Requirements.

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2 Service Area Description

To assess the existing and future capacity of the sewer collection system, determination of existing and future wastewater flows is required. Wastewater collection systems are greatly influenced by land use, climate and topography. Land uses primarily drive collection system layout and volume of wastewater flows. Rainfall can impact flows in the collection system as inflow and infiltration of stormwater needs to be accommodated without spilling. Sewer collection systems are generally designed to flow downhill by gravity to minimize the need for sewer pump stations. As a result, the general topography of an area defines the layout of the collection system.

This chapter discusses the topography, climate and land uses of the service area.

2.1 Topography

The physical topography of the study area defines the two main sewer drainage basins of the Vista/Buena service area. The general direction of the natural drainage course occurs from the northeast to the southwest. The northern half of the City service area falls primarily within the Buena Vista drainage basin, and the southern portion of the City and the District service area falls within the Agua Hedionda drainage basin, as shown in Figure 2-1.

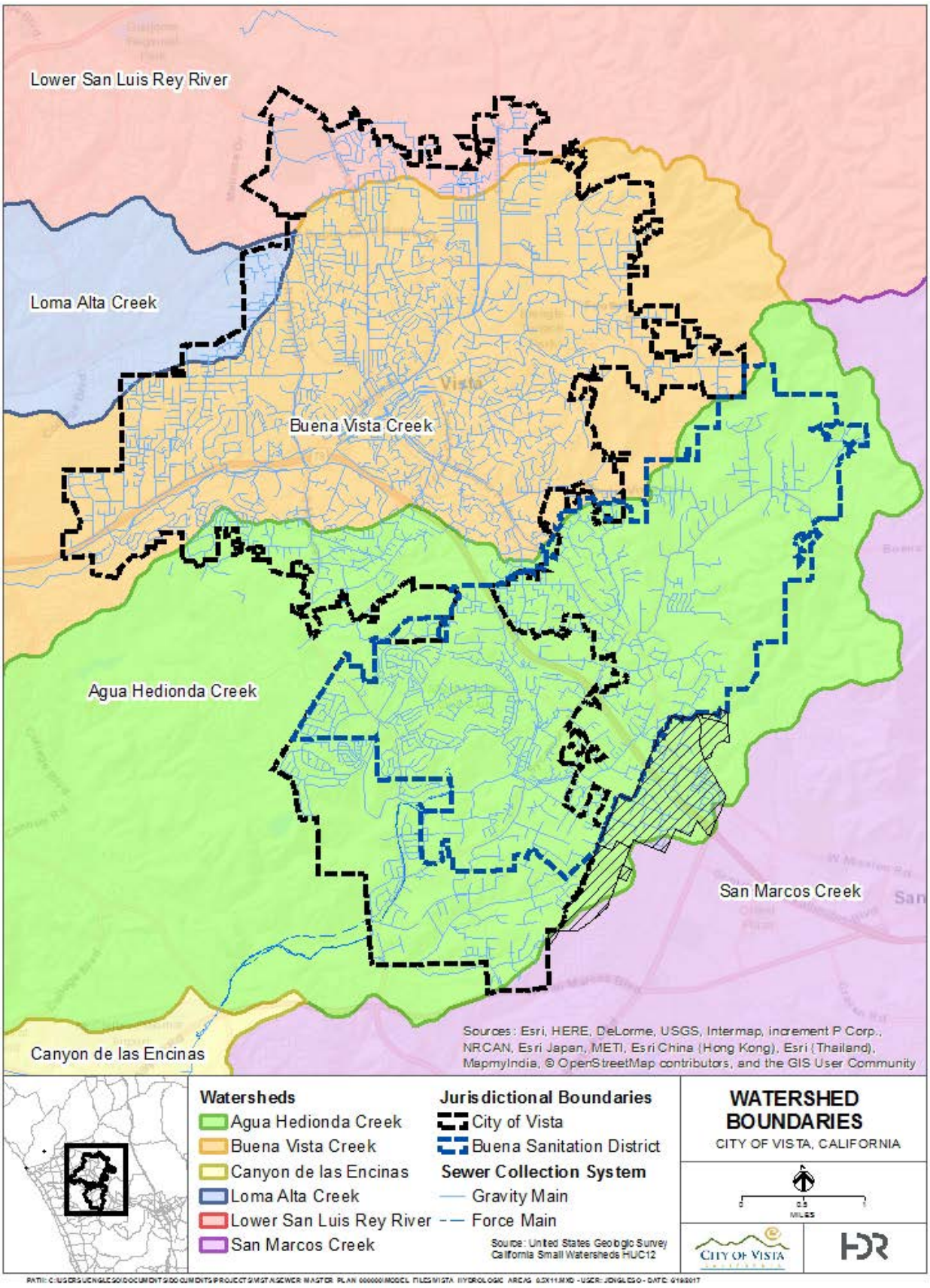
As unincorporated areas develop, the densified land uses require public services, and cities annex these areas to provide those services, to expand the revenue base, and to regulate development in accordance with the general plan. However, physical geography does not typically heed jurisdictional boundaries. Natural drainage across jurisdictional boundaries has led to joint ownership of sewer facilities and sewer flow transfer agreements between the City/District and the City of San Marcos, City of Carlsbad, City of Oceanside, San Diego County and VWD.

2.1.1 Buena Vista Drainage Basin

The Buena Vista drainage basin, dominated by Buena Vista Creek, extends approximately 10.60 miles inland from the coast and totals 14,437 acres in area. Buena Vista Creek originates on the western slopes of the San Marcos Mountains and discharges into the Pacific Ocean via Buena Vista Lagoon.

The northern part of the City occupies the majority of the upper basin and the western lower basin, while the San Marcos Mountains and portions of the southeastern corner of the upper basin are under the jurisdiction of San Diego County.

Figure 2-1. Sewer Watershed Boundaries



2.1.2 Agua Hedionda Drainage Basin

Agua Hedionda Watershed dominated by Agua Hedionda Creek, extends approximately 10.62 miles inland from the coast and is about 18,837 acres in area. Agua Hedionda Creek originates on the southwestern slopes of the San Marcos Mountains in west central San Diego County and discharges into the Pacific Ocean via Agua Hedionda Lagoon. The highest elevation within the watershed is 1,500 feet above mean sea level, located in the San Marcos Mountains.

The City occupies most of the middle portion of the watershed. An enclave of unincorporated County lands and the District are located in the northeastern portion of this basin. West of the SR 78 corridor the majority of the lands are under the jurisdiction of the County of San Diego, and the City of San Marcos enters the watershed along its southeastern boundary.

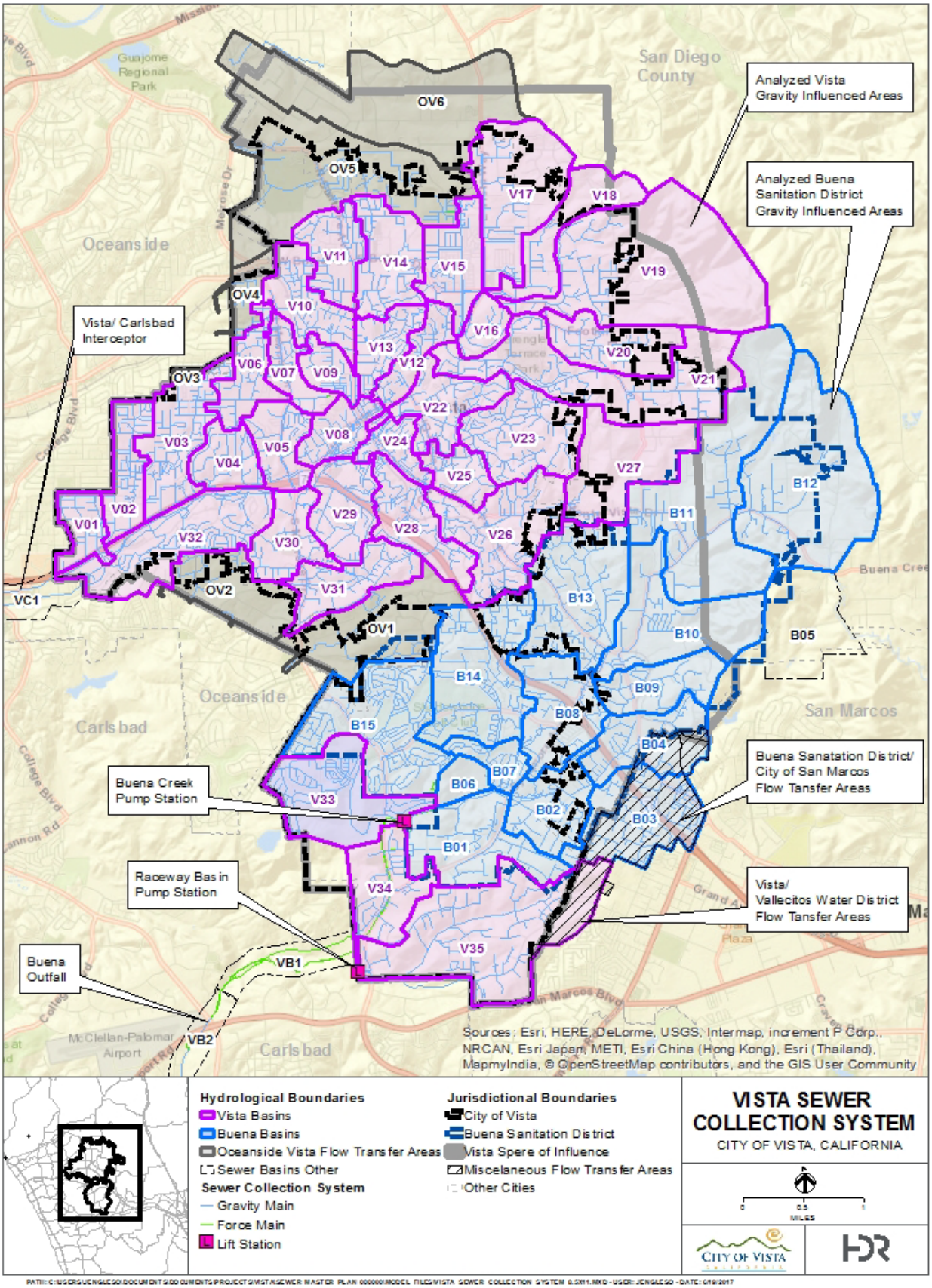
2.1.3 Vista/Buena Sewer Drainage Basins

As shown in Figure 2-2, the Vista/Buena sewer collection system follows the natural drainage basins of the area. The northern half of the City, along with tributary areas from the City of Oceanside, are divided into 32 smaller sub basin collection systems that convey wastewater by gravity to the Vista-Carlsbad (V/C) Interceptor at the western end of the City. The V/C Interceptor is approximately 8 miles long and extends from the Vista meter station just west of College Boulevard and Highway 78 to the to the EWPCF. The V/C Interceptor consists of gravity pipelines ranging in size from 36 to 54 inches in diameter, parallel 24-inch forcemains at the Buena Vista Pump Station and parallel 36-inch OD and four 16-inch forcemains at the Agua Hedionda Pump Station, which is under reconstruction at the time of this report. The pump stations are operated and maintained by the EWA.

The District collection system conveys wastewater by gravity from 15 sub basins, westerly to the Buena Creek Pump Station. The wastewater is subsequently pumped via the Buena Creek Forcemain to the Buena Outfall. The Buena Interceptor is approximately 4 miles long and consists of gravity pipelines ranging from 15 to 30 inches in diameter. It begins at the corner of El Camino Real and Palomar Airport Road, downstream of the discharge of the Buena Creek Forcemain and ends at the EWPCF. There are no pump stations or siphons along the alignment. The District leases capacity of the Buena Outfall with the City of Carlsbad.

Wastewater from the southernmost portion of the City is collected from three sub basins. One City sub basin (V-33) flows directly to Buena Creek Pump Station. Flows from the remaining two sub basins (V-34 and V-35) are directed by gravity to the Raceway Basin Pump Station and subsequently pumped via an 8-inch forcemain that connects to the Buena Creek Forcemain. Combined flows from Buena and Raceway Basin Pump Stations are conveyed to the EWPCF via the Buena Outfall.

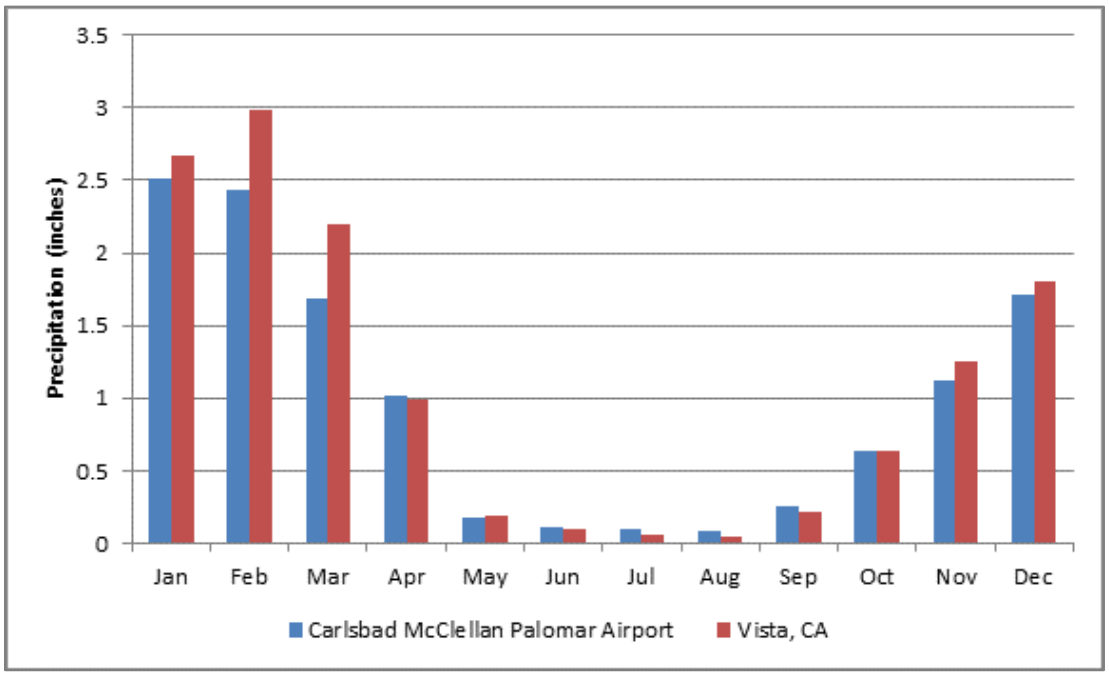
Figure 2-2. Sewer Collection System



2.2 Climate

The climate in the Vista/Buena service area is mild, varying from a low mean daytime temperature of 69 degrees in the winter to a high mean daytime temperature of 86 degrees in the summer. The average annual rainfall for Vista is approximately 13.4 inches and occurs primarily from October through April, as shown in Figure 2-3. The Carlsbad McClellan Palomar Airport is located near the southern end of the Vista/Buena service area. The Vista, CA precipitation data represents rainfall near downtown Vista.

Figure 2-3. Monthly Normal Rainfall



Source: 1981-2010 Climate Normals - National Climatic Data Center, NOAA

2.3 Land Use

Planning level land use designations are a powerful tool in developing and projecting sewer collection system flows. Land use can be used to group current sewer customers with similar wastewater generation rates for the analysis of existing collection system sewer loads. Additionally, because general development plans typically assign equivalent dwelling unit (EDU) density per land use type, sewer generation rate per EDU can be used as a standard parameter for comparing land use loading.

Land use information for the Vista/Buena service area is based on documentation from several authorities including the following:

- City of Vista 2030 General Plan and Downtown Specific Plan- Includes the area of the sewershed within the boundaries of the City. Represents the majority of the service area.
- Unincorporated San Diego County - Parts of the service area outside the City and other transfer agreement areas. Represents mainly Rural Residential areas, areas

currently on septic and potential areas of future expansion to the northeast of the system.

- City of San Marcos - Empowering agreement for the area called "West City" with the District for wastewater utility services.
- VWD - Flow agreements for Rancho Santalina with the District and Arbor Ranch and Sunset Park with the City.

2.3.1 Vista General Plan Update

In February 2012, the City Council adopted the Vista General Plan 2030. The Land Use and Community Identity Element of the General Plan identifies where and how growth will occur within the City. Over the past 20 years, Vista has experienced considerable growth, with the addition of over 24,000 new residents and construction of new industrial and commercial development. Although the City is approaching buildout, it is expected to add nearly 14,775 residents by 2030. The majority of this growth is anticipated to be accommodated by infill of vacant sites and redevelopment of underutilized sites.

The Public Safety, Facilities and Services Element of the General Plan also addresses the City's sanitary sewer service goals:

Sanitary Sewer System

PSFS Goal 9: Continue to provide sanitary sewer facilities to accommodate the safe, efficient, and cost-effective disposal of waste, commensurate with existing and proposed development.

PSFS Policy 9.1: Periodically update the Sewer Master Plan when necessitated by changes in District conditions and/or State regulations.

PSFS Policy 9.2: Utilize updated management tools to efficiently manage operations and maintenance (O&M) and capital improvement projects, and more equitably assess rates and connection fees.

PSFS Policy 9.3: Implement prioritized projects for inclusion in the CIP within the recommended time frames to address all known deficiencies and minimize sanitary sewer overflows (SSOs).

Figure 2-4 illustrates the City's 2030 Land Use Plan. Figure 2-5 illustrates areas within the City that are anticipated to contribute to future sewer flows. These areas include currently vacant parcels, areas currently served by septic systems, and areas slated for redevelopment. Downtown Vista is one of the areas where allowable densities have significantly increased.

Figure 2-4. Buildout Land Use Map 2030 General Plan

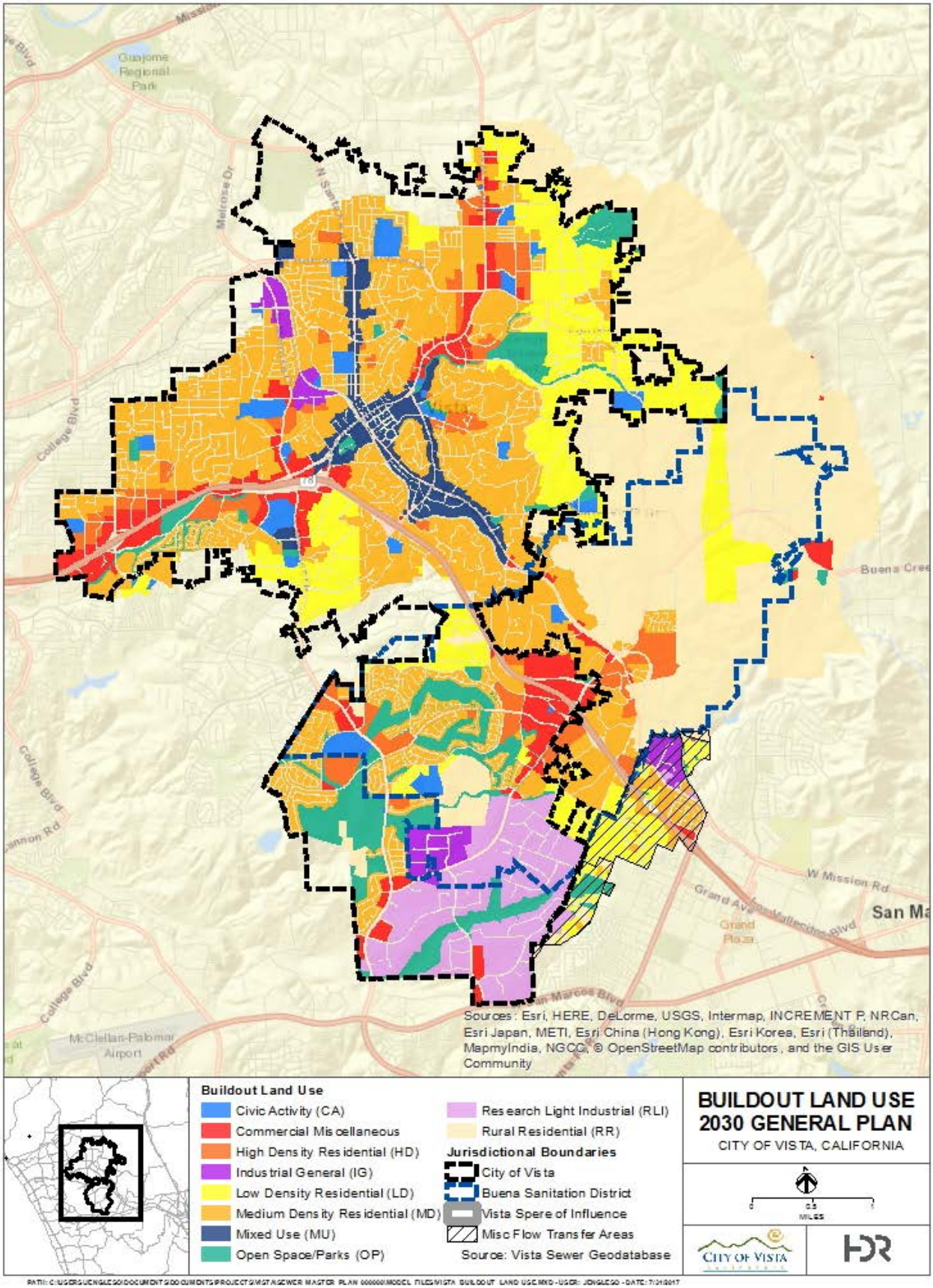
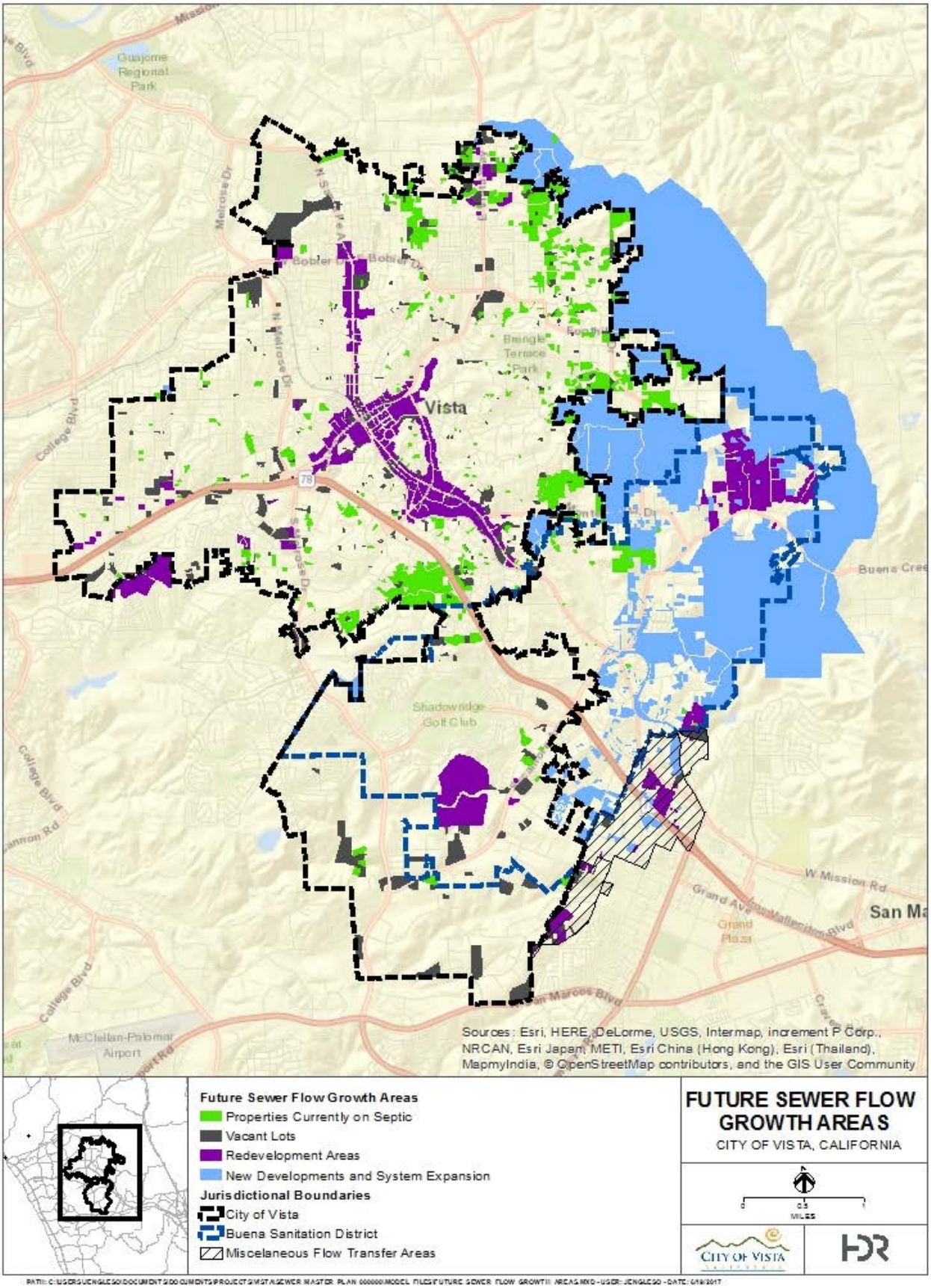
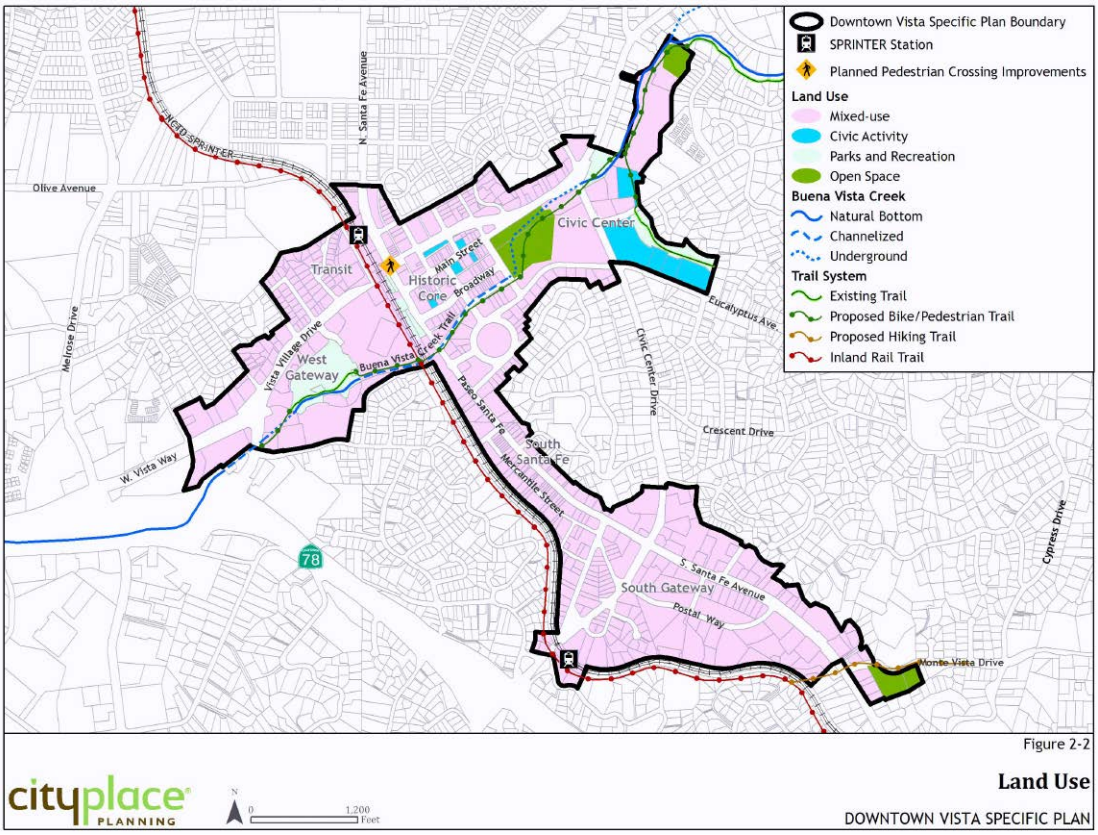


Figure 2-5. Future Sewer Flow Growth Areas



Downtown Vista was identified in the General Plan update as an Opportunity Area for smart growth within the City. The Vista Downtown Specific Plan was subsequently completed in September 2015 and establishes the redevelopment plans for downtown Vista. As shown in Figure 2-6, the Vista Downtown Specific Plan calls for the majority of the downtown Vista area to be converted to a mixed use land use designation along with some civic activity and open space land uses.

Figure 2-6. Downtown Vista Specific Plan Area

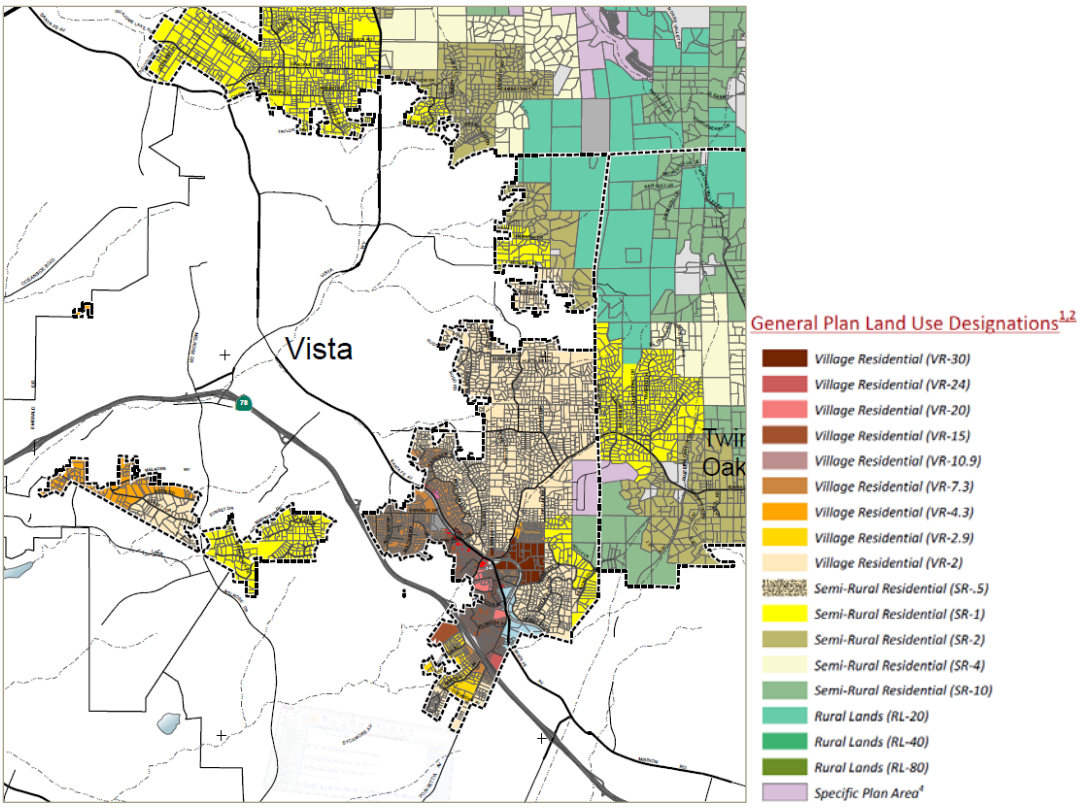


2.3.2 County of San Diego

The San Diego County General Plan was updated in 2011. It directs future growth in the unincorporated areas of the County with a projected capacity that will accommodate more than 232,300 existing and future homes. This growth is targeted to occur primarily in the western portions of the unincorporated County where there is the opportunity for additional development. For unincorporated areas within the Buena service area, and along the eastern and southern edge of the Vista service area, land uses are designated in the North County Metro Community Plan.

Figure 2-7 illustrates that the land uses surrounding the City are primarily low density residential developments, slightly increasing in densification in areas directly adjacent to Highway 78, within the District service area. Where the City of Vista's General Plan sphere of influence overlapped with the County's General Plan, the City land uses were used to assess future sewer flows.

Figure 2-7. North San Diego County Metro Land Use Map



Source: http://www.sandiegocounty.gov/content/dam/sdc/pds/docs/GP/20-North_County_Metro.pdf

2.3.3 Jurisdictions within Sphere of Influence

There are areas that lie outside of the Vista and Buena sewer service areas for which the agencies have flow transfer agreements. These areas are defined on Figure 2-2. Development in these flow transfer areas are projected based on land use as defined in the General Plans of the respective jurisdictions.

- The City of San Marcos abuts Vista along the southeastern edge of the city and sewer flows from a small area of San Marcos are tributary to the District service area.
- VWD also has jurisdiction over a small unincorporated area along the southeast boundary of the City, where sewer flows are transferred to the City's service area in the Raceway drainage basin.
- City of Oceanside contributes sewer flow to the Vista drainage basin primarily along the western side of the City through a transfer meter along the Vista - Carlsbad (V/C) Interceptor on Haymar Drive in Carlsbad. The City of Oceanside does not regularly send flow to the V/C Interceptor. Flows from Oceanside to the V/C Interceptor are governed by the Oceanside Vista Flow Transfer Agreement (1984) and are limited to 2.15 MGD.
- The Vista - Oceanside Transfer Basins are within the sphere of influence of the Vista and Buena sewer service areas, but flows from these areas are conveyed to

the City of Oceanside and do not enter the Vista or Buena collection systems. These basins are shown in Figure 2-2 as the OV basins and include areas of Vista, Oceanside, and unincorporated San Diego County.

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3 Wastewater Flows

The projection of future sewer flows determines the future capacity requirements of the sewer collection system and, subsequently, drives the sewer improvements needed to be included in the City's CIP. Sewer flow forecasts consider projected changes in land use, population, employment, and water conservation levels. Over the last 20 years, Vista's sewer master plans have concluded that demands would continue to increase commensurate with increased development. These 2008 projections are summarized in Table 3-1 and anticipated a 30 to 40 percent increase in average dry weather flows (ADWF) and peak wet weather flows (PWWF) from the individual basins at buildout.

Table 3-1. 2008 Master Plan Wastewater Flow Projections

Basin	2008 MP Existing ADWF (MGD)	2008 MP Projected ADWF (MGD)	Increase (Percent)	2008 MP Existing PWWF (MGD)	2008 MP Projected PWWF (MGD)	Increase (Percent)
Vista	5.57	7.90	33	13.91	20.19	31
Buena	2.65	3.82	30	5.17	8.41	39
Raceway	0.52	0.91	43	1.61	2.57	37
Total	**8.74**	**12.63**	**33**	**20.69**	**31.17**	**34**

In comparison, the 2017 Master Plan significantly recalibrates projected sewer flows, based on regional economic recession and drought conditions that have reduced water use within the service area from 2008 through 2015. This chapter reviews historical and current sewer flows and presents projected future flows through 2030.

3.1 Historical and Current Wastewater Flows

The 2008 Sewer Master Plan reported historical total flows from Vista and District, as measured at the permanent flow meters. Table 3-2 shows the past and existing sewer flows that were conveyed from the service areas to the EWPCF.

Table 3-2. Historical Annual Average Wastewater Flow

Report Year	Vista (MGD) (V/C Interceptor)	Buena and Raceway (MGD) (Buena Outfall)	Total (MGD)	Estimated gpd per EDU
1982	4.20	0.68	4.88	248
1993	5.14	2.03	7.17	230
2001	5.50	2.75	8.25	226
2007	5.57	3.17	8.74	236
2015	4.59	2.28	6.87	204

Source: 2008 Sewer Master Plan for 1982-2007 data; EWA Annual Report for 2015 data

Based on the annual average historical flows presented in Table 3-2, sewer flows were relatively consistent from 1993 through 2008. Historically, the decrease in unit flows between 1982 and 2007 and increase in unit flows from 2001 to 2007, measured as gpd per EDU, were considered to be too small to attribute to any single change in sewer ordinance EDU calculations or changes in the groundwater infiltration. To assure that the capacity assessment is conservative, past master plans have used 250 gpd per EDU. However, since 2010, a regional drought and an economic recession have resulted in sustained residential and commercial water conservation and consequently sustained lower sewer flows per EDU.

3.1.1 Metered Sewer Flows

Sewer flows are measured at six permanent meter locations by the Encina Wastewater Authority (V1, V2, B1, B2, OV1, and BV1). The tributary areas for three of these permanent flow meters represent the three major sewer basins in the Vista/ Buena service area and were used to define the hydraulic boundary conditions for these sewer basins (Vista, Raceway, and Buena respectively). For each of the meters, 24-hour, 15-minute interval flow monitoring data for the years 2010 to 2015 was obtained from EWA. Table 3-3 lists the location and service area for each meter. Both the permanent and temporary flow meter locations are shown on Figure 3-1.

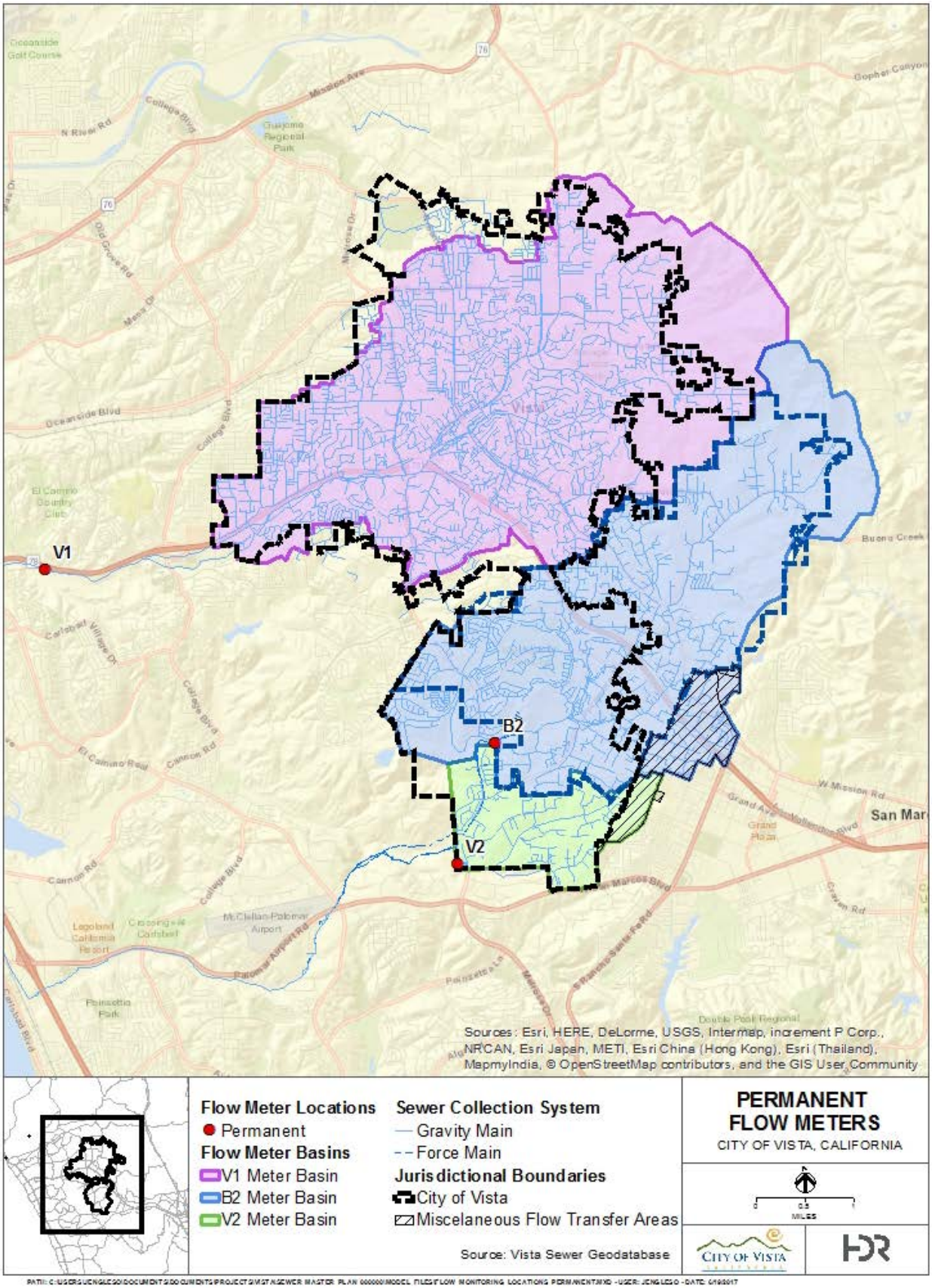
Table 3-3. Permanent Flow Measurement Locations

Meter ID	Location	Service Area
V1	Intersection of College Blvd. and SR-78	City of Vista + City of Oceanside
V2	Upstream of the Raceway Pump Station	Sub basins V34 and V35 of the City of Vista
B2	Downstream of the Buena Pump Station	Buena Sanitation District and Sub basin V33

Statistical analysis of the permanent flow meter data was performed to define the existing average and peak dry weather flow (ADWF and PDWF), average and peak wet weather flows (AWWF and PWWF), and rainfall-derived inflow and infiltration(defect flows) for each of the tributary areas of the three permanent flow meters.

Wet weather flows were determined using permanent flow meter data for a December 2010 rainfall event which resembled a 10 year, 24-hour design storm in its intensity. This rainfall event was used to represent wet weather flow conditions because the Vista area has been in drought conditions for the past 7 years and the December 2010 rainfall event represents one of the most significant rainfall events prior to 2016.

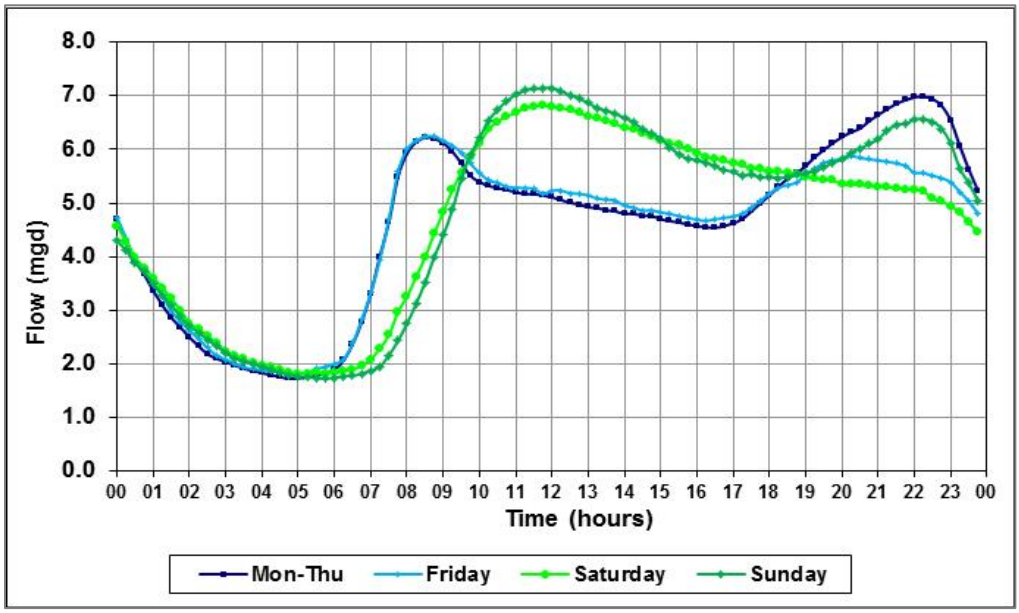
Figure 3-1. Permanent Flow Monitoring Locations



Existing ADWF was determined by using the permanent flow meter data for 2015 to analyze the dry days only. A dry day is defined as a day when no rainfall occurred 72 hours prior to that day and when there were no lingering effects from a previous rainfall. The average hourly dry-weather flow rate for each of the permanent flow meters reflects the dominant land use that drains to each meter. For each meter basin, ADWF diurnal patterns were derived from hourly flow data, as shown in the graphs below.

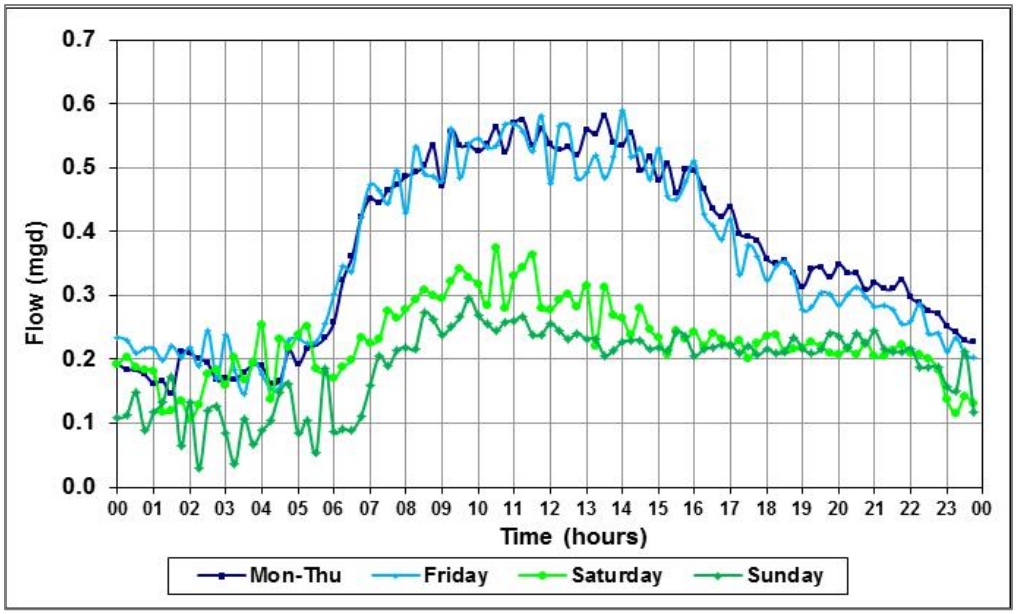
V1 flows, dominated by residential flow, show increased wastewater production in the early morning and late evening associated with bathing and meals delayed by the travel time to the meter during weekdays and a later pattern and slightly higher flows during the weekends, as shown in Figure 3-2. The overall ADWF at the V1 meter was 4.59 MGD.

Figure 3-2. V1 Vista Average Dry Weather Flow



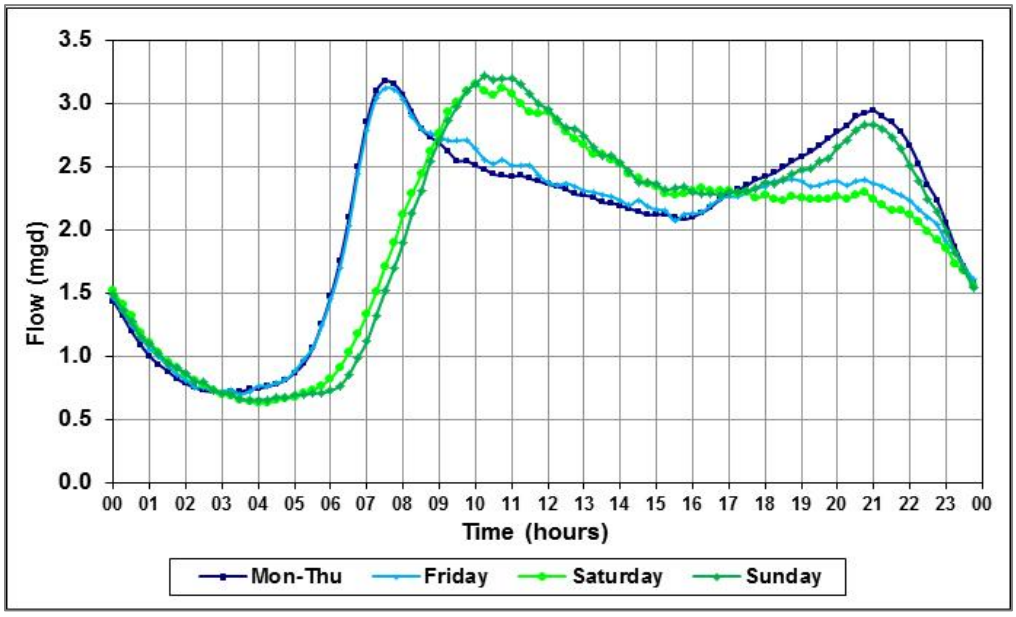
At V2, serving V34 and V35 sub basins, peak flows occur around noon due to activities in commercial and industrial areas with little delay due to the characteristically short, steep flow paths to the Raceway Pump Station, as shown in Figure 3-3. Weekend flows are significantly lower than weekday flows from this basin. The overall ADWF for the V2 Basin was 0.30 MGD.

Figure 3-3. V2 Raceway Average Dry Weather Flow



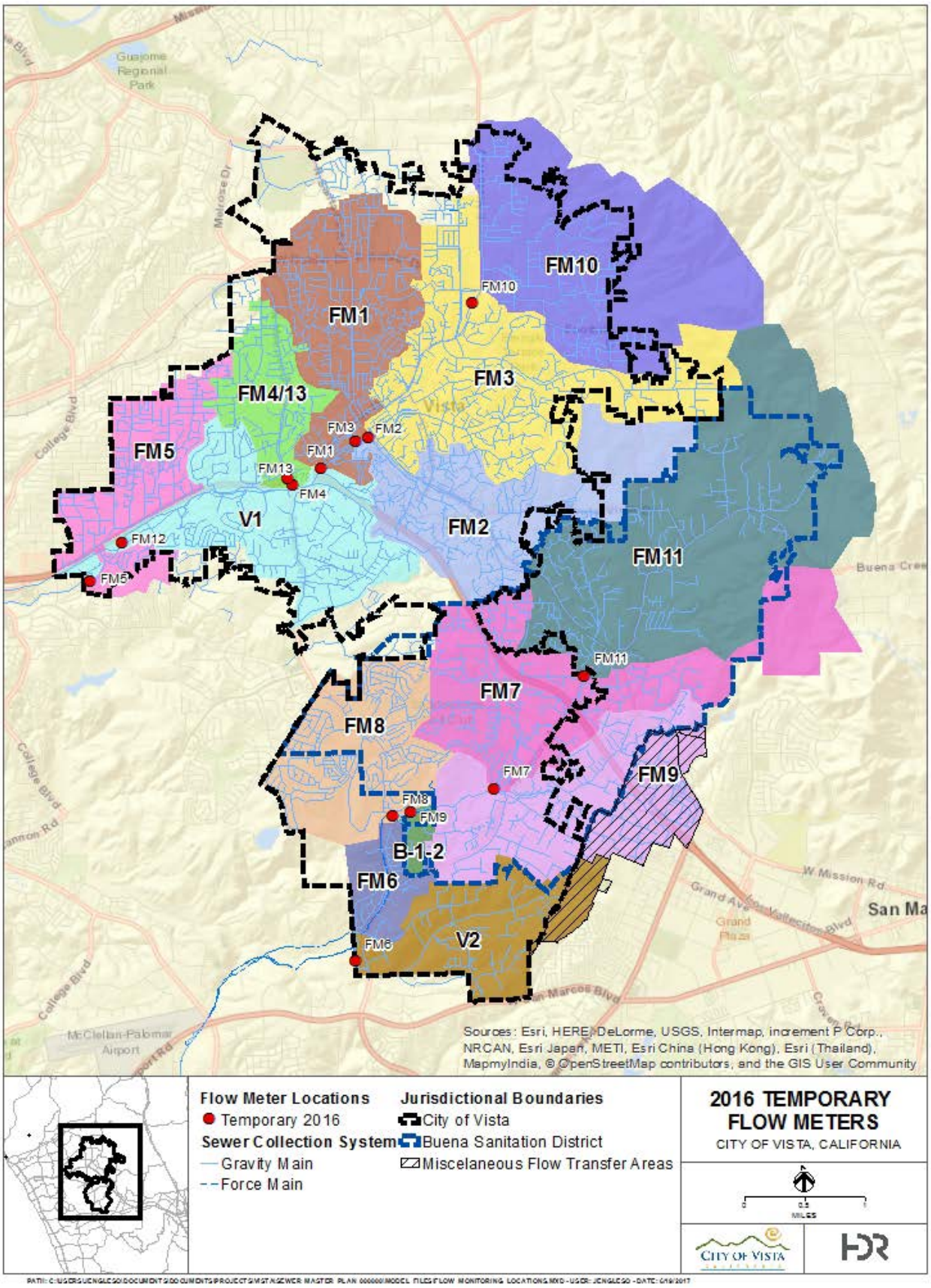
The B2 meter serving the District is also dominated by residential flows and some industrial flows, such as local craft breweries. Peak flows occur during morning and evening hours, as shown in Figure 3-4. Peak weekend flows are delayed and are equal to or less than weekday diurnal flow patterns. The overall ADWF for the B2 Basin was 1.98 MGD.

Figure 3-4. B2 Buena Sanitation District Average Dry-Weather Flow



In addition to the permanent flow meters, thirteen (13) temporary flow meters were installed at select locations throughout the collection system. ADS provided temporary flow monitoring from April through May in 2016, measuring 5-minute intervals throughout the dry weather flow monitoring period at the 13 locations shown in Figure 3-5.

Figure 3-5. Temporary Flow Metering Locations



The detailed flow monitoring report is provided in Appendix A and includes depth, velocity and quantity hydrographs as well as daily tabular reports for the metering period at each of the 13 metered locations. These locations were chosen to represent sub areas within the system, so that flow characteristics from different demographic areas within the service area could be analyzed and flows could be attributed to locations within the collection system to a greater degree of accuracy than would be possible if only the permanent flow meter data were used. Flow meter data collected by the 13 temporary meters were also used along with permanent flow meter data to develop diurnal patterns, unit generation rates and to calibrate the hydraulic model.

3.2 Wastewater Generation Rates

Historically, wastewater unit flow has varied with time but has always been ±5.0 percent of 235 gpd per EDU, within the accuracy limits of the flow measurement devices. However, based on 2015 flow meter data, system flows have recently decreased to approximately 204 gpd per EDU. This recent downtrend in sewer generation may be due to several factors including economic downturn, drought and water conservation efforts that resulted in lower water usage and consequently lower sewer flows.

The unit flow or average gpd per EDU were calculated for each sewer basin using a combination of sewer billing records and water billing records for 2015. The sewer billing database tracks the EDUs to each parcel address with a sewer account. Slight adjustments were made to multifamily and mobile home EDU values; these individual accounts were determined to be equal to 0.7 EDUs. Additionally, commercial and industrial EDUs were calculated from water billing data assuming a 90 percent return rate to the sewer system and unit flow of 220 gpd/ EDU. By calculating the total number of EDUs in each basin and the observed daily dry-weather flow volume, the unit flow per EDU was determined. Table 3-4 shows an overall generation rate of 204 gpd/EDU. The existing system was evaluated at an EDU loading of 205 gpd/ EDU.

Table 3-4. Existing Unit Flow per EDU

Basin	2015 Permitted EDUs						Average Dry Weather Flow (MGD)	Generation Rate (gpd/EDU)
	Single Family[1]	Multi-Family[2]	Mobile Home[2]	Commercial / Industrial[3]	Government/School[1]	Total		
Vista	12,791	5,332	1,156	2,594	644	22,516	4.59	204
Raceway	455	--	--	891	--	1,346	0.30	226
Buena	5,647	2,249	336	1,515	114	9,862	1.98	201
Total	**18,893**	**7,581**	**1,492**	**5,001**	**758**	**33,725**	**6.87**	**204**

[1] Single family, industrial, government, and school EDUs obtained from sewer permit database.
[2] Multi-family and mobile home EDUs calculated as 0.7 times sewer permit EDU.
[3] Commercial EDUs calculated from water billing assuming 90% return rate to the sewer system and unit flow of 220 gpd/EDU.

3.3 Inflow and Infiltration

Sanitary sewer collection systems often contain defects and direct connections that allow rainwater to enter. These flows are often termed defect flows or rainfall derived inflow and infiltration (RDII). Inflow is the result of a direct connection to the surface while infiltration occurs through groundwater. As a result, rainfall and its effect on the collection system drive the PWWF that a system may accommodate without spilling.

A wet-weather or RDII analysis was used to determine the impacts of defect flow. Flows originating from defects are generally known as defect flows or RDII. Defect flows that occur consistently regardless of precipitation are known as base inflow and infiltration (BII). BII is assumed to be accounted for in the calculation of ADWF and not derived separately. Defect flows that only occur as a result of a rainfall event are known as rainfall derived inflow and infiltration. This chapter discusses the methodology used to estimate RDII.

RDII flows originate from defects in the collection system. Each is distinguished by the method by which it enters the collection system. Inflow comes from direct connections to the surface waters. Examples of inflow sources would include: missing clean-out covers; missing manhole covers; damaged manhole rings and cones in watercourses; manholes in street gutters; and roof, patio, refuse bin, storm and other drains that are connected to the sanitary sewer system. Inflow is characterized by a rapid response and diminishment closely following the pattern of the rainfall event. Inflow is most frequently located through the use of smoke testing during dry weather.

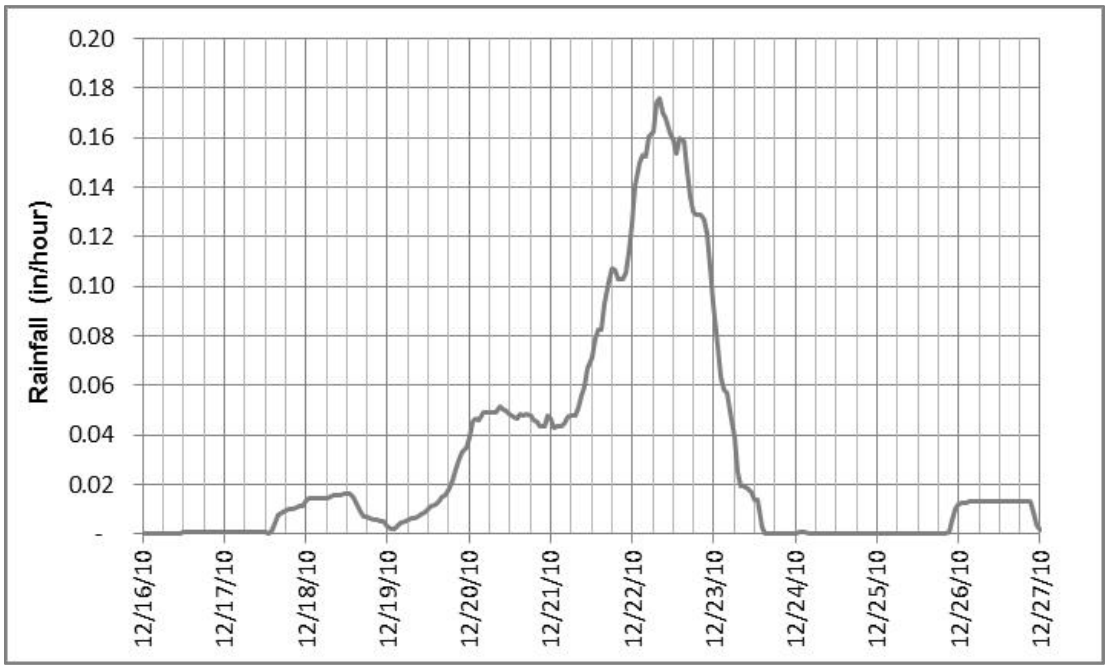
Infiltration flows enter the system from indirect connections through the soil/groundwater interface. Examples of infiltration source include cracked pipe, offset joints, manhole/pipe connections, and manhole chimney seals. Infiltration has a slow initial response to rainfall and infiltration defect flows may last for months after a rainfall event. Infiltration defects are best located through the use of (closed-circuit television) CCTV inspections performed during periods of high groundwater.

Total RDII resulting from a storm event can be calculated by subtracting the ADWF for the collection system from the recorded wet weather flow during the particular storm event. Additionally, if dry weather and wet weather flow monitoring data are available in hourly or minute increments, temporal RDII system response can be estimated using a two step process. First, the dry weather flow meter data can be use to calculate ADWF and dry weather diurnal patterns. Second, the calculated average dry weather diurnal flows can be subtracted from the wet weather flows at each time step to estimate RDII response during a storm event. This approach can be used to estimate peak RDII flows within the collection system.

For the 2017 Master Plan Update, system response to the December 2010 rainfall event was used to represent wet weather flow conditions in the collection system. Historical SCADA data from the three permanent flow meters (V1, V2, and B2) collected during December 2010 were used to calculate RDII for the system. The December 2010 rainfall event was used because the Vista area has been in drought conditions for the past 7 years, and the December 2010 rainfall event represents one of the most recent, significant rainfall events through 2015. As shown in Figure 3-6, 3.37 inches of rainfall was recorded at weather station VISTA 1.5NNW on December 22, 2010. This 24-hour

storm event is similar to the NOAA Atlas 14 10 year, 24-hour design storm estimate of 3.27 inches, so this storm event is an excellent storm to use to calculate RDII for the purposes of model calibration.

Figure 3-6. December 2010 Storm Event



The December 2010 rainfall event represents the best option for calculating system RDII considering the recent drought history in the Vista area, but the collection system has changed since 2010. Between 2010 and the present, a pipe lining project has been ongoing intended to reduce system RDII. The length of pipe that has been lined per basin since 2010 is shown in Table 3-5.

Table 3-5. Pipe Lined Since 2010 by Basin

Basin	Pipe Lined Since 2010 (mi)
Vista	13.1
Buena	12.7
Raceway	0

The majority of pipe lining has been preformed in the Vista Basin with over 13 miles of pipe lined. A little less than 13 miles of pipe has been lined in the Buena Basin, and no pipe was lined in the Raceway area since most of the Raceway Basin pipelines are primarily constructed of modern PVC pipe. Although the source of RDII can not be determined with 100 percent certainty, RDII calculated based on 2010 conditions can be considered conservative for the Vista and Buena basins. Assuming no serious degradation has occurred in the collection system and no direct inflows have been introduced since 2010, the RDII calculated for the Raceway Basin can be considered acceptable for representing current system conditions.

The 2008 Master Plan used rainfall events from 2005 to estimate RDII for each of the basins. Table 3-6 displays RDII from 2005 rainfall events compared with total RDII for the December 2010 rainfall event for each basin. Compared with the 2005 rainfall events, the December 2010 storm resulted in significantly more precipitation. The corresponding December 2010 RDII is significantly higher than the RDII for the 2005 rainfall events.

Table 3-6. Observed Rainfall Derived Inflow and Infiltration

Basin	Length of Pipeline (ft)	Storm Date	Rainfall (in)	RDII (MG)	RDII (gal)/ Rainfall (in)/ Pipeline (ft)
Vista	925,159	23-Feb-05	1.42	5.33	4.05
Vista	925,159	10-Jan-05	1.4	4.92	3.8
Vista	925,159	19-Feb-05	1.4	3.39	2.62
Vista	925,159	11-Jan-05	1.38	5.79	4.53
Vista*	926,723	22-Dec-10	3.37	7.75	2.48
				Current Estimate for Vista Basin	**2.48**
Buena	507,885	20-Oct-04	1.88	0.71	0.74
Buena	507,885	17-Oct-04	1.55	0.32	0.41
Buena	507,885	5-Apr-06	1.47	0.38	0.51
Buena	507,885	23-Feb-05	1.42	1.94	2.7
Buena*	527,244	22-Dec-10	3.37	3.52	1.98
				Current Estimate for Buena Basin	**1.98**
Raceway	82,365	5-Apr-06	1.47	0.08	0.64
Raceway	82,365	23-Feb-05	1.42	0.67	5.73
Raceway	82,365	10-Jan-05	1.4	0.58	5.03
Raceway	82,365	19-Feb-05	1.4	0.26	2.28
Raceway*	90,467	22-Dec-10	3.37	0.91	2.98
				Current Estimate for Raceway Basin	**2.98**

* Added for the Vista Sewer Master Plan 2017 Update. Pipe lengths based on active pipes contributing flow to permanent flow meter locations. RDII based on total metered flow at permanent flow meter locations (V1, B2, V2) for December 22, 2010.

In order to compare RDII response of different systems to different rainfall events, the RDII from 24-hour rainfall events are compared using a calculation of RDII (in gpd) divided by rainfall (in inches per day) divided by length of pipeline in the basin (in feet), which changed over time. Using this comparison, normalized RDII was lower for the December 2010 storm than for the maximum normalized RDII from the 2005 storms. This difference in normalized RDII may be due to the intensity of the December 2010 storm relative to the 2005 rainfall events. As the December 2010 storm resulted in significantly higher rainfall and RDII, the rainfall intensity may have resulted in proportionally more runoff and less inflow and infiltration into the collection system, lowering the normalized RDII ratio.

In addition to estimating total RDII for December 22, 2010, hourly RDII was calculated throughout the day in order to estimate the peak RDII flow for each of the three basins.

Average dry weather diurnal flow patterns were developed for each of the basins based on historical flows recorded by the permanent flow meters (V1, B2, V2) in the summer of 2010. These flows were subtracted from the flow rates recorded by the permanent flow meters during December 22, 2010. The resulting flow rates represent calculated hourly RDII.

Table 3-7, Table 3-8, and Table 3-9 show the components of calculated ADWF, precipitation, wet weather event flow, and calculated RDII for each of the three permanent meter basins for late December 2010, including the December 22nd storm.

Figure 3-7. Vista Wet-Weather Response

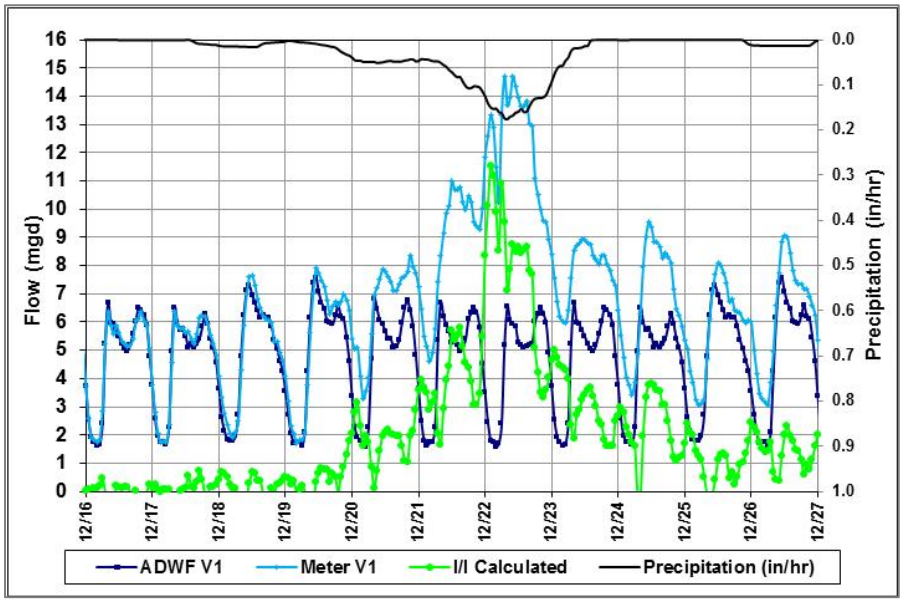


Figure 3-8. Buena Wet-Weather Response

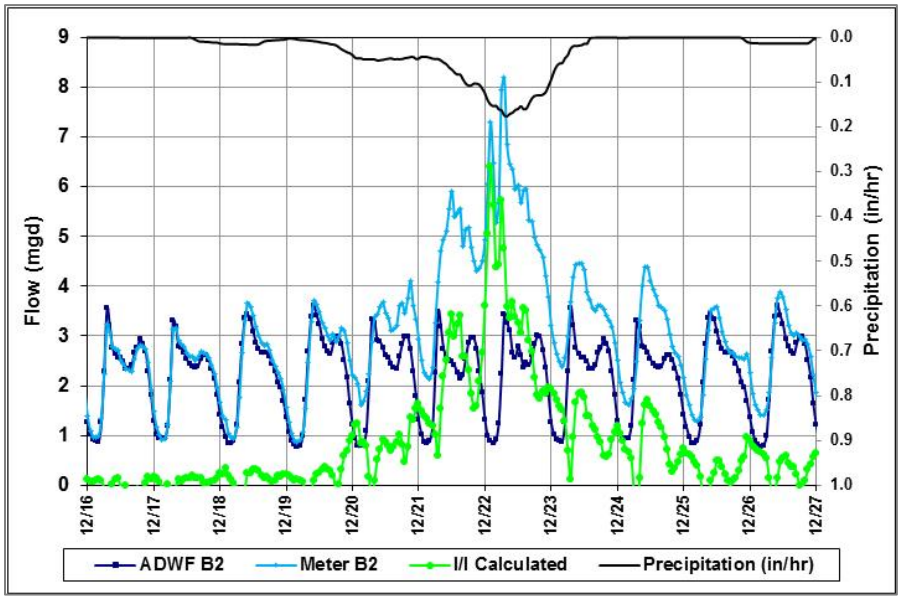
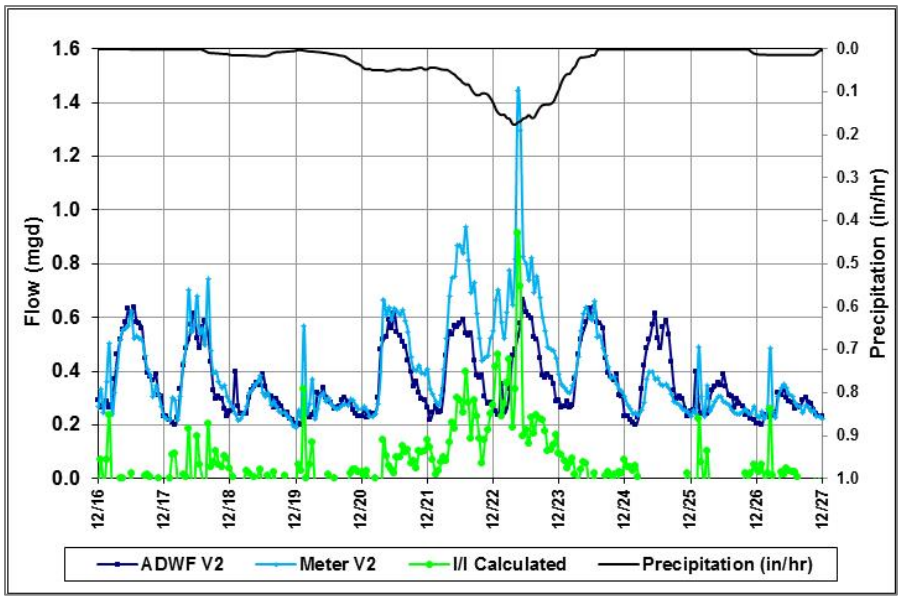


Figure 3-9. Raceway Wet-Weather Response



Sewer flows can be significantly affected by holidays, major sporting events, and other factors that result in flows not representative of typical weekly cycles. Sewer flows on the days surrounding Christmas, December 25th, can demonstrate abnormal flows. In 2010, Christmas fell on a Saturday, and the effect of the holiday on weekly sewer flows in residential areas was not as pronounced as it was on commercial and industrial areas.

Flows from the Vista and Buena Basins, which include majority residential land use types, show a slight increase in residential flows for Christmas Eve, Friday December 24th. Likewise, on December 24th, flows from the Raceway Basin, which includes more commercial and industrial land use types, are below what is typically seen on a Friday. However, flows return to typical weekend patterns by the 26th and 27th. December 22, 2010 fell on a Wednesday and RDII calculations for this day are considered generally unaffected by the holiday season. Calculated peak RDII for the three basins are shown in Table 3-7.

Table 3-7. Calculated Peak RDII for December 2010 Storm

Basin	Peak Calculated RDII (MGD)
Vista	11.52
Buena	6.40
Raceway	0.91

Source: Encina V1, B2, V2 flow meter data 12/22/2010

It should be noted that during the December 22, 2010 storm event, a manhole on a trunk main running down Agua Hedionda Creek was open allowing flow from the creek to enter the collection system and be conveyed to the Buena pump station. Any additional inflow from the open manhole would have been recorded as part of Encina Wastewater Authority B1 SCADA data and may have inflated wet weather flows for the Buena Basin

in the hydraulic model analysis. The trunk main has since been moved out of the creek bed and the new alignment is reflected in the updated model. Subsequent model analysis based on storm event SCADA data captured after the trunk main relocation indicated that the model may be over predicting RDII in the Buena Basin as a result of the model calibration based on the December 22, 2010 storm event.

3.4 Peaking Factors

The magnitude of RDII during the December 22, 2010 rainfall event is indicated by assessing the peaking factor (PF) in each basin, as shown in Table 3-8. The December 22, 2010 rainfall event is roughly equivalent to the NOAA Atlas 14 10-year, 24-hour design storm for the Vista area. The NOAA design storm precipitation estimate is 3.27 inches per day. The December 22, 2010 recorded rainfall was 3.37 inches per day, slightly more conservative than the design storm.

Table 3-8. Peaking Factor Assessment

Basin	2010 Dry Weather		Wet Weather Flows December 2010		Peaking Factors (compared to ADWF)	
	ADWF	PDWF	AWWF	PWWF	AWWF PF	PWWF PF
Vista	4.68	4.78	7.22	12.26	1.54	2.62
Buena	2.21	2.26	2.81	5.71	1.27	2.59
Raceway	0.37	0.45	0.39	0.70	1.05	1.90
Total	**7.25**	**--**	**10.41**	**--**	**1.44**	**--**

ADWF = Average Dry-Weather Flow (dry weather conditions 2010)
AWWF = Average Wet-Weather Flow (wet weather conditions 2010)
PWWF = Peak Wet Weather Flow on December 22, 2010

In the 2008 Master Plan AWWF volumes, based on a 2005 wet weather event, were almost double (1.9 times) the ADWF. This was considered to be an indication of widespread defects. Since that time, Vista/Buena have rehabilitated a significant amount of the collection system and subsequently reduced those PFs (ADWF/AWWF) to less than 1.6. The wet weather PF (PWWF/ADWF), which varied from 2.0 to 2.8 in 2005, was also reduced to a range of 1.9 to 2.6, with Buena Basin increasing from 1.98 to 2.59 and Raceway Basin significantly decreasing from 2.83 to 1.90.

It should be noted that the December 22, 2010 storm event used to calculate PFs for this 2017 Master Plan Update resulted in more than twice the rainfall in a 24-hour period than any of the 2005 wet weather events. Additionally, the open manhole in the trunk main in Agua Hedionda Creek area may have contributed additional inflow that is not representative of RDII experienced by the 2017 collection system as discussed in Chapter 3.3. The difference in magnitude of rainfall and inflow to the collection system due to the open manhole during the December 22, 2010 storm event could account for the increase in PWWF for the Buena Basin.

3.5 Projected Sewer Flows

For the 2017 Master Plan Update, sewer flows were projected for buildout conditions based on a combination of data sources including SANDAG Series 13 residential and employment population projections, the General Plan Update, which identifies septic conversion customers and provides development data for the specific plan areas, and planning information provided by City staff for specific development projects. Using the same methodology, sewer flows were estimated for the Oceanside transfer basins for existing and buildout conditions.

3.5.1 Projected Buildout Sewer Flows

The buildout wastewater service area was assumed to include all current service areas, plus areas within Vista's sphere of influence, and properties within these boundaries that are currently on septic. This future service area will be appreciably larger than the existing service area due to expansions of the collection system to serve new development and areas that are currently served by septic systems. Many of the future service areas are outside of the existing City boundary and may require annexation for wastewater service. The projected sewer flows were calculated at buildout and at maximum density (where all land uses were assumed to be built out to maximum allowable density, which is a highly conservative assumption) and are summarized by Basin in Table 3-9.

Table 3-9. Projected Sewer Flows

Basin	Existing Flow (MGD)	Projected Sewer Flows (Based on 205 gpd/EDU)		
		Existing + Septic (MGD)	2030 Buildout (MGD)	Max Density (MGD)
Vista Basin	4.94	5.18	8.56	11.60
Buena Basin	2.03	2.04	4.22	5.89
Raceway Basin	0.34	0.35	0.87	1.32
All Basins	**7.30**	**7.57**	**13.65**	**18.81**

These future sewer flows were estimated primarily based on land use information from the Vista 2030 General Plan, San Diego County SANGIS land use information, and additional interagency agreements. In the development of this Master Plan Update, analyses were performed to validate the sewage-flow generation factors for representative land uses throughout the City's service area based on flow monitoring data. Sewage flow generation factors are presented as EDUs per acre for a particular land-use category. These values were used to generate the flow per loading unit for use in the sewer collection system model. Based on comparison with flow monitoring data, most land use generation rates were considered acceptable. A summary of the sewage flow generation factors developed in the study is presented in Table 3-10. The exceptions were industrial land uses in the Buena and Raceway Basins. These industrial

land use areas were assumed to have unique sewer flow generation factors, which are shown in Table 3-11 and Table 3-12.

Projected buildout average dry-weather flow loads were generated for each parcel by multiplying the unit flows by the corresponding sewage-flow generation factor and the acreage of the parcel. Average dry-weather unit flow of 205 gpd per EDU was predicted for the land use during future sewage-flow generation. Future buildout flows were derived from all parcels as if they were developed to the highest zoning of the property. Vista 2030 General Plan buildout EDU densities were used to represent future conditions. The source of the parcel land-use categories used to develop sewage-flow generation factors was the City of Vista 2030 General Plan and the SANDAG Designated Land Use.

Projected flows for interagency agreement areas were based on land use determined by the respective city's general plan including the Carlsbad General Plan (2015), the San Marcos General Plan (2013), and the Oceanside General Plan (2011). Flows from Oceanside per the Oceanside-Vista flow transfer agreement enter the Vista/Carlsbad Interceptor downstream of the Vista Basin and are limited to a maximum flow of 2.15 MGD.

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Table 3-10. Land Use Sewage Flow Generation Factors

Land Use	Planning Criteria		Buildout Acres				Buildout EDUs				Buildout Flows (gpd)			
	EDU/ Acre	gpd/ Acre	Vista	Buena	Raceway	Total	Vista	Buena	Raceway	Total	Vista	Buena	Raceway	Total
Civic Activity (CA)	3.1	630	280	82	--	361	867	253	--	1,120	177,634	51,942	--	229,576
Commercial Office (CO)	4.8	980	45	4	--	49	216	18	--	234	44,259	3,645	--	47,904
Commercial Service (CS)	4.8	980	16	12	--	28	76	58	--	134	15,537	11,938	--	27,475
General Commercial (GC)	4.8	980	220	222	66	507	1,057	1,064	315	2,436	216,696	218,037	64,549	499,282
High Density Residential (HD)	18.0	3,690	333	319	-	652	5,993	5,746	--	11,739	1,228,555	1,178,011	--	2,406,565
Industrial General (IG) [1]	4.8	980	82	98	11	191	392	957	48	1,397	80,405	196,104	9,901	286,411
Industrial Park (IP) [1]	4.8	980	--	58	33	91	--	422	159	582	--	86,588	32,687	119,275
Low Density Residential (LD)	1.5	310	1,348	660	35	2,043	2,022	991	53	3,065	414,436	203,084	10,833	628,353
Medium Density Residential (MD)	7.0	1,435	825	642	18	1,484	5,772	4,491	126	10,389	1,183,180	920,586	25,901	2,129,667
Medium High Density Residential (MHD)	12.5	2,565	373	212	58	643	4,667	2,648	722	8,036	956,730	542,768	147,937	1,647,435
Medium Low Density Residential (MLD)	3.5	720	1,839	325	--	2,164	6,437	1,137	--	7,574	1,319,670	233,063	--	1,552,733
Mixed Use (MU)	31.0	6,355	405	--	--	405	12,546	--	--	12,546	2,571,940	--	--	2,571,940
Neighborhood Commercial (CN)	4.8	980	137	38	--	175	654	181	--	835	134,155	37,088	--	171,243
Open Space (OS)	--	--	107	251	157	515	--	--	--	--	--	--	--	--
Open Space Residential (OSR)	0.3	65	93	--	--	93	28	--	--	28	5,721	--	--	5,721
Open Space/Parks (OP)	--	--	0	16	74	90	--	--	--	--	--	--	--	--
Railroad Right-of-Way (RR ROW)	--	--	115	197	21	333	--	--	--	--	--	--	--	--
Research Light Industrial (RLI) [1]	4.8	980	--	308	589	897	--	1,504	1,665	3,169	--	308,307	341,424	649,731
Rural Residential (RR)	0.6	130	1,649	2,919	44	4,612	1,031	1,824	28	2,883	211,283	373,979	5,683	590,945
Total			**7,866**	**6,363**	**1,105**	**15,334**	**41,757**	**21,293**	**3,117**	**66,167**	**8,560,202**	**4,365,140**	**638,915**	**13,564,257**

[1] Industrial land use generation rates for Vista Basin. Values for Buena and Raceway Basin displayed in following tables.

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Table 3-11. Buena Basin Industrial Land-Use Sewage-Flow Generation Factors

Buena Basin Industrial Land Use	EDU/Acre	gpd/Acre
Industrial General (IG)	9.8	2,000
Industrial Park (IP)	7.3	1,500
Research Light Industrial (RLI)	4.9	1,000

Table 3-12. Raceway Basin Industrial Land-Use Sewage-Flow Generation Factors

Raceway Basin Industrial Land Use	EDU/Acre	gpd/Acre
Industrial General (IG)	4.4	900
Industrial Park (IP)	4.8	980
Research Light Industrial (RLI)	2.8	580

For future wet-weather flows, the wet-weather flows from 2010 were used and added to the future dry-weather flows. The defect flows were held constant as system deterioration and system rehabilitation were conservatively expected to balance. Flow measurements for pre- and post-rehabilitation will indicate whether this assumption should change in the future.

3.5.2 Vista Oceanside Transfer Flow Basins

The Vista to Oceanside transfer flow basins consist of the OV sub basins shown in Figure 2-2 including OV-1, OV-2, OV-3, OV-4, OV5, and OV-6. Flows from these basins are conveyed to Oceanside and do not enter the Vista or Buena collection systems. However, the OV sub basins are in the Vista and/ or Buena service areas and flows from these basins are unmonitored. The OV sub basins cover areas under the jurisdictional purview of the City of Oceanside, City of Vista, and unincorporated San Diego County.

Flows from the Oceanside transfer areas were estimated using SANDAG land use information and the sewer generation rates based on the planning criteria values listed in Table 3-10 for current and buildout conditions. 2017 flows from the OV sub basins were estimated using current SANDAG land use designations and buildout flows were estimated using planned SANDAG land use designations. The resulting calculated flows for each OV sub basin are shown in Table 3-13 for existing flows, and Table 3-14 for buildout flows. The calculated flows for the Vista to Oceanside transfer basins result in an estimated 0.56 MGD total for existing conditions and 0.89 MGD total for buildout conditions.

Maps of the SANDAG land use designations for existing and buildout conditions for the Oceanside Vista transfer basins, as well as the calculated flows per jurisdictional entity for each OV sub basin, are included in Appendix B.

Table 3-13. Vista - Oceanside Transfers: Vista Existing Estimated Flows (gpd)

Land Use	Land Use Generation Rate (gpd/ acre)	OV-1	OV-2	OV-3	OV-4	OV-5	OV-6	Total
Civic Activity (CA)	630	0	2,627	--	8,215	11,036	6,702	28,580
Commercial Office (CO)	980	--	--	--	--	7,044	--	7,044
Commercial Service (CS)	980	--	--	--	--	--	--	--
General Commercial (GC)	980	--	1,113	--	254	19,845	--	21,212
High Density Residential (HD)	3,690	18	--	--	--	5	--	24
Industrial General (IG)	980	--	--	--	11,952	--	1,836	13,788
Industrial Park (IP)	980	--	--	--	1,268	--	--	1,268
Low Density Residential (LD)	310	28,914	17,328	26	46	51,780	66,187	164,282
Medium Density Residential (MD)	1,435	1,962	7,814	5,070	27,780	62,435	9,076	114,137
Medium High Density Residential (MHD)	2,565	--	--	--	--	2	10,619	10,621
Medium Low Density Residential (MLD)	720	17,364	3,382	4,734	6,812	49,275	9,185	90,753
Mixed Use (MU)	6,355	-	--	--	--	--	--	--
Neighborhood Commercial (CN)	980	7,347	--	--	903	2,720	--	10,970
Open Space (OS)	--	--	--	--	--	--	--	--
Open Space Residential (OSR)	65	--	--	--	--	--	--	--
Open Space/Parks (OP)	--	--	--	--	--	--	--	--
Parks and Recreation (PR)	--	--	--	--	--	--	--	--
Research Light Industrial (RLI)	980	--	--	--	--	--	--	--
Rural Residential (RR)	130	22,404	14,668	--	1	19,569	40,611	97,252
Road/ Railroad Right of Way	--	--	--	--	--	--	--	--
Vacant and Undeveloped Land	--	--	--	--	--	--	--	--
Total		**78,009**	**46,931**	**9,830**	**57,231**	**223,712**	**144,216**	**559,930**

Land Use Generation Rates developed as part of the 2017 Master Plan update.
Existing Estimated Flows exclude properties currently on septic as indicated by City of Vista Septic List
Land Use Sources: Vista General Plan 2030 (2011), Oceanside General Plan Housing Element (2013), SANGIS County Land Use (2017)

Table 3-14. Vista - Oceanside Transfers: Vista Projected Buildout Flows (gpd)

Land Use	Land Use Generation Rate (gpd/ acre)	OV-1	OV-2	OV-3	OV-4	OV-5	OV-6	Total
Civic Activity (CA)	630	0	13	-	9,823	10,134	3,581	23,553
Commercial Office (CO)	980	-	-	-	-	7,040	-	7,040
Commercial Service (CS)	980	-	-	-	-	-	-	-
General Commercial (GC)	980	117	-	-	327	20,723	-	21,167
High Density Residential (HD)	3,690	18	-	-	1,236	3,502	-	4,756
Industrial General (IG)	980	-	-	-	13,668	-	0	13,668
Industrial Park (IP)	980	-	-	-	1,274	-	-	1,274
Low Density Residential (LD)	310	36,368	11,233	26	2,071	58,015	12,360	120,073
Medium Density Residential (MD)	1,435	-	12,529	5,070	-	63,246	-	80,845
Medium High Density Residential (MHD)	2,565	-	-	-	-	1,827	-	1,827
Medium Low Density Residential (MLD)	720	26,821	151,482	5,548	6,724	50,555	35	241,165
Mixed Use (MU)	6,355	-	-	-	148,050	32,234	-	180,284
Neighborhood Commercial (CN)	980	7,570	-	-	8,023	1,094	-	16,686
Open Space (OS)	-	-	-	-	-	-	-	-
Open Space Residential (OSR)	65	-	-	-	-	-	-	-
Open Space/Parks (OP)	-	-	-	-	-	-	-	-
Parks and Recreation (PR)	-	-	-	-	-	-	-	-
Research Light Industrial (RLI)	980	-	-	-	-	-	-	-
Rural Residential (RR)	130	35,528	3,200	-	1	40,324	98,356	177,409
Road/ Railroad Right of Way	-	-	-	-	-	-	-	-
Vacant and Undeveloped Land	-	-	-	-	-	-	-	-
Total		**106,421**	**178,457**	**10,644**	**191,198**	**288,695**	**114,333**	**889,747**

Land Use Generation Rates developed as part of the 2017 Master Plan update.
Projected Buildout Flows include properties currently on septic as indicated by City of Vista Septic List.
Land Use Sources: Vista General Plan 2030 (2011) Proposed Land Uses, Oceanside General Plan Housing Element (2013) Zoned Land Uses, SANGIS County Land Use (2017) Planned Land Uses

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4 Design Criteria

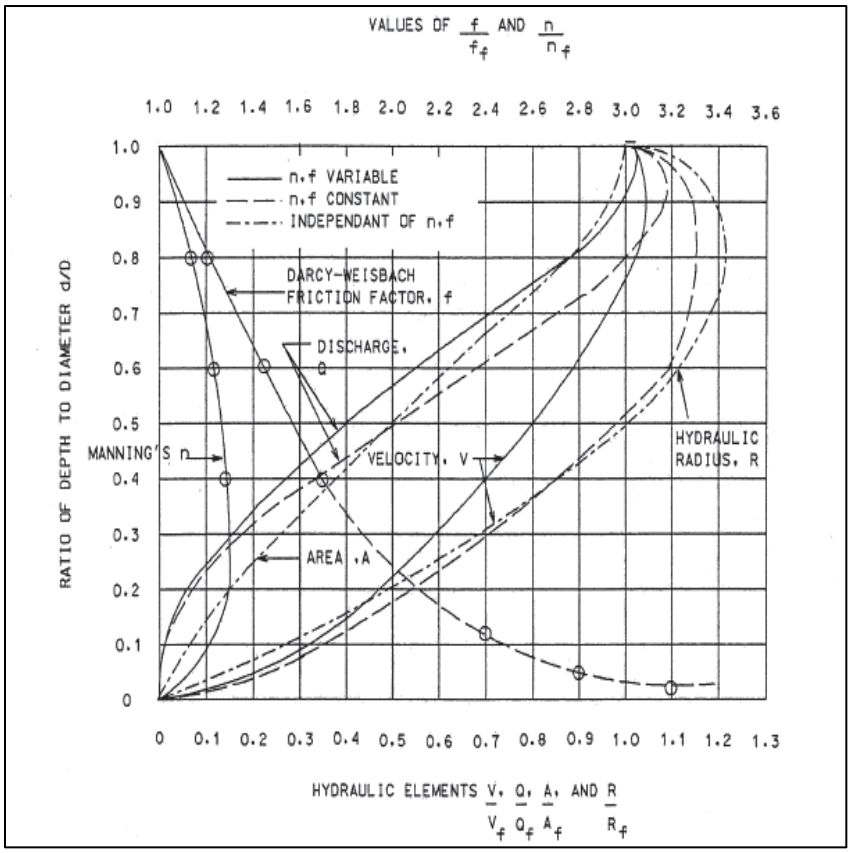
Design criteria were developed to evaluate the capacity of the existing wastewater collection system under existing and projected dry and wet weather flow conditions. The recommended evaluation criteria presented in this chapter will be utilized to identify deficient facilities and size replacement infrastructure.

This chapter describes the technical basis of determining adequate pipeline operating capacity and design criteria for the capacity analysis. The capacity analysis defines minimum pipe sizing and project prioritization. One purpose of a capacity analysis is to evaluate the hydraulic capacity of the collection system under current and future flow conditions. Criteria must be established to

1. **Evaluation Criteria** used to define the maximum allowable depth/Diameter (d/D) ratio that is used as a threshold for capacity in existing facilities, and
2. **Design Criteria** used for sizing future facilities.

There are inherent allowances that are made to reflect the difference in installed or planned facilities. The value used for the threshold or “trigger” value in 2001 was reduced from 0.85 in the 2001 evaluation to 0.80 in the 2008 Master Plan. Figure 4-1 shows the d/D ratios and the corresponding flow/maximum or full flow (Q/Q_f) ratios for circular pipes with a constant friction factor as used in the capacity analysis.

Figure 4-1. Comparison Depth Flow Relationship



As shown, the pipe is flowing at 99 percent of its full pipe flow capacity when the depth is 80 percent of full pipe. In areas between 80 percent and 100 percent of depth the hydraulic regime is unstable. The use of the 0.80 value is considered more conservative than the 0.85 value.

The InfoSWMM model reports the partial flow ratio of full flow in Q/Q_f. In instances where the d/D is greater than 0.80 and the $Q/Q_f < 0.99$ the line is surcharging because of a downstream restriction. Improvement projects were triggered in the existing system when pipes had both a d/D >0.80 and Q/Q_f >0.99. Pipelines that had only one or the other of these constraints were put on a "watch" list.

Using a d/D ratio of 0.5 for small diameter pipes and 0.75 for larger diameter pipes for PDWF has been considered. However, with the potential for RDII, using a d/D ratio of 0.80 for capacity evaluation of the system during PWWF is a conservative approach. If RDII is reduced significantly in future years, the alternative standard may become appropriate.

The design criteria remain unchanged from the 2008 and previous Master Plan Updates. These criteria are presented in Table 4-1.

Table 4-1. Pipe Design Criteria

Parameter	Value
Minimum Velocity	2 fps
Manning's Roughness Coefficient (n)	0.013
Force Main Velocity	3 - 5 fps
Minimum Pipe Size	8-inch
PWWF Depth/ Diameter (<= 12 inch diameter)	< 0.50
PWWF Depth/ Diameter (> 12 inch diameter)	< 0.75

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5 Existing Collection System

The existing sewer collection system, previously shown in Figure 2-1, consists of over 300 miles of gravity pipelines, four pump stations, and a series of forcemains and interceptors/outfalls that deliver sewage from the City and District to the EWPCF. This chapter describes the collection system pipelines in terms of length, material, and age and the pump stations in terms of capacity and location.

5.1 Gravity Pipelines

The City wastewater collection system is located primarily in the Buena Vista Drainage Basin and is comprised of 35 sub-drainage areas. Three sub-drainage areas (V33, V34, and V35) are located in the Agua Hedionda Drainage Basin. The majority of sewer flows generated from the City drains to the EWPCF via the Vista-Carlsbad Interceptor, with the exception of sewer flows generated in sub basins V33, V34, and V35 and the OV sub basins. The flows from V33, V34, and V35 drain to the EWPCF via the Buena Outfall. The flows from the OV sub basins are conveyed to the City of Oceanside sewer system for treatment and disposal.

The City collection system includes approximately 215 miles of sanitary gravity sewers and force mains ranging in size from 4 to 42 inches in diameter. Table 5-1 summarizes the characteristic length of the Vista collection system based on the diameter of the pipelines.

Table 5-1. City of Vista Pipeline Lengths

Diameter (Inches)	Length (Feet)	Length (Miles)	Percent of Total (%)
4	2	0.00	0
6	100,505	19.04	9
8	844,803	160.00	74
10	53,998	10.23	5
12	59,792	11.32	5
14	321	0.06	0
15	15,128	2.87	1
18	13,010	2.46	1
20	473	0.09	0
21	4,362	0.83	0
24	9,680	1.83	1
27	3,727	0.71	0
30	2,979	0.56	0
36	24,791	4.70	2

Table 5-1. City of Vista Pipeline Lengths

Diameter (Inches)	Length (Feet)	Length (Miles)	Percent of Total (%)
42	2,950	0.56	0
Unknown	597	0.11	0
Total	**1,137,118**	**215.36**	**100**

The City owns a total of 667,947 feet (approximately 127 miles) of pipeline made from vitrified clay pipe (VCP). This amounts to roughly 59 percent of the total collection system. The majority of remaining pipeline is constructed of plastic or polyvinyl chloride (PVC), totaling 404,175 feet (approximately 77 miles). PVC pipeline accounts for 35 percent of the total collection system. Table 5-2 presents the pipeline material and length relationship. The material may change from one material to another along a single pipeline (typically from manhole to manhole). Pipelines with two different materials and pipelines that have a cured in place pipe liner are presented in Table 5-2.

Table 5-2. City of Vista Pipeline Material

Material	Length (Feet)	Length (Miles)	Percent of Total (%)
Acrylonitrile butadiene styrene (ABS)	5,209	0.99	0
Asbestos cement pipe (ACP)	3,389	0.64	0
Caste iron pipe (CIP)	112	0.02	0
ductile iron pipe (DIP)	24,260	4.59	2
DIP/Cured In Place Pipe liner	18,413	3.49	2
High density polyethylene (HDPE)	4,248	0.80	0
PVC	400,357	75.83	35
PVC/Cured In Place Pipe liner	1,289	0.24	0
PVC/DIP	2,529	0.48	0
Reinforced concrete pipe (RCP)	350	0.07	0
VCP	611,585	115.83	54
VCP/Cured In Place Pipe Liner	51,601	9.77	5
VCP/DIP	1,212	0.23	0
PVC/VCP	3,549	0.67	0

Table 5-2. City of Vista Pipeline Material

Material	Length (Feet)	Length (Miles)	Percent of Total (%)
Unknown	9,011	1.71	1
Total	**1,137,118**	**215.36**	**100**

Age spans of 10 years were calculated to determine the relationship between age and length of pipelines based on the pipe installation year. Table 5-3 summarizes the pipe age versus length relationship.

Table 5-3. City of Vista Pipeline Age

Age Range (Years)	Length (Feet)	Length (Miles)	Percent of Total (%)
1-10	45,100	8.54	4
11-20	101,518	19.23	9
21-30	269,107	50.97	24
31-40	214,189	40.57	19
41-50	240,650	45.58	21
51-60	186,065	35.24	16
61-70	43,773	8.29	4
Greater than 70	31,497	5.97	3
Unknown	5,218	0.99	0
Total	**1,137,118**	**215.36**	**100**

Table 5-4 shows the relationship between the City's pipeline age, material, and length for DIP, PVC, and VCP. Note that VCP lines installed prior to 1963 (over 22 percent of the VCP lines (150,503 feet)) were regularly installed in short lengths with open joints and 2-foot diameter manholes. In addition, they were frequently located in very narrow easements centered on private property lines, making them difficult to maintain.

Table 5-4. City of Vista Combined Pipeline Age, Material, and Length (Feet)

Pipe Material	0-10 Years	11-20 Years	21-30 Years	31-40 Years	41-50 Years	51-60 Years	Greater Than 60 Years	Un-known	Total
DIP	0	3,868	10,614	27,001	0	31	0	103	41,617
PVC	39,852	96,349	206,368	52,743	3,576	1,502	1,175	1,628	403,193
VCP	0	739	50,142	125,311	234,872	183,551	72,333	999	667,947

The District is located primarily in the Agua Hedionda Drainage Basin. The first sewer pipelines were installed in 1964. The Buena collection system is comprised of approximately 101 miles of sanitary gravity sewers and force mains ranging in size from 4 to 30 inches in diameter. Sewer flows generated from the District drain to the Buena Creek Pump Station and are conveyed to EWPCF via the Buena Creek Force Main and

the Buena Outfall. Table 5-5 summarizes the characteristic length of the collection system based on the diameter of the pipelines.

Table 5-5. Buena Sanitation District Pipeline Length

Diameter (Inches)	Length (Feet)	Length (Miles)	Percent of Total
4	80	0.02	0
6	15,363	2.91	3
8	407,670	77.21	77
10	14,931	2.83	3
12	22,099	4.19	4
14	17,619	3.34	3
15	9,954	1.89	2
16	4,130	0.78	1
18	17,930	3.40	3
20	2,898	0.55	1
21	7,121	1.35	1
24	10,383	1.97	2
30	1,296	0.25	0
Unknown	112	0.02	0
Total	**531,587**	**100.68**	**100**

Table 5-6 summarizes the pipeline age versus length relationship based on the pipeline installation year. The entire collection system owned by the District is less than 60 years old.

Table 5-6. Buena Sanitation District Pipeline Age

Age Range (Years)	Length (Feet)	Length (Miles)	Percent of Total
1-10	40,736	7.72	8
11-20	30,079	5.70	6
21-30	123,699	23.43	23
31-40	149,338	28.28	28
41-50	128,888	24.41	24
51-60	57,588	10.91	11
Unknown	1,259	0.24	0
Total	**531,587**	**100.68**	**100**

VCP accounts for more than 45 miles of pipeline in the collection system. Another 29 miles of the collection system is composed of PVC. Table 5-7 presents the pipeline material and length relationship. The material may change from one material to another along a single pipeline (typically from manhole to manhole). Pipelines with two different materials and pipelines that have a cured in place pipe liner are presented in Table 5-2.

Table 5-7. Buena Sanitation District Pipeline Material

Material	Length (Feet)	Length (Miles)	Percent of Total (%)
ABS	9,190	1.74	2
ACP	8148	1.54	2
CIP	818	0.15	0
DIP	10,558	2.00	2
DIP/Cured In Place Pipe liner	721	0.14	0
HDPE	10,807	2.05	2
PVC	148,897	28.20	28
PVC/Cured In Place Pipe liner	2,141	0.41	0
RCP	507	0.10	0
VCP	191,420	36.25	36
VCP/Cured In Place Pipe liner	47,659	9.03	9
VCP/DIP	429	0.08	0
PVC/VCP	950	0.18	0
Unknown	99,228	18.79	19
Total	**531,474**	**100.66**	**100**

Table 5-8 shows the relationship between the District's pipeline age, material, and length for DIP, PVC, and VCP. The majority of the District's collection system is comprised of VCP pipe that is less than 50 years old.

Table 5-8. Buena Combined Pipeline Age, Material, and Length (Feet)

Pipe Material	0-10 Years	11-20 Years	21-30 Years	31-40 Years	41-50 Years	51-60 Years	Unknown	Total
DIP	0	677	533	0	0	0	0	1,210
PVC	23,506	27,446	53,052	30,332	654	646	0	135,635
VCP	145	163	12,012	52,617	120,447	54,828	238	240,450

5.2 Pump Stations and Forcemains

Pump stations convey tributary flow from low areas constrained by topographic elevations to higher elevations where the flows can be conveyed to the treatment plant by gravity. Pump stations typically require significant maintenance and attention by operations personnel and represent a significant risk point in the system for overflows or spills.

Flows tributary to pump stations are conveyed through pumps and pressure pipelines (forcemains). The forcemains typically discharge flows into a gravity collection or interceptor/outfall sewer system. The potential for odor at these discharge points is significant. As a result, pump stations and force mains are operated in such a manner to minimize the travel time in the force main and the turbulence at the discharge point. Lift stations are also typically constructed with redundant facilities and standby power to minimize the potential for spills and potential impact to the environment.

There are four pump stations that serve the City and the District:

- The **Raceway Basin Pump Station** is located at 2685 South Melrose Drive. Owned by the City, the pump station was replaced in 2007. It has a design capacity of 1.9 MGD and an average daily flow of 0.5 MGD.
- The **Buena Creek Pump Station** is located at 2080 South Melrose Drive. Owned by the District, the pump station was built in 2002. It has a design capacity of 8.8 MGD and an average daily flow of 2.1 MGD.
- The **Buena Vista Pump Station** is located at Buena Vista Lagoon at Jefferson. The City owns approximately 90 percent of the pump station capacity. The City of Carlsbad owns the remaining capacity. The pump station was rebuilt in 1994 and has a design capacity of 23.1 MGD. Average daily flows are approximately 5 MGD.
- The **Agua Hedionda Pump Station** is located at Agua Hedionda Lagoon northeast of NRG Cabrillo power plant. The City owns approximately 66 percent of the pump station capacity, which is currently undergoing an upgrade to 33 MGD capacity. The City of Carlsbad owns the remaining capacity.

These pump stations are operated by EWA under various agreements. The location of pump stations is shown in Figure 2-1.

5.3 Interceptors/Outfalls

Wastewater is conveyed from the Vista service area via the Vista/Carlsbad interceptor and from the Buena and Raceway service areas via the Buena Outfall. A description of these facilities is provided below. Additionally, the Vista/Carlsbad Interceptor was evaluated as part of the capacity analysis discussed in Chapter 6.

5.3.1 Vista/Carlsbad (V/C) Interceptor

The Vista/Carlsbad (V/C) Interceptor is jointly owned by Vista and the City of Carlsbad. The V/C Interceptor is approximately 8-miles-long, and extends from the Vista meter station just west of College Boulevard and Highway 78 to the EWPCF. Flow from the City and a small portion of the City of Oceanside is metered at the upstream reach. The

Buena Vista Pump Station and Agua Hedionda Pump Station, both of which are maintained and operated by the EWA, are a part of the interceptor system.

The V/C Interceptor was originally constructed in 1965. Sections of the interceptor were replaced with larger diameter pipelines in 1979, 1988, and in 2003, when a 2-mile section through the downtown Carlsbad area was replaced with 36-inch to 54-inch diameter pipeline. Approximately 3,500 linear feet of centrifugally cast fiberglass reinforced plastic mortar pipe was installed in Jefferson Street and Oak Avenue using microtunneling technology in 2001. The pipe material for this section is listed by the trade name "Hobas" on the construction drawings. The City recently completed a rehabilitation project on portions of upstream reaches consisting of a cured-in-place liner on the interior of the pipelines and rehabilitated manholes.

The existing V/C Interceptor includes gravity pipelines ranging from 36 to 54- inches in diameter, parallel 36-inch OD and four 16-inch force mains at the Agua Hedionda Lift Station, and parallel 24-inch force mains at the Buena Vista Pump Station. The material for the gravity pipelines is VCP, reinforced concrete pipe with a poly vinyl chloride (PVC) liner (T-Lock liner) or Hobas pipe.

5.3.2 Buena Outfall

The first outfall constructed through the Encinas Canyon was the Buena Outfall, built in 1964 by the District. The City of Carlsbad has capacity rights that vary by reach in this pipeline. The Buena Outfall begins at the corner of El Camino Real and Palomar Airport Road, downstream of the force main discharge of the City's Buena Creek Pump Station and Raceway Basin Pump Station. The outfall flows through the City of Carlsbad's industrial park and then parallels Palomar Airport Road, crossing under Interstate 5 and continuing to the EWPCF. The total length of the interceptor is approximately 4.2 miles.

Minor realignments were made to the Buena Outfall in 1987, 1989, and 1992. The existing interceptor consists of gravity pipelines ranging from 15 to 30 inches in diameter. There are no pump stations or siphons along the alignment. Most of the gravity pipelines are constructed of VCP, with a few sections of PVC. At the time of this report, the District is implementing a project to realign the outfall out of environmentally-sensitive areas and into Palomar Airport Road.

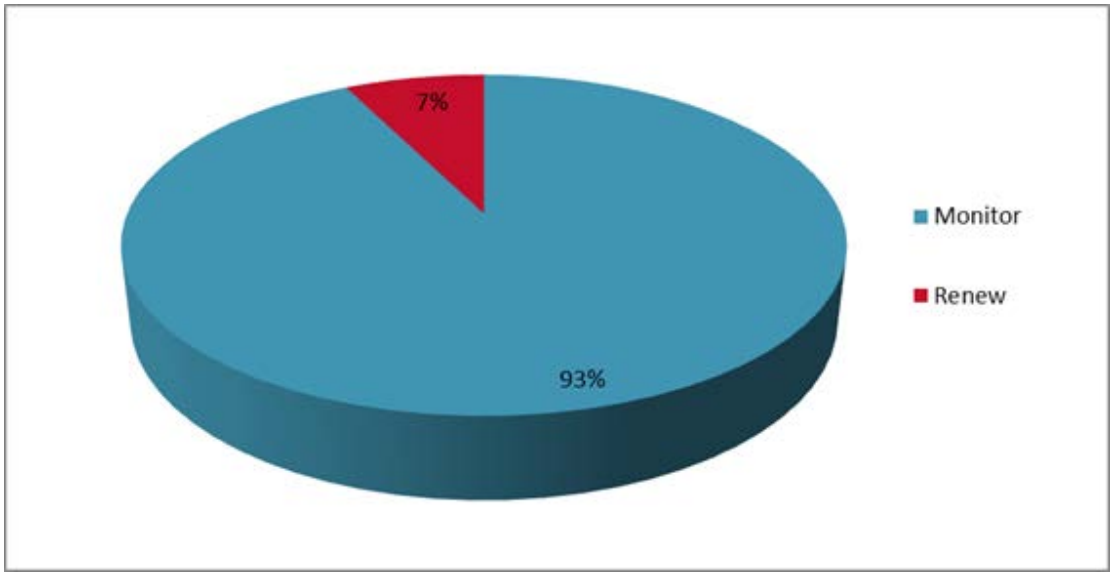
5.4 Collection System Condition Assessment

5.4.1 Gravity Pipelines

The City has conducted Closed Circuit Television (CCTV) inspection of approximately 92 percent of the gravity sewer mains since 2005. This data provides high quality information regarding the condition of gravity sewer mains. More information on the City’s inspection program can be found in the Sewer System Management Plan. The City and HDR developed an automated condition renewal decision logic that utilizes City business practices, CCTV data, cleaning frequencies, and GIS data to identify pipe risk and provide an initial recommendation for gravity sewer main condition renewal or future monitoring. A summary of the initial recommendations are included in Figure 5-1, which indicate that 93 percent of inspected pipes are in good condition and will be monitored in the future and 7 percent of inspected pipes have condition defects and an initial

recommendation for condition renewal. Based on these results, forecasts were made to account for the 8 percent of the gravity sewer main system that has not been inspected with CCTV. More information on the renewal decision logic can be found in the Asset Management Plan.

Figure 5-1. Gravity Sewer Main Inspection Results



5.4.2 Pump Stations and Forcemains

In 2016, the City completed a Pump Station Condition Assessment and Rehabilitation Report that identifies and prioritizes potential improvements to three of the four pump stations conveying flow from the City to the EWPCF: Raceway Basin, Buena Creek and Buena Vista Pump Stations. The report, “Pump Station Rehabilitation Study”, August 2016, is available from the City.

Over 3 days, a multi-discipline team of mechanical, structural and electrical engineers, assisted by EWA staff, conducted condition assessments of each pump station. The assessments involved visually inspecting the installed assets and known deficiencies identified by staff. After each assessment was completed, a meeting was held to discuss the operations and maintenance history and needed improvements with the City and EWA.

For each pump station, an asset inventory list was created to document the assets at each pump station. Throughout the condition assessments, and per a review of record drawings, this list was updated with new assets.

The asset list was used to track asset condition, condition rankings, remaining useful life estimates, criticality, vulnerability, and overall risk. Risk scores are calculated as the product of criticality and vulnerability, where vulnerability is the likelihood of failures and criticality is the consequence of failure. Vulnerability is a function of the asset condition and remaining useful life, whereas criticality is a weighted score, with each asset graded according to health and safety, economics, environmental, and community effects.

In addition to current projects, forty additional projects, totaling over $20 million, were identified and ranked based on a triple bottom line assessment of social, environmental

and financial impacts. From the list, high-risk assets were identified for rehab or replacement and were grouped into larger Capital Improvement Program (CIP) projects for additional evaluation and project cost estimating. During a workshop to discuss the CIP and its organization, the City decided to consolidate projects with similar scopes and group them with four large projects. As part of this decision, the three largest projects (Project No.'s 2, 4 and 5) would make up their own CIP, and the smaller non-critical items would be consolidated into one large CIP (Project No. 3). Studies and Assessments were listed separately.

Table 5-9 provides the list of recommended CIP projects. The table includes project scope and the estimated project cost. The detailed assessment and components of the proposed projects can be found in the City's "Pump Station Rehabilitation Study", August 2016.

Table 5-9. Lift Station Condition Assessment Recommended Projects

Project No.	Project	Lift Station	Project Cost
1	Current Project: VFD/PLC Replacement; Grinder Improvements (RPS); Wet Well Rehab	All sites	$2,934,000
2	Grinder Replacement	Buena Vista	$2,312,000
3	Consolidated Rehab Items	All sites	$7,406,000
4	Redundant Forcemain	Buena Creek	$7,992,000
5	Vapor Phase Odor Control	Buena Vista	$545,000
6	Studies and Assessments	All sites	$555,000
Total			**$21,744,000**

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6 Existing Collection System Capacity Analysis

A capacity evaluation of the existing wastewater collection system was completed to identify sewer reaches that may be deficient under recommended design criteria and to identify upgrades needed to accommodate existing wastewater flows. This chapter presents the results from the existing wastewater system hydraulic evaluation and evaluates the ability of the collection system to convey existing wastewater flows. Development of the hydraulic model is documented, and analysis results are summarized. Improvement projects necessary to meet the system design criteria presented in Chapter 4 are identified.

6.1 Existing System Model Development

The hydraulic model simulates flow conditions, such as wastewater flow depth, flow rate, and velocity, within pipes and manholes in the wastewater collection system. It is used to evaluate the capacity of the collection system, identify possible deficiencies in the system, and prioritize future work for Vista/Buena. Model simulations are performed with both dry and wet weather flows.

As part of this master plan update, the existing InfoSWMM sewer model was used. InfoSWMM uses the dynamic solution scheme of the full Saint Venant (energy) equations and incorporates variable time steps based on stability criterion. This solution method accurately represents complex conditions in the sewer system, such as surcharged manholes and siphon flows.

The existing model was updated to include improvements to the system since the last model update by importing the City's GIS data for those facilities. Wastewater flow volumes and patterns were updated to reflect the dry weather data derived from the temporary flow monitors that were installed throughout April and May in 2016.

Rainfall events are applied to the model to identify the impacts of peak wet weather flows on the collection system. Rainfall derived inflow and infiltration is modeled by applying infiltration and routing coefficients to a specific rainfall event. These coefficients are refined during the wet weather model calibration to better simulate the observed peaking of the wastewater flows.

The storm event occurring December 20 to 22, 2010, described previously in Chapter 3.3, was selected for use in applying inflow and infiltration in the wet weather analysis. This rainfall event resulted in 3.37 inches for rainfall in a 24-hour period. The total rainfall recorded in Vista over the 3 days was 6.3 inches. Precipitation intensity/duration estimates for the December 2010 storm have determined it to be between a 5-year and 10-year design storm for San Diego County.

6.2 Hydraulic Model Validation

Model calibration is the process by which model flows are compared with the observed flows. Iterative adjustments are made to the sewage-flow generation factor volumes, the diurnal curves, or the physical model until the model's predicted hydrographs closely represent the observed flows. The primary purpose of a calibrated model is to provide an accurate representation of the hydraulic characteristics of the collection system. A well-calibrated model is used as the basis of future modeling. In a calibrated model, the representations of the flow loading and allocation and the collection system facilities are representative of the characteristics in the system.

Table 6-1 compares the measured flows at the permanent flow meters at Vista (V1), Buena (B1) and Raceway (V2) Basins and modeled flows at those locations for both dry and wet weather conditions. These results are illustrated in Figure 6-1 through Figure 6-6. The validation goal is for the model to represent the measured flows within a 10 percent margin. Model results for the temporary flow meter locations are shown in Appendix C-1.

Table 6-1. Hydraulic Model Validation Results

Scenario	Basin	Validation Results						
		Figure No.	Measured Flow (MGD)		Modeled Flow (MGD)		Percent Difference (%)	
			Avg	Max	Avg	Max	Avg	Max
Dry [1]	Vista 3	Figure 6-1	4.77	7.15	4.85	7.49	2	5
	Buena 3	Figure 6-2	2.01	3.22	2.09	3.24	4	1
	Raceway 4	Figure 6-3	0.19	0.30	0.19	0.28	0	-6
Wet [2]	Vista	Figure 6-4	9.62	14.72	9.75	14.96	1	2
	Buena	Figure 6-5	4.50	8.19	4.49	7.77	0	-5
	Raceway	Figure 6-6	0.58	1.44	0.56	1.47	-2	2

[1] Dry weather validation based on flow meter data from April and May 2016.
[2] Wet weather validation based on flow meter data from rainfall event in December 2010.
[3] Vista and Buena Basin dry weather validation based on average Sunday flow meter data from April and May 2016.
[4] Raceway Basin dry weather validation based on average Friday flow meter data from April and May 2016.

As shown in Table 6-1, all flows were modeled under wet and dry conditions to within a range of -6 percent to +5 percent. This is considered an excellent validation of the model and is well within the accuracy of the flow-measurement data. This level of validation is an indicator of the reliability and accuracy of the model. It is an indication that the data representing both the conveyance system and the flows imported in the model closely represent what is happening in the existing sewer system.

Figure 6-1 through Figure 6-3 show model results and field flow monitoring data for calibration of ADWF conditions. Figure 6-4 through Figure 6-6 show model results and field flow monitoring data for calibration of wet weather flow conditions.

Figure 6-1. Vista ADWF Calibration

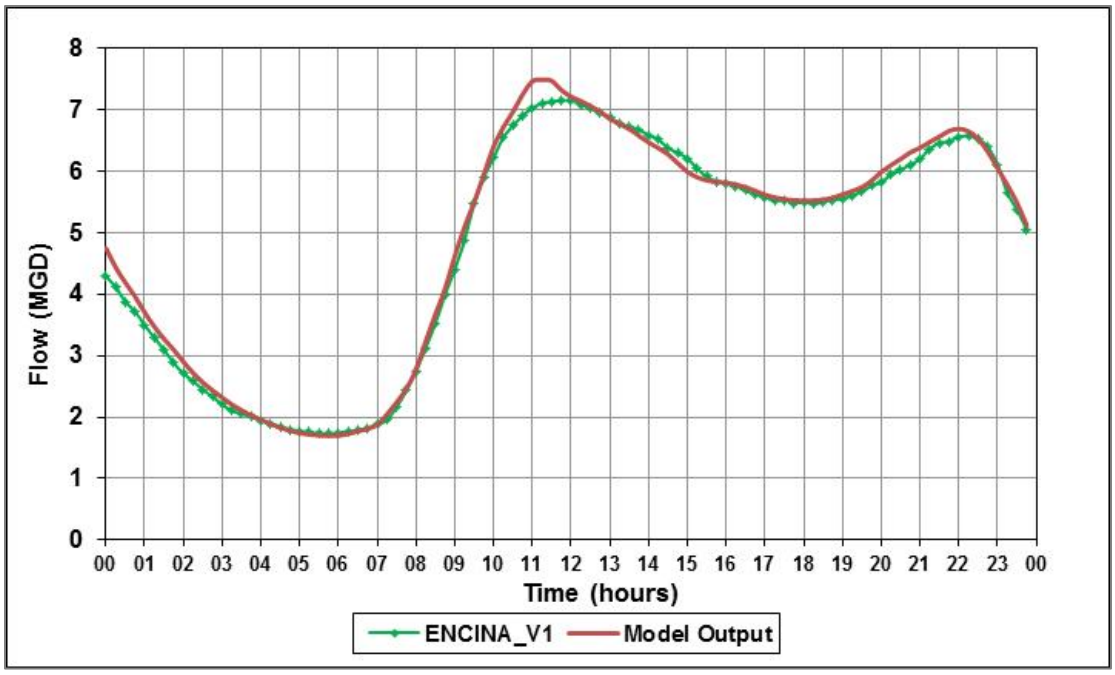


Figure 6-2. Buena ADWF Calibration

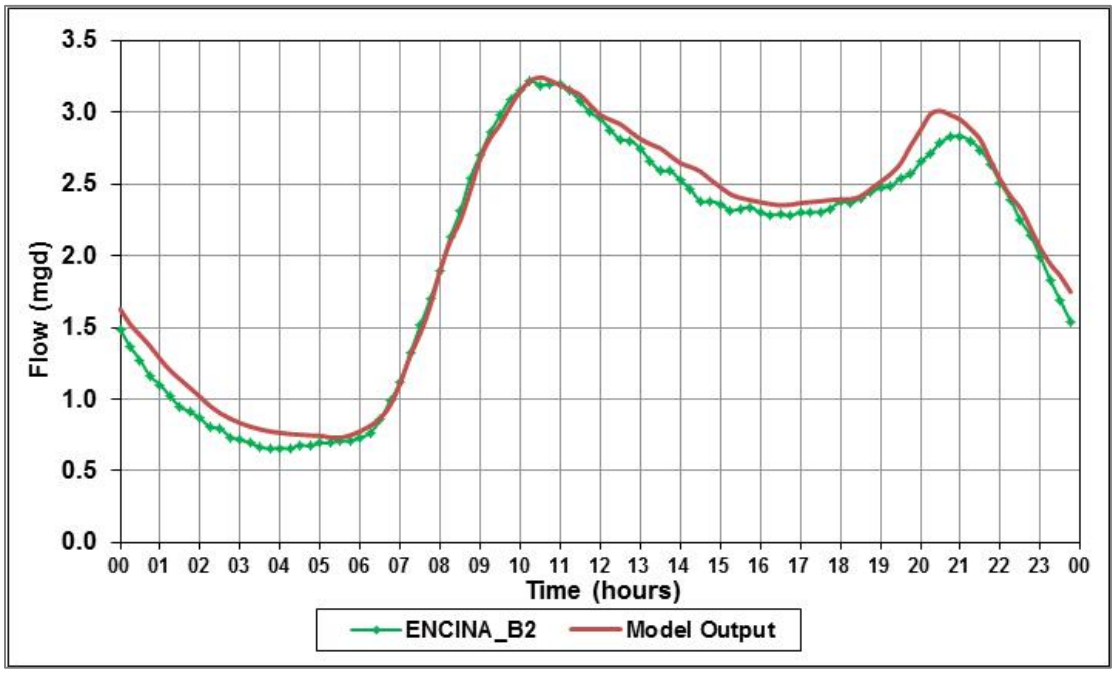


Figure 6-3. Raceway ADWF Calibration

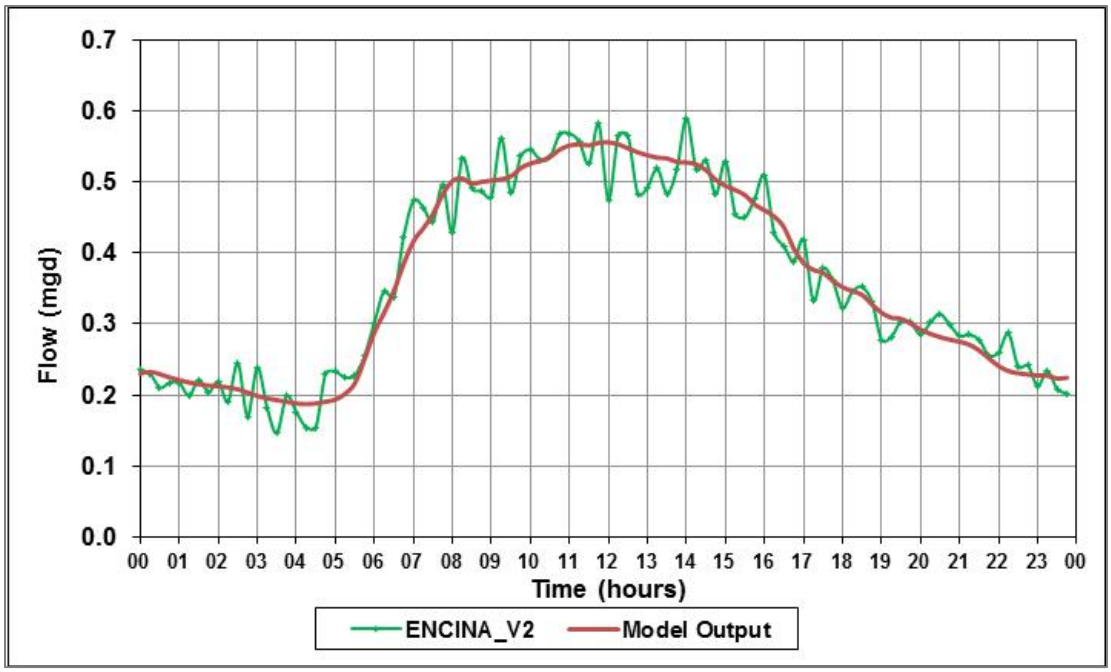


Figure 6-4. Vista Wet-Weather Calibration

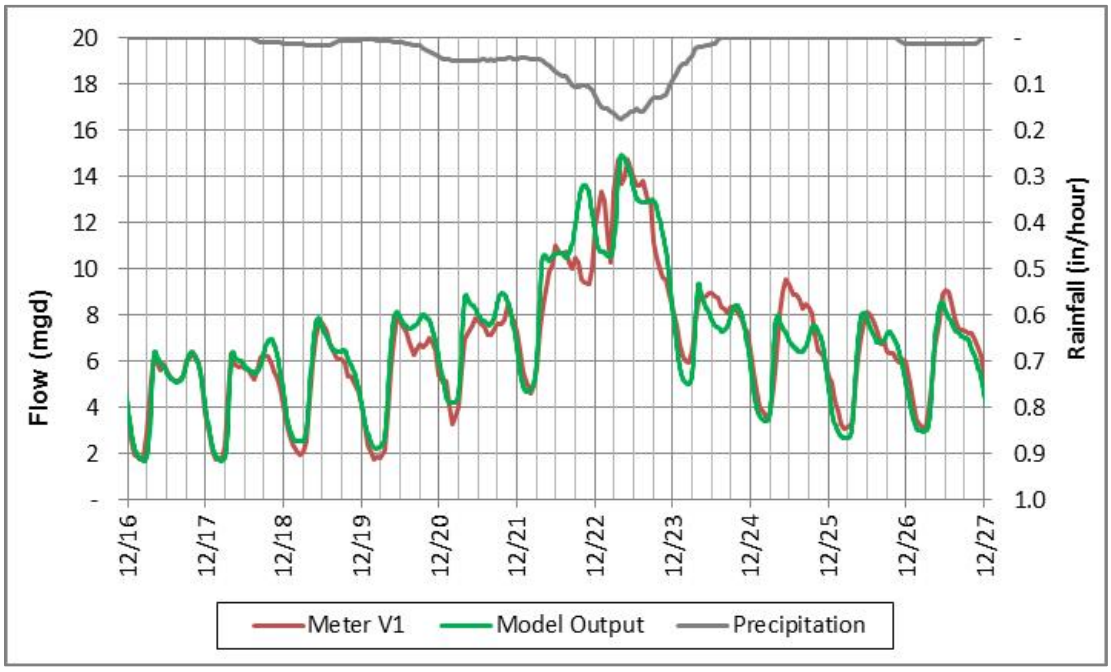


Figure 6-5. Buena Wet-Weather Calibration

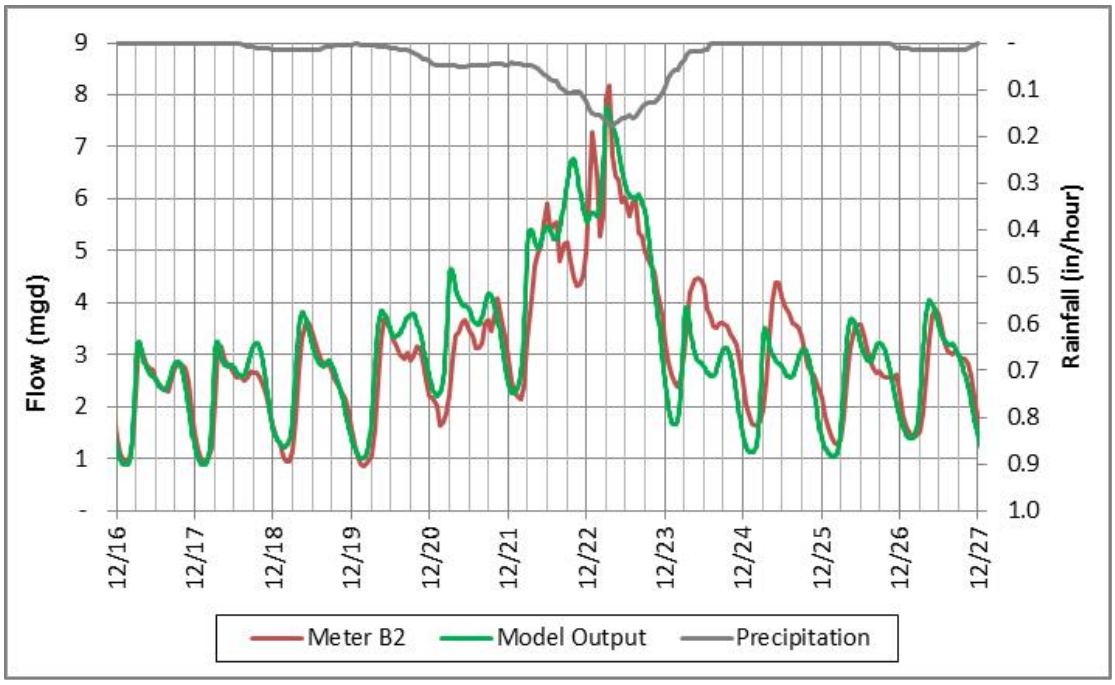
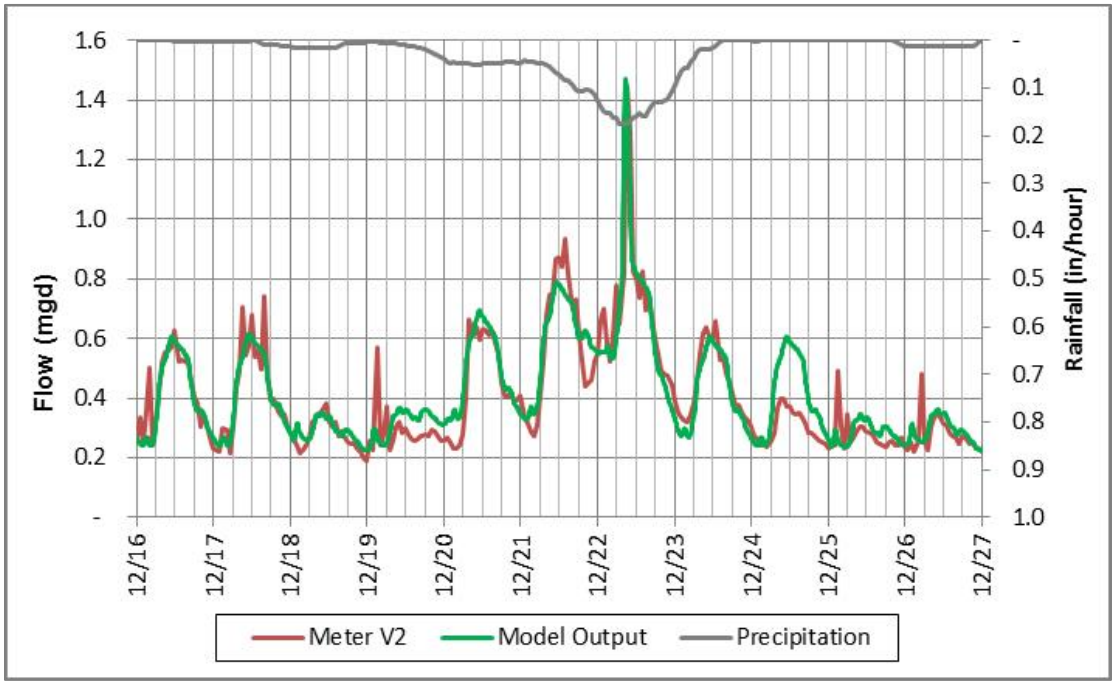


Figure 6-6. Raceway Wet-Weather Calibration



6.3 Existing System Capacity Evaluation

An understanding of the hydraulic condition of the existing system is essential to identify existing system related capacity deficiencies and to help prioritize recommended system improvements resulting from the ultimate system capacity analysis. The InfoSWMM hydraulic model developed as a part of this Master Plan was used to perform the capacity analysis of the existing collection system. Capacity analysis was performed for various flow scenarios including existing average and peak dry weather and wet weather flow scenarios. The existing flows were calibrated with the measured flows for all the scenarios before performing the existing system capacity analysis.

Improvements were recommended based on the evaluation of the existing system during peak hours of wet weather conditions. Capacity analysis of open channel systems is generally based on the consideration of the depth of flow with respect to the diameter of the pipe. A capacity deficient section along a pipeline is recommended as a capacity related replacement project if depth-to-diameter ratio (d/D) exceeded the performance criteria established to define the projects during the wet weather flow scenario. A d/D ratio of 0.80 was used as the evaluation or performance criteria threshold, as discussed in Chapter 4.

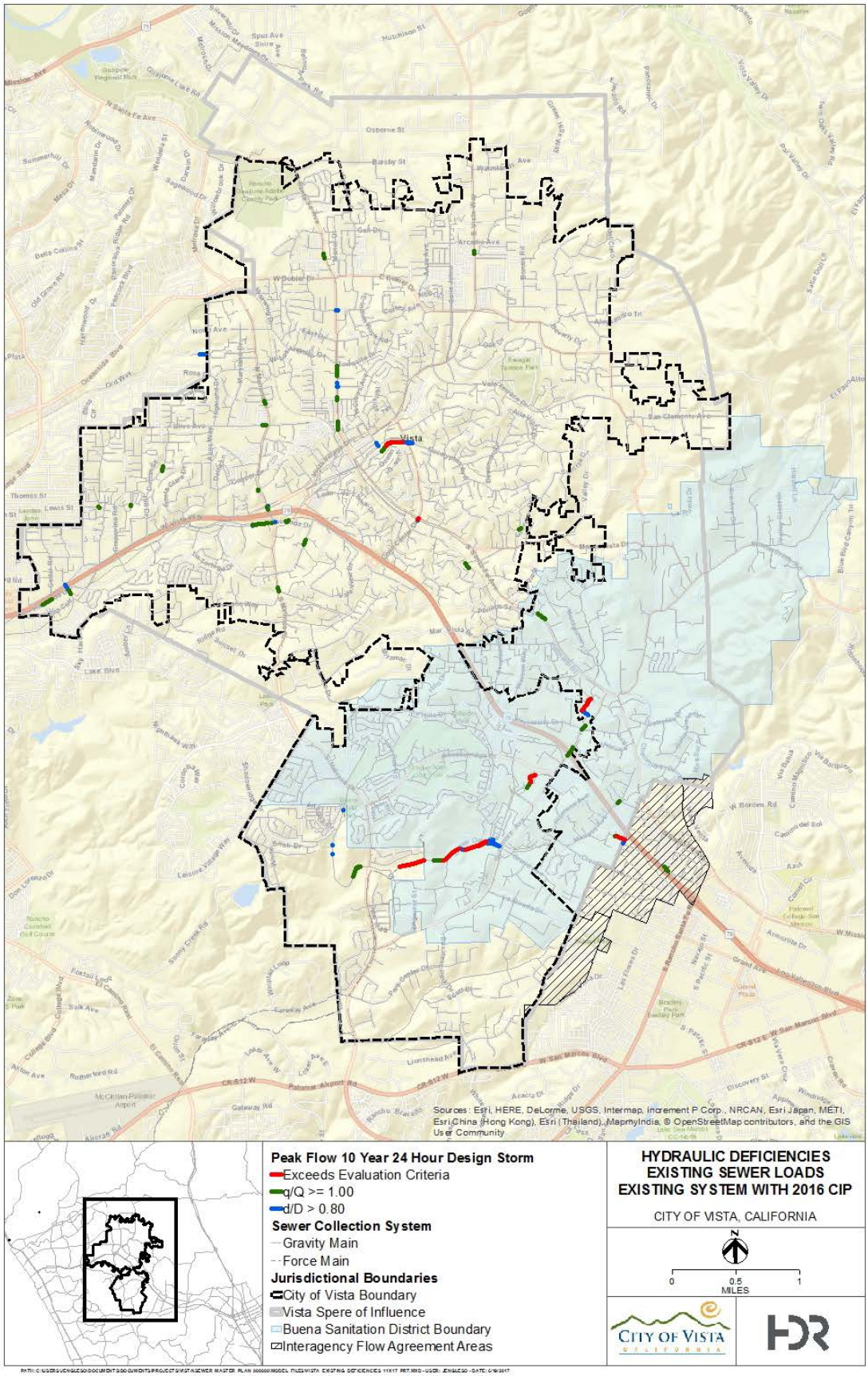
Capacity deficient pipes were upsized in order to meet the design criteria of 50 percent full for the pipes with diameter less than or equal to 12-inch and 75 percent full for the pipes with diameter greater than 12-inch during peak wet weather flow. Capacity deficient pipes in close vicinity were grouped to define the potential projects and often include single pipe segments that do not have hydraulic restrictions. The pipes were grouped to create logically constructible projects. By doing this, material and age are consistent throughout an entire reach and there are fewer field coordination issues regarding protecting pipe in place.

6.4 Summary of Deficiencies

In general, results of the existing system capacity analysis are used to prioritize facility improvements. Although several gravity pipelines were identified as flowing full under the hydraulic simulation with peak wet weather flows, the model did not indicate any loss of flow (sewer overflows) due to capacity limitations under design storm, peak wet weather conditions. Overall 17 model pipes equaling approximately 4,848 feet of pipeline were determined to fail the evaluation criteria of $q/Q = 1.0$ and $d/D > 0.8$. The pipes failing evaluation criteria are shown in Figure 6-7. Pipes that failed one but not both of the evaluation criteria, either $q/Q = 1.0$ or $d/D > 0.8$, were also highlighted in Figure 6-7.

The hydraulic model output for the existing system analysis is included in Appendix C-2, Table 1. Gravity mains are listed by Asset ID. The hydraulic model output for the existing system analysis with the recommended improvements is provided in Appendix C-2, Table 2.

Figure 6-7. Existing System Hydraulic Deficiencies



6.5 Recommended Improvements

Recommended improvements for gravity pipelines with existing constraints are based on the capacity needed to convey projected buildout peak wet weather flows per the design criteria discussed in Chapter 4. Recommended improvements for the existing system are grouped into six projects including four projects in the Buena Basin and two projects in the Vista Basin. No improvements are recommended for the Raceway Basin.

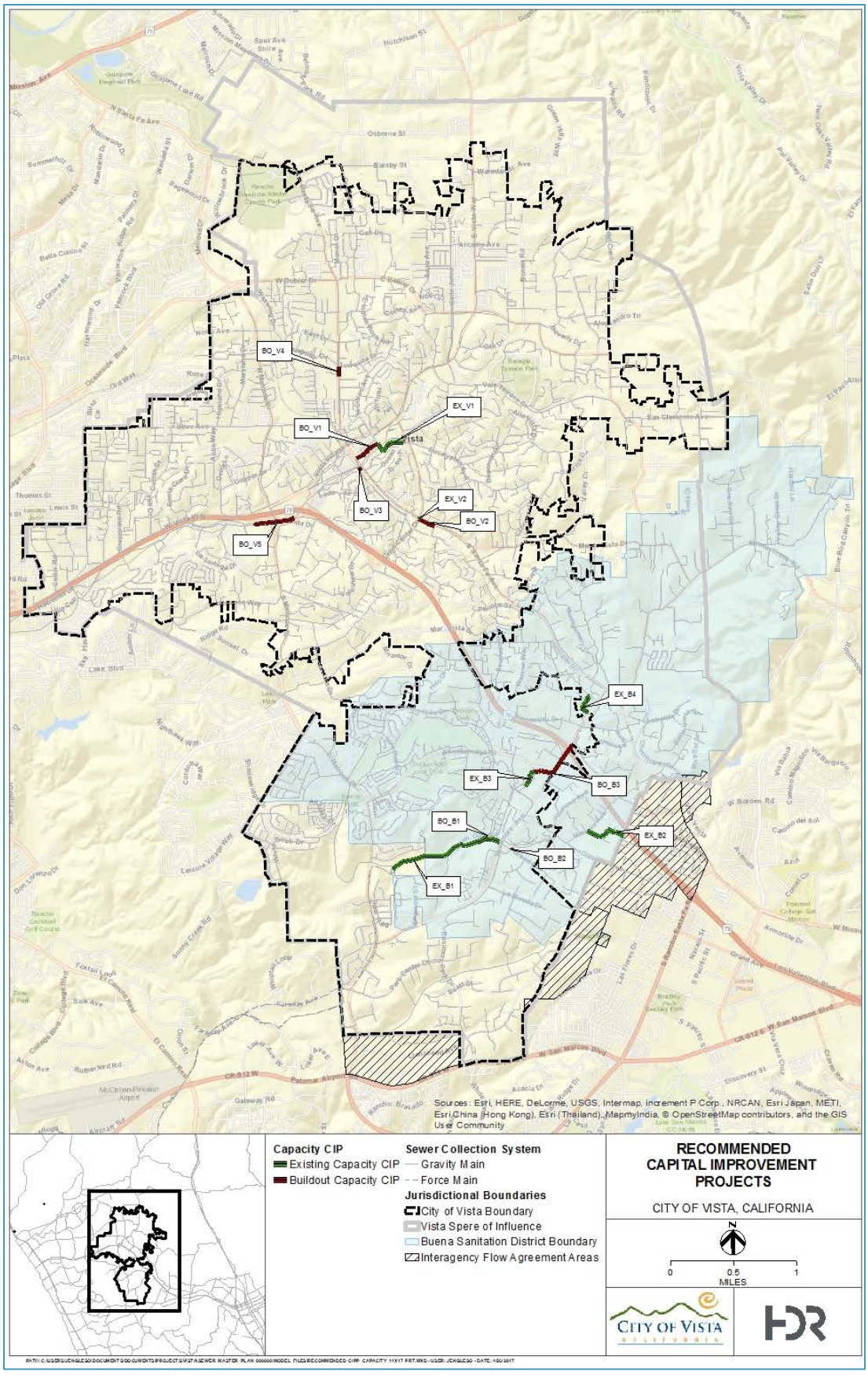
Recommended improvements are summarized in Table 6-2 by pipe diameter and length. Improvements are also shown in Figure 6-8. The hydraulic profile results from the hydraulic model can be found in Appendix C-4. It should be noted that the recommended Buena Basin improvements may be over-estimated based on additional inflow to the collection system via an open manhole during the calibration storm event as discussed in Chapter 3.3.

Table 6-2. Existing System Recommended Improvements in Pipe Length

Project	Basin	Diameter (in)						Total Length (ft)
		10	12	15	18	24	27	
EX_B1	Buena	--	--	591	--	54	4,434	5,079
EX_B2	Buena	1,768	--	--	--	--	--	1,768
EX_B3	Buena	--	--	--	863	--	--	863
EX_B4	Buena	--	916	--	--	--	--	916
EX_V1	Vista	--	1,379	--	--	--	--	1,379
EX_V2	Vista	--	69	--	--	--	--	69
Total Length (ft)		**1,768**	**2,363**	**591**	**863**	**54**	**4,434**	**10,073**

Note: Buena improvements may be over-estimated based on inflow to the collection system via open manhole during calibration storm.

Figure 6-8. Recommended Upgrades Existing & Buildout Systems



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7 Buildout Collection System Capacity Analysis

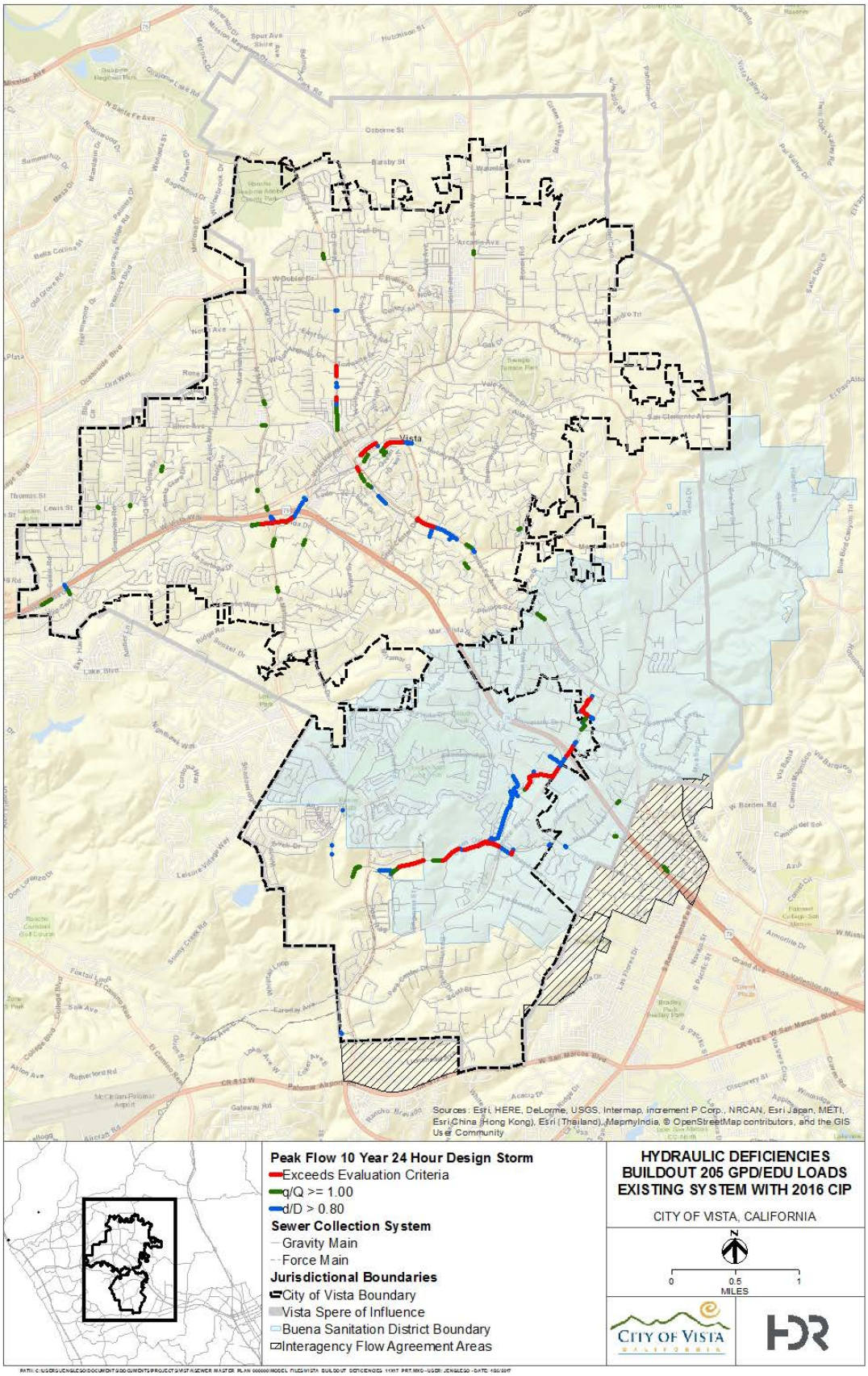
This report chapter identifies the wastewater system improvements required to convey the projected buildout wastewater loads presented in Chapter 3. To evaluate the buildout wastewater system, the GIS and existing system hydraulic model were updated to include planned improvements and recommendations proposed for the existing wastewater collection system to determine the wastewater these areas would contribute in the future. Vista Oceanside transfer areas are addressed in Chapter 3.5.2 and Appendix B.

7.1 Buildout System Capacity Evaluation

Using the InfoSWMM model, the buildout wastewater collection systems for the Vista, Buena, and Raceway Basins were evaluated under average dry weather flow and peak wet weather flow conditions to identify deficiencies according to the design criteria provided in Chapter 4 of this report. Overall 44 model pipes equaling approximately 2 miles of pipeline were determined to fail the evaluation criteria of q/Q = 1.0 and d/D > 0.8. The pipes failing evaluation criteria are shown in Figure 7-1. Pipes that failed one but not both of the evaluation criteria, either q/Q = 1.0 or d/D > 0.8, were also highlighted in Figure 7-1.

In addition to the capacity evaluation of the three primary collection system basins, the Vista/ Carlsbad Interceptor was evaluated based on the modeled buildout flows for the Vista Basin plus the maximum allowable flow transfer from Oceanside based on the Oceanside/ Vista transfer agreement of 2.15 MGD. The model results indicated that six pipes in the interceptor exceeded the Vista evaluation criteria. However, the model results do not predict that any of the pipes in the interceptor would be full under buildout conditions and peak wet weather flow. The results of the Vista/Carlsbad Interceptor evaluation are included in Appendix C-3.

Figure 7-1. Buildout Hydraulic Deficiencies



7.2 Recommended Improvements

Recommended improvements for gravity pipelines with buildout constraints are based on the capacity needed to convey projected buildout peak wet weather flows per the design criteria discussed in Chapter 4. Recommended improvements for the buildout system are grouped into eight projects including three projects in the Buena Basin and five projects in the Vista Basin. No improvements are recommended for the Raceway Basin. The hydraulic model output for the buildout system analysis, with recommended improvements, is provided in Appendix C-2, Table 3. Recommended improvements are summarized in Table 7-1 by pipe diameter and length. Recommended Buildout Improvements are shown with the Existing System Recommended Improvements on Figure 6-8. The hydraulic profile results from the hydraulic model can be found in Appendix C-4.

Table 7-1. Buildout System Recommended Improvements in Pipe Length

Project	Basin	Diameter (in)						Total Length (ft)
		10	15	18	21	27	36	
BO_B1	Buena	--		--	--	79	--	79
BO_B2	Buena	--	98	--	--	--	--	98
BO_B3	Buena	--	--	2,228	--	--	--	2,228
BO_V1	Vista	--	--	--	1,086	--	--	1,086
BO_V2	Vista	706	--	--	--	--	--	706
BO_V3	Vista	--	--	137	--	--	--	137
BO_V4	Vista	--	--	409	--	--	--	409
BO_V5	Vista	--	--	--	--	--	1,707	1,707
Total Length (ft)		706	98	2,774	1,086	79	1,707	6,451

7.3 Flow Measurement Plan

Flow monitoring was conducted in April and May 2016 by ADS Environmental Services as part of the 2017 Master Plan update effort. However, the Vista/ Buena service areas did not experience significant rainfall during the monitoring period. Dry weather flow data was recorded and used to update the hydraulic model and recommend system improvements, but wet weather flow data were not available as part of this temporary flow monitoring effort. Although continuous SCADA data from the permanent Encina Wastewater Authority meters is generally available for the past 10 years, in-basin temporary flow monitoring data for wet weather flow conditions are not available for the current collection system. This is significant because since 2010, approximately 13 miles of pipe have been lined in each the Vista and Buena Basins, potentially changing the RDII characteristics of the collection system.

In order to characterize the current system's response to wet weather flows, a flow measurement plan is recommended consisting of 13 temporary flow meters to be installed for a period of 30 days during a time of year that historically results in rainfall in the Vista/ Buena service areas. Preferably the study period would span January and February based on historical rainfall data as illustrated in Figure 2-3. The recommended meter locations are listed in Table 7-2. The recommended temporary flow meter locations are shown in Figure 7-2. The permanent flow meter locations that would be used in the study are the Encina Wastewater Authority flow meter locations shown in Figure 3-1.

The temporary flow meter locations selected for the flow measurement plan are the same locations used in the 2016 flow monitoring effort with the exception of FM12. Data from FM12 was not used as part of the hydraulic model analysis for the 2017 Master Plan update. A new location for FM12 was selected in Eucalyptus Avenue west of Civic Center Drive at upstream of recommended improvements EX_V1 and BO_V1. Using this approach, the wet weather flow data from the flow measurement plan can be compared with dry weather flow data collected during the 2016 flow monitoring effort and used as part of the 2017 Master Plan analysis. Data from the new FM12 location can be used to check wet weather flows that may contribute to deficiencies addressed by projects EX_V1 and BO_V1.

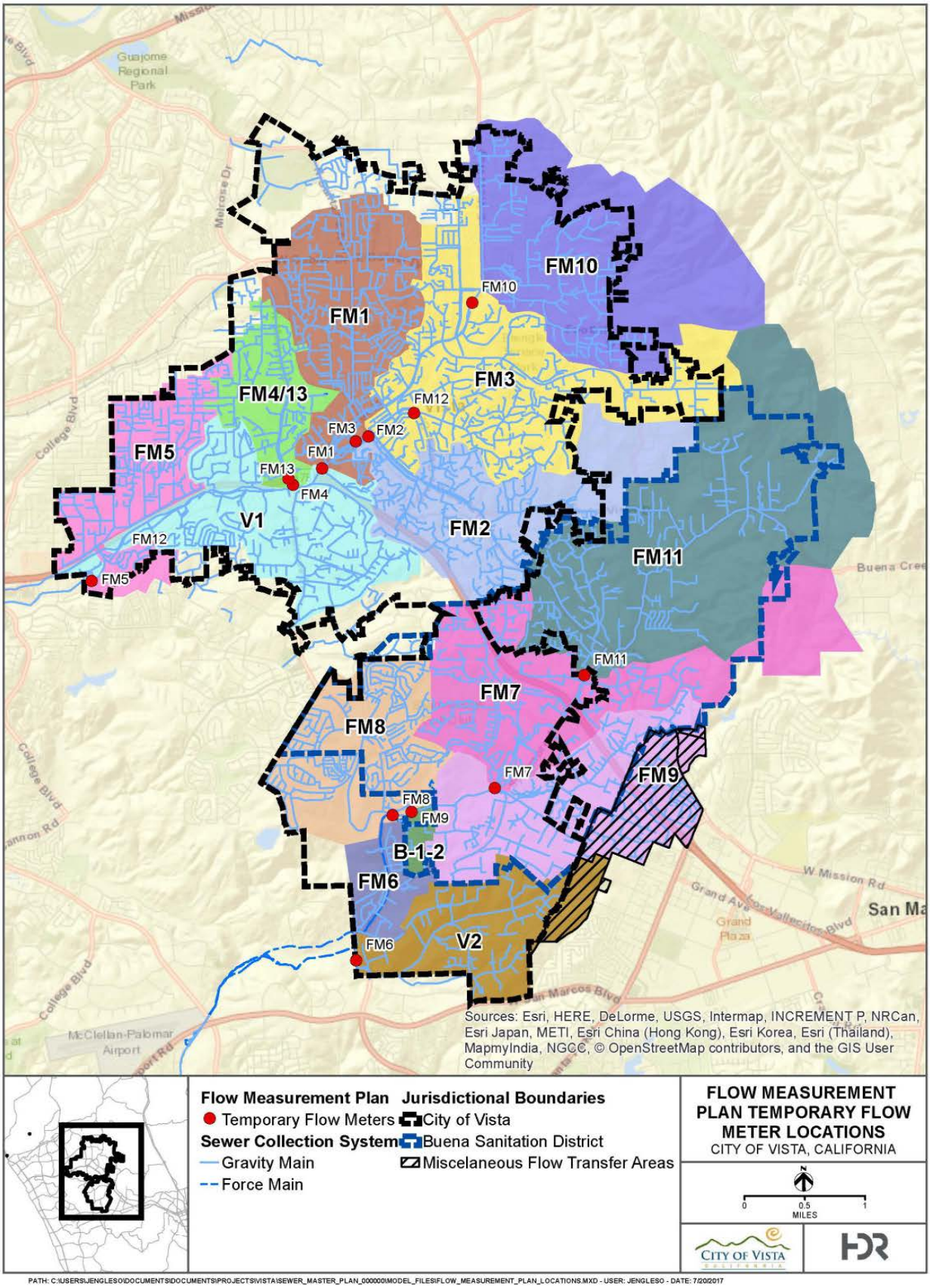
Table 7-2. Flow Measurement Plan Meter Locations

Flow Measurement Plan Meter Number	Location		Basin	2016 Flow Monitoring Meter Number
	Manhole Asset ID	Manhole Legacy ID		
Proposed Temporary Flow Meters				
FM1	V29146	V32T095.A0	Vista	FM1
FM2	V08162	V32T419.00	Vista	FM2
FM3	V24101	V24101.00	Vista	FM3
FM4	V05104	V05104.00	Vista	FM4
FM5	V32155	V32T225.00	Vista	FM5
FM6	V34108	V34108.00	Raceway	FM6
FM7	B01152	N/A	Buena	FM7
FM8	V33174	V33174.00	Buena	FM8
FM9	B01101	B01101.00	Buena	FM9
FM10	V16043	V16043.00	Vista	FM10
FM11	B08024	B08024.00	Buena	FM11
FM12	V22096	V22096.00	Vista	N/A
FM13	V05048	V05048.00	Vista	FM13
Existing Permanent Flow Meters				
V1	College/SR-78		Vista + Oceanside	V1
OS1	Near V1		Oceanside	OS1

Table 7-2. Flow Measurement Plan Meter Locations

Flow Measurement Plan Meter Number	Location		Basin	2016 Flow Monitoring Meter Number
	Manhole Asset ID	Manhole Legacy ID		
V2	Raceway PS		Raceway	V2
B2	Buena PS		Buena	B2

Figure 7-2. Flow Measurement Plan Temporary Flow Meter Locations



8 Recommendations and CIP

This chapter summarizes the recommended Capital Improvement Projects (CIP) for the City/District wastewater collection system based on the findings of this master plan. The recommended projects address capacity or replacement and rehabilitation improvements for the existing collection system and a future system which will convey projected 2030 wastewater flows. An estimate of probable construction cost is provided for each improvement project. These are planning level assessments therefore it is in the best interest of the City to conduct feasibility or preliminary engineering evaluations before embarking on a major capital investment.

8.1 Unit Costs

The unit cost estimates reflect full capitalization inclusive of planning, engineering design, environmental, legal, construction, construction management and contract administration. The values are presented in 2016 dollars based on an anticipated ENR Construction Cost Index (ENR-CCI) of 11555 for the Los Angeles/Orange County area. These estimates are based on representative available data at the time of this report; however, since prices of materials and labor fluctuate over time, new estimates should be obtained at or near the time of construction of proposed facilities. A scaling factor is included on a project by project basis to account for pipeline projects that are relatively short in distance or have more significant environmental or construction challenges.

8.1.1 Gravity Pipelines

Base unit costs for replacement of gravity mains includes pipeline material and installation, repaving and system appurtenances that, collectively, constitute principal elements of the wastewater collection system facilities, are provided in Table 8-1.

Table 8-1. Unit Costs

Diameter	Capital Costs ($/LF)
8	206
10	256
12	305
15	378
18	458
21	532
24	606
27	679
30	753
36	901
42	1,048

The unit costs reflect an average cost for full capitalization inclusive of planning, engineering design, environmental, legal, construction (including all appurtenances), construction management and contract administration.

8.2 Pump Station and Forcemain Projects

CIP projects for three of the four Pump Stations were recommended in the Pump Station Rehabilitation Study (Carollo, 2016). Detailed cost estimates from the report are provided in Table 8-2 through Table 8-4.

Table 8-2. Buena Vista Pump Station CIP Summary

CIP Recommendations	
Item	Cost Estimate
Building Items and Site Work	$753,000
Rehabilitation of Pump Nos. 4 and 5	$50,000
Forcemain Plug Valve Replacement	$242,000
Grinder Improvements - Option 1	$2,312,000
Shelf-spare communitor - Option 6	$51,000
Backflow Preventer	$70,000
Vapor Phase Odor Control	$545,000
Wet Well Rehabilitation	$901,000
Level Monitoring System	$29,000
Exhaust Fan Replacement	$29,000
Assets Nearing End of Useful Life	$719,000
V & A Buena Vista Project	$48,000
Total for CIP Recommendations	$5,749,000

Table 8-3. Buena Creek Pump Station CIP Summary

CIP Recommendations	
Item	Cost Estimate
Building Items and Site Work	$195,000
Redundant Forcemain	$7,992,000
Valve Replacement	$233,000
Odor Control Unit Rehabilitation	$6,000
Automation of Gates	$85,000
Exhaust Fan Replacement	$30,000
Pump Selection Programming	$100,000
Pressure Surge Improvements	$812,000
Assets Nearing End of Useful Life	$118,000
V & A Recommendations	$1,866,000
Total CIP Recommendations	$11,437,000

Table 8-4. Raceway Pump Station CIP Summary

CIP Recommendations	
Item	Cost Estimate
Building and Site Items	$97,000
Emergency Overflow Storage Pond	$187,000
Odor Control Unit	$29,000
Plug Replacement	$44,000
Exhaust Fan Replacement	$11,000
Pressure Surge Improvements	$521,000
Assets Nearing End of Useful Life	$170,000
V&A Recommendations	$10,000
Total CIP Recommendations	$1,069,000

8.3 Pipeline Projects

Both capacity and condition related pipeline projects are illustrated in Figure 8-1. Project descriptions and an estimate of probable construction cost are provided for each proposed improvement project. These estimates do not consider costs associated with localized issues such as soil conditions, right-of-way acquisitions, mitigation costs to minimize impact to commercial businesses, residents, traffic, the environment, and other site specific design issues that may be discovered during the course of design. For planning purposes, scaling factors have been used to estimate the level of difficulty for the project. The City staff will revise these estimates as the CIP projects further defined, based on known conditions.

8.3.1 Capacity Related Projects

Cost estimates for the capacity driven improvements for both existing and buildout conditions for the Vista and Buena service areas are included in Table 8-5 and Table 8-6, respectively.

Table 8-5. Capital Improvement Projects – Vista Service Area

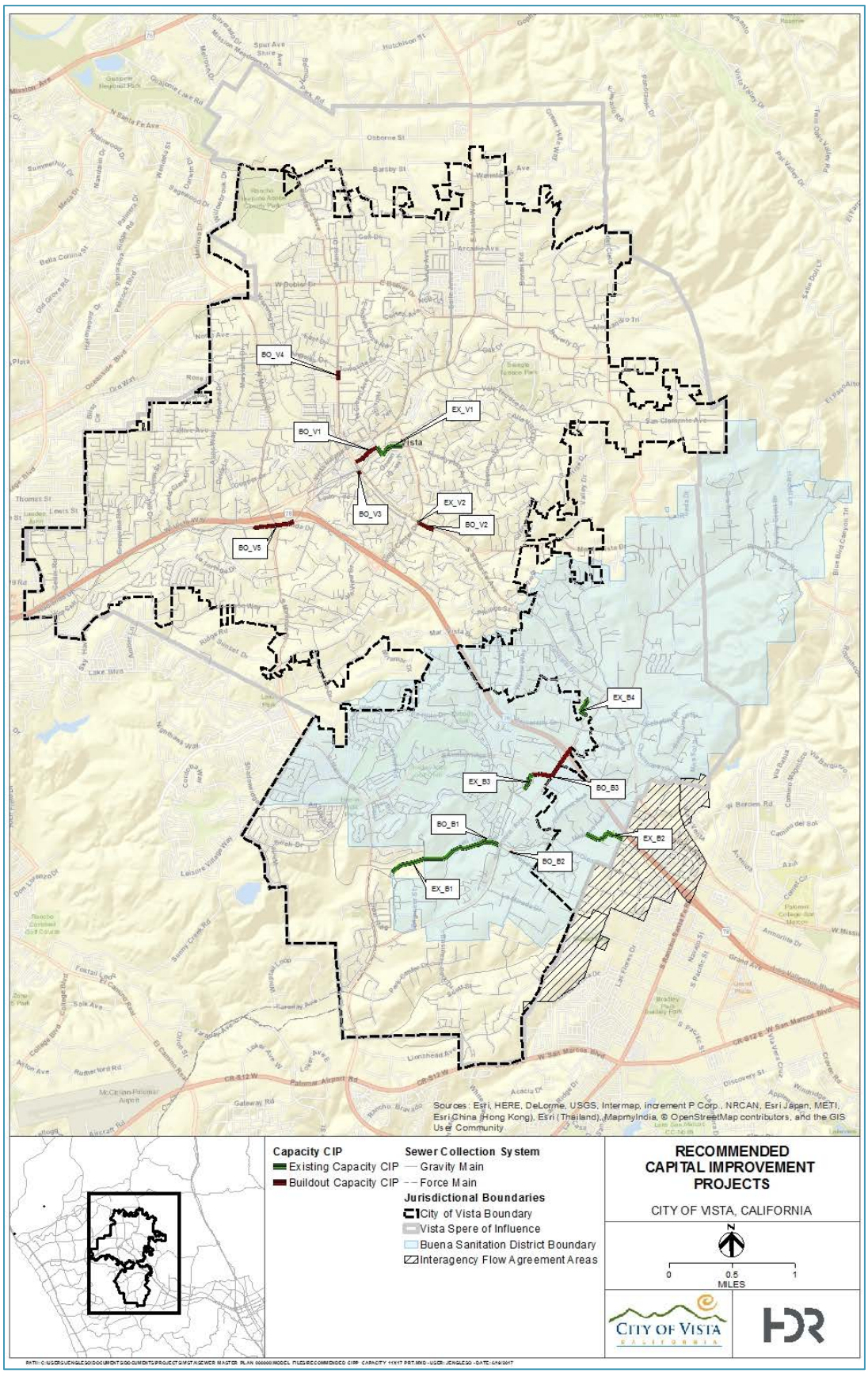
CIP No	Type	Project Description	Units (LF)	Size	Unit Cost ($/LF)	Scaling Factor	CIP Cost ($)
Vista EX_V1	Pipeline	**Eucalyptus Ave and Citrus Ave Sewer Capacity Improvements** Upsize Eucalyptus Ave and S Citrus Ave from 10" to 12"	1,379	12-inch	305	1.5	650,000
Vista EX_V2	Pipeline	**South Santa Fe Sewer Capacity Improvements** Upsize S Santa Fe Ave and Civic Center Dr from 8" to 10"	69	12-inch	305	4.75	100,000
Vista BO_V1	Pipeline	**E Broadway Sewer Capacity Improvements** Upsize E Broadway Ave between S Santa Fe Ave and S Citrus Ave from 18" to 21"	1,086	21-inch	532	1.5	850,000
Vista BO_V2	Pipeline	**South Santa Fe Sewer Capacity Improvements** Upsize S Santa Fe Ave and Civic Center Dr from 8" to 10"	706	10-inch	256	1.65	300,000
Vista BO_V3	Pipeline	**South Santa Fe Sewer Capacity Improvements** Upsize S Santa Fe Ave and Buena Vista Creek from 12" to 18"	137	12-inch	305	1.3	54,000
Vista BO_V4	Pipeline	**North Santa Fe Sewer Capacity Improvements** Upsize N Santa Fe Ave and W Los Angeles Dr/ Townsite Dr from 15" to 18"	409	18-inch	458	1.5	280,000
Vista BO_V5	Pipeline	**Hacienda Drive Sewer Capacity Improvements** Upsize Hacienda Dr between La Tortuga Dr and Vista Village Dr from 30" to 36"	1,707	36-inch	901	7.8	12,000,000
						Total Pipelines	**14,234,000**

Note: Project BO-V5 can be eliminated by proposed diversion of flow to new 24" pipeline, north of SR-78 and new freeway crossing, connecting downstream of this segment (CIP 8212: Vista Village Drive Trunk Sewer project).

Table 8-6. Capital Improvement Projects – Buena Service Area

CIP No	Type	Project Description	Units (LF)	Size	Unit Cost ($/LF)	Scaling Factor	CIP Cost ($)
Buena EX_B1	Pipeline	**Green Oak Trunk Sewer Improvements** Upsize along Agua Hedionda Creek and Green Oak Dr east of the Buena Lift Station: 12" to 15", 18" to 21 /27", 21" to 24"	591	15-inch	378	1	223,000
			54	24-inch	606	1	33,000
			4,434	27 inch	679	1.6	6,500,000
Buena EX_B2	Pipeline	**Smilax-Mimosa Capacity Improvements** Upsize Poinsettia Ave between Mimosa Ave and Smilax Rd: 8" to 10"	1,768	10-inch	256	6.6	3,000,000
Buena EX_B3	Pipeline	**Thibido to Watson Way Sewer Improvements** Upsize Near Arbor Glen Ln at Shadowridge Dr and Sycamore Ave: 15" to 18"	863	18-inch	458	1.9	750.000
Buena EX_B4	Pipeline	**El Valle Opulento Capacity Improvements** Upsize El Valle Opulento: 10" to 12"	916	12-inch	305	1.3	360,000
Buena BO_B1	Pipeline	**Green Oak Trunk Sewer Improvements** Upsize along Agua Hedionda Creek and Green Oak Dr near Sycamore Ave: 24" to 27" (likely to be combined with EX B1, above)	79	27 inch	679	1.3	70,000
Buena BO_B2	Pipeline	**Grand Ave Connection Upsize** Upsize Between Grand Ave and Green Oak Rd near Aqua Hedionda Creek: 12" to 15"	98	15-inch	378	2.0	100,000
Buena BO_B3	Pipeline	**Sycamore Ave Trunk Sewer Capacity Improvements (Shadowridge to SR 78)** Upsize Shadowridge Dr and Sycamore Ave: 15" to 18"	2,228	18-inch	458	1.3	1,300,000
						Total Pipelines	**12,336,000**

Figure 8-1. Recommended Pipeline Capital Improvement Projects



8.3.2 Condition Related Projects

Based on the results of the condition renewal decision logic and unit costs developed with the City for each renewal technology and pipe diameter, the condition renewal opinion of cost is presented. The initial 5-year condition renewal recommendations include approximately 3.8 percent of the system for rehabilitation with CIPP, 2.5 percent of the system for renewal with point repairs, and 0.6 percent of the system for renewal with replacement. Pipeline segments that were identified as having capacity issues as well as condition issues were considered to be capacity related projects and therefore were excluded from the list of condition related projects.

The 5-year condition renewal costs, provided in Table 8-7, are broken down by Buena and Vista and by condition renewal type. It is assumed that 10 percent of the manholes will be renewed with every CIPP or replacement project. Detailed breakdown of the cost tables and assumptions are provided in Appendix D.

Table 8-7. Condition Renewal Opinion of Cost Summary

CIP Renewal Action	Buena Sanitation District	City of Vista	Grand Total
CIPP Large Diameter	$0	$105,300	$105,300
CIPP Small Diameter	$509,700	$4,149,200	$4,658,900
Contractor Point Repair Small Diameter	$76,500	$772,900	$849,400
Replace Small Diameter	$43,800	$1,951,600	$1,995,400
Point Repair and CIPP Small Diameter*	$92,500	$385,300	$477,800
Total Cost	**$722,500**	**$7,364,300**	**$8,086,800**

The City is considering a proactive Cleanout Program, adding cleanouts on sewers at strategic locations to facilitate cleaning and inspection. This work could be performed by City crews or contractors. The number of City crew hours and the contractor cost of that program are provided in Table 8-8.

Table 8-8. Cleanout Program Opinion of Cost

Proactive Clean out Program	Buena Sanitation District	City of Vista	Grand Total
City Crew Hours	690	1600	2290
Contractor Cost	$1,221,700	$2,828,400	$4,050,100

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Appendix A. City of Vista Sewer Flow Monitoring Report, June 2016

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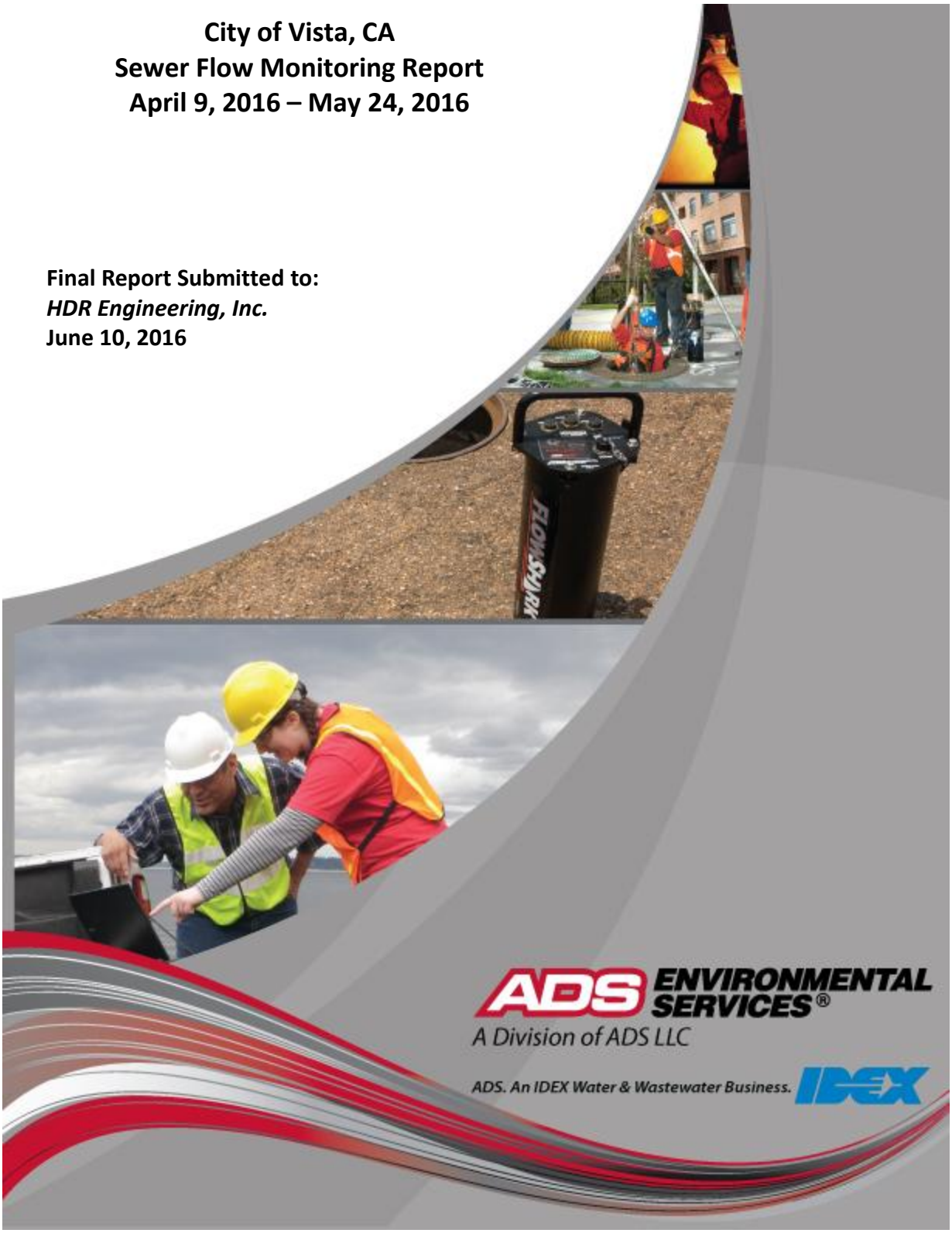
City of Vista, CA
Sewer Flow Monitoring Report
April 9, 2016 – May 24, 2016

Final Report Submitted to:
HDR Engineering, Inc.
June 10, 2016



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City of Vista, CA
Sewer Flow Monitoring Report

April 9, 2016 - May 24, 2016

Prepared for:

Jennifer Duffy, PE
HDR Engineering, Inc
8690 Balboa Ave, Suite 200
San Diego, CA 92123

Prepared by:

ADS, LLC
4820 Mercury Street, Suite C
San Diego, CA 92111

Letter of Transmittal

A Division of ADS LLC
4820 Mercury Street, Suite C
San Diego, CA 92111
www.adsenv.com

June 10, 2016
Ms. Jennifer Duffy, PE
HDR Engineering, Inc
8690 Balboa Avenue, Suite 200
San Diego, CA 92123

Dear Ms. Duffy,
ADS is pleased to submit the City of Vista Temporary Flow Monitoring Report conducted on behalf of HDR Engineering, Inc. Metering was performed at thirteen (13) locations for a duration of 46 days from April 09, 2016 through May 24, 2016. Included in the report are depth, velocity and quantity hydrographs as well as daily tabular reports for the metering period.

The report contains hourly averaged depth, velocity, and quantity hydrographs as well as daily long tables for the metering period in pdf format. An Excel file containing depth, quantity, and velocity entities for each monitoring location in 5-minute format is also provided.

In addition, we would be happy to further explain any details about the report that may seem unclear. You may also contact the Project Manager, Neil Volk at (858) 571-0045 ext. 227.

Thank you for choosing ADS products and services to meet your flow monitoring needs.

Sincerely,
ADS ENVIRONMENTAL SERVICES

Sean O'Donnell
Data Analyst

Methodology

Introduction

Background

HDR Engineering, Inc entered into agreement with ADS Environmental Services to conduct flow monitoring at (13) metering points located in the City of Vista, CA Sewer Collection System. The study was initially scheduled for a two week monitoring period but was extended through May 24, 2016 due to approximately 12 days of data loss at location FM8. The objective of the study was to measure depth, velocity, and to quantify flows for a sewer master plan update.

Project Scope

The scope of this study involved using temporary flow monitors to quantify wastewater flow at the designated locations. Specifically, the study included the following key components.

- Investigate the proposed flow-monitoring sites for adequate hydraulic conditions.
- Flow monitor installations.
- Flow monitor confirmations and data collections.
- Flow data analysis.

Equipment installation was accomplished on April 8, 2016. The monitoring period began on April 9, 2016 and was completed on Tuesday, May 24, 2016 .

Equipment and Methodology

Flow Quantification Methods

There are two main equations used to measure open channel flow: the Continuity Equation and the Manning Equation. The Continuity Equation, which is considered the most accurate, can be used if both depth of flow and velocity are available. In cases where velocity measurements are not available or not practical to obtain, the Manning Equation can be used to estimate velocity from the depth data based on certain physical characteristics of the pipe (i.e. the slope and roughness of the pipe being measured). However, the Manning equation assumes uniform, steady flow hydraulic conditions with non-varying roughness, which are typically invalid assumptions in most sanitary sewers. The Continuity Equation was used exclusively for this study.

Continuity Equation

The Continuity Equation states that the flow quantity (Q) is equal to the wetted area (A) multiplied by the average velocity (V) of the flow.

$$Q = A * V$$

This equation is applicable in a variety of conditions including backwater, surcharge, and reverse flow. Most modern flow monitoring equipment, including the ADS Models, measure both depth and velocity and therefore use the Continuity Equation to calculate flow quantities.

Flow Monitoring Equipment

The monitor selected for this project was the ADS Model 3600-flow monitor. This flow monitor is an area velocity flow monitor that uses both the Continuity and Manning's equations to measure flow.

The ADS Model 3600-flow monitor consists of data acquisition sensors and a battery-powered microcomputer. The microcomputer includes a processor unit, data storage, and an on-board clock to control and synchronize the sensor recordings. The monitor was programmed to acquire and store depth of flow and velocity readings at 5-minute intervals.

Three types of data acquisition sensors are available for the Model 3600 flow monitor. The primary depth measurement device is the ADS quad-redundant ultrasonic level sensor. This sensor uses four independent ultrasonic transceivers in pairs to measure the distance from the face of the transceiver housing to the water surface (air range) with up to four transceiver pairs, of the available ones, active at one time. The elapsed time between transmitting and receiving the ultrasonic waves is used to calculate the air range between the sensor and flow surface based on the speed of sound in air. Sensors in the transceiver housing measure temperature, which is used to compensate the ultrasonic signal travel time. The speed of sound will vary with temperature. Since the ultrasonic level sensor is mounted out of the flow, it creates no disturbance to normal flow patterns and does not affect site hydraulics.

Redundant flow depth data can be provided by a pressure depth sensor, and is independent from the ultrasonic level sensor. This sensor uses a piezo-resistive crystal to determine the difference between hydrostatic and atmospheric pressure. The pressure sensor is temperature compensated and vented to the atmosphere through a desiccant filled breather tube. Pressure depth sensors are typically used in large size channels and applications where surcharging is anticipated. Its streamlined shape minimizes flow distortion.

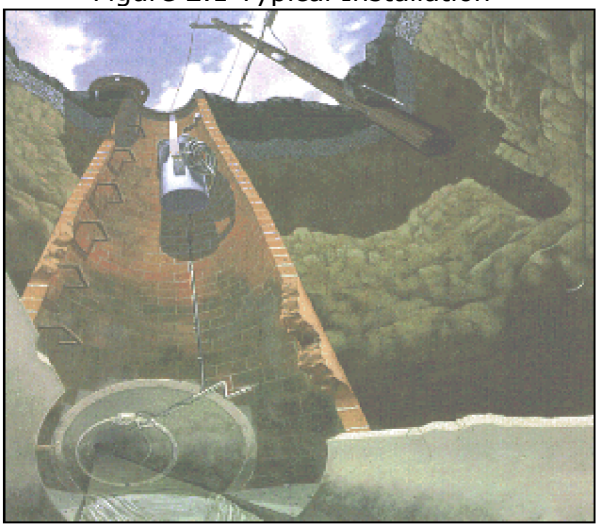
Velocity is measured using the ADS V-3 digital Doppler velocity sensor. This sensor measures velocity in the cross-sectional area of flow. An ultrasonic carrier is transmitted upstream into the flow, and is reflected by suspended particles, air bubbles, or organic matter with a frequency shift proportional to the velocity of the reflecting objects. The reflected signal is received by the sensor and processed using digital spectrum analysis to determine the peak flow velocity. Collected peak velocity information is filtered and processed using field confirmation information and proprietary software to determine the average velocity, which is used to calculate flow quantities. The sensor's small profile, measuring 1.5 inches by 1.15 inches by 0.50 inches thick, minimizes the affects on flow patterns and site hydraulics.

Installation

Installation of flow monitoring equipment typically proceeds in four steps. First, the site is investigated for safety and to determine physical and hydraulic suitability for the flow monitoring equipment. Second, the equipment is physically installed at the selected location. Third, the monitor is tested to assure proper operation of the velocity and depth of flow sensors and verify that the monitor clock is operational and synchronized to the master computer clock. Fourth, the depth and velocity sensors are confirmed and line confirmations are performed. A typical flow monitor installation is shown in Figure 2.1.

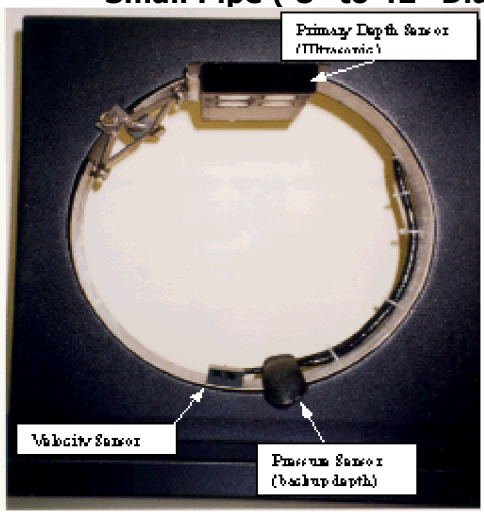
The installations depicted in Figures 2.1 are typical for circular or oval pipes up to approximately 104-inches in diameter or height. In installations into pipes 42-inches or less in diameter, depth and velocity sensors are mounted on an expandable stainless steel ring and installed one to two pipe diameters upstream of the pipe/manhole connection in the incoming sewer pipe. This reduces the affects of turbulence and backwater caused by the connection. In pipes larger than 42 inches in diameter, a special installation is made using two sections of the ring installed one to two feet upstream of the pipe/manhole connection; one bolted to the crown of the pipe for the depth sensor, and the other bolted to the bottom of the pipe (bolts are usually placed just above the water line) to hold the velocity sensor.

Figure 2.1 Typical Installation



Large Pipe (> 42" Diameter)

Small Pipe (8" to 42" Diameter)



Data Collection, Confirmation, and Quality Assurance

During the monitoring period, field crews visit each monitoring location to retrieve data, verify proper monitor operation, and document field conditions. The following quality assurance steps are taken to assure the integrity of the data collected:

- **Measure Power Supply:** The monitor is powered by a dry cell battery pack. Power levels are recorded and battery packs replaced, if necessary. A separate battery provides back-up power to memory, which allows the primary battery to be replaced without the loss of data.
- **Perform Pipe Line Confirmations and Confirm Depth and Velocity:** Once equipment and sensor installation is accomplished, a member of the field crew descends into the manhole to perform a field measurement of flow rate, depth and velocity to confirm they are in agreement with the monitor. Since the ADS V-3 velocity sensor measures peak velocity in the wetted cross-sectional area of flow, velocity profiles are also taken to develop a relationship between peak and average velocity in lines that meet the hydraulic criteria.
- **Measure Silt Level:** During site confirmation, a member of the field crew descends into the manhole and measures and records the depth of silt at the bottom of the pipe. This data is used to compute the true area of flow.
- **Confirm Monitor Synchronization:** The field crew checks the flow monitor's clock for accuracy.
- **Upload and Review Data:** Data collected by the monitor is uploaded and reviewed for comparison with previous data. All readings are checked for consistency and screened for deviations in the flow patterns, which indicate system anomalies or equipment failure.

Data Analysis and Presentation

Data Analysis

A flow monitor is typically programmed to collect data at either 15-minute or 5-minute intervals throughout the monitoring period. The monitor stores raw data consisting of (1) the air range (distance from sensor to top of flow) for each active ultrasonic depth sensor pair and (2) the peak velocity. If the monitor is equipped with a pressure sensor, then a depth reading from this sensor may also be stored. When the field personnel collects the data, the air range is converted to depth data based on the pipe height and physical offset (distance from the top of the pipe to the surface of the ultrasonic sensor). The data is imported into ADS's proprietary software and is examined by a data analyst to verify its integrity. The data analyst also reviews the daily field reports and site visit records to identify conditions that would affect the collected data.

Velocity profiles and the line confirmation data developed by the field personnel are reviewed by the data analyst to identify inconsistencies and verify data integrity. Velocity profiles are reviewed and an average to peak velocity ratio is calculated for the site. This ratio is used in converting the peak velocity measured by the sensor to the average velocity used in the Continuity equation. The data analyst selects which ultrasonic pairs and/or depth sensor entity will be used to calculate the final depth information. Silt levels present at each site visit are reviewed and representative silt levels established.

Selections for the above parameters can be constant or can change during the monitoring period. While the data analysis process is described in a linear manner, it often requires an iterative approach to accurately complete.

Data Presentation

This type of flow monitoring project generates a large volume of data. To facilitate review of the data, results have been provided in graphical and tabular formats. The flow data is presented graphically in the form of scattergraphs and hydrographs. Hydrographs depict hourly average data for the period. Tables are provided in daily average format. These tables show the flow rate for each day, along with the daily minimum and maximums, the times they were observed, the total daily flow, and total flow for the month (or monitoring period). The following explanation of terms may aid in interpretation of the tables and hydrographs.

DFINAL - Final calculated depth measurement (in inches)

QFINAL - Final calculated flow rate (in MGD)

VFINAL - Final calculated flow velocity (in feet per second)

REPORT TOTAL - Total volume of flow recorded for the indicated time period (in MG)

Site Commentary

Site Information

FM1_V29146	
Pipe Dimensions	32.75 "
Silt Level	5.00"

Overview

Site FM1_V29146 functioned under normal conditions during the period Saturday, April 09, 2016 to Tuesday, May 24, 2016 . No surcharge conditions were experienced at this location. Review of the scattergraph shows that flow in this line remained free-flowing throughout the data period. An average silt measurement of 5 inches was recorded during field visits.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

This line is located downstream of location FM2. A review of balancing indicated no problems. A net flow of 1.279 MGD was reported for the period.

Observations

Average flow depth, velocity, and quantity data observed during Saturday, April 09, 2016 to Tuesday, May 24, 2016 , along with observed minimum and maximum data, are provided in the following table. The minimum and maximum rates recorded in the table are based on 5-minute data intervals. In regards to depth, this site flows at 56% full at its recorded peak of 18.38 inches and approximately 47% full during its recorded average depth of 15.38 inches.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	15.38	2.24	3.212
Minimum	11.57	1.14	0.957
Maximum	18.79	3.13	5.655
Time of Minimum	5/11/2016 3:40 AM	4/17/2016 4:05 AM	5/11/2016 3:35 AM
Time of Maximum	4/20/2016 9:20 PM	4/12/2016 8:40 PM	4/26/2016 9:05 PM

Data Quality

Data uptime observed during the Saturday, April 09, 2016 to the Tuesday, May 24, 2016 monitoring period is provided in the table below. Based upon the quality and consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

Percent Uptime	
Depth (in)	100
Velocity (ft/s)	100
Quantity (MGD)	100

ADS Site Report

Quality Form

Project Name: Vista	**City / State:** Vista, CA		**Date Installed:** 04/08/16	**FM Initials:** JG	
Site Name: FM1_V29146	**Monitor Series:** 3600		**Monitor S/N:**	2866	
Address / Location: North of Intersection of Vista Village Dr			**Manhole #:**	V29146	
			Map Page #:	N/A	
Access: Drive	**Type of System:**	**Sanitary** [x]	**Storm** [ ]	**Combined** [ ]	**Pipe Height:** 32.75"
					Pipe Width: 32.75"
					IP Address: N/A

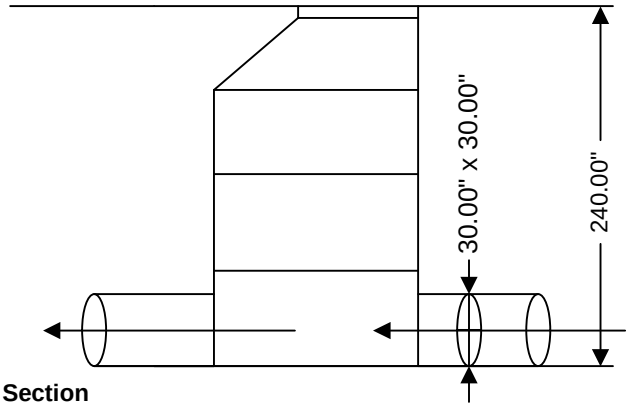
Investigation Information:

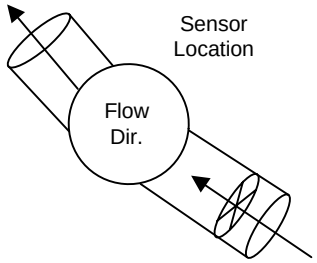
Date/Time of Investigation:	04/08/16 08:00
Site Hydraulics:	Smooth Flow through MH
Upstream Input: (L/S,P/S)	N/A
Upstream Manhole:	DNI
Downstream Manhole:	DNI
Depth of Flow (Wet Dof):	14.50 +/- 0.25
Range (Air Dof):	+/-
Peak Velocity:	3.05 Fps
Silt:	0.00 Inches

Manhole Information:

Manhole Depth:	240.00"				**Inches**
Manhole Material / Condition:	Precast / lined Good				
Pipe Material / Condition:	VCP / Good				
Mini System Character:	**Residential** [ ]	**Commercial** [X]	**Industrial** [ ]	**Other** [ ]	
Telephone Information:	N/A				
Access Pole #:	N/A				
Distance From Manhole:	N/A				**Feet**
Road Cut Length:	N/A				**Feet**
Trench Length:	N/A				**Feet**

Other Information:





Installation Information		Backup	Yes	No	?	Distance
Installation Type: Standard installation		**Trunk**	[X]	[ ]		
Sensors/ Devices: Ultrasonic Sensor / Velocity Sensor		**Lift/ Pump Station**	[ ]	[ ]		
Surcharge Height: No Evidence of Surcharge	**Feet**	**WWTP**	[ ]	[ ]		
Rain Gauge Zone: N/A		**Other**	[ ]	[ ]		

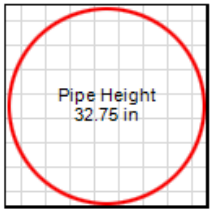
Additional Site Information / Comments:

SCATTERGRAPH REPORT

FM1_V29146

Flow Monitor

FM1_V29146

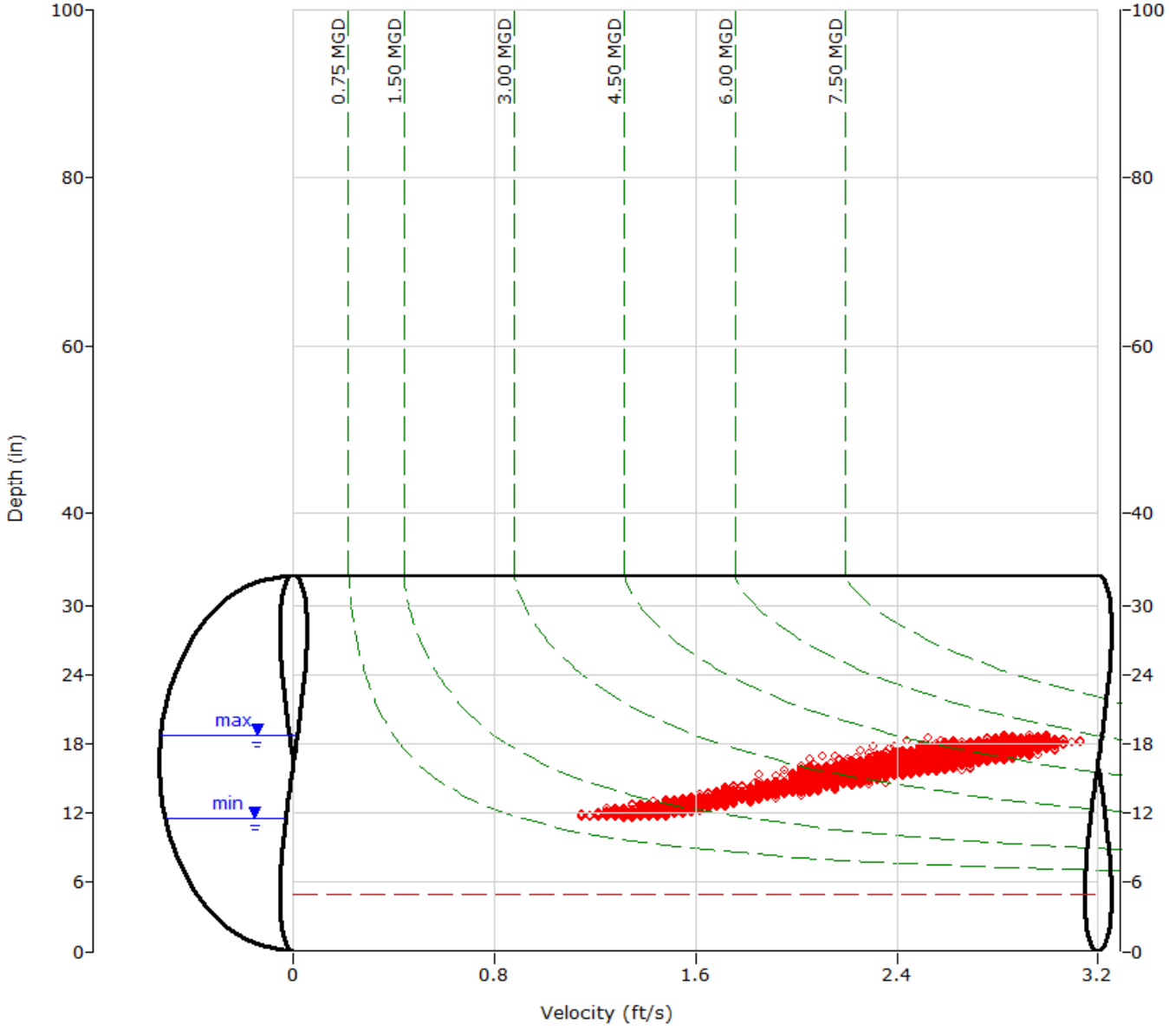


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth

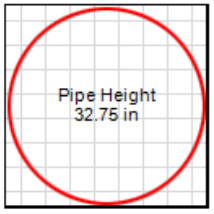


HYDROGRAPH REPORT

FM1_V29146

Flow Monitor

FM1_V29146

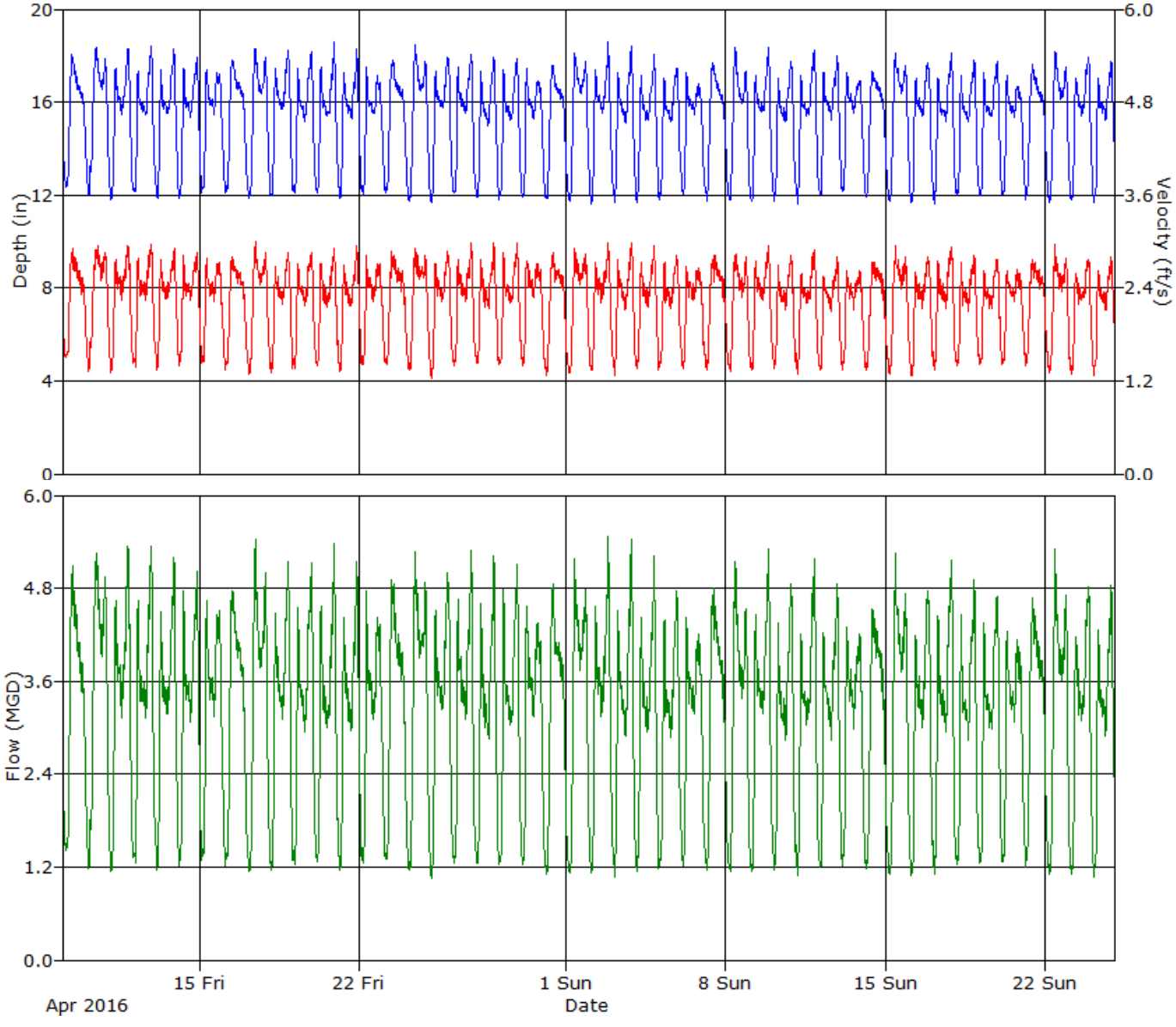


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth
- Velocity
- Quantity



Daily Tabular Report For The Period 4/9/2016 - 5/24/2016

FM1_V29146, Pipe Height: 32.75 in

Daily Tabular Report

Date	Depth (in)					Velocity (ft/s)					Quantity (MGD - Total ft3)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
4/9/2016	04:10	12.30	10:20	18.20	15.57	02:30	1.48	11:00	3.00	2.30	04:20	1.392	11:00	5.174	3.362	449378	
4/10/2016	03:20	11.94	10:50	18.52	15.76	03:15	1.28	13:00	3.03	2.33	03:15	1.157	11:20	5.409	3.503	468218	
4/11/2016	03:25	11.79	20:55	18.49	15.51	02:50	1.28	20:30	3.03	2.31	03:55	1.110	21:00	5.516	3.354	448419	
4/12/2016	04:40	12.05	20:55	18.54	15.46	02:05	1.35	20:40	3.13	2.29	02:05	1.236	20:40	5.588	3.312	442783	
4/13/2016	03:40	11.85	21:00	18.60	15.46	03:30	1.31	20:55	3.03	2.28	03:35	1.147	20:55	5.457	3.284	438984	
4/14/2016	03:00	11.84	21:15	18.02	15.39	02:45	1.35	07:15	3.00	2.27	02:45	1.188	21:15	5.176	3.253	434819	
4/15/2016	02:30	12.05	07:25	17.49	15.42	02:35	1.35	07:35	2.83	2.26	02:35	1.211	07:35	4.748	3.231	431976	
4/16/2016	03:20	12.04	10:25	17.91	15.55	03:15	1.21	10:10	3.00	2.25	03:15	1.088	10:10	5.183	3.281	438638	
4/17/2016	04:20	11.82	10:05	18.51	15.61	04:05	1.14	10:40	3.10	2.27	04:05	1.006	10:40	5.508	3.372	450721	
4/18/2016	03:05	11.94	21:20	18.45	15.54	03:20	1.21	20:30	3.03	2.22	03:20	1.077	20:30	5.491	3.243	433544	
4/19/2016	03:40	12.07	21:30	18.42	15.40	01:35	1.28	21:30	3.03	2.24	03:40	1.182	21:30	5.530	3.208	428873	
4/20/2016	03:45	12.11	21:20	18.79	15.42	04:05	1.35	21:30	3.00	2.23	04:05	1.227	21:30	5.540	3.202	427994	
4/21/2016	03:40	11.87	21:05	18.44	15.44	04:00	1.28	20:55	3.00	2.23	04:00	1.126	21:05	5.413	3.205	428438	
4/22/2016	03:30	12.00	07:25	17.63	15.26	01:40	1.31	07:20	2.86	2.24	01:40	1.224	07:25	4.834	3.146	420535	
4/23/2016	03:45	12.10	10:30	17.92	15.46	04:55	1.31	10:05	2.93	2.28	04:55	1.191	10:30	5.072	3.294	440351	
4/24/2016	04:05	11.71	10:30	18.66	15.58	03:45	1.25	10:10	3.06	2.27	03:45	1.067	10:10	5.558	3.367	450119	
4/25/2016	03:30	11.69	20:10	18.19	15.44	03:15	1.18	20:50	2.96	2.23	03:15	1.002	19:40	5.114	3.222	430770	
4/26/2016	03:05	12.05	21:25	18.52	15.45	03:10	1.35	21:05	3.13	2.27	03:10	1.219	21:05	5.655	3.281	438635	
4/27/2016	03:20	11.88	20:55	18.27	15.23	04:05	1.35	21:05	3.06	2.26	04:05	1.205	21:05	5.395	3.180	425043	
4/28/2016	02:20	11.80	21:00	18.17	15.24	01:35	1.28	21:15	3.06	2.25	01:35	1.169	21:15	5.364	3.174	424312	
4/29/2016	03:40	11.88	07:15	17.54	15.20	04:20	1.35	07:05	2.83	2.27	04:20	1.198	07:05	4.673	3.171	423876	
4/30/2016	04:30	11.77	10:45	17.68	15.31	04:30	1.14	10:25	2.93	2.23	04:30	0.982	10:25	5.017	3.194	427020	
5/1/2016	04:20	11.74	10:00	18.13	15.53	03:10	1.28	10:05	3.00	2.25	04:20	1.092	10:05	5.330	3.319	443640	
5/2/2016	03:25	11.63	20:50	18.79	15.44	04:30	1.18	21:20	3.03	2.25	04:30	1.024	20:50	5.629	3.257	435395	
5/3/2016	03:45	11.63	20:55	18.56	15.34	03:50	1.25	20:45	3.06	2.24	03:50	1.054	20:45	5.521	3.201	427952	
5/4/2016	03:00	11.69	21:20	18.21	15.24	03:55	1.31	20:55	3.00	2.24	03:00	1.139	20:55	5.371	3.153	421440	
5/5/2016	02:25	11.80	20:55	17.63	15.18	02:00	1.28	20:55	2.93	2.21	02:00	1.145	20:55	5.009	3.094	413655	
5/6/2016	03:45	11.99	07:15	17.27	15.23	03:10	1.28	18:50	2.79	2.21	03:10	1.163	07:25	4.566	3.091	413155	
5/7/2016	04:30	11.73	11:05	17.77	15.34	03:50	1.25	11:15	2.96	2.25	03:50	1.124	11:15	5.071	3.224	430924	
5/8/2016	04:50	11.76	09:55	18.40	15.39	03:45	1.28	09:35	3.03	2.24	03:45	1.123	10:00	5.311	3.240	433114	
5/9/2016	03:55	11.69	21:10	18.44	15.35	03:25	1.28	21:15	3.00	2.25	03:25	1.096	21:15	5.362	3.226	431264	
5/10/2016	03:05	11.71	21:15	17.80	15.24	02:50	1.31	21:10	2.93	2.21	02:50	1.125	21:10	5.053	3.108	415496	
5/11/2016	03:40	11.57	21:00	18.27	15.37	03:35	1.14	21:35	2.93	2.20	03:35	0.957	21:35	5.227	3.152	421362	
5/12/2016	04:45	11.98	21:00	18.23	15.39	03:10	1.31	20:50	2.93	2.17	03:40	1.177	21:00	5.082	3.103	414822	
5/13/2016	02:45	12.09	07:20	17.32	15.39	03:25	1.25	21:15	2.76	2.17	03:25	1.170	21:15	4.463	3.088	412826	
5/14/2016	04:15	11.91	10:00	17.40	15.36	04:15	1.25	11:20	2.79	2.21	04:15	1.092	11:20	4.588	3.162	422667	
5/15/2016	04:10	11.73	10:45	18.26	15.49	04:25	1.14	10:45	3.00	2.24	04:25	0.983	10:45	5.400	3.285	439100	
5/16/2016	03:20	11.69	20:50	17.89	15.31	04:35	1.21	20:00	2.96	2.19	04:35	1.057	20:00	5.039	3.126	417951	
5/17/2016	03:35	11.59	21:10	18.23	15.26	03:20	1.31	20:55	3.00	2.24	03:35	1.093	21:10	5.385	3.176	424564	
5/18/2016	03:45	11.97	21:25	17.90	15.24	03:45	1.35	21:50	2.96	2.21	03:45	1.193	21:50	5.045	3.106	415238	
5/19/2016	03:30	11.94	21:10	17.80	15.27	03:15	1.35	21:10	2.83	2.19	03:15	1.200	21:10	4.903	3.091	413145	
5/20/2016	02:15	11.98	07:35	17.20	15.16	02:20	1.35	07:25	2.69	2.20	02:20	1.206	07:30	4.409	3.056	408578	
5/21/2016	03:40	11.78	10:25	17.63	15.34	03:20	1.35	09:50	2.89	2.25	03:20	1.165	10:55	4.861	3.200	427779	
5/22/2016	04:20	11.68	11:00	18.54	15.43	04:40	1.21	10:25	3.03	2.23	04:40	1.052	10:15	5.491	3.246	433916	
5/23/2016	03:30	11.77	21:00	18.07	15.36	03:35	1.21	21:20	2.86	2.20	03:35	1.039	20:50	4.989	3.150	421101	
5/24/2016	03:05	11.68	21:05	17.90	15.27	02:35	1.21	21:15	2.89	2.17	02:40	1.030	21:15	5.024	3.073	410559	

Report Summary For The Period 4/9/2016 - 5/24/2016

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total ft3)
Total			19753090
Avg	15.38	2.24	3.212

Site Commentary

Site Information

FM10_V16043	
Pipe Dimensions	**15 "**
Silt Level	**0.00"**

Overview

Site FM10_V16043 functioned under normal conditions during the period Saturday, April 09, 2016 to Tuesday, May 24, 2016 . No surcharge conditions were experienced at this location. Review of the scattergraph for this line shows swift moving velocity and shallow depth.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

This line is located upstream of location FM3. A review of balancing indicated no problems (See FM3 Site Commentary For More Details).

Observations

Average flow depth, velocity, and quantity data observed during Saturday, April 09, 2016 to Tuesday, May 24, 2016 , along with observed minimum and maximum data, are provided in the following table. The minimum and maximum rates recorded in the table are based on 5-minute data intervals. In regards to depth, this site flows at 22% full at its recorded peak of 3.34 inches and approximately 14% full during its recorded average depth of 2.15 inches.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	2.15	4.72	0.369
Minimum	0.59	1.14	0.026
Maximum	3.58	7.32	0.986
Time of Minimum	4/10/2016 4:00 AM	4/9/2016 4:15 AM	4/12/2016 2:40 AM
Time of Maximum	5/22/2016 9:45 AM	4/27/2016 9:30 PM	4/27/2016 8:55 PM

Data Quality

Data uptime observed during the Saturday, April 09, 2016 to the Tuesday, May 24, 2016 monitoring period is provided in the table below. Based upon the quality and consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

Percent Uptime	
Depth (in)	100
Velocity (ft/s)	100
Quantity (MGD)	100

ADS Site Report

Quality Form

Project Name: Vista	**City / State:** Vista, CA	**Date Installed:** 04/08/16	**FM Initials:** JG
Site Name: FM10_V16043	**Monitor Series:** 3600	**Monitor S/N:**	2965
Address / Location: 1100 E Vista Way		**Manhole #:**	V16043
		Map Page #:	N/A
Access: Drive	**Type of System:** Sanitary [x] Storm [ ] Combined [ ]	**Pipe Height:**	15.00"
		Pipe Width:	15.38"
		IP Address:	N/A

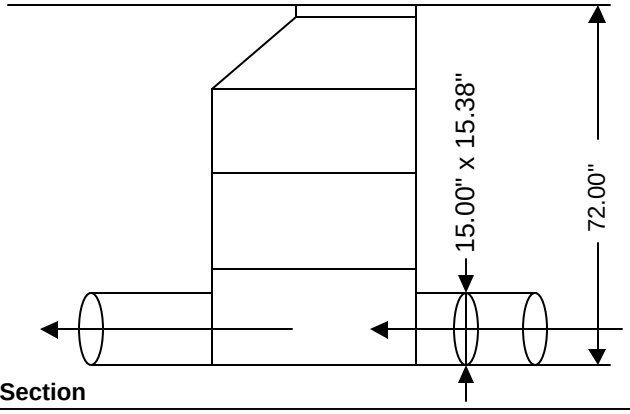
Investigation Information:

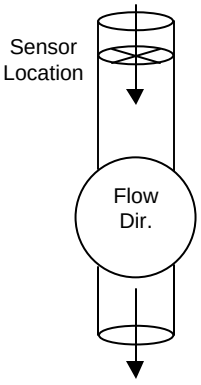
Date/Time of Investigation:	04/08/16 10:40 a.m.
Site Hydraulics:	Turbulence, fast flow through MH
Upstream Input: (L/S,P/S)	N/A
Upstream Manhole:	DNI
Downstream Manhole:	DNI
Depth of Flow (Wet Dof):	2.5 +/- 0.25
Range (Air Dof):	+/-
Peak Velocity:	6.0 Fps
Silt:	0.00 Inches

Manhole Information:

Manhole Depth:	72.00"				**Inches**
Manhole Material / Condition:	Precast / Good				
Pipe Material / Condition:	VCP / Good				
Mini System Character:	**Residential** [ ]	**Commercial** [x]	**Industrial** [ ]	**Other** [ ]	
Telephone Information:	N/A				
Access Pole #:	N/A				
Distance From Manhole:	N/A				**Feet**
Road Cut Length:	N/A				**Feet**
Trench Length:	N/A				**Feet**

Other Information:





Installation Information		Backup	Yes	No	?	Distance
Installation Type:	Standard installation	**Trunk**	[ ]	[x]		
Sensors/ Devices:	Ultrasonic Sensor / Velocity Sensor	**Lift/ Pump Station**	[ ]	[x]		
Surcharge Height:	No Evidence of Surcharge **Feet**	**WWTP**	[ ]	[x]		
Rain Gauge Zone:	N/A	**Other**	[ ]	[x]		

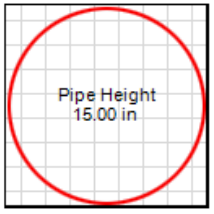
Additional Site Information / Comments:

SCATTERGRAPH REPORT

FM10_V16043

Flow Monitor

FM10_V16043

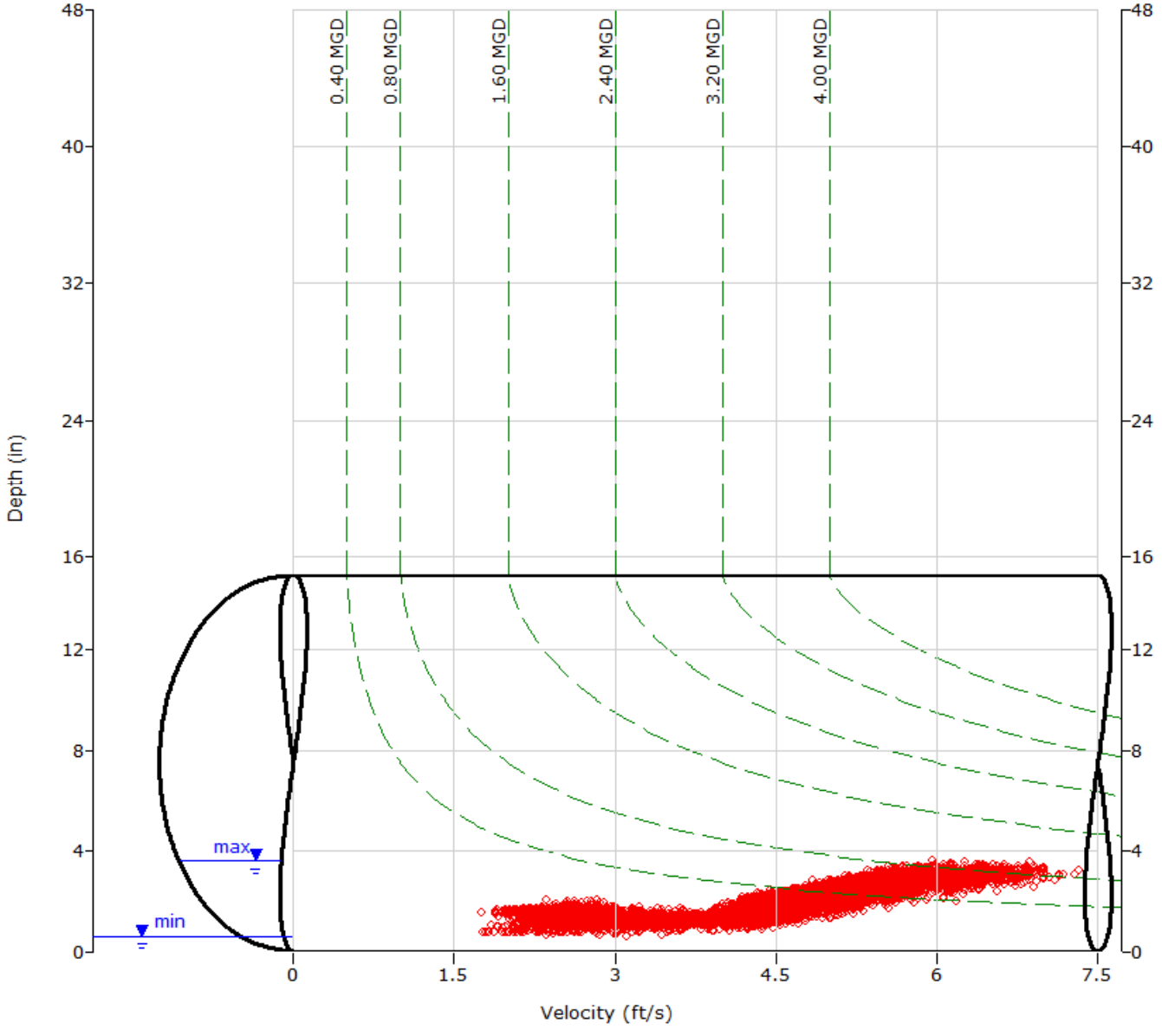


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth



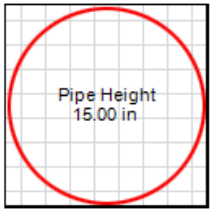
ADS ENVIRONMENTAL SERVICES

HYDROGRAPH REPORT

FM10_V16043

Flow Monitor

FM10_V16043

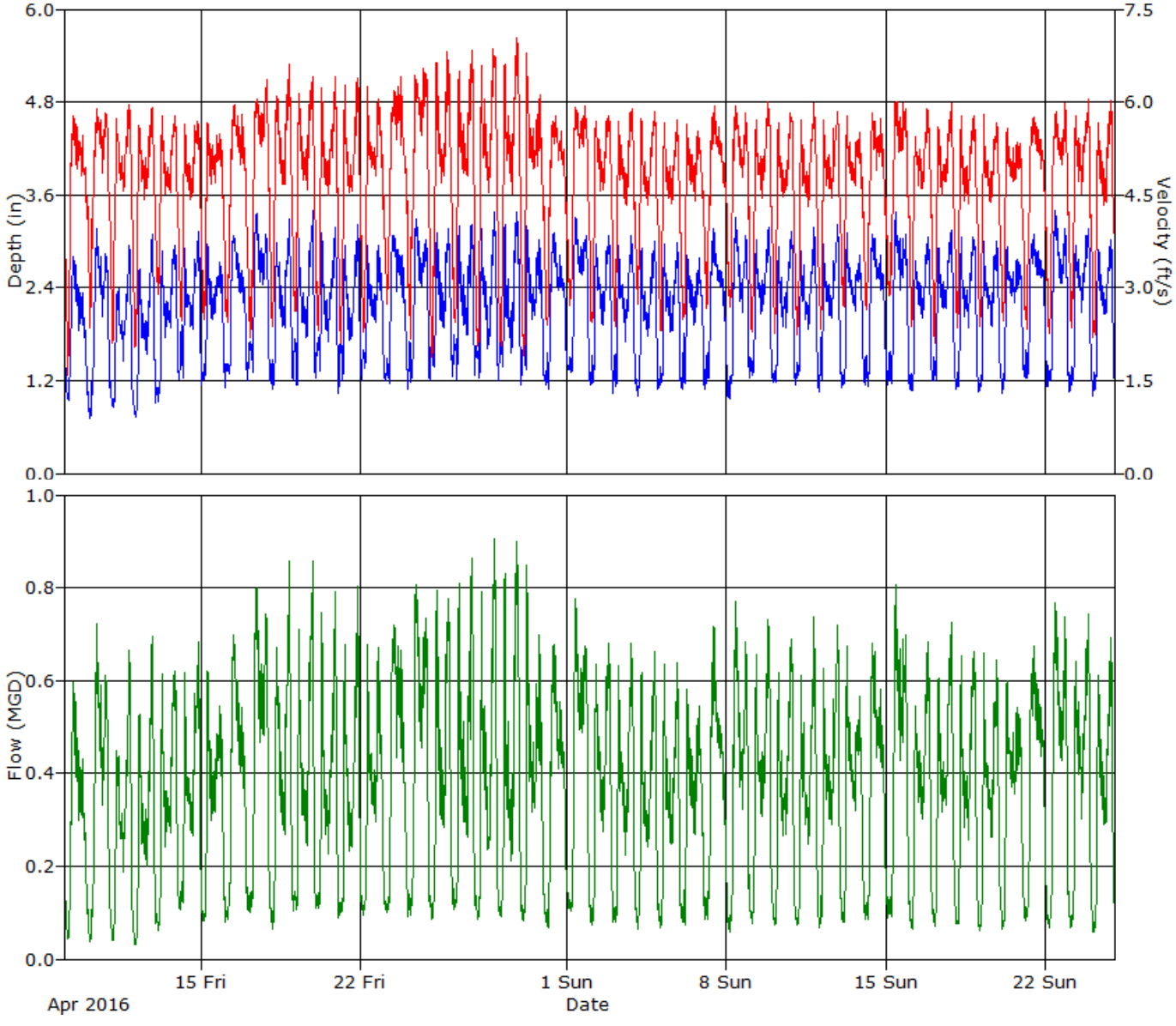


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth
- Velocity
- Quantity



Daily Tabular Report For The Period 4/9/2016 - 5/24/2016

FM10_V16043, Pipe Height: 15 in

Daily Tabular Report

Date	Depth (in)					Velocity (ft/s)					Quantity (MGD - Total ft3)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
4/9/2016	04:35	0.89	09:15	2.94	1.89	04:15	1.14	10:10	5.89	4.54	04:00	0.044	09:15	0.635	0.298	39800	
4/10/2016	04:00	0.59	10:40	3.35	2.02	04:40	2.00	10:55	6.06	4.85	03:30	0.029	10:40	0.797	0.356	47548	
4/11/2016	04:00	0.79	20:50	3.11	1.83	02:15	1.95	19:20	5.99	4.69	04:00	0.036	20:50	0.719	0.294	39340	
4/12/2016	03:40	0.68	20:15	3.20	1.83	02:00	1.77	20:35	6.09	4.61	02:40	0.026	20:15	0.753	0.294	39240	
4/13/2016	00:50	0.81	19:10	3.04	2.00	02:55	2.83	20:20	5.99	4.70	02:55	0.055	19:10	0.663	0.326	43618	
4/14/2016	00:15	1.18	20:55	3.14	2.15	03:35	2.36	17:45	5.92	4.59	01:55	0.094	20:45	0.701	0.346	46266	
4/15/2016	00:30	1.08	06:55	3.02	2.09	03:45	2.39	07:20	5.86	4.61	01:45	0.071	07:20	0.666	0.337	44986	
4/16/2016	01:30	1.10	10:40	3.22	2.21	03:20	2.36	11:40	6.51	4.74	03:50	0.072	10:40	0.768	0.384	51399	
4/17/2016	05:40	1.05	10:30	3.46	2.37	04:25	2.02	20:50	6.61	4.89	05:40	0.085	10:10	0.859	0.444	59290	
4/18/2016	02:55	0.98	21:05	3.35	2.16	02:55	2.22	07:20	6.78	4.89	02:55	0.049	21:05	0.858	0.386	51535	
4/19/2016	05:30	1.08	21:25	3.54	2.14	04:00	2.39	20:20	6.53	4.86	01:45	0.085	21:25	0.903	0.372	49746	
4/20/2016	00:00	1.06	21:25	3.33	2.15	03:00	2.22	21:25	6.63	4.74	00:55	0.091	21:25	0.876	0.364	48605	
4/21/2016	00:55	0.94	20:35	3.42	2.13	03:10	2.07	21:00	6.53	4.73	00:55	0.076	20:35	0.875	0.359	47968	
4/22/2016	01:00	1.14	18:40	3.16	2.12	03:05	2.15	07:10	6.40	4.79	02:35	0.088	18:40	0.777	0.357	47691	
4/23/2016	01:40	1.10	09:30	3.23	2.24	03:10	2.52	15:20	6.71	5.05	04:00	0.090	11:30	0.782	0.417	55748	
4/24/2016	01:35	1.02	10:05	3.42	2.31	04:20	2.05	08:30	6.82	5.13	01:35	0.084	10:05	0.883	0.447	59702	
4/25/2016	00:25	1.12	07:35	3.20	2.20	02:50	1.75	19:05	6.93	4.91	02:50	0.076	07:25	0.840	0.395	52867	
4/26/2016	00:25	1.05	20:20	3.31	2.19	02:50	2.26	20:30	7.14	4.98	01:45	0.075	20:40	0.906	0.397	53105	
4/27/2016	04:55	1.13	20:55	3.53	2.17	03:10	1.92	21:30	7.32	4.96	03:10	0.072	20:55	0.986	0.396	52959	
4/28/2016	00:50	1.05	19:30	3.45	2.14	03:15	1.94	21:00	7.19	4.98	01:00	0.081	19:35	0.926	0.392	52415	
4/29/2016	01:25	1.06	07:05	3.31	2.20	03:00	1.88	06:45	6.90	4.76	01:25	0.065	06:45	0.883	0.379	50614	
4/30/2016	04:45	0.95	09:40	3.15	2.18	03:40	2.32	10:05	5.99	4.69	03:55	0.055	09:45	0.706	0.374	49964	
5/1/2016	05:00	1.11	09:50	3.44	2.36	03:30	2.69	09:50	6.06	4.83	03:40	0.078	09:50	0.839	0.432	57783	
5/2/2016	02:00	0.84	20:30	3.14	2.18	02:30	2.24	20:20	5.96	4.66	02:00	0.042	20:30	0.700	0.368	49205	
5/3/2016	01:25	1.02	20:15	3.22	2.12	03:55	2.22	20:45	6.02	4.62	03:40	0.064	20:15	0.750	0.349	46616	
5/4/2016	03:50	0.87	20:35	3.10	2.02	03:40	2.57	19:50	5.99	4.66	03:40	0.050	20:50	0.701	0.329	43993	
5/5/2016	02:55	0.96	20:50	3.06	2.07	03:55	2.19	20:35	5.92	4.56	02:45	0.051	20:35	0.682	0.331	44207	
5/6/2016	01:35	0.97	07:00	2.95	2.10	02:20	2.10	06:50	5.79	4.55	02:20	0.050	07:00	0.637	0.331	44264	
5/7/2016	02:15	1.04	10:40	3.32	2.19	04:30	2.49	12:00	5.99	4.76	04:45	0.067	10:40	0.762	0.377	50372	
5/8/2016	03:00	0.82	10:35	3.40	2.20	03:15	2.64	10:00	6.09	4.78	03:00	0.048	10:35	0.810	0.391	52211	
5/9/2016	03:30	1.15	20:55	3.34	2.24	03:05	2.22	20:15	6.09	4.64	03:20	0.071	20:55	0.799	0.380	50765	
5/10/2016	02:45	1.04	20:50	3.18	2.14	03:40	2.19	19:50	5.96	4.58	04:30	0.062	19:50	0.731	0.350	46850	
5/11/2016	01:45	1.06	20:15	3.30	2.12	02:35	2.10	20:15	6.09	4.55	02:55	0.061	20:15	0.795	0.347	46405	
5/12/2016	01:30	0.95	20:30	3.39	2.18	03:50	2.14	21:10	6.02	4.60	02:25	0.064	20:30	0.789	0.362	48405	
5/13/2016	03:55	1.04	07:20	3.18	2.17	03:05	2.39	07:00	5.86	4.63	03:55	0.070	07:20	0.725	0.357	47676	
5/14/2016	04:45	0.99	09:40	3.22	2.20	03:15	2.56	10:10	6.02	4.69	04:45	0.070	10:10	0.734	0.377	50428	
5/15/2016	06:10	1.05	10:10	3.52	2.30	03:15	2.69	11:40	6.19	4.85	02:25	0.077	10:10	0.877	0.421	56223	
5/16/2016	03:30	0.84	20:40	3.14	2.14	02:45	2.24	20:50	6.23	4.68	03:30	0.041	19:30	0.733	0.359	47982	
5/17/2016	04:00	1.11	20:35	3.29	2.21	03:35	2.02	20:55	6.13	4.62	04:00	0.059	20:35	0.769	0.372	49693	
5/18/2016	04:15	1.01	19:55	3.22	2.15	03:50	2.32	21:05	5.99	4.58	04:00	0.059	19:55	0.721	0.355	47418	
5/19/2016	03:15	0.93	20:00	3.18	2.12	03:25	2.22	06:55	5.92	4.56	03:15	0.051	06:55	0.704	0.346	46265	
5/20/2016	02:30	0.98	06:50	3.03	2.18	03:15	2.26	18:55	5.79	4.57	02:40	0.057	07:30	0.658	0.358	47812	
5/21/2016	01:00	1.08	09:55	3.16	2.27	03:55	2.20	10:10	5.96	4.65	03:05	0.076	09:55	0.727	0.391	52283	
5/22/2016	03:45	1.01	09:45	3.58	2.34	04:05	2.15	20:25	6.08	4.67	03:45	0.056	09:45	0.874	0.420	56190	
5/23/2016	00:30	0.91	20:20	3.23	2.24	03:35	2.22	20:20	6.16	4.70	02:50	0.049	20:20	0.779	0.390	52185	
5/24/2016	01:30	0.84	19:15	3.11	2.13	03:25	2.09	18:40	6.34	4.53	01:30	0.047	18:40	0.719	0.350	46733	

Report Summary For The Period 4/9/2016 - 5/24/2016

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total ft3)
Total			2266373
Avg	2.15	4.72	0.369

Site Commentary

Site Information

FM11_B08024	
Pipe Dimensions	15 "
Silt Level	0.00"

Overview

Site FM11_B08024 functioned under normal conditions during the period Saturday, April 09, 2016 to Tuesday, May 24, 2016 . No surcharge conditions were experienced at this location. Review of the scattergraph shows that flow in this line remained free-flowing throughout the study period.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

This line is located upstream of location FM9. A review of balancing indicated no problems (See FM9 Site Commentary For More Details).

Observations

Average flow depth, velocity, and quantity data observed during Saturday, April 09, 2016 to Tuesday, May 24, 2016 , along with observed minimum and maximum data, are provided in the following table. The minimum and maximum rates recorded in the table are based on 5-minute data intervals. In regards to depth, this site flows at 28% full at its recorded peak of 4.16 inches and approximately 19% full during its recorded average depth of 2.80 inches.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	2.97	2.67	0.308
Minimum	0.73	1.94	0.059
Maximum	4.57	3.34	0.598
Time of Minimum	4/29/2016 12:25 PM	5/22/2016 4:25 AM	4/29/2016 3:35 AM
Time of Maximum	4/18/2016 8:20 AM	4/10/2016 10:05 AM	4/16/2016 9:25 AM

Data Quality

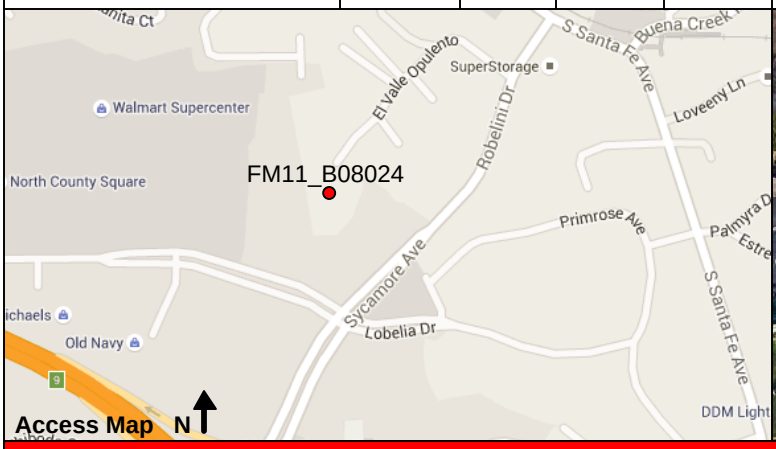
Data uptime observed during the Saturday, April 09, 2016 to the Tuesday, May 24, 2016 monitoring period is provided in the table below. Based upon the quality and consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

Percent Uptime	
Depth (in)	100
Velocity (ft/s)	100
Quantity (MGD)	100

ADS Site Report

Quality Form

Project Name: Vista	**City / State:** Vista, CA	**Date Installed:** 04/08/16	**FM Initials:** JG
Site Name: FM11_B08024	**Monitor Series:** 3600	**Monitor S/N:**	2893
Address / Location: 1100 E Vista Way		**Manhole #:**	B08024
		Map Page #:	N/A
Access: Drive	**Type of System:** Sanitary [x] Storm [ ] Combined [ ]	**Pipe Height:**	15.00"
		Pipe Width:	15.00"
		IP Address:	N/A



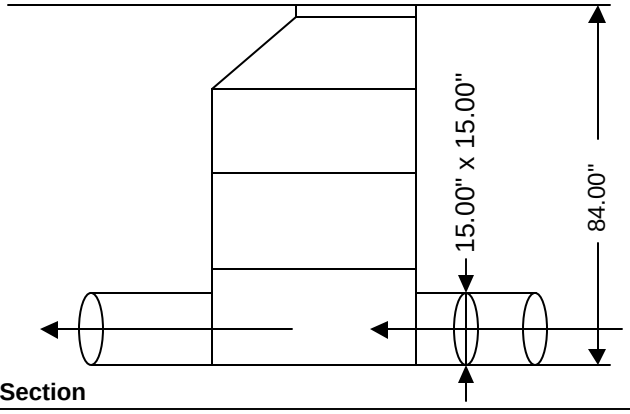
Investigation Information:

Date/Time of Investigation:	04/08/16 12:00 p.m.
Site Hydraulics:	Smooth flow through MH
Upstream Input: (L/S,P/S)	N/A
Upstream Manhole:	DNI
Downstream Manhole:	DNI
Depth of Flow (Wet Dof):	3.63 +/- 0.25
Range (Air Dof):	+/-
Peak Velocity:	2.9 Fps
Silt:	0.00 Inches

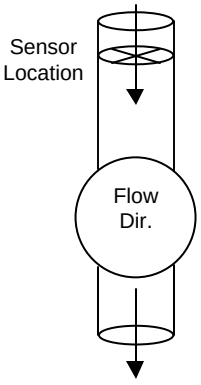
Manhole Information:

Manhole Depth:	84.00"				**Inches**
Manhole Material / Condition:	Precast / Good				
Pipe Material / Condition:	VCP / Good				
Mini System Character:	**Residential** [x]	**Commercial** [ ]	**Industrial** [ ]	**Other** [ ]	
Telephone Information:	N/A				
Access Pole #:	N/A				
Distance From Manhole:	N/A				**Feet**
Road Cut Length:	N/A				**Feet**
Trench Length:	N/A				**Feet**

Other Information:



Cross Section



Planar N

Installation Information		Backup	Yes	No	?	Distance
Installation Type:	Standard installation	**Trunk**	[x]	[ ]		
Sensors/ Devices:	Ultrasonic Sensor / Velocity Sensor	**Lift/ Pump Station**	[ ]	[ ]		
Surcharge Height:	No Evidence of Surcharge **Feet**	**WWTP**	[ ]	[ ]		
Rain Gauge Zone:	N/A	**Other**	[ ]	[ ]		

Additional Site Information / Comments:

SCATTERGRAPH REPORT

FM11_B08024

Flow Monitor

FM11_B08024

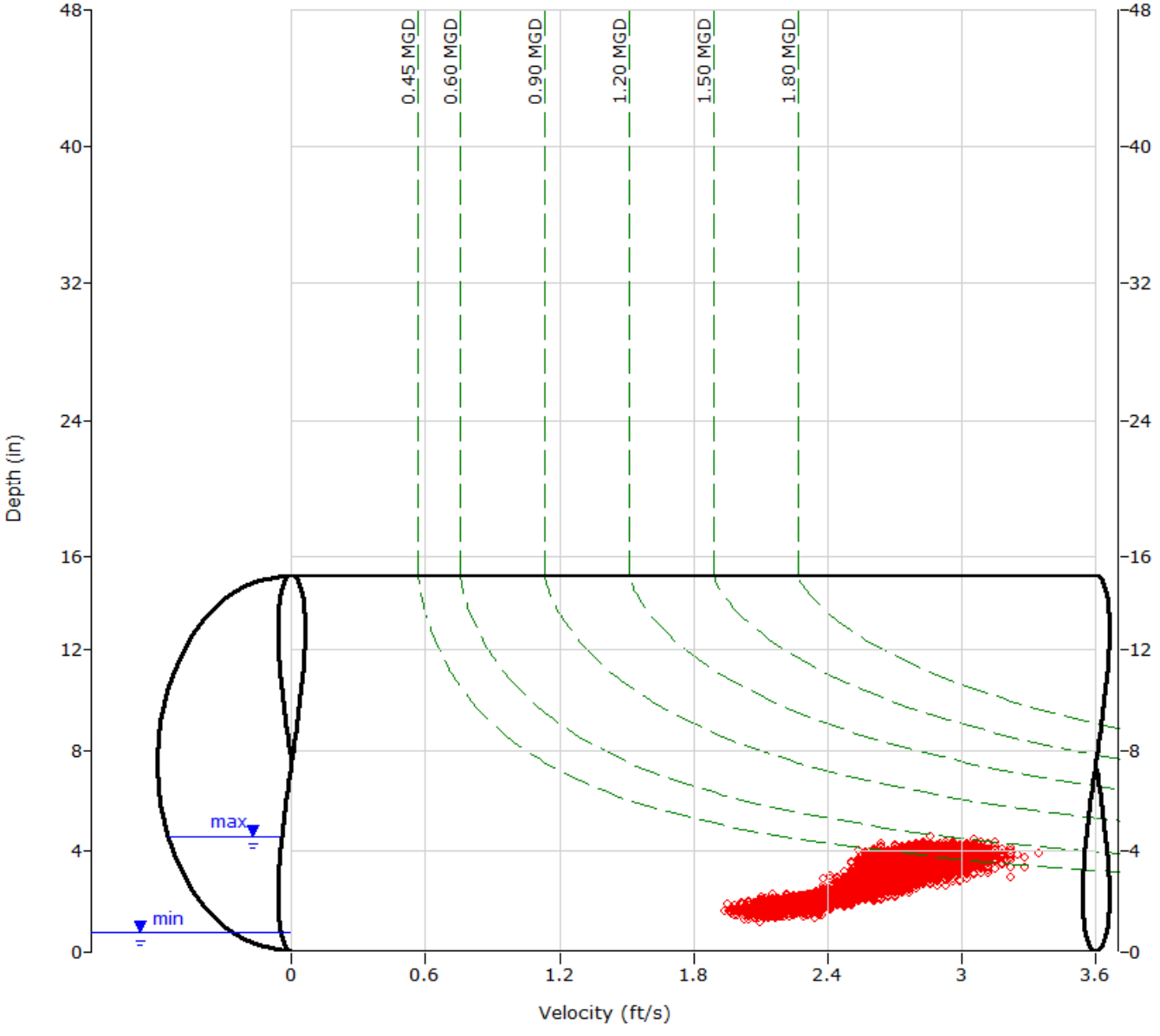
Pipe Height
15.00 in

Report Period

4/9/2016
To
5/24/2016

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth



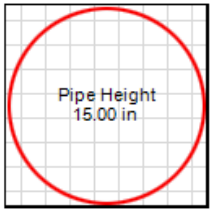
ADS ENVIRONMENTAL SERVICES

HYDROGRAPH REPORT

FM11_B08024

Flow Monitor

FM11_B08024

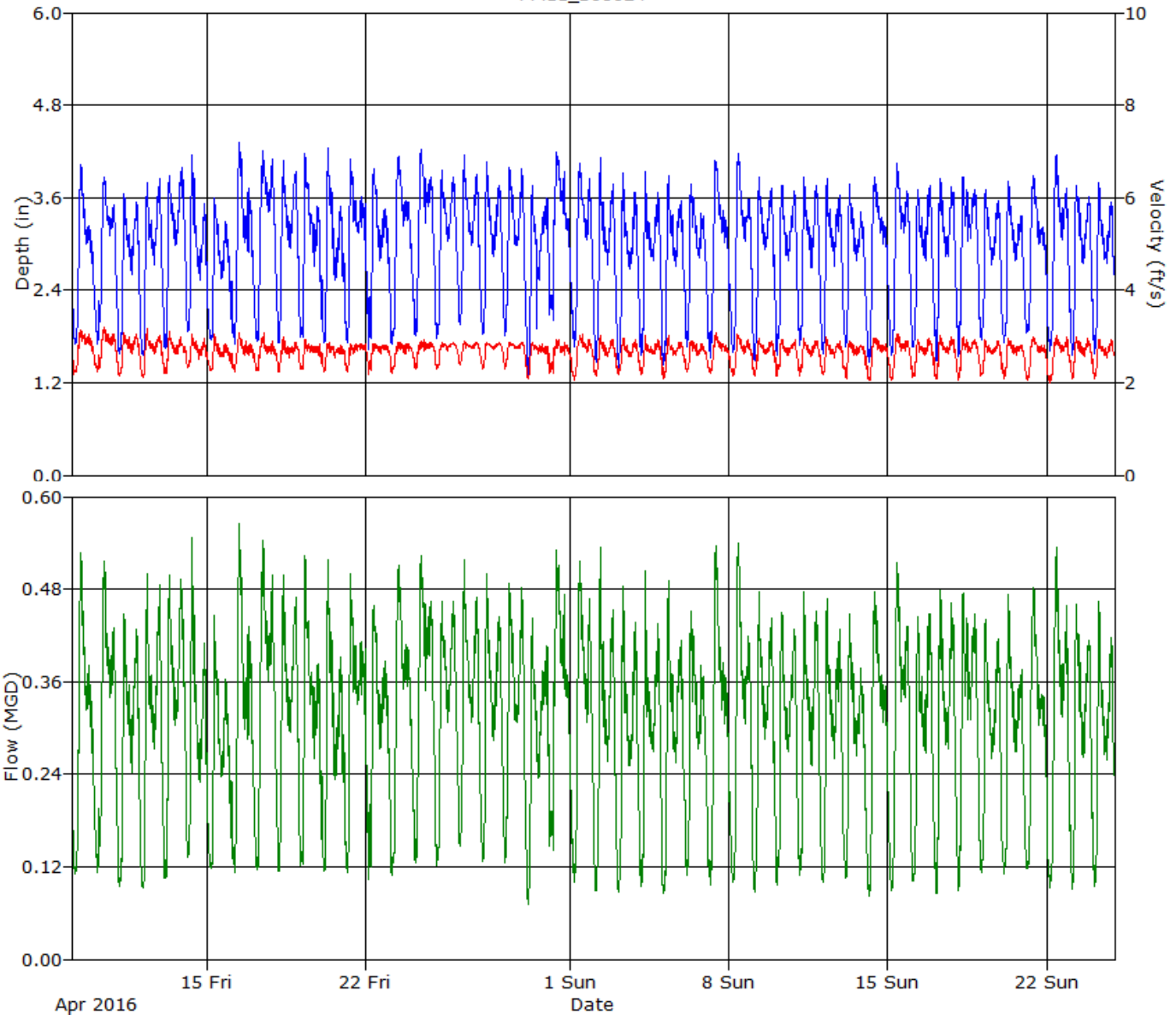


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth
- Velocity
- Quantity



Daily Tabular Report For The Period 4/9/2016 - 5/24/2016

FM11_B08024, Pipe Height: 15 in

Daily Tabular Report

Date	Depth (in)					Velocity (ft/s)					Quantity (MGD - Total ft3)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
4/9/2016	04:05	1.69	09:20	4.13	2.83	02:40	2.12	09:20	3.22	2.74	04:05	0.110	09:20	0.571	0.299	39951	
4/10/2016	03:00	1.62	10:45	3.98	2.92	03:00	2.18	10:05	3.34	2.78	03:00	0.101	10:05	0.550	0.315	42096	
4/11/2016	03:35	1.49	07:50	3.69	2.78	03:35	2.08	17:05	3.22	2.72	03:35	0.085	07:50	0.478	0.287	38349	
4/12/2016	02:50	1.52	21:10	3.95	2.89	02:10	1.99	07:55	3.28	2.71	02:50	0.088	21:10	0.509	0.304	40667	
4/13/2016	02:25	1.54	20:50	4.18	3.09	02:25	2.12	07:45	3.18	2.69	02:25	0.091	19:55	0.527	0.329	44009	
4/14/2016	04:05	1.81	07:25	4.22	2.92	04:05	2.30	07:40	3.12	2.68	04:05	0.125	07:40	0.569	0.299	39999	
4/15/2016	03:50	1.72	07:30	3.66	2.71	00:55	2.20	07:15	3.20	2.63	03:50	0.113	07:15	0.465	0.264	35296	
4/16/2016	05:10	1.61	09:25	4.43	3.06	05:10	2.17	10:10	3.15	2.66	05:10	0.099	09:25	0.598	0.323	43123	
4/17/2016	04:30	1.66	11:10	4.28	3.20	04:30	2.21	11:15	3.15	2.68	04:30	0.106	11:15	0.563	0.344	45992	
4/18/2016	03:10	1.59	08:20	4.57	3.09	03:10	2.16	08:00	3.12	2.67	03:10	0.097	08:20	0.585	0.324	43328	
4/19/2016	03:20	1.68	07:15	4.20	2.99	03:20	2.22	08:05	3.09	2.66	03:20	0.108	07:25	0.549	0.308	41199	
4/20/2016	03:45	1.71	07:40	4.28	2.92	03:45	2.24	08:10	3.02	2.64	03:45	0.111	08:10	0.525	0.295	39423	
4/21/2016	03:40	1.64	07:35	4.18	3.12	03:40	2.19	06:50	2.88	2.69	03:40	0.103	07:35	0.516	0.329	43924	
4/22/2016	02:05	1.60	07:25	4.01	3.00	02:05	2.16	08:20	2.86	2.68	02:05	0.098	07:25	0.484	0.310	41452	
4/23/2016	02:35	1.67	09:45	4.27	3.11	03:20	2.12	10:35	2.89	2.68	03:20	0.104	10:35	0.526	0.329	44046	
4/24/2016	04:50	1.71	10:45	4.31	3.22	04:50	2.24	13:50	3.02	2.71	04:50	0.112	10:45	0.547	0.351	46923	
4/25/2016	02:50	1.66	08:15	4.01	3.12	02:50	2.21	08:15	2.88	2.72	02:50	0.106	08:15	0.490	0.333	44536	
4/26/2016	02:40	1.86	07:30	4.25	3.16	02:40	2.34	07:30	2.90	2.74	02:40	0.132	07:30	0.535	0.340	45474	
4/27/2016	03:10	1.73	07:30	4.17	3.07	03:10	2.25	07:30	2.89	2.73	03:10	0.115	07:30	0.521	0.326	43590	
4/28/2016	02:35	1.78	20:45	4.07	3.12	02:35	2.29	20:45	2.88	2.73	02:35	0.121	20:45	0.501	0.335	44751	
4/29/2016	12:25	0.73	07:25	3.82	2.75	03:05	2.03	20:30	2.89	2.63	03:35	0.059	07:25	0.455	0.277	37062	
4/30/2016	05:50	1.83	09:10	4.26	3.25	03:35	2.02	10:00	3.02	2.66	03:35	0.114	09:10	0.548	0.345	46151	
5/1/2016	04:45	1.57	09:35	4.16	3.03	03:30	1.97	11:05	3.15	2.66	04:45	0.089	09:35	0.546	0.320	42817	
5/2/2016	04:05	1.35	07:45	4.36	2.90	02:55	2.05	07:25	3.09	2.65	02:55	0.080	07:45	0.592	0.298	39897	
5/3/2016	02:50	1.32	07:35	4.00	2.83	02:35	2.03	08:15	3.02	2.63	03:55	0.074	07:30	0.506	0.284	37967	
5/4/2016	03:50	1.39	07:30	4.15	2.88	04:15	2.05	07:25	3.09	2.65	03:50	0.079	07:30	0.546	0.292	39056	
5/5/2016	02:35	1.30	07:30	3.96	2.83	02:45	2.05	07:30	3.06	2.63	02:35	0.073	07:30	0.511	0.286	38245	
5/6/2016	04:00	1.58	07:20	3.85	2.90	02:55	2.15	07:25	2.99	2.65	04:00	0.098	07:25	0.480	0.294	39292	
5/7/2016	03:45	1.46	09:35	4.18	2.97	03:05	2.16	11:10	3.22	2.67	03:45	0.088	09:35	0.552	0.310	41438	
5/8/2016	04:55	1.48	08:55	4.29	3.02	03:30	2.09	08:50	3.12	2.66	04:30	0.092	08:55	0.585	0.318	42557	
5/9/2016	02:20	1.39	07:50	3.97	2.96	02:45	2.14	07:50	3.02	2.65	02:20	0.081	07:50	0.508	0.305	40774	
5/10/2016	03:40	1.47	08:30	3.86	2.92	02:20	2.06	07:20	2.99	2.66	03:40	0.087	08:30	0.472	0.298	39900	
5/11/2016	02:30	1.53	07:25	3.98	2.93	03:25	2.08	07:25	3.06	2.65	02:30	0.091	07:25	0.514	0.298	39896	
5/12/2016	03:05	1.37	07:45	3.97	2.91	04:25	2.15	06:40	3.02	2.64	03:05	0.080	07:45	0.503	0.296	39565	
5/13/2016	03:25	1.66	07:45	3.87	2.86	04:05	1.99	08:00	2.96	2.63	03:15	0.100	08:00	0.471	0.286	38231	
5/14/2016	04:50	1.42	10:40	3.98	2.89	04:50	1.98	10:40	3.02	2.64	04:50	0.075	10:40	0.509	0.297	39712	
5/15/2016	04:15	1.51	09:45	4.12	2.98	03:40	1.96	11:05	3.15	2.66	04:20	0.086	09:45	0.529	0.314	41934	
5/16/2016	02:30	1.56	20:35	3.84	2.90	03:45	2.06	19:50	3.06	2.65	02:30	0.094	20:15	0.475	0.297	39642	
5/17/2016	03:30	1.37	07:50	3.94	2.93	03:40	1.99	07:15	3.12	2.66	03:40	0.076	07:15	0.499	0.302	40426	
5/18/2016	04:00	1.45	07:35	3.97	3.02	02:45	2.03	07:50	3.02	2.66	02:45	0.082	07:35	0.497	0.316	42309	
5/19/2016	02:00	1.69	07:10	3.81	2.88	02:55	2.06	07:00	3.02	2.64	02:55	0.104	08:10	0.463	0.291	38841	
5/20/2016	02:20	1.58	08:05	3.87	2.87	03:15	2.03	09:45	3.02	2.64	02:20	0.097	07:20	0.482	0.291	38836	
5/21/2016	03:15	1.78	10:15	3.99	2.94	03:55	1.95	09:35	3.02	2.63	04:10	0.108	10:35	0.504	0.301	40205	
5/22/2016	04:05	1.48	10:35	4.28	3.01	04:25	1.94	20:45	3.12	2.62	04:05	0.080	09:40	0.555	0.315	42121	
5/23/2016	03:10	1.54	08:05	3.92	2.89	03:20	2.02	07:15	3.15	2.65	03:20	0.089	08:05	0.504	0.295	39398	
5/24/2016	03:20	1.51	07:15	3.84	2.85	03:00	2.05	07:15	3.06	2.63	03:20	0.089	07:15	0.491	0.286	38239	

Report Summary For The Period 4/9/2016 - 5/24/2016

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total ft3)
Total			1892640
Avg	2.97	2.67	0.308

Site Commentary

Site Information

FM12_V32174	
Pipe Dimensions	35.25 "
Silt Level	0.00"

Overview

Site FM12_V32174 functioned under normal conditions during the period Saturday, April 09, 2016 to Tuesday, May 24, 2016 . No surcharge conditions were experienced at this location. Review of the scattergraph shows that flow in this line remained free-flowing throughout the study period. A period of downtime was experienced due to fouling of the ultrasonic sensor for period May 14, 2016 through May 17, 2016.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

This line is located downstream of locations FM4, FM13, and FM1. A review of balancing indicated no problems. A net flow of .204 MGD was reported for the period.

Observations

Average flow depth, velocity, and quantity data observed during Saturday, April 09, 2016 to Tuesday, May 24, 2016 , along with observed minimum and maximum data, are provided in the following table. The minimum and maximum rates recorded in the table are based on 5-minute data intervals. In regards to depth, this site flows at 38% full at its recorded peak of 13.42 inches and approximately 29% full during its recorded average depth of 10.27 inches.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	10.27	3.47	3.802
Minimum	6.13	2.19	1.149
Maximum	13.66	4.35	6.528
Time of Minimum	5/2/2016 4:00 AM	5/11/2016 4:30 AM	5/11/2016 4:30 AM
Time of Maximum	4/20/2016 9:35 PM	5/2/2016 9:30 PM	5/8/2016 11:20 AM

Data Quality

Data uptime observed during the Saturday, April 09, 2016 to the Tuesday, May 24, 2016 monitoring period is provided in the table below. Based upon the quality and

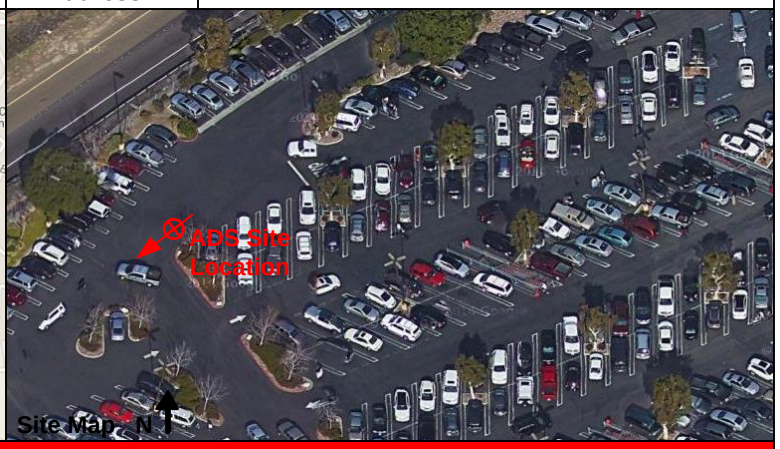
consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

Percent Uptime	
Depth (in)	93
Velocity (ft/s)	100
Quantity (MGD)	93

ADS Site Report

Quality Form

Project Name: Vista	**City / State:** Vista, CA	**Date Installed:** 04/08/16	**FM Initials:** JG
Site Name: FM12_V32174	**Monitor Series:** 3600	**Monitor S/N:**	2801
Address / Location: 1755 Hacienda Dr		**Manhole #:**	V32174
		Map Page #:	N/A
Access: Drive	**Type of System:** Sanitary [x] Storm [ ] Combined [ ]	**Pipe Height:**	35.25"
		Pipe Width:	34.88"
		IP Address:	N/A



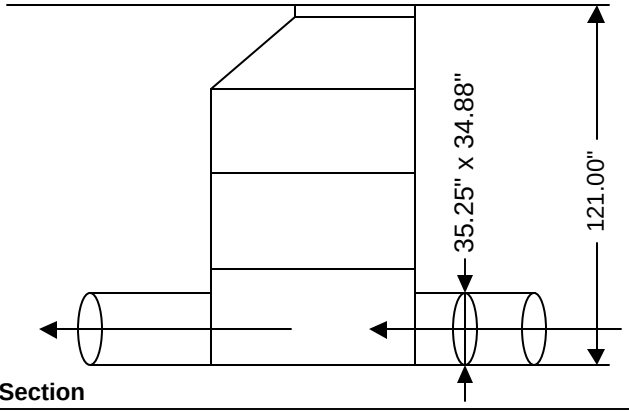
Investigation Information:

Date/Time of Investigation:	04/08/16 06:54 a.m.		
Site Hydraulics: Smooth flow through MH			
Upstream Input: (L/S,P/S)	N/A		
Upstream Manhole:	DNI		
Downstream Manhole:	DNI		
Depth of Flow (Wet Dof):	12.13 **+/-**	0.25	
Range (Air Dof):	**+/-**		
Peak Velocity:	4.34 **Fps**		
Silt:	0.00 **Inches**		

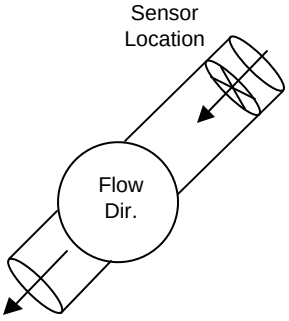
Manhole Information:

Manhole Depth:	121.00"				**Inches**
Manhole Material / Condition:	Liner N/A				
Pipe Material / Condition:	N/A / N/A				
Mini System Character:	**Residential** [ ]	**Commercial** [x]	**Industrial** [ ]	**Other** [ ]	
Telephone Information:	N/A				
Access Pole #:	N/A				
Distance From Manhole:	N/A				**Feet**
Road Cut Length:	N/A				**Feet**
Trench Length:	N/A				**Feet**

Other Information:



Cross Section



Planar N

Installation Information	Backup	Yes	No	?	Distance
Installation Type: Standard installation	**Trunk**	[ ]	[ ]		
Sensors/ Devices: Ultrasonic Sensor / Velocity Sensor	**Lift/ Pump Station**	[ ]	[ ]		
Surcharge Height: No Evidence of Surcharge **Feet**	**WWTP**	[ ]	[ ]		
Rain Gauge Zone: N/A	**Other**	[ ]	[ ]		

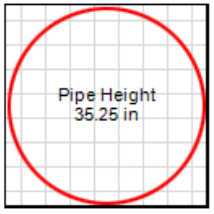
Additional Site Information / Comments:

SCATTERGRAPH REPORT

FM12_V32174

Flow Monitor

FM12_V32174

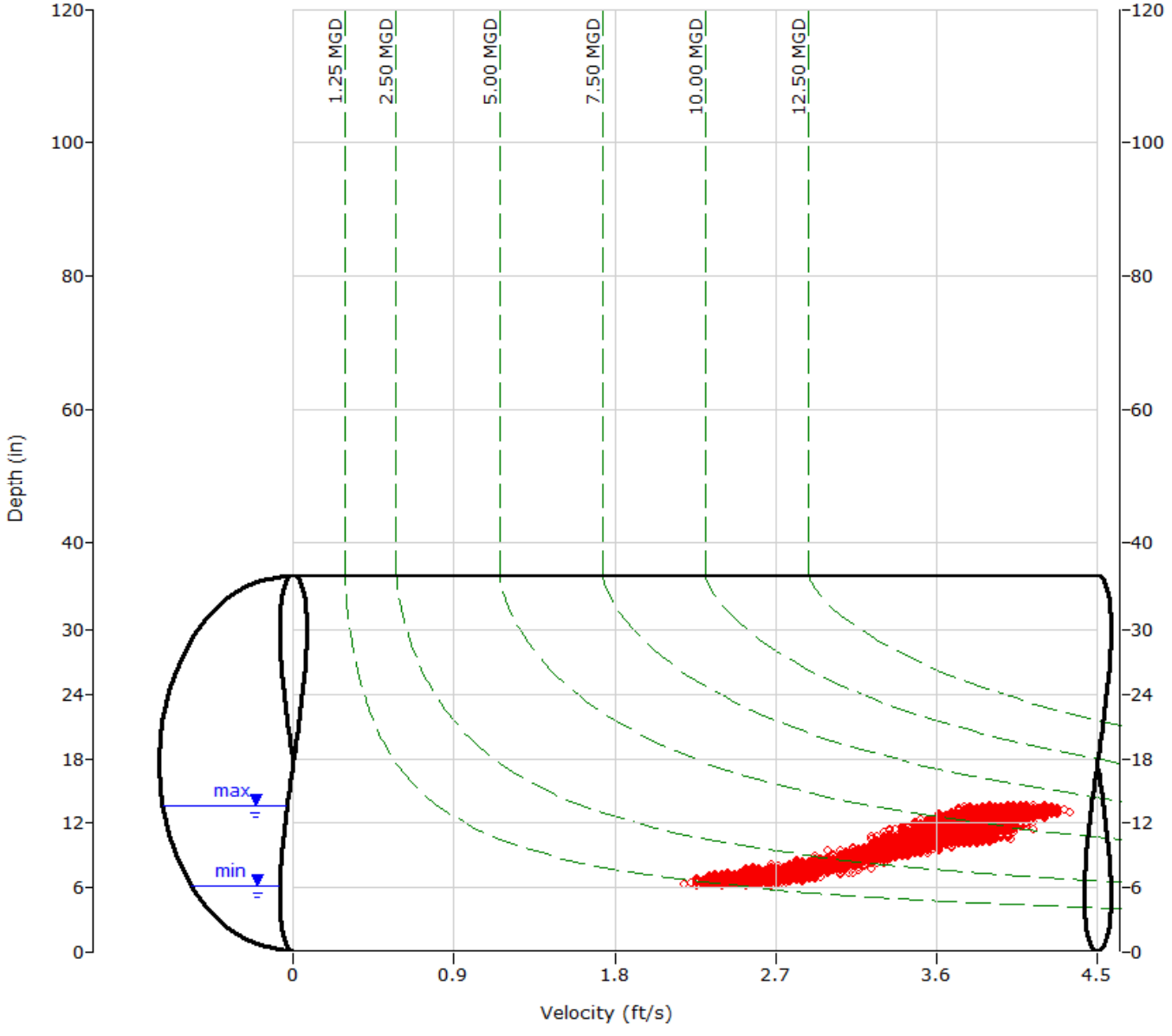


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth



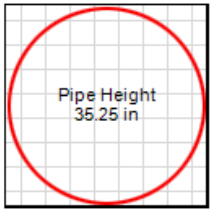
ADS ENVIRONMENTAL SERVICES

HYDROGRAPH REPORT

FM12_V32174

Flow Monitor

FM12_V32174

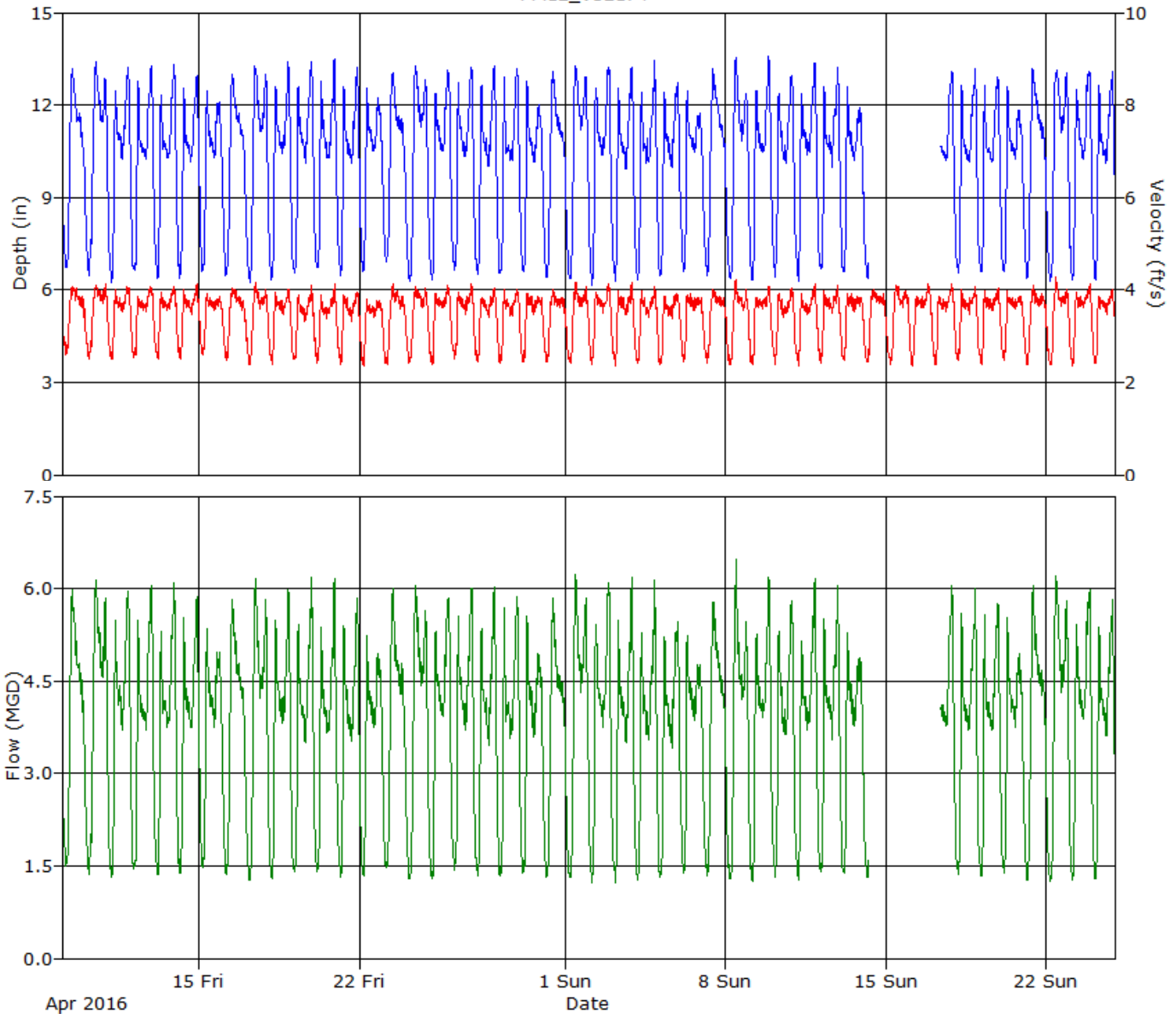


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth
- Velocity
- Quantity



Daily Tabular Report For The Period 4/9/2016 - 5/24/2016

FM12_V32174, Pipe Height: 35.25 in

Daily Tabular Report

Date	Depth (in)					Velocity (ft/s)					Quantity (MGD - Total ft3)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
4/9/2016	04:35	6.71	10:40	13.34	10.33	04:20	2.50	13:10	4.21	3.53	04:20	1.451	10:45	6.208	3.899	521210	
4/10/2016	04:05	6.47	11:30	13.54	10.52	04:40	2.43	21:40	4.28	3.54	04:00	1.351	11:15	6.293	4.051	541513	
4/11/2016	03:55	6.23	21:20	13.28	10.29	03:25	2.33	20:20	4.17	3.49	03:35	1.255	21:20	6.181	3.848	514441	
4/12/2016	04:10	6.59	21:50	13.38	10.28	04:35	2.43	20:45	4.17	3.50	04:35	1.403	21:55	6.125	3.832	512290	
4/13/2016	04:30	6.34	21:20	13.40	10.23	04:30	2.43	21:30	4.24	3.50	04:30	1.291	21:30	6.231	3.801	508162	
4/14/2016	03:40	6.34	21:35	12.98	10.19	04:15	2.43	21:10	4.17	3.50	03:30	1.341	21:10	6.016	3.780	505308	
4/15/2016	03:15	6.60	08:05	12.60	10.16	03:45	2.47	08:15	4.00	3.48	03:45	1.412	08:15	5.492	3.725	498008	
4/16/2016	03:55	6.41	10:55	13.07	10.27	03:25	2.43	11:00	4.10	3.49	04:00	1.310	11:00	5.981	3.831	512161	
4/17/2016	05:05	6.21	09:40	13.43	10.42	06:00	2.30	11:25	4.31	3.47	04:55	1.229	11:25	6.375	3.934	525938	
4/18/2016	03:40	6.28	20:50	13.52	10.32	04:20	2.30	20:55	4.07	3.46	04:20	1.245	21:30	6.145	3.815	510018	
4/19/2016	03:30	6.50	21:55	13.48	10.34	02:10	2.40	21:50	4.21	3.40	03:30	1.338	21:50	6.293	3.759	502550	
4/20/2016	04:10	6.69	21:35	13.66	10.32	03:50	2.33	21:50	4.17	3.42	03:50	1.339	21:35	6.421	3.758	502391	
4/21/2016	04:15	6.43	21:35	13.26	10.27	04:30	2.30	21:35	4.10	3.43	04:30	1.271	21:35	6.121	3.744	500534	
4/22/2016	04:15	6.57	07:55	12.63	10.25	04:00	2.26	07:35	3.93	3.36	04:15	1.262	08:15	5.343	3.649	487781	
4/23/2016	04:35	6.92	10:50	13.16	10.39	04:00	2.33	10:55	4.17	3.45	04:25	1.402	10:50	6.110	3.846	514142	
4/24/2016	04:20	6.26	11:00	13.41	10.41	04:10	2.26	10:55	4.21	3.48	04:10	1.202	10:55	6.260	3.938	526390	
4/25/2016	04:10	6.31	20:05	13.21	10.32	03:05	2.26	19:35	4.21	3.49	04:10	1.244	21:05	6.064	3.860	515982	
4/26/2016	04:05	6.62	20:40	13.35	10.33	03:40	2.43	21:50	4.21	3.51	03:40	1.399	20:40	6.280	3.872	517598	
4/27/2016	04:10	6.45	21:05	13.55	10.23	03:20	2.40	20:55	4.21	3.45	03:55	1.337	21:05	6.296	3.755	502017	
4/28/2016	02:50	6.52	20:50	13.44	10.16	03:05	2.33	21:10	4.21	3.44	03:05	1.299	21:10	6.098	3.710	495962	
4/29/2016	03:45	6.56	07:50	12.93	10.09	03:05	2.37	07:20	4.03	3.46	03:40	1.330	07:50	5.716	3.681	492068	
4/30/2016	05:15	6.36	10:55	13.40	10.21	05:25	2.37	10:25	4.14	3.45	04:40	1.283	10:25	6.010	3.757	502202	
5/1/2016	05:15	6.33	10:05	13.37	10.47	04:15	2.37	11:10	4.28	3.48	04:15	1.260	10:05	6.395	3.969	530609	
5/2/2016	04:00	6.13	22:00	13.43	10.27	04:10	2.26	21:30	4.35	3.49	04:10	1.154	21:30	6.319	3.843	513769	
5/3/2016	04:25	6.22	20:50	13.32	10.20	02:50	2.33	21:55	4.24	3.48	04:30	1.221	22:10	6.258	3.780	505312	
5/4/2016	04:05	6.29	21:15	13.56	10.16	04:00	2.33	21:05	4.17	3.43	04:00	1.235	21:05	6.318	3.708	495665	
5/5/2016	03:10	6.46	21:25	13.06	10.14	02:40	2.26	08:25	4.03	3.41	02:50	1.254	21:25	5.636	3.669	490490	
5/6/2016	04:00	6.57	07:55	12.46	10.13	05:15	2.37	07:35	4.03	3.47	04:30	1.346	07:35	5.453	3.699	494434	
5/7/2016	05:10	6.43	10:40	13.29	10.31	04:25	2.26	11:55	4.14	3.45	05:00	1.282	11:15	5.972	3.823	511000	
5/8/2016	04:40	6.33	11:20	13.66	10.37	04:35	2.26	11:25	4.24	3.44	05:20	1.215	11:20	6.528	3.870	517325	
5/9/2016	04:00	6.23	21:15	13.62	10.31	02:25	2.26	20:45	4.14	3.47	04:30	1.235	21:10	6.393	3.839	513161	
5/10/2016	04:05	6.41	20:55	13.02	10.25	03:40	2.30	20:30	4.10	3.44	03:40	1.250	20:55	5.917	3.756	502114	
5/11/2016	04:20	6.24	21:55	13.41	10.36	04:30	2.19	21:40	4.28	3.45	04:30	1.149	21:40	6.464	3.823	511092	
5/12/2016	03:40	6.63	21:15	13.41	10.25	03:25	2.37	21:20	4.21	3.47	03:30	1.368	21:45	6.231	3.786	506050	
5/13/2016	03:20	6.55	07:50	12.71	10.11	04:05	2.40	07:30	4.03	3.48	04:20	1.341	07:30	5.612	3.708	495625	
5/14/2016	04:55	6.34	00:00	9.68	7.43	04:35	2.26	11:15	4.14	3.47	04:35	1.217	00:05	3.301	1.892	60599	
5/15/2016						05:35	2.30	12:10	4.28	3.48							
5/16/2016						03:50	2.26	20:05	4.21	3.49							
5/17/2016	23:55	9.88	21:25	13.21	11.23	04:35	2.33	21:20	4.24	3.48	23:45	3.460	21:20	6.166	4.510	353789	
5/18/2016	03:45	6.52	21:25	13.42	10.19	02:45	2.43	21:45	4.21	3.48	04:00	1.342	21:30	6.193	3.761	502729	
5/19/2016	04:20	6.57	21:20	13.20	10.18	04:25	2.26	21:40	4.21	3.46	04:25	1.289	21:40	6.020	3.743	500320	
5/20/2016	04:30	6.53	07:50	12.69	10.07	02:40	2.47	19:45	4.07	3.48	04:30	1.365	07:55	5.608	3.681	492038	
5/21/2016	04:15	6.33	10:05	13.23	10.31	04:05	2.26	10:15	4.14	3.47	04:05	1.199	10:15	6.153	3.827	511555	
5/22/2016	04:45	6.26	11:35	13.29	10.44	03:45	2.30	10:35	4.35	3.48	04:55	1.224	10:35	6.303	3.959	529277	
5/23/2016	03:55	6.30	20:25	13.18	10.32	04:00	2.23	22:10	4.17	3.50	04:00	1.178	20:30	6.066	3.876	518091	
5/24/2016	03:55	6.32	21:30	13.16	10.24	02:55	2.37	21:55	4.07	3.46	03:30	1.271	21:35	5.885	3.777	504585	

Report Summary For The Period 4/9/2016 - 5/24/2016

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total ft3)
Total			21768290
Avg	10.27	3.47	3.802

Site Commentary

Site Information

FM13_V05048	
Pipe Dimensions	11.75 "
Silt Level	1.50"

Overview

Site FM13_V05048 functioned under normal conditions during the period Saturday, April 09, 2016 to Tuesday, May 24, 2016 . No surcharge conditions were experienced at this location. Review of the scattergraph shows that flow in this line remained free-flowing throughout the data period. An average silt measurement of 1.50 inches was recorded during field visits.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

This line is located upstream of location FM12. A review of balancing indicated no problems (See FM12 Site Commentary For More Details).

Observations

Average flow depth, velocity, and quantity data observed during Saturday, April 09, 2016 to Tuesday, May 24, 2016 , along with observed minimum and maximum data, are provided in the following table. The minimum and maximum rates recorded in the table are based on 5-minute data intervals. In regards to depth, this site flows at 71% full at its recorded peak of 8.38 inches and approximately 56% full during its recorded average depth of 6.56 inches.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	6.56	1.15	0.290
Minimum	4.17	0.47	0.064
Maximum	8.69	1.68	0.577
Time of Minimum	5/23/2016 4:10 AM	5/10/2016 3:05 AM	4/17/2016 4:30 AM
Time of Maximum	5/1/2016 10:30 AM	4/18/2016 8:15 PM	5/1/2016 10:30 AM

Data Quality

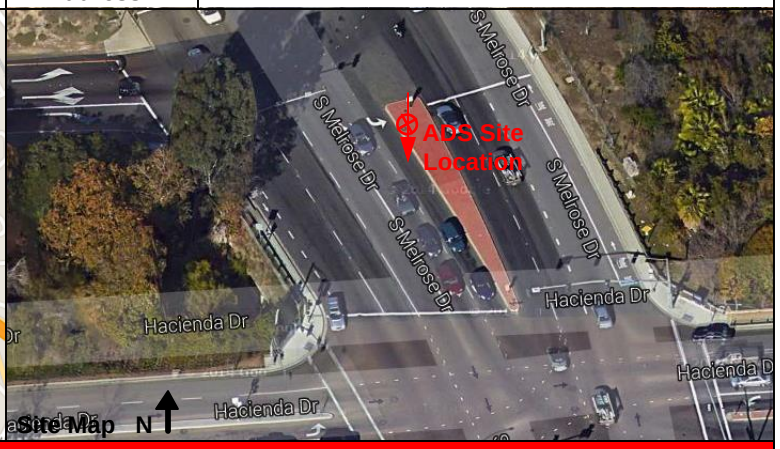
Data uptime observed during the Saturday, April 09, 2016 to the Tuesday, May 24, 2016 monitoring period is provided in the table below. Based upon the quality and consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

Percent Uptime	
Depth (in)	100
Velocity (ft/s)	100
Quantity (MGD)	100

ADS Site Report

Quality Form

Project Name: Vista	**City / State:** Vista, CA			**Date Installed:** 04/08/16	**FM Initials:** JG
Site Name: FM13_V05048	**Monitor Series:** 3600		**Monitor S/N:**	2796	
Address / Location: S Melrose and Hacienda Dr			**Manhole #:**	V05048	
			Map Page #:	N/A	
Access: Drive	**Type of System:**	Sanitary [x] Storm [ ] Combined [ ]	**Pipe Height:**	11.75"	
			Pipe Width:	11.75"	
			IP Address:	N/A	



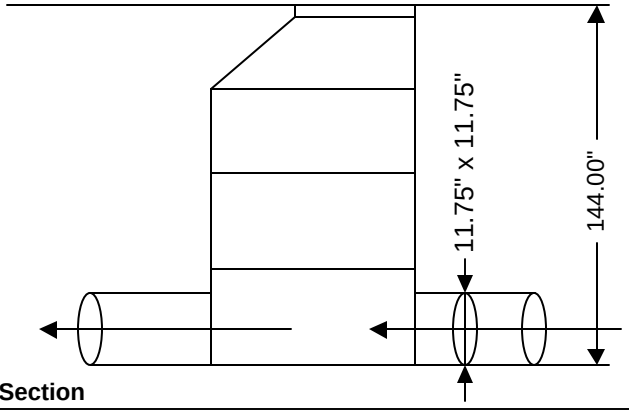
Investigation Information:

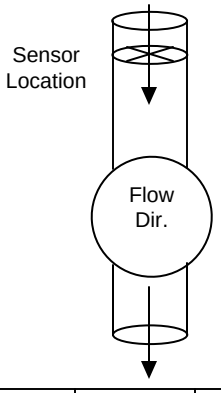
Date/Time of Investigation:	04/08/16 10:50 a.m.		
Site Hydraulics: Smooth slow flow through MH			
Upstream Input: (L/S,P/S)	N/A		
Upstream Manhole:	DNI		
Downstream Manhole:	DNI		
Depth of Flow (Wet Dof):	6.88	**+/-**	0.25
Range (Air Dof):		**+/-**	
Peak Velocity:	1.20	**Fps**	
Silt:	1.00	**Inches**	

Manhole Information:

Manhole Depth:	144.00"				**Inches**
Manhole Material / Condition:	Precast / Good				
Pipe Material / Condition:	N/A / N/A				
Mini System Character:	**Residential** [ ]	**Commercial** [x]	**Industrial** [ ]	**Other** [ ]	
Telephone Information:	N/A				
Access Pole #:	N/A				
Distance From Manhole:	N/A				**Feet**
Road Cut Length:	N/A				**Feet**
Trench Length:	N/A				**Feet**

Other Information:





Installation Information		Backup	Yes	No	?	Distance
Installation Type: Standard installation		**Trunk**	[x]	[ ]		
Sensors/ Devices: Ultrasonic Sensor / Velocity Sensor		**Lift/ Pump Station**	[ ]	[ ]		
Surcharge Height: No Evidence of Surcharge	**Feet**	**WWTP**	[ ]	[ ]		
Rain Gauge Zone: N/A		**Other**	[ ]	[ ]		

Additional Site Information / Comments:

SCATTERGRAPH REPORT

FM13_V05048

Flow Monitor

FM13_V05048

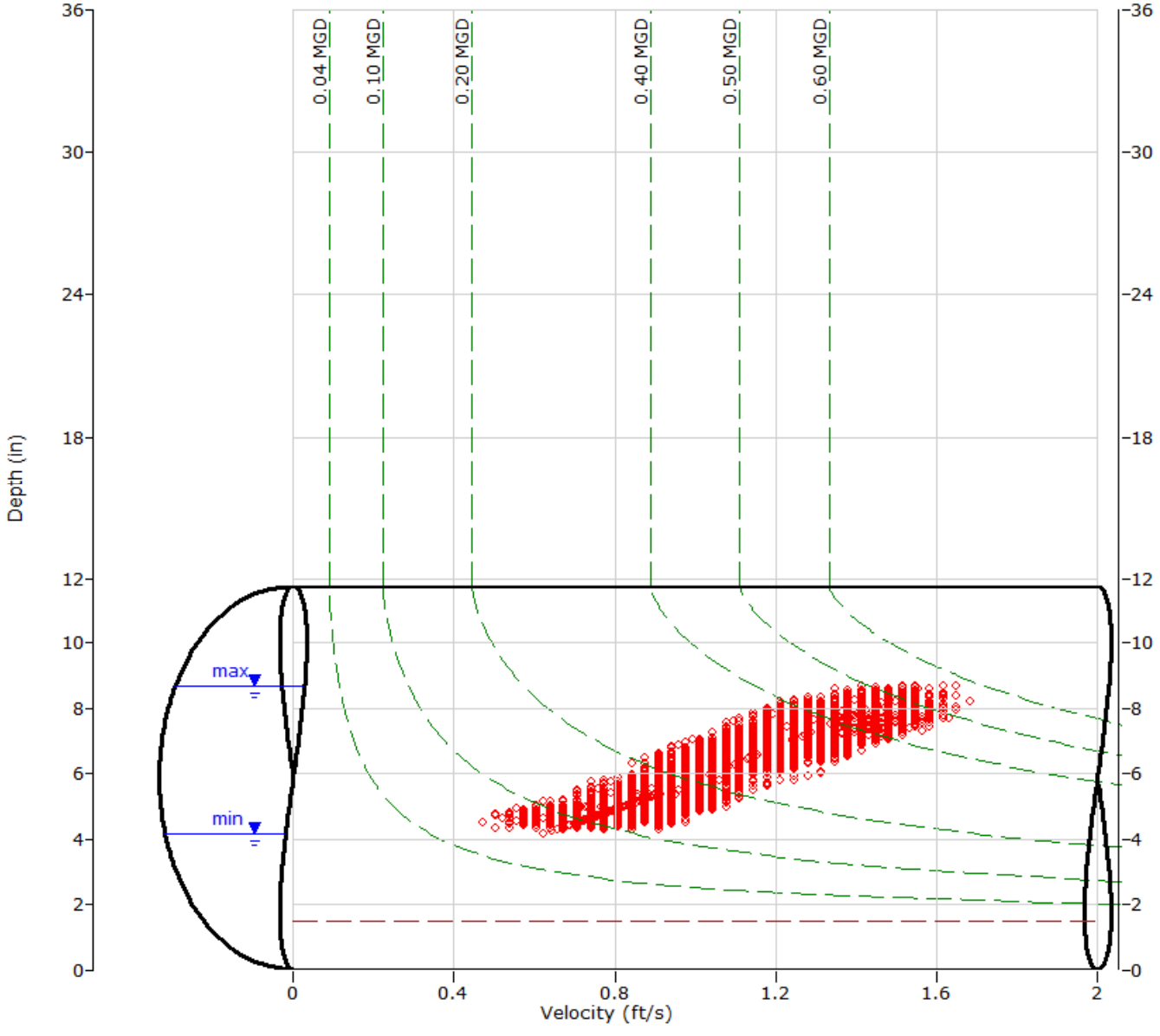
Pipe Height
11.75 in

Report Period

4/9/2016
To
5/24/2016

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth



ADS ENVIRONMENTAL SERVICES

HYDROGRAPH REPORT

FM13_V05048

Flow Monitor

FM13_V05048

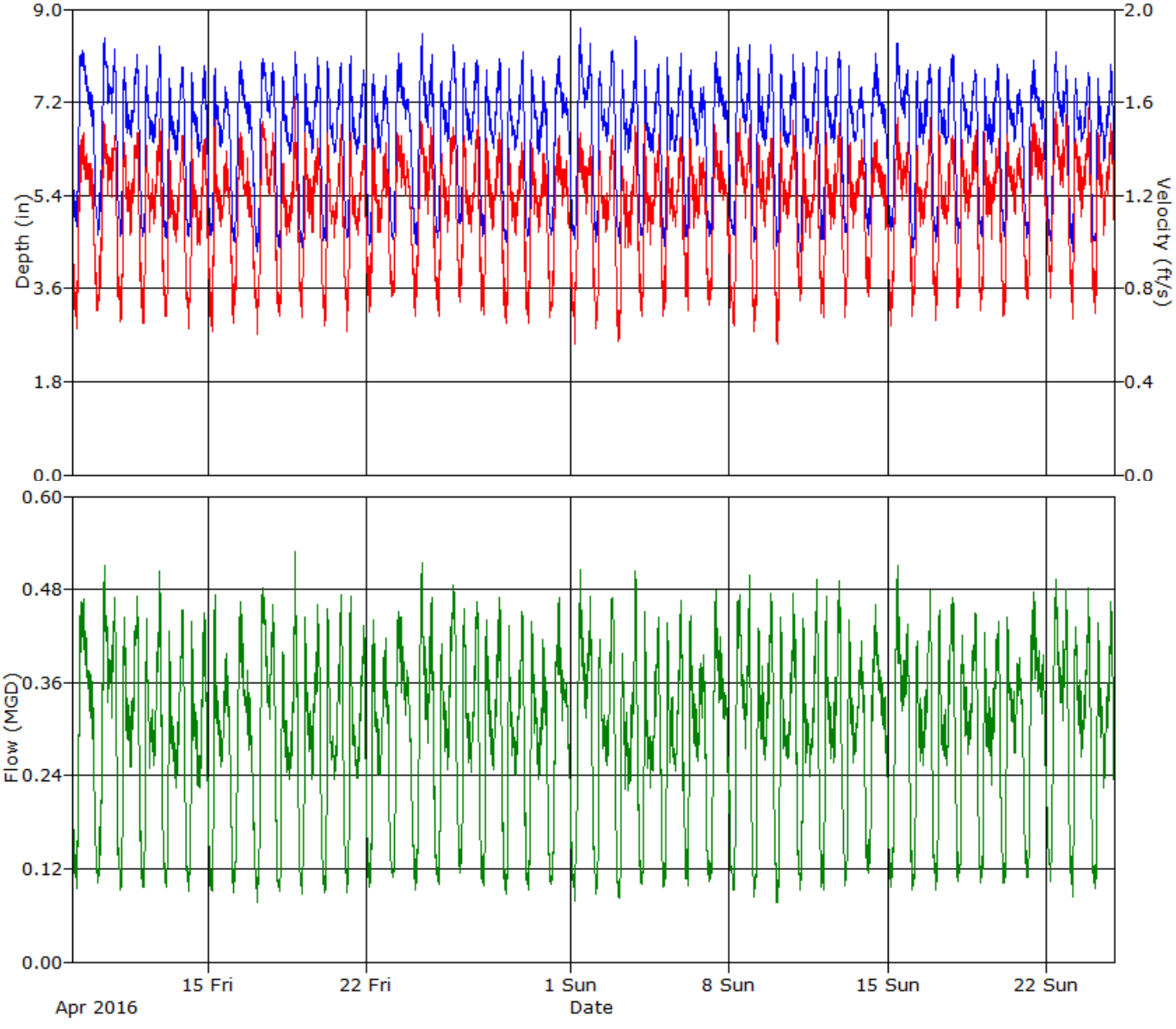
Pipe Height
11.75 in

Report Period

4/9/2016
To
5/24/2016

Legend

- Depth
- Velocity
- Quantity



Daily Tabular Report For The Period 4/9/2016 - 5/24/2016

FM13_V05048, Pipe Height: 11.75 in

Daily Tabular Report

Date	Depth (in)					Velocity (ft/s)					Quantity (MGD - Total ft3)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
4/9/2016	04:45	4.81	10:45	8.33	6.82	04:55	0.54	12:45	1.51	1.15	04:55	0.082	13:05	0.491	0.307	41086	
4/10/2016	03:50	4.63	10:20	8.60	6.80	01:30	0.61	10:20	1.55	1.17	03:35	0.087	10:20	0.537	0.314	41909	
4/11/2016	03:50	4.60	20:30	8.32	6.66	04:05	0.54	20:30	1.58	1.14	04:05	0.081	20:30	0.526	0.295	39387	
4/12/2016	03:40	4.58	20:20	8.39	6.57	03:15	0.50	20:55	1.62	1.14	04:25	0.074	20:20	0.531	0.290	38740	
4/13/2016	03:35	4.56	20:20	8.02	6.48	04:10	0.52	19:55	1.51	1.11	04:10	0.074	21:00	0.473	0.276	36887	
4/14/2016	03:15	4.55	20:40	8.14	6.48	03:10	0.54	20:40	1.51	1.09	03:10	0.076	20:40	0.490	0.272	36311	
4/15/2016	02:50	4.55	06:45	7.94	6.44	04:50	0.57	07:50	1.58	1.11	04:50	0.084	07:50	0.493	0.273	36495	
4/16/2016	04:35	4.42	11:20	8.12	6.51	03:35	0.61	11:20	1.58	1.13	03:35	0.083	11:20	0.510	0.282	37756	
4/17/2016	04:35	4.29	20:50	8.19	6.62	04:30	0.50	09:10	1.62	1.16	04:30	0.064	09:10	0.514	0.304	40618	
4/18/2016	04:05	4.33	20:20	8.38	6.46	03:35	0.57	20:15	1.68	1.11	03:35	0.078	20:20	0.553	0.277	36979	
4/19/2016	03:35	4.32	20:10	8.36	6.49	03:35	0.54	06:50	1.58	1.15	03:35	0.068	20:10	0.506	0.286	38292	
4/20/2016	02:40	4.49	07:05	8.26	6.51	04:55	0.57	21:00	1.55	1.12	03:40	0.083	21:10	0.492	0.280	37457	
4/21/2016	03:10	4.49	07:10	8.22	6.46	03:35	0.54	07:00	1.51	1.11	03:35	0.076	07:00	0.490	0.274	36646	
4/22/2016	03:35	4.42	07:10	8.00	6.47	03:00	0.57	06:40	1.55	1.13	03:00	0.078	07:10	0.479	0.279	37270	
4/23/2016	03:40	4.47	10:25	8.44	6.58	02:00	0.61	08:30	1.55	1.17	03:15	0.097	10:25	0.500	0.297	39695	
4/24/2016	05:00	4.30	10:50	8.68	6.63	04:00	0.57	10:40	1.62	1.18	04:00	0.077	10:50	0.564	0.305	40750	
4/25/2016	03:45	4.55	20:25	8.66	6.66	04:30	0.61	17:30	1.58	1.16	04:30	0.087	19:45	0.525	0.299	39973	
4/26/2016	02:35	4.83	22:00	8.41	6.65	03:20	0.71	22:00	1.55	1.16	03:20	0.108	22:00	0.521	0.296	39547	
4/27/2016	03:00	4.54	21:15	8.36	6.56	03:05	0.61	21:10	1.55	1.15	03:05	0.087	21:15	0.518	0.290	38763	
4/28/2016	03:35	4.46	21:40	8.44	6.48	03:40	0.54	07:25	1.48	1.12	03:40	0.073	21:40	0.478	0.277	36990	
4/29/2016	02:55	4.60	07:20	8.04	6.46	02:15	0.54	19:00	1.51	1.12	02:15	0.076	19:00	0.460	0.275	36821	
4/30/2016	04:15	4.61	11:45	8.17	6.56	02:25	0.61	11:45	1.58	1.13	02:25	0.092	11:45	0.514	0.287	38383	
5/1/2016	04:30	4.48	10:30	8.69	6.78	02:40	0.54	10:30	1.65	1.13	04:25	0.073	10:30	0.577	0.304	40600	
5/2/2016	04:30	4.45	20:50	8.49	6.63	03:35	0.57	07:15	1.48	1.11	03:35	0.076	20:05	0.498	0.285	38077	
5/3/2016	03:35	4.41	20:40	8.66	6.53	02:40	0.54	20:40	1.55	1.08	02:40	0.076	20:40	0.540	0.273	36487	
5/4/2016	03:05	4.57	21:15	8.15	6.44	03:15	0.61	07:25	1.55	1.12	03:15	0.087	07:10	0.468	0.273	36560	
5/5/2016	03:30	4.40	21:20	8.38	6.47	02:50	0.64	07:20	1.55	1.13	03:15	0.085	21:20	0.508	0.280	37443	
5/6/2016	04:25	4.44	07:20	7.94	6.50	03:35	0.67	07:20	1.48	1.17	04:25	0.089	07:20	0.465	0.288	38448	
5/7/2016	03:45	4.58	09:45	8.50	6.58	03:05	0.64	10:15	1.62	1.15	03:05	0.091	10:15	0.545	0.292	38976	
5/8/2016	04:35	4.59	11:15	8.48	6.65	05:15	0.57	11:45	1.62	1.16	05:15	0.081	21:35	0.534	0.301	40279	
5/9/2016	02:35	4.41	19:45	8.51	6.56	02:45	0.57	19:45	1.55	1.14	02:55	0.080	19:45	0.528	0.289	38658	
5/10/2016	02:40	4.39	20:25	8.21	6.47	03:05	0.47	20:35	1.63	1.14	03:05	0.064	20:40	0.513	0.286	38175	
5/11/2016	03:35	4.25	20:35	8.55	6.48	03:35	0.64	19:15	1.55	1.14	03:35	0.079	20:35	0.532	0.282	37728	
5/12/2016	02:25	4.46	06:50	8.44	6.58	02:15	0.61	06:50	1.55	1.14	02:15	0.084	06:50	0.523	0.291	38836	
5/13/2016	03:45	4.58	07:30	8.45	6.51	02:45	0.67	20:35	1.51	1.16	02:45	0.094	07:30	0.467	0.287	38322	
5/14/2016	04:05	4.57	11:30	8.54	6.58	02:30	0.64	09:15	1.51	1.16	02:30	0.096	11:30	0.496	0.291	38950	
5/15/2016	03:20	4.64	10:10	8.58	6.69	05:40	0.57	10:50	1.62	1.16	05:40	0.086	10:10	0.545	0.303	40501	
5/16/2016	04:05	4.38	21:05	8.19	6.51	00:55	0.67	21:10	1.65	1.14	03:55	0.088	21:10	0.519	0.285	38042	
5/17/2016	03:30	4.49	21:45	8.22	6.54	03:55	0.61	06:40	1.57	1.14	03:55	0.085	20:45	0.505	0.288	38466	
5/18/2016	03:20	4.35	20:45	7.93	6.59	03:20	0.64	21:30	1.58	1.17	03:20	0.081	21:30	0.495	0.296	39577	
5/19/2016	04:25	4.54	21:05	8.13	6.52	01:55	0.67	21:45	1.55	1.15	04:25	0.093	21:45	0.465	0.286	38239	
5/20/2016	04:15	4.56	06:40	7.93	6.52	02:50	0.56	07:10	1.57	1.17	02:50	0.087	07:15	0.485	0.292	39023	
5/21/2016	03:35	4.49	10:55	8.40	6.53	02:05	0.64	09:25	1.62	1.22	04:15	0.093	10:45	0.517	0.307	41018	
5/22/2016	04:45	4.42	10:50	8.42	6.60	04:45	0.69	10:50	1.62	1.25	04:45	0.091	10:50	0.545	0.317	42392	
5/23/2016	04:10	4.17	21:20	8.03	6.49	04:10	0.62	21:20	1.65	1.21	04:10	0.073	21:20	0.524	0.300	40158	
5/24/2016	04:30	4.48	20:20	8.13	6.44	03:50	0.56	20:20	1.62	1.19	03:50	0.076	20:20	0.522	0.292	39021	

Report Summary For The Period 4/9/2016 - 5/24/2016

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total ft3)
Total			1780733
Avg	6.56	1.15	0.290

Site Commentary

Site Information

FM2_V08162	
Pipe Dimensions	26.5 "
Silt Level	0.00"

Overview

Site FM2_V08162 functioned under normal conditions during the period Saturday, April 09, 2016 to Tuesday, May 24, 2016 . No surcharge conditions were experienced at this location. Review of the scattergraph shows that flow in this line remained free-flowing throughout the data period.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

This line is located downstream of location FM3. A review of balancing indicated no problems. A net flow of .413 MGD was reported for the period.

Observations

Average flow depth, velocity, and quantity data observed during Saturday, April 09, 2016 to Tuesday, May 24, 2016 , along with observed minimum and maximum data, are provided in the following table. The minimum and maximum rates recorded in the table are based on 5-minute data intervals. In regards to depth, this site flows at 27% full at its recorded peak of 7.03 inches and approximately 19% full during its recorded average depth of 5.07 inches.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	5.07	5.61	1.933
Minimum	2.93	3.05	0.476
Maximum	7.11	6.63	3.361
Time of Minimum	5/2/2016 3:15 AM	4/11/2016 2:50 AM	4/11/2016 2:50 AM
Time of Maximum	4/17/2016 10:35 AM	4/13/2016 8:45 PM	4/17/2016 10:05 AM

Data Quality

Data uptime observed during the Saturday, April 09, 2016 to the Tuesday, May 24, 2016 monitoring period is provided in the table below. Based upon the quality and consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

Percent Uptime	
Depth (in)	100
Velocity (ft/s)	100
Quantity (MGD)	100

ADS Site Report

Quality Form

Project Name: Vista	**City / State:** Vista, CA			**Date Installed:** 04/08/16	**FM Initials:** JG
Site Name: FM2_V08162	**Monitor Series:** 3600			**Monitor S/N:**	2883
Address / Location: 15 Main Street				**Manhole #:**	V08162
				Map Page #:	N/A
Access: Drive	**Type of System:**	**Sanitary** [x]	**Storm** [ ]	**Combined** [ ]	**Pipe Height:** 26.50"
					Pipe Width: 26.25"
					IP Address: N/A

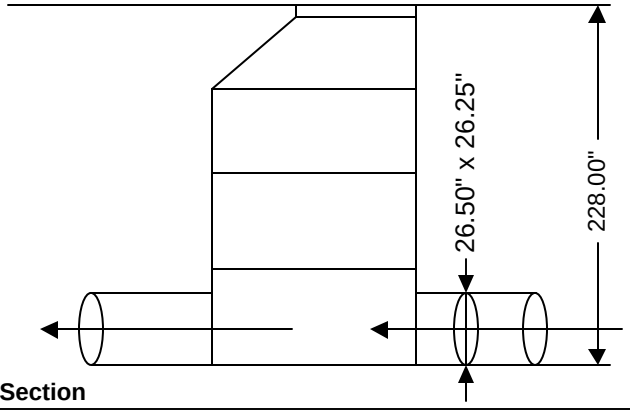
Investigation Information:

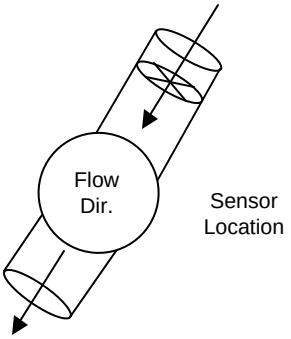
Date/Time of Investigation:	04/08/16 08:20		
Site Hydraulics: Good smooth straight flow			
Upstream Input: (L/S,P/S)	N/A		
Upstream Manhole:	DNI		
Downstream Manhole:	DNI		
Depth of Flow (Wet Dof):	5.88	**+/-**	0.25
Range (Air Dof):		**+/-**	
Peak Velocity:	6.78	**Fps**	
Silt:	0.00	**Inches**	

Manhole Information:

Manhole Depth:	228.00"				**Inches**
Manhole Material / Condition:	Concrete / Good				
Pipe Material / Condition:	VCP / Good				
Mini System Character:	**Residential** [ ]	**Commercial** [X]	**Industrial** [ ]	**Other** [ ]	
Telephone Information:	N/A				
Access Pole #:	N/A				
Distance From Manhole:	N/A				**Feet**
Road Cut Length:	N/A				**Feet**
Trench Length:	N/A				**Feet**

Other Information:





Installation Information		Backup	Yes	No	?	Distance
Installation Type: Standard installation		**Trunk**	[ ]	[X]		
Sensors/ Devices: Ultrasonic Sensor / Velocity Sensor		**Lift/ Pump Station**	[ ]	[X]		
Surcharge Height: No Evidence of Surcharge	**Feet**	**WWTP**	[ ]	[X]		
Rain Gauge Zone: N/A		**Other**	[ ]	[X]		

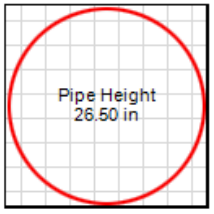
Additional Site Information / Comments:

SCATTERGRAPH REPORT

FM2_V08162

Flow Monitor

FM2_V08162

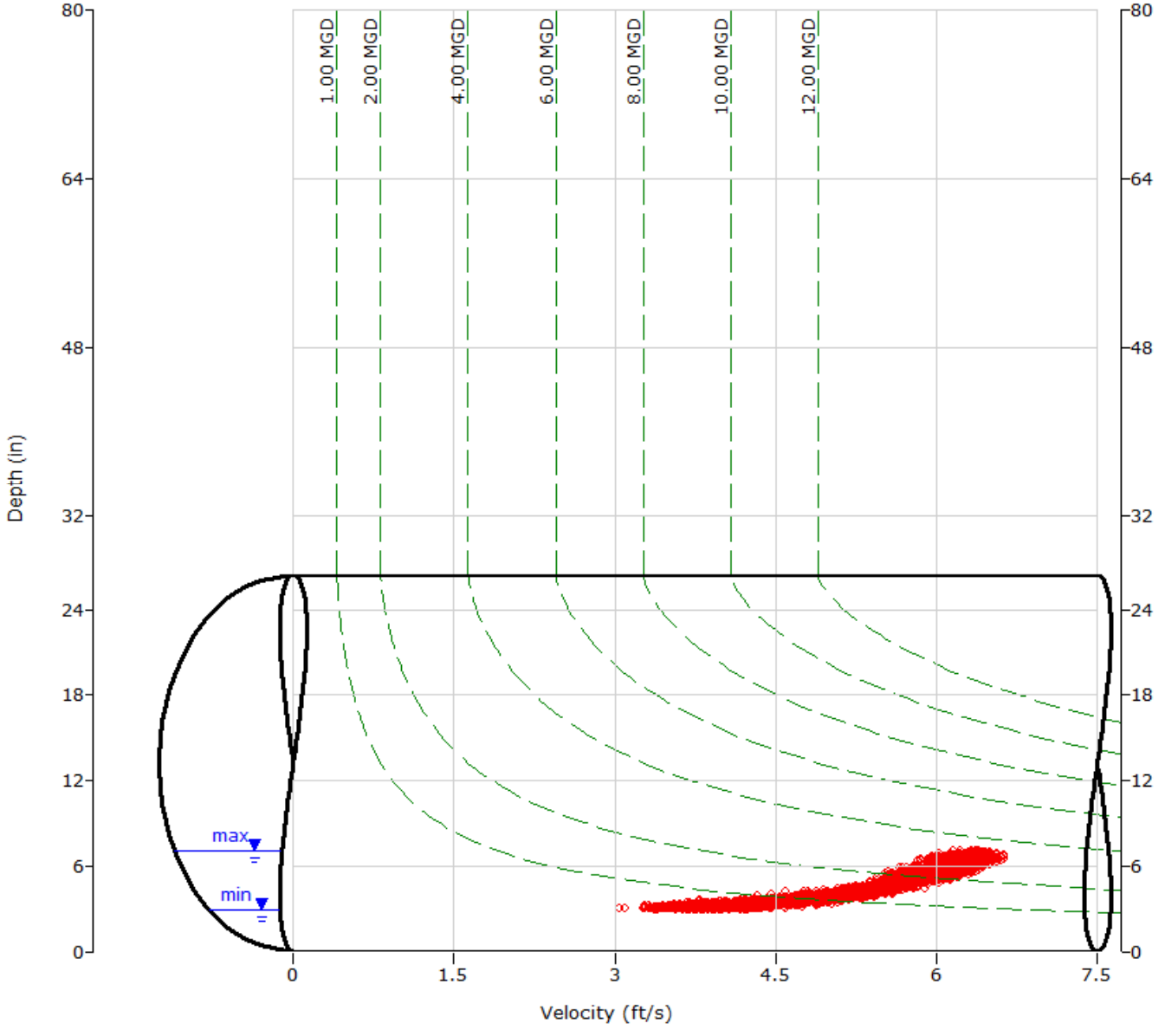


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth



HYDROGRAPH REPORT

FM2_V08162

Flow Monitor

FM2_V08162

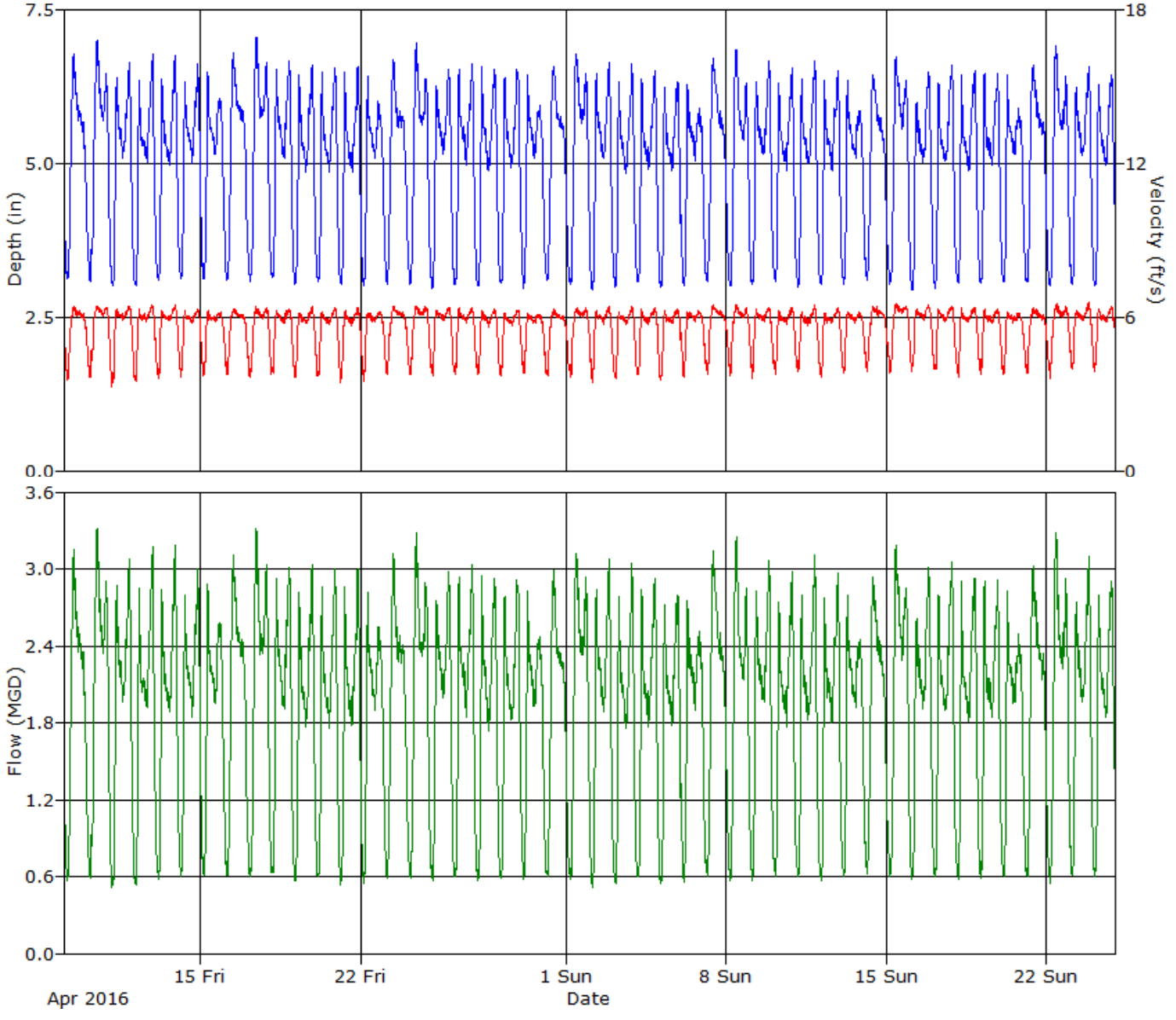
Pipe Height
26.50 in

Report Period

4/9/2016
To
5/24/2016

Legend

- Depth
- Velocity
- Quantity



Daily Tabular Report For The Period 4/9/2016 - 5/24/2016

FM2_V08162, Pipe Height: 26.5 in

Daily Tabular Report

Date	Depth (in)					Velocity (ft/s)					Quantity (MGD - Total ft3)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
4/9/2016	04:15	3.09	10:15	6.86	5.14	03:45	3.33	09:40	6.43	5.56	03:45	0.539	10:15	3.221	1.966	262874	
4/10/2016	03:10	2.99	11:00	7.02	5.27	03:55	3.28	21:10	6.50	5.62	03:55	0.507	11:00	3.359	2.073	277113	
4/11/2016	02:20	2.99	20:50	6.68	5.08	02:50	3.05	20:20	6.50	5.61	02:50	0.476	20:50	3.117	1.952	260915	
4/12/2016	03:50	2.98	21:15	6.88	5.04	03:40	3.33	21:10	6.56	5.59	03:40	0.510	21:15	3.269	1.917	256328	
4/13/2016	03:30	3.07	20:50	6.83	5.06	03:30	3.50	20:45	6.63	5.62	03:30	0.555	20:45	3.233	1.927	257649	
4/14/2016	03:45	3.11	21:15	6.69	5.07	02:35	3.45	21:20	6.40	5.59	02:45	0.579	21:10	3.028	1.921	256801	
4/15/2016	03:25	3.07	07:25	6.49	5.07	03:10	3.53	07:15	6.33	5.56	03:10	0.573	07:15	2.934	1.906	254787	
4/16/2016	03:55	3.09	10:05	6.94	5.21	02:30	3.53	12:00	6.43	5.57	03:50	0.574	10:05	3.219	2.004	267915	
4/17/2016	04:10	3.06	10:35	7.11	5.30	04:30	3.40	09:50	6.50	5.58	04:30	0.554	10:05	3.361	2.077	277692	
4/18/2016	02:50	3.11	20:25	6.73	5.13	04:00	3.53	21:30	6.50	5.59	04:00	0.577	21:30	3.121	1.956	261428	
4/19/2016	02:40	3.01	20:45	6.64	5.03	02:40	3.50	20:45	6.46	5.57	02:40	0.538	20:45	3.106	1.895	253319	
4/20/2016	03:35	3.07	20:45	6.63	5.01	03:00	3.50	20:45	6.40	5.57	03:00	0.566	20:45	3.071	1.884	251852	
4/21/2016	03:35	2.99	21:00	6.65	4.99	04:25	3.32	20:45	6.40	5.56	03:25	0.522	21:00	3.084	1.872	250310	
4/22/2016	03:30	2.99	07:20	6.46	4.98	03:45	3.43	07:25	6.26	5.56	03:45	0.538	07:15	2.860	1.859	248578	
4/23/2016	03:45	2.99	10:20	6.76	5.12	03:20	3.57	10:20	6.46	5.63	03:35	0.567	10:20	3.187	1.976	264129	
4/24/2016	03:30	2.98	10:20	7.00	5.21	04:40	3.60	09:25	6.46	5.65	04:40	0.561	10:20	3.345	2.045	273420	
4/25/2016	03:20	2.93	20:25	6.62	5.07	04:00	3.26	19:20	6.43	5.66	04:00	0.493	20:25	3.043	1.951	260834	
4/26/2016	03:20	3.00	21:05	6.70	5.07	03:50	3.28	07:35	6.43	5.62	03:50	0.527	21:05	3.100	1.939	259150	
4/27/2016	03:20	2.99	07:15	6.58	5.03	03:35	3.43	07:35	6.36	5.56	03:15	0.542	07:25	2.979	1.893	253113	
4/28/2016	04:00	3.01	20:25	6.59	5.02	02:50	3.60	19:35	6.33	5.52	02:50	0.567	20:25	2.992	1.874	250495	
4/29/2016	03:25	2.93	07:10	6.52	5.02	02:40	3.53	08:15	6.23	5.54	03:20	0.563	07:10	2.904	1.873	250369	
4/30/2016	04:40	3.08	10:15	6.61	5.09	04:40	3.47	12:55	6.46	5.52	04:40	0.552	10:20	3.007	1.919	256556	
5/1/2016	04:10	2.99	10:05	6.83	5.21	05:00	3.47	11:00	6.53	5.61	05:00	0.561	11:00	3.193	2.032	271653	
5/2/2016	03:15	2.93	20:40	6.70	5.04	03:00	3.37	20:30	6.50	5.58	03:20	0.505	20:30	3.128	1.915	256031	
5/3/2016	03:35	2.94	20:40	6.76	4.96	03:45	3.28	20:45	6.53	5.55	03:45	0.510	20:40	3.135	1.856	248146	
5/4/2016	02:50	3.03	21:10	6.56	4.98	03:45	3.50	20:15	6.43	5.59	02:50	0.559	21:10	3.006	1.874	250461	
5/5/2016	03:35	2.98	21:15	6.41	4.95	02:35	3.47	20:05	6.33	5.56	02:35	0.525	20:55	2.857	1.848	247075	
5/6/2016	03:35	2.98	07:15	6.45	4.99	03:40	3.45	07:10	6.40	5.65	03:35	0.535	07:15	2.909	1.882	251653	
5/7/2016	03:45	3.06	10:55	6.72	5.11	04:20	3.55	09:45	6.53	5.65	04:20	0.561	10:05	3.194	1.981	264761	
5/8/2016	04:10	3.00	10:45	6.91	5.12	05:15	3.55	10:20	6.60	5.66	04:25	0.555	10:45	3.289	1.996	266867	
5/9/2016	03:45	2.99	20:50	6.74	5.08	03:20	3.37	21:20	6.46	5.63	03:20	0.535	20:50	3.093	1.948	260459	
5/10/2016	03:50	3.03	21:10	6.60	5.01	03:35	3.40	20:10	6.46	5.59	03:35	0.541	21:10	3.004	1.889	252532	
5/11/2016	03:30	2.97	21:00	6.73	5.03	03:10	3.57	21:10	6.53	5.59	03:10	0.560	21:00	3.168	1.899	253799	
5/12/2016	03:40	3.02	20:50	6.54	5.00	04:10	3.42	20:55	6.40	5.58	04:10	0.539	20:55	3.006	1.879	251141	
5/13/2016	03:40	3.00	07:15	6.37	4.99	03:25	3.67	07:15	6.29	5.61	03:40	0.578	07:15	2.855	1.873	250376	
5/14/2016	04:05	3.06	09:25	6.48	5.04	03:15	3.52	10:30	6.46	5.68	04:05	0.577	10:30	2.955	1.938	259129	
5/15/2016	04:00	3.01	10:10	6.75	5.16	04:15	3.74	09:45	6.63	5.75	04:15	0.581	09:45	3.241	2.051	274144	
5/16/2016	03:00	2.93	20:55	6.53	4.98	03:00	3.70	20:50	6.53	5.73	03:00	0.547	20:50	3.048	1.926	257425	
5/17/2016	03:25	2.94	20:55	6.61	5.01	03:25	3.80	20:45	6.53	5.68	03:25	0.564	20:45	3.087	1.924	257163	
5/18/2016	03:35	3.03	21:10	6.53	5.01	03:50	3.30	07:20	6.46	5.63	03:50	0.529	07:20	2.991	1.901	254172	
5/19/2016	02:50	3.01	07:15	6.56	5.03	03:15	3.60	07:25	6.36	5.60	03:15	0.562	07:15	2.974	1.903	254389	
5/20/2016	03:40	3.02	07:20	6.47	4.98	03:40	3.57	07:30	6.29	5.58	03:40	0.551	07:20	2.889	1.858	248396	
5/21/2016	04:00	3.03	10:30	6.64	5.12	04:35	3.70	10:00	6.43	5.62	04:00	0.580	10:30	3.073	1.963	262468	
5/22/2016	04:05	3.00	10:10	6.95	5.17	04:00	3.48	11:25	6.63	5.66	04:00	0.536	10:05	3.343	2.029	271173	
5/23/2016	03:20	2.98	20:40	6.62	5.07	04:25	3.60	20:15	6.63	5.72	03:20	0.566	20:45	3.110	1.966	262794	
5/24/2016	02:30	2.98	20:55	6.52	5.00	02:45	3.60	20:35	6.46	5.67	02:45	0.553	20:55	3.029	1.912	255461	

Report Summary For The Period 4/9/2016 - 5/24/2016

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total ft3)
Total			11887290
Avg	5.07	5.61	1.933

Site Commentary

Site Information

FM3_V24101	
Pipe Dimensions	26.5 "
Silt Level	0.00"

Overview

Site FM3_V24101 functioned under normal conditions during the period Saturday, April 09, 2016 to Tuesday, May 24, 2016 . No surcharge conditions were experienced at this location. Review of the scattergraph shows that flow in this line remained free-flowing throughout the data period.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

This line is located downstream of location FM10. A review of balancing indicated no problems. A net flow of 1.152 MGD was reported for the period.

Observations

Average flow depth, velocity, and quantity data observed during Saturday, April 09, 2016 to Tuesday, May 24, 2016 , along with observed minimum and maximum data, are provided in the following table. The minimum and maximum rates recorded in the table are based on 5-minute data intervals. In regards to depth, this site flows at 28% full at its recorded peak of 7.53 inches and approximately 22% full during its recorded average depth of 5.88 inches.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	5.88	3.62	1.521
Minimum	4.01	2.05	0.483
Maximum	7.98	5.45	2.735
Time of Minimum	4/25/2016 3:35 AM	4/27/2016 3:30 AM	4/27/2016 3:30 AM
Time of Maximum	4/10/2016 10:20 AM	5/23/2016 9:05 PM	4/24/2016 10:20 AM

Data Quality

Data uptime observed during the Saturday, April 09, 2016 to the Tuesday, May 24, 2016 monitoring period is provided in the table below. Based upon the quality and consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

Percent Uptime	
Depth (in)	100
Velocity (ft/s)	100
Quantity (MGD)	100

ADS Site Report

Quality Form

Project Name: Vista	**City / State:** Vista, CA		**Date Installed:** 04/08/16	**FM Initials:** JG
Site Name: FM3_V24101	**Monitor Series:** 3600		**Monitor S/N:**	2869
Address / Location: 235-401 Vista Village Dr / Behind Cineopolis			**Manhole #:**	V24101
			Map Page #:	N/A
Access: Drive	**Type of System:**	Sanitary [x] Storm [ ] Combined [ ]	**Pipe Height:**	26.50"
			Pipe Width:	26.00"
			IP Address:	N/A

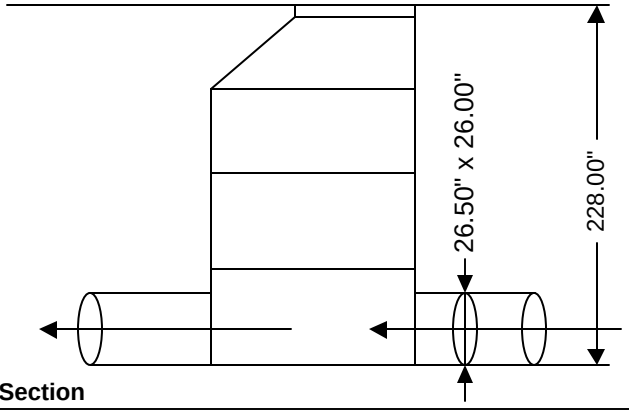
Investigation Information:

Date/Time of Investigation:	04/08/16 10:45		
Site Hydraulics: Good smooth straight flow			
Upstream Input: (L/S,P/S)	N/A		
Upstream Manhole:	DNI		
Downstream Manhole:	WWTP		
Depth of Flow (Wet Dof):	6.25	**+/-** 0.25	
Range (Air Dof):		**+/-**	
Peak Velocity:	4.51	**Fps**	
Silt:	0.00	**Inches**	

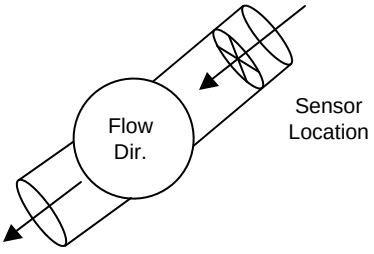
Manhole Information:

Manhole Depth:	228.00"				**Inches**
Manhole Material / Condition:	PVC / Good				
Pipe Material / Condition:	N/A / Good				
Mini System Character:	**Residential** [ ]	**Commercial** [x]	**Industrial** [ ]	**Other** [ ]	
Telephone Information:	N/A				
Access Pole #:	N/A				
Distance From Manhole:	N/A				**Feet**
Road Cut Length:	N/A				**Feet**
Trench Length:	N/A				**Feet**

Other Information:



Cross Section



Planar N

Installation Information		Backup	Yes	No	?	Distance
Installation Type: Standard installation		**Trunk**	[ ]	[x]		
Sensors/ Devices: Ultrasonic Sensor / Velocity Sensor		**Lift/ Pump Station**	[ ]	[x]		
Surcharge Height: No Evidence of Surcharge	**Feet**	**WWTP**	[ ]	[x]		
Rain Gauge Zone: N/A		**Other**	[ ]	[x]		

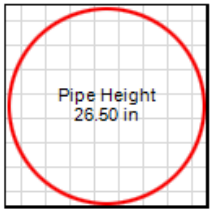
Additional Site Information / Comments:

SCATTERGRAPH REPORT

FM3_V24101

Flow Monitor

FM3_V24101

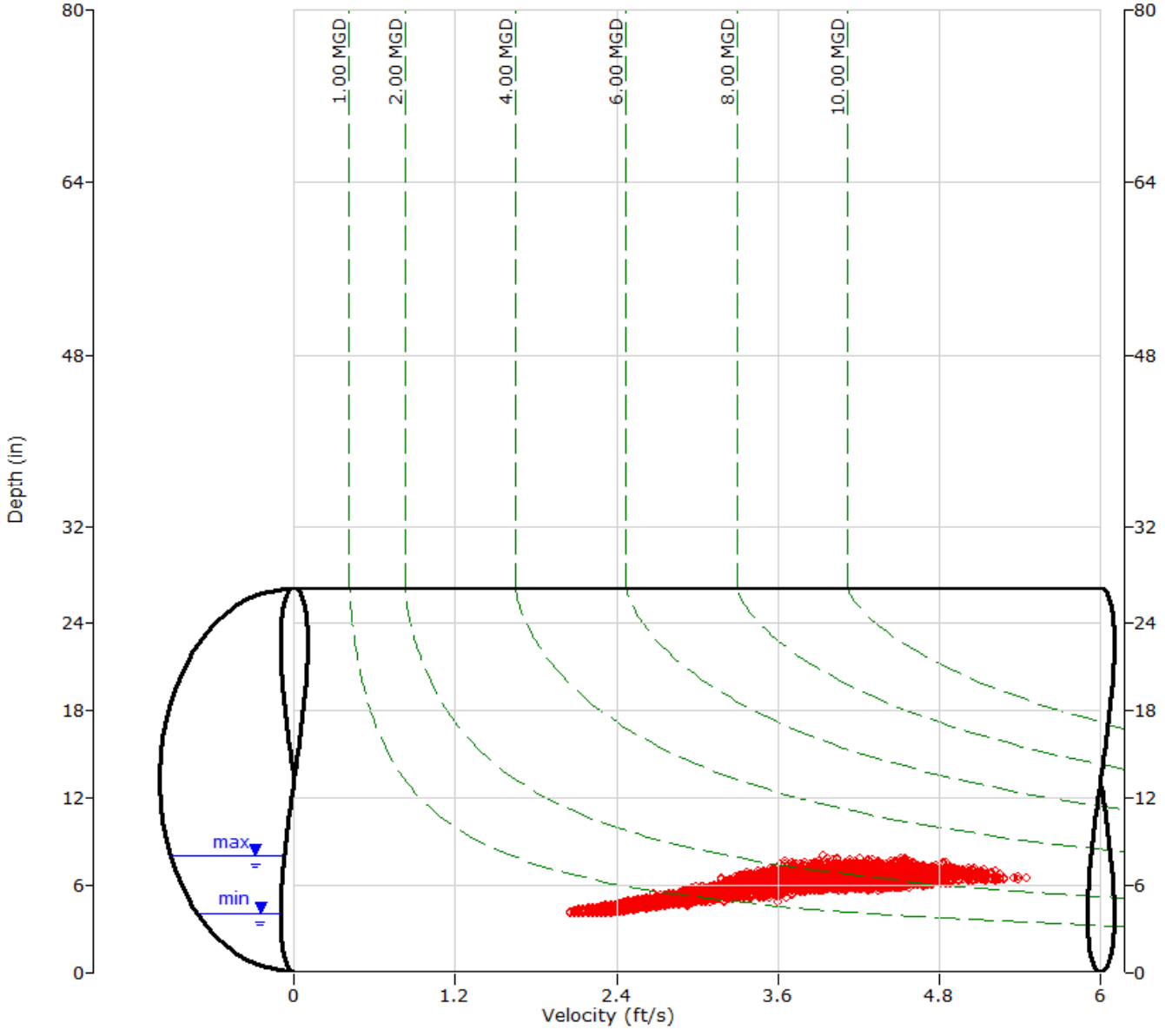


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth



ADS ENVIRONMENTAL SERVICES

HYDROGRAPH REPORT

FM3_V24101

Flow Monitor

FM3_V24101

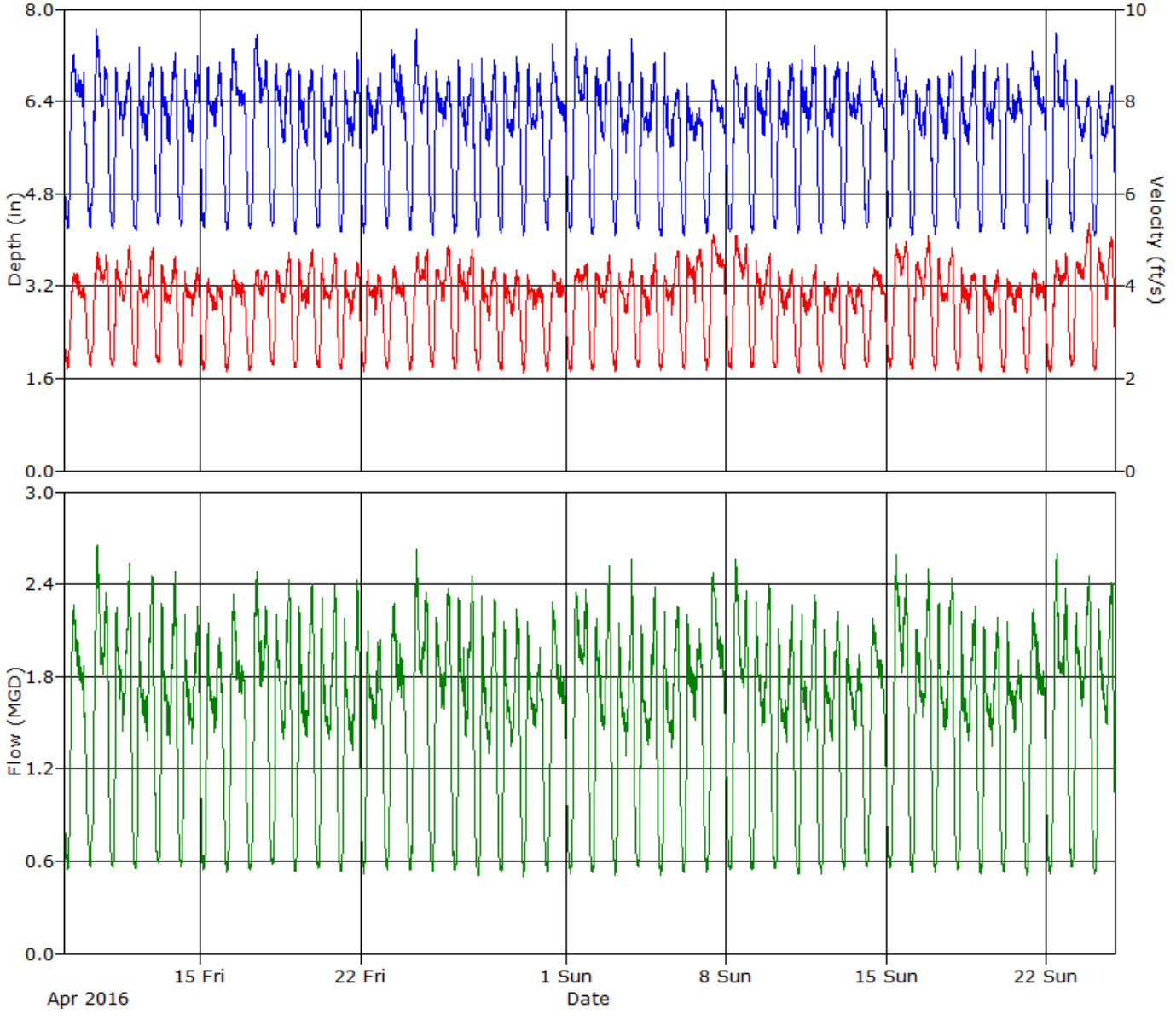
Pipe Height
26.50 in

Report Period

4/9/2016
To
5/24/2016

Legend

- Depth
- Velocity
- Quantity



ADS ENVIRONMENTAL SERVICES

Daily Tabular Report For The Period 4/9/2016 - 5/24/2016

FM3_V24101, Pipe Height: 26.5 in

Daily Tabular Report

Date	Depth (in)					Velocity (ft/s)					Quantity (MGD - Total ft3)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
4/9/2016	03:45	4.14	08:55	7.35	5.99	03:55	2.15	10:45	4.44	3.52	03:45	0.539	10:45	2.343	1.516	202678	
4/10/2016	03:10	4.13	10:20	7.98	6.06	03:05	2.22	11:00	4.85	3.73	03:10	0.536	11:00	2.728	1.652	220842	
4/11/2016	03:40	4.18	07:25	7.29	5.92	02:30	2.22	20:35	4.98	3.73	03:50	0.546	21:15	2.583	1.584	211714	
4/12/2016	03:50	4.15	07:20	7.47	5.87	02:25	2.15	20:50	4.95	3.64	03:50	0.539	20:35	2.558	1.523	203536	
4/13/2016	03:00	4.21	20:45	7.32	5.91	01:55	2.29	20:50	4.85	3.63	03:00	0.569	20:50	2.605	1.529	204345	
4/14/2016	02:50	4.23	21:05	7.37	5.90	03:45	2.15	18:35	4.49	3.53	03:45	0.539	21:15	2.366	1.477	197426	
4/15/2016	03:55	4.21	20:10	7.65	5.95	01:30	2.09	07:55	4.34	3.43	03:55	0.526	20:10	2.266	1.454	194430	
4/16/2016	03:20	4.15	09:10	7.54	6.02	03:20	2.12	11:05	4.48	3.46	03:20	0.516	10:35	2.390	1.509	201754	
4/17/2016	04:05	4.15	08:55	7.79	6.10	03:55	2.12	20:05	4.51	3.55	03:55	0.523	10:35	2.575	1.588	212267	
4/18/2016	03:15	4.19	07:50	7.20	5.89	02:45	2.22	20:05	4.83	3.66	03:40	0.556	21:10	2.507	1.537	205496	
4/19/2016	03:30	4.05	07:15	7.13	5.82	02:30	2.19	21:20	4.88	3.66	03:35	0.524	21:20	2.519	1.515	202581	
4/20/2016	03:55	4.18	07:10	7.44	5.81	03:55	2.19	20:45	4.81	3.62	03:55	0.537	21:05	2.447	1.491	199280	
4/21/2016	03:25	4.11	20:35	7.43	5.83	03:10	2.15	20:50	4.54	3.53	03:20	0.518	20:50	2.445	1.460	195182	
4/22/2016	03:25	4.09	06:50	7.07	5.83	03:20	2.12	07:00	4.41	3.52	03:20	0.509	07:05	2.161	1.448	193560	
4/23/2016	03:40	4.16	09:00	7.46	5.99	03:30	2.09	11:00	4.48	3.52	03:30	0.518	10:20	2.340	1.516	202691	
4/24/2016	04:35	4.12	10:20	7.85	6.01	03:35	2.12	21:00	4.81	3.72	03:35	0.515	10:20	2.735	1.625	217264	
4/25/2016	03:35	4.01	07:15	7.08	5.87	02:40	2.19	19:40	4.98	3.76	03:30	0.521	20:25	2.478	1.576	210738	
4/26/2016	02:50	4.08	07:10	7.40	5.84	02:10	2.15	20:40	4.85	3.71	02:45	0.519	21:20	2.507	1.547	206836	
4/27/2016	03:05	4.02	07:10	7.39	5.83	03:30	2.05	07:20	4.68	3.53	03:30	0.483	07:10	2.459	1.465	195818	
4/28/2016	04:00	4.11	06:50	7.44	5.82	04:00	2.12	19:25	4.46	3.49	04:00	0.509	20:25	2.381	1.439	192376	
4/29/2016	03:35	4.04	08:30	7.41	5.85	03:15	2.05	08:10	4.31	3.46	03:15	0.489	08:30	2.317	1.434	191700	
4/30/2016	04:20	4.11	09:05	7.66	5.93	03:45	2.12	11:15	4.44	3.49	03:45	0.513	10:30	2.326	1.487	198782	
5/1/2016	04:20	4.11	11:00	7.51	6.03	04:30	2.09	20:25	4.64	3.62	04:30	0.511	19:45	2.472	1.591	212650	
5/2/2016	03:25	4.07	20:30	7.54	5.89	03:25	2.12	20:35	4.78	3.60	03:25	0.501	20:30	2.586	1.516	202680	
5/3/2016	03:30	4.05	20:40	7.51	5.83	03:30	2.09	20:40	4.83	3.54	03:30	0.489	20:40	2.732	1.464	195663	
5/4/2016	03:40	4.17	20:35	7.31	5.84	03:25	2.12	20:55	4.81	3.54	04:15	0.522	20:35	2.459	1.467	196109	
5/5/2016	03:35	4.02	07:30	7.31	5.74	02:35	2.09	19:40	4.85	3.63	03:35	0.493	20:40	2.314	1.469	196402	
5/6/2016	03:30	4.05	06:55	7.00	5.63	02:50	2.19	20:50	4.88	3.89	02:50	0.522	07:10	2.325	1.524	203796	
5/7/2016	03:40	4.10	09:55	6.82	5.73	03:35	2.09	09:50	5.25	3.94	03:35	0.500	09:50	2.559	1.606	214754	
5/8/2016	04:15	4.11	09:20	7.16	5.78	03:15	2.15	09:45	5.22	3.91	04:20	0.521	09:25	2.657	1.617	216227	
5/9/2016	03:45	4.08	20:55	7.24	5.91	02:20	2.15	21:30	4.78	3.64	03:45	0.519	20:45	2.431	1.540	205920	
5/10/2016	02:55	4.15	22:15	7.38	5.88	02:55	2.12	20:45	4.51	3.50	02:55	0.516	21:35	2.356	1.460	195173	
5/11/2016	03:30	4.07	20:55	7.71	5.96	04:00	2.09	21:40	4.51	3.45	04:00	0.511	21:00	2.404	1.476	197343	
5/12/2016	03:45	4.08	19:30	7.38	5.92	03:40	2.05	21:10	4.44	3.46	03:40	0.493	21:10	2.277	1.462	195459	
5/13/2016	03:40	4.16	07:05	7.21	5.91	03:40	2.05	07:30	4.21	3.45	03:40	0.501	07:40	2.181	1.447	193479	
5/14/2016	04:00	4.17	09:15	7.43	5.89	03:50	2.15	11:45	4.51	3.57	04:00	0.536	10:15	2.247	1.501	200625	
5/15/2016	03:55	4.18	09:15	7.68	5.93	03:25	2.15	10:30	5.07	3.89	03:50	0.546	10:30	2.680	1.673	223609	
5/16/2016	03:25	4.04	19:40	6.87	5.76	04:00	2.12	20:55	5.15	3.87	04:00	0.508	21:20	2.529	1.580	211255	
5/17/2016	03:25	4.09	06:40	7.11	5.85	01:50	2.12	20:30	4.88	3.67	03:15	0.509	21:20	2.491	1.531	204710	
5/18/2016	04:05	4.18	21:25	7.58	5.83	02:55	2.15	07:10	4.51	3.54	03:35	0.531	21:25	2.393	1.465	195804	
5/19/2016	02:40	4.12	17:45	7.22	5.90	02:40	2.12	07:20	4.39	3.47	02:40	0.510	21:05	2.226	1.457	194773	
5/20/2016	03:45	4.13	07:20	7.15	5.86	03:20	2.09	07:50	4.31	3.45	03:40	0.507	07:20	2.225	1.432	191420	
5/21/2016	03:55	4.09	08:55	7.48	5.95	04:10	2.05	09:20	4.44	3.51	03:55	0.497	10:10	2.312	1.502	200764	
5/22/2016	03:50	4.10	09:55	7.80	6.01	03:15	2.09	20:50	4.81	3.66	04:10	0.518	11:25	2.648	1.609	215123	
5/23/2016	03:20	4.11	07:05	6.94	5.72	02:25	2.19	21:05	5.45	4.01	02:25	0.537	20:50	2.504	1.618	216262	
5/24/2016	03:05	4.06	20:55	6.76	5.67	02:45	2.09	20:55	5.18	3.91	02:45	0.503	20:55	2.530	1.564	208961	

Report Summary For The Period 4/9/2016 - 5/24/2016

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total ft3)
Total			9350257
Avg	5.88	3.62	1.521

Site Commentary

Site Information

FM4_V05104	
Pipe Dimensions	8 "
Silt Level	0.00"

Overview

Site FM4_V05104 functioned under normal conditions during the period Saturday, April 09, 2016 to Tuesday, May 24, 2016 . No surcharge conditions were experienced at this location. Review of the scattergraph shows that flow in this line remained free-flowing throughout the data period.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

This line is located upstream of location FM12. A review of balancing indicated no problems (See FM12 Site Commentary For More Details).

Observations

Average flow depth, velocity, and quantity data observed during Saturday, April 09, 2016 to Tuesday, May 24, 2016 , along with observed minimum and maximum data, are provided in the following table. The minimum and maximum rates recorded in the table are based on 5-minute data intervals. In regards to depth, this site flows at 35% full at its recorded peak of 2.82 inches and approximately 22% full during its recorded average depth of 1.74 inches.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	1.74	2.50	0.096
Minimum	0.98	0.57	0.010
Maximum	3.18	3.53	0.238
Time of Minimum	4/25/2016 3:40 AM	4/19/2016 2:00 AM	4/19/2016 2:00 AM
Time of Maximum	5/10/2016 9:10 PM	4/26/2016 9:30 PM	5/22/2016 11:05 AM

Data Quality

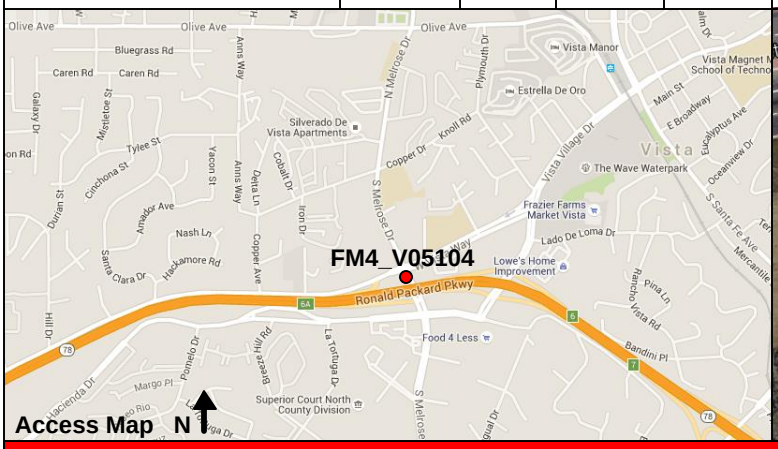
Data uptime observed during the Saturday, April 09, 2016 to the Tuesday, May 24, 2016 monitoring period is provided in the table below. Based upon the quality and consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

Percent Uptime	
Depth (in)	100
Velocity (ft/s)	100
Quantity (MGD)	100

ADS Site Report

Quality Form

Project Name: Vista	**City / State:** Vista, CA		**Date Installed:** 04/08/16	**FM Initials:** JG
Site Name: FM4_V05104	**Monitor Series:** 3600		**Monitor S/N:**	2825
Address / Location: S.W. Corner of W. Vista Way & Melrose Dr.			**Manhole #:**	V05104
			Map Page #:	N/A
Access: Drive	**Type of System:**	Sanitary [x] Storm [ ] Combined [ ]	**Pipe Height:**	8.00"
			Pipe Width:	8.00"
			IP Address:	N/A



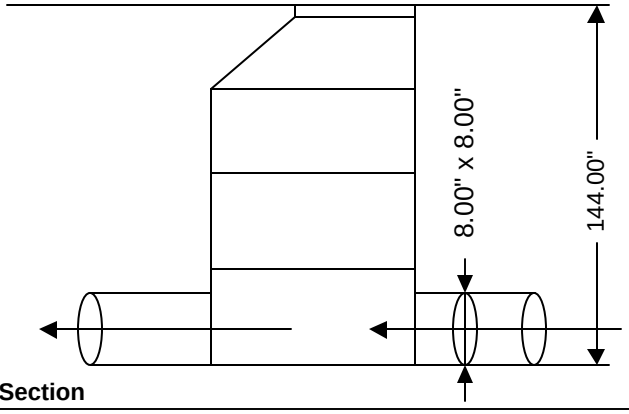
Investigation Information:

Date/Time of Investigation:	04/08/16 13:30
Site Hydraulics: Smooth Flow	
Upstream Input: (L/S,P/S)	N/A
Upstream Manhole:	DNI
Downstream Manhole:	DNI
Depth of Flow (Wet Dof):	2.5 +/- 0.25
Range (Air Dof):	+/-
Peak Velocity:	3.30 Fps
Silt:	0.00 Inches

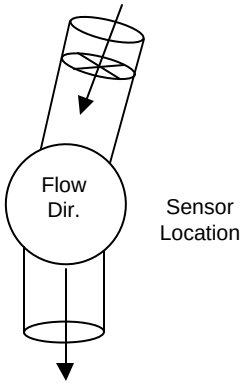
Manhole Information:

Manhole Depth:	144.00" Inches
Manhole Material / Condition:	Precast / Good
Pipe Material / Condition:	N/A
Mini System Character:	Residential [ ] Commercial [X] Industrial [ ] Other [ ]
Telephone Information:	N/A
Access Pole #:	N/A
Distance From Manhole:	N/A Feet
Road Cut Length:	N/A Feet
Trench Length:	N/A Feet

Other Information:



Cross Section



Planar N

Installation Information		Backup	Yes	No	?	Distance
Installation Type: Standard installation		**Trunk**	[x]	[ ]		
Sensors/ Devices: Ultrasonic Sensor / Velocity Sensor		**Lift/ Pump Station**	[ ]	[ ]		
Surcharge Height: No Evidence of Surcharge	**Feet**	**WWTP**	[ ]	[ ]		
Rain Gauge Zone: N/A		**Other**	[ ]	[ ]		

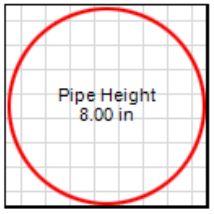
Additional Site Information / Comments:

SCATTERGRAPH REPORT

FM4_V05104

Flow Monitor

FM4_V05104

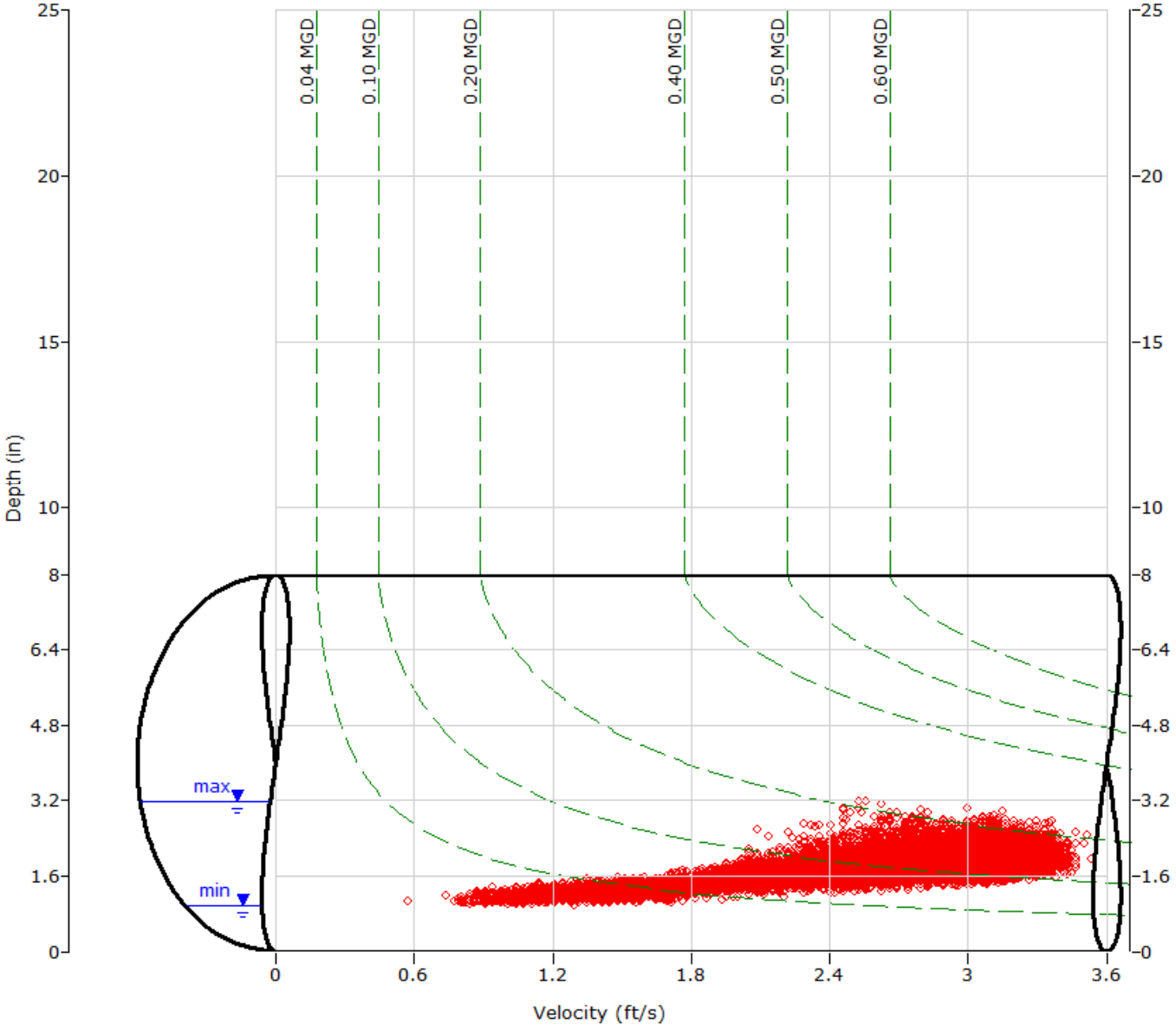


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth

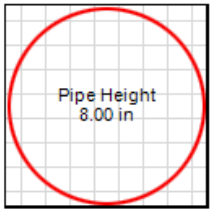


HYDROGRAPH REPORT

FM4_V05104

Flow Monitor

FM4_V05104

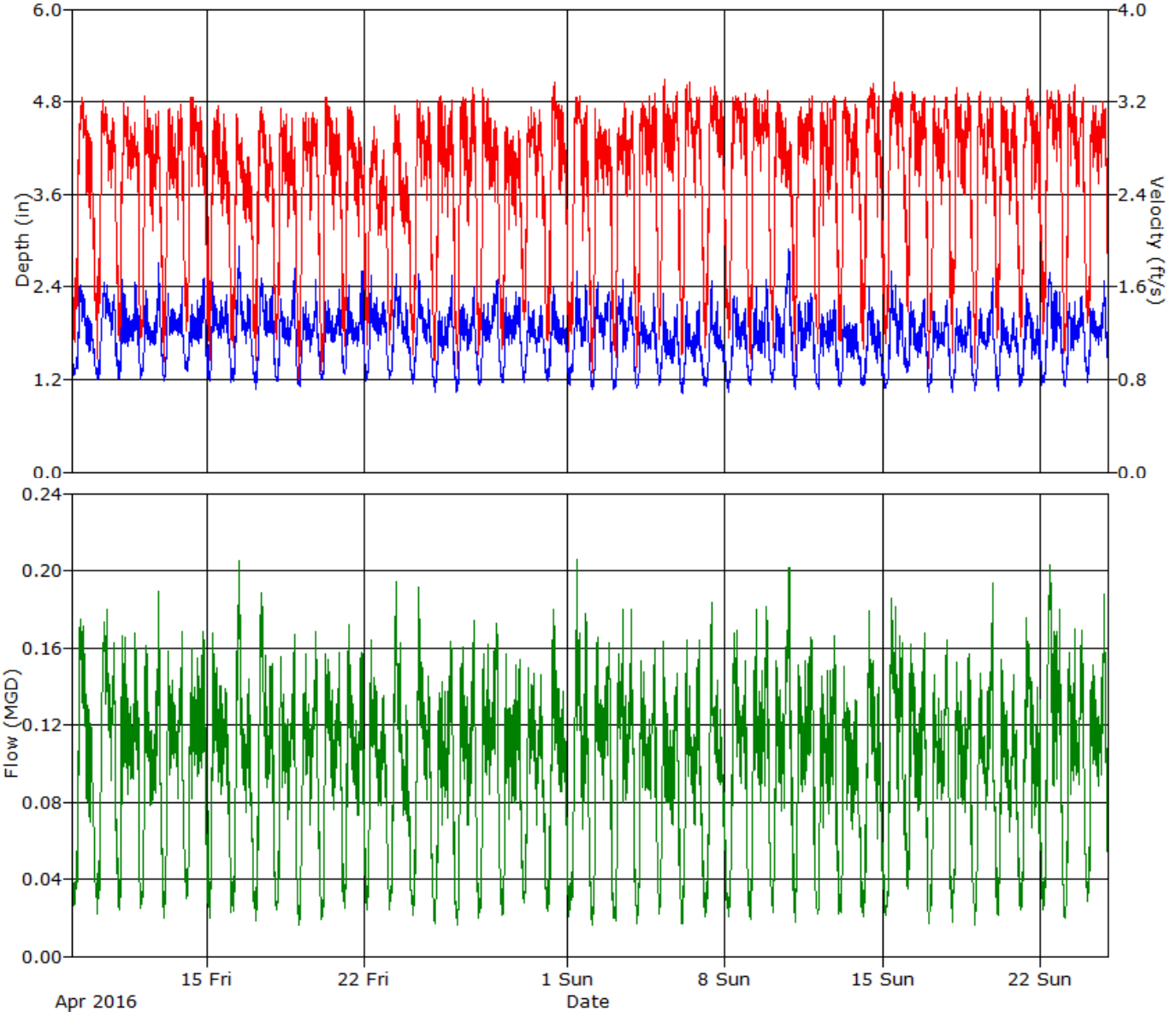


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth
- Velocity
- Quantity



Daily Tabular Report For The Period 4/9/2016 - 5/24/2016

FM4_V05104, Pipe Height: 8 in

Daily Tabular Report

Date	Depth (in)					Velocity (ft/s)					Quantity (MGD - Total ft3)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
4/9/2016	01:15	1.20	08:40	2.67	1.79	02:30	1.01	09:30	3.38	2.44	02:30	0.022	08:40	0.204	0.098	13158	
4/10/2016	03:45	1.17	13:45	2.67	1.86	03:40	0.88	09:35	3.30	2.46	03:40	0.018	13:45	0.204	0.105	14074	
4/11/2016	03:30	1.19	20:10	2.72	1.80	02:45	0.96	05:25	3.37	2.51	02:05	0.021	05:25	0.211	0.101	13463	
4/12/2016	01:45	1.11	21:45	2.95	1.79	02:25	0.98	13:35	3.37	2.43	01:45	0.022	20:25	0.206	0.097	12989	
4/13/2016	02:30	1.13	09:25	2.61	1.81	02:30	0.86	09:00	3.30	2.44	02:30	0.017	09:25	0.187	0.098	13131	
4/14/2016	04:00	1.22	21:45	2.81	1.82	02:35	1.18	16:55	3.38	2.56	04:00	0.028	20:45	0.200	0.103	13739	
4/15/2016	03:15	1.14	19:30	2.67	1.82	02:50	0.91	09:25	3.23	2.43	03:15	0.018	07:05	0.195	0.099	13186	
4/16/2016	02:15	1.10	10:30	3.12	1.87	02:25	0.98	06:40	3.20	2.28	04:35	0.021	11:10	0.236	0.099	13186	
4/17/2016	04:35	1.03	18:45	2.75	1.81	04:05	0.91	09:30	3.26	2.33	04:20	0.017	10:50	0.221	0.097	13023	
4/18/2016	02:30	1.13	21:25	2.69	1.78	04:15	1.01	17:30	3.35	2.37	04:15	0.022	07:35	0.205	0.094	12628	
4/19/2016	04:05	1.07	21:55	2.78	1.74	02:00	0.57	16:00	3.42	2.44	02:00	0.010	21:55	0.193	0.095	12689	
4/20/2016	02:40	1.13	07:00	2.77	1.78	01:45	0.84	10:25	3.37	2.46	01:45	0.018	07:00	0.221	0.098	13054	
4/21/2016	03:25	1.21	21:40	3.03	1.83	02:35	0.98	08:30	3.52	2.44	02:35	0.022	07:30	0.217	0.100	13319	
4/22/2016	02:10	1.13	07:45	2.95	1.84	03:30	0.91	10:30	3.18	2.31	03:30	0.019	07:45	0.203	0.096	12776	
4/23/2016	02:35	1.18	09:30	2.87	1.82	02:05	1.01	09:40	3.30	2.26	02:45	0.022	09:30	0.227	0.094	12540	
4/24/2016	04:05	1.12	09:35	2.77	1.76	04:15	0.84	11:05	3.30	2.41	04:15	0.017	09:35	0.213	0.096	12796	
4/25/2016	03:40	0.98	21:20	2.95	1.69	02:05	0.84	21:55	3.50	2.44	04:05	0.014	16:15	0.188	0.092	12256	
4/26/2016	02:25	1.02	19:20	2.77	1.70	02:45	0.81	21:30	3.53	2.50	02:45	0.014	11:25	0.211	0.095	12703	
4/27/2016	03:05	1.07	21:30	2.80	1.80	02:05	0.94	06:40	3.40	2.46	02:05	0.019	11:35	0.215	0.100	13403	
4/28/2016	02:10	1.11	16:50	2.62	1.78	02:55	1.01	07:00	3.20	2.35	02:55	0.021	21:45	0.198	0.094	12561	
4/29/2016	01:55	1.11	12:50	2.62	1.71	02:15	1.08	09:20	3.35	2.54	02:15	0.022	12:50	0.199	0.094	12594	
4/30/2016	03:25	1.12	09:50	2.71	1.71	04:35	0.98	19:25	3.43	2.52	04:35	0.020	13:00	0.206	0.095	12660	
5/1/2016	03:00	1.06	10:15	2.83	1.77	03:05	0.94	09:00	3.45	2.47	02:10	0.018	10:15	0.223	0.099	13230	
5/2/2016	02:25	1.02	08:55	2.64	1.81	03:00	0.81	17:55	3.40	2.39	03:05	0.015	06:45	0.201	0.099	13226	
5/3/2016	01:05	1.03	11:10	2.76	1.76	03:35	0.86	20:30	3.38	2.44	03:35	0.015	11:10	0.202	0.097	12978	
5/4/2016	02:25	1.06	06:50	2.56	1.66	02:25	0.77	21:35	3.37	2.56	02:25	0.014	08:05	0.187	0.093	12406	
5/5/2016	03:00	1.08	07:05	2.55	1.59	02:40	1.08	07:40	3.47	2.59	02:40	0.020	07:05	0.196	0.087	11593	
5/6/2016	03:20	1.00	20:35	2.67	1.56	02:20	0.81	19:55	3.47	2.63	02:20	0.014	20:35	0.206	0.088	11698	
5/7/2016	04:10	1.05	10:05	2.65	1.62	03:30	1.01	09:15	3.43	2.58	03:30	0.018	10:05	0.205	0.091	12178	
5/8/2016	03:40	1.03	10:45	2.57	1.66	03:35	0.86	12:00	3.43	2.57	03:35	0.015	12:30	0.197	0.094	12598	
5/9/2016	04:10	1.08	20:45	2.63	1.71	03:40	0.81	06:55	3.47	2.61	03:40	0.015	06:55	0.211	0.100	13304	
5/10/2016	02:45	1.08	21:10	3.18	1.84	03:15	0.99	14:55	3.37	2.54	04:00	0.021	20:25	0.216	0.106	14122	
5/11/2016	02:55	1.03	16:45	2.73	1.74	03:05	0.89	20:50	3.42	2.57	03:05	0.016	16:45	0.210	0.100	13316	
5/12/2016	04:00	1.04	08:40	2.63	1.67	03:20	1.04	17:10	3.45	2.51	03:20	0.019	08:40	0.200	0.092	12316	
5/13/2016	02:00	1.07	07:05	2.52	1.59	01:50	0.91	08:20	3.43	2.53	01:50	0.018	07:05	0.193	0.086	11464	
5/14/2016	03:25	1.09	10:00	2.53	1.61	04:25	0.99	12:00	3.47	2.57	04:25	0.020	09:55	0.189	0.090	12023	
5/15/2016	05:10	1.02	13:45	2.85	1.71	03:05	0.89	16:00	3.47	2.60	06:00	0.016	13:45	0.221	0.101	13469	
5/16/2016	00:15	1.22	19:50	2.59	1.72	02:20	1.16	05:25	3.43	2.70	02:20	0.026	06:35	0.205	0.100	13384	
5/17/2016	01:55	1.01	19:50	2.44	1.66	01:30	0.79	20:55	3.40	2.51	01:30	0.014	19:50	0.197	0.091	12172	
5/18/2016	02:45	1.01	20:10	2.64	1.66	03:10	0.83	07:50	3.43	2.58	03:10	0.014	20:10	0.210	0.093	12475	
5/19/2016	02:50	1.02	21:15	2.71	1.68	02:00	0.79	07:25	3.47	2.56	02:50	0.014	21:15	0.211	0.095	12660	
5/20/2016	04:10	1.02	06:30	2.44	1.63	04:05	0.99	07:15	3.42	2.56	04:05	0.017	06:30	0.188	0.089	11897	
5/21/2016	01:35	1.08	10:30	2.54	1.67	02:50	1.01	07:10	3.43	2.58	03:50	0.020	10:45	0.189	0.094	12626	
5/22/2016	03:05	1.11	11:05	2.96	1.81	03:50	0.98	07:40	3.40	2.65	03:50	0.019	11:05	0.238	0.110	14715	
5/23/2016	02:35	1.05	07:25	2.58	1.74	03:35	0.74	12:35	3.43	2.55	03:35	0.015	07:25	0.210	0.099	13249	
5/24/2016	03:05	1.15	20:55	2.77	1.80	04:25	1.04	19:45	3.40	2.58	03:00	0.024	20:55	0.233	0.103	13791	

Report Summary For The Period 4/9/2016 - 5/24/2016

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total ft3)
Total			592820
Avg	1.74	2.50	0.096

Site Commentary

Site Information

FM5_V32155	
Pipe Dimensions	24.25 "
Silt Level	0.00"

Overview

Site FM5_V32155 functioned under normal conditions during the period Saturday, April 09, 2016 to Tuesday, May 24, 2016 . No surcharge conditions were experienced at this location. Review of the scattergraph shows that flow in this line remained free-flowing throughout the data period.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

Observations

Average flow depth, velocity, and quantity data observed during Saturday, April 09, 2016 to Tuesday, May 24, 2016 , along with observed minimum and maximum data, are provided in the following table. The minimum and maximum rates recorded in the table are based on 5-minute data intervals. In regards to depth, this site flows at 23% full at its recorded peak of 5.56 inches and approximately 17% full during its recorded average depth of 4.18 inches.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	4.18	2.11	0.526
Minimum	2.26	1.18	0.121
Maximum	5.93	2.73	0.991
Time of Minimum	4/26/2016 3:25 AM	4/13/2016 2:35 AM	4/13/2016 4:05 AM
Time of Maximum	4/23/2016 9:45 AM	5/8/2016 10:50 AM	4/17/2016 11:10 AM

Data Quality

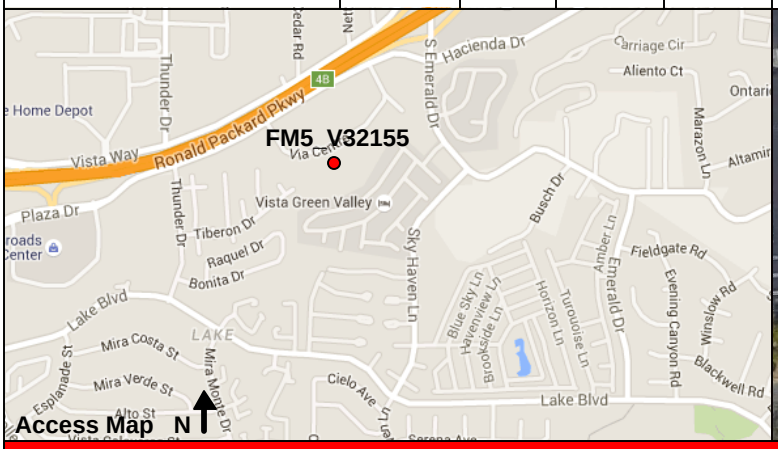
Data uptime observed during the Saturday, April 09, 2016 to the Tuesday, May 24, 2016 monitoring period is provided in the table below. Based upon the quality and consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

Percent Uptime	
Depth (in)	100
Velocity (ft/s)	100
Quantity (MGD)	100

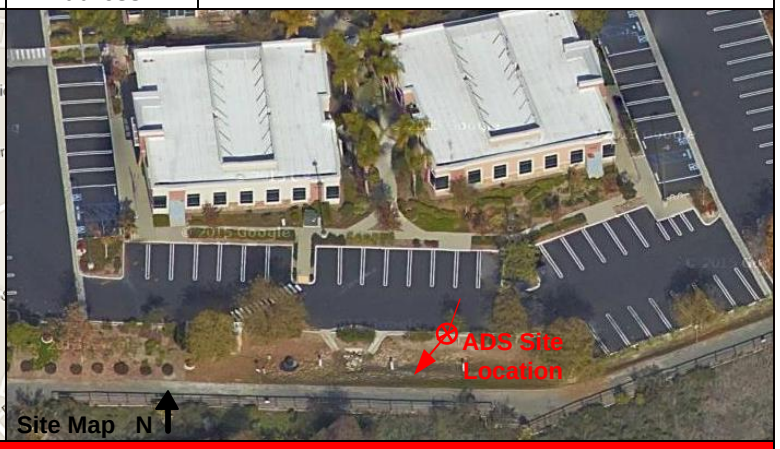
ADS Site Report

Quality Form

Project Name: Vista	**City / State:** Vista, CA	**Date Installed:** 04/08/16	**FM Initials:** JG
Site Name: FM5_V32155	**Monitor Series:** 3600	**Monitor S/N:**	2851
Address / Location: Behind 1948 on Via Centre Dr.		**Manhole #:**	V32155
		Map Page #:	N/A
Access: Drive	**Type of System:** Sanitary [x] Storm [ ] Combined [ ]	**Pipe Height:**	24.25"
		Pipe Width:	24.00"
		IP Address:	N/A



Access Map N



Site Map N

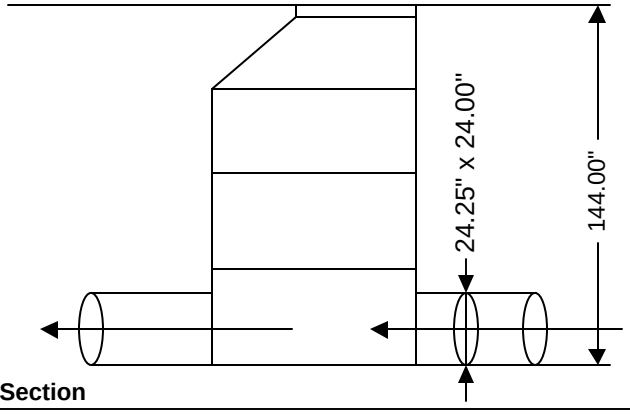
Investigation Information:

Date/Time of Investigation:	04/08/16 13:00
Site Hydraulics: Smooth straight flow through MH	
Upstream Input: (L/S,P/S)	N/A
Upstream Manhole:	DNI
Downstream Manhole:	DNI
Depth of Flow (Wet Dof):	4.63 +/- 0.25
Range (Air Dof):	+/-
Peak Velocity:	2.60 Fps
Silt:	0.00 Inches

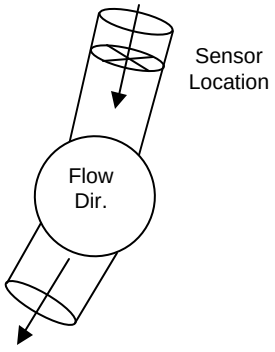
Manhole Information:

Manhole Depth:	144.00"				**Inches**
Manhole Material / Condition:	Precast / Good				
Pipe Material / Condition:	VCP / Good				
Mini System Character:	**Residential** [ ]	**Commercial** [X]	**Industrial** [ ]	**Other** [ ]	
Telephone Information:	N/A				
Access Pole #:	N/A				
Distance From Manhole:	N/A				**Feet**
Road Cut Length:	N/A				**Feet**
Trench Length:	N/A				**Feet**

Other Information:



Cross Section



Planar N

Installation Information		Backup	Yes	No	?	Distance
Installation Type: Standard installation		**Trunk**	[X]	[ ]		
Sensors/ Devices: Ultrasonic Sensor / Velocity Sensor		**Lift/ Pump Station**	[ ]	[ ]		
Surcharge Height: No Evidence of Surcharge	**Feet**	**WWTP**	[ ]	[ ]		
Rain Gauge Zone: N/A		**Other**	[ ]	[ ]		

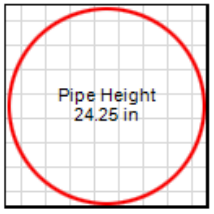
Additional Site Information / Comments:

SCATTERGRAPH REPORT

FM5_V32155

Flow Monitor

FM5_V32155

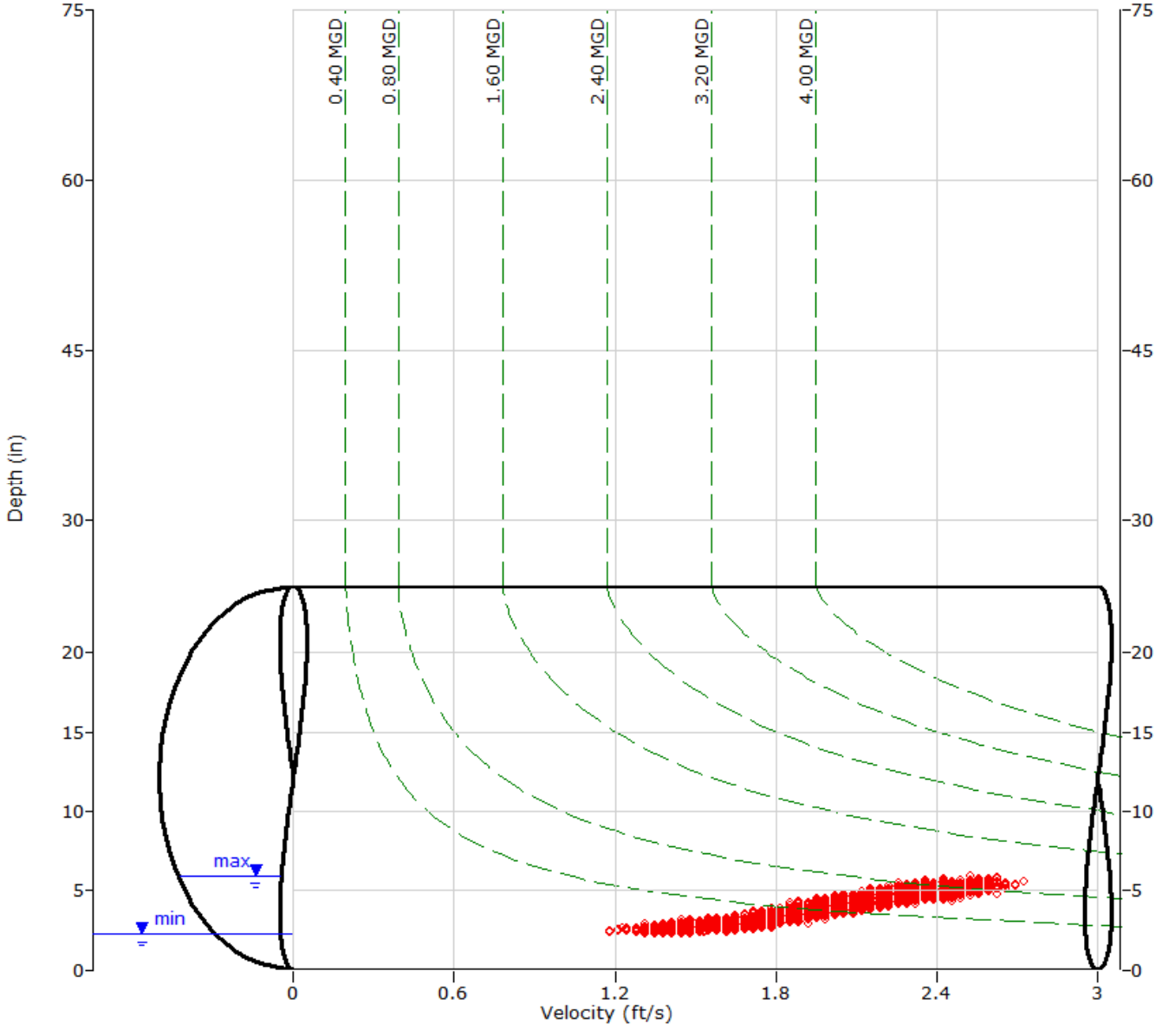


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth

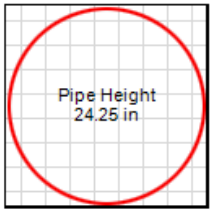


HYDROGRAPH REPORT

FM5_V32155

Flow Monitor

FM5_V32155

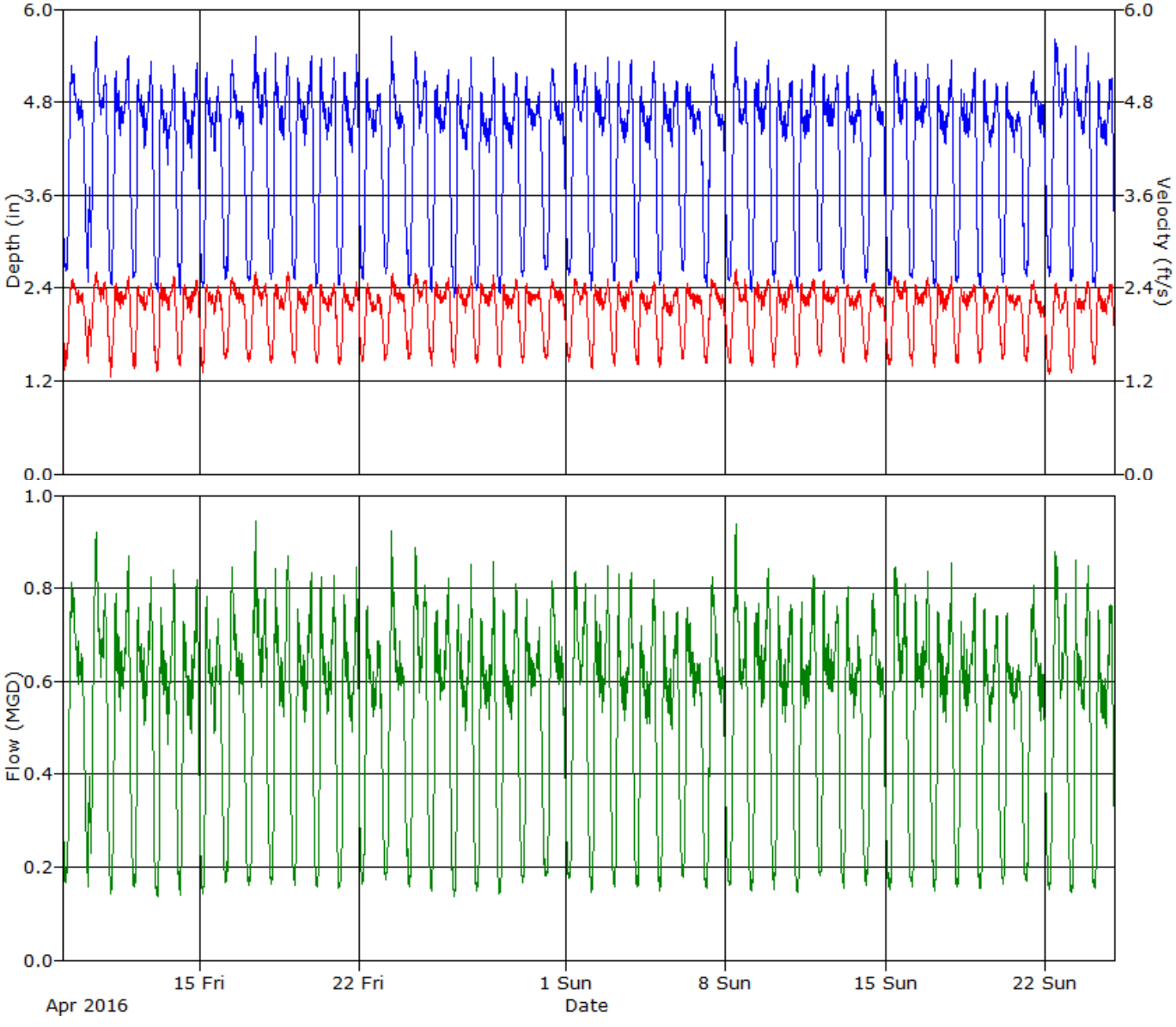


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth
- Velocity
- Quantity



Daily Tabular Report For The Period 4/9/2016 - 5/24/2016

FM5_V32155, Pipe Height: 24.25 in

Daily Tabular Report

Date	Depth (in)					Velocity (ft/s)					Quantity (MGD - Total ft3)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
4/9/2016	04:55	2.60	10:25	5.30	4.21	04:05	1.23	08:40	2.56	2.11	04:05	0.146	11:15	0.828	0.531	70976	
4/10/2016	03:25	2.46	11:40	5.77	4.33	02:10	1.35	12:05	2.66	2.17	03:05	0.155	11:40	0.956	0.568	75886	
4/11/2016	03:35	2.41	20:25	5.58	4.26	02:40	1.21	20:25	2.59	2.12	02:40	0.134	20:25	0.924	0.545	72813	
4/12/2016	02:40	2.51	20:50	5.41	4.24	02:25	1.28	07:15	2.52	2.10	02:25	0.151	20:50	0.861	0.534	71412	
4/13/2016	03:45	2.33	21:00	5.30	4.12	02:35	1.18	20:50	2.66	2.11	04:05	0.121	20:50	0.879	0.517	69152	
4/14/2016	03:25	2.26	20:55	5.45	4.14	02:20	1.31	21:00	2.63	2.10	03:25	0.133	21:00	0.869	0.516	69029	
4/15/2016	03:40	2.39	07:30	5.22	4.12	04:05	1.25	07:30	2.49	2.09	04:05	0.132	07:30	0.808	0.511	68275	
4/16/2016	03:10	2.49	09:55	5.48	4.17	02:15	1.35	09:30	2.59	2.13	03:05	0.157	09:55	0.866	0.529	70692	
4/17/2016	04:25	2.45	11:10	5.81	4.22	03:15	1.31	10:00	2.63	2.13	04:25	0.150	11:10	0.991	0.546	72988	
4/18/2016	03:15	2.51	19:00	5.57	4.27	03:45	1.38	20:10	2.69	2.12	03:45	0.158	19:00	0.921	0.546	72981	
4/19/2016	04:00	2.49	21:05	5.46	4.24	01:25	1.35	19:10	2.52	2.09	04:00	0.157	21:10	0.854	0.530	70877	
4/20/2016	02:40	2.41	21:00	5.39	4.22	01:55	1.41	07:55	2.52	2.09	02:45	0.154	07:55	0.856	0.530	70802	
4/21/2016	03:45	2.41	21:05	5.44	4.20	02:20	1.35	07:40	2.52	2.09	03:45	0.143	21:05	0.858	0.525	70141	
4/22/2016	03:10	2.49	07:20	5.18	4.18	02:50	1.38	08:55	2.52	2.07	02:50	0.154	07:55	0.792	0.513	68607	
4/23/2016	03:15	2.52	09:45	5.93	4.19	02:35	1.38	10:45	2.69	2.12	03:50	0.166	09:45	0.982	0.530	70797	
4/24/2016	04:10	2.39	10:45	5.50	4.19	03:50	1.41	09:50	2.63	2.16	03:50	0.150	10:45	0.907	0.545	72815	
4/25/2016	03:20	2.31	21:00	5.47	4.16	04:10	1.35	21:40	2.59	2.14	03:20	0.140	21:00	0.888	0.531	70939	
4/26/2016	03:25	2.26	20:55	5.51	4.09	02:50	1.35	20:35	2.63	2.12	02:55	0.130	20:55	0.896	0.516	68970	
4/27/2016	02:55	2.35	20:40	5.49	4.08	02:45	1.38	20:45	2.59	2.13	02:45	0.144	20:45	0.892	0.515	68781	
4/28/2016	02:40	2.29	20:25	5.24	4.11	03:05	1.35	20:35	2.56	2.11	02:40	0.136	20:25	0.823	0.513	68599	
4/29/2016	03:35	2.53	07:15	5.24	4.18	03:55	1.31	07:05	2.49	2.11	03:55	0.156	07:15	0.801	0.522	69737	
4/30/2016	04:20	2.60	10:50	5.27	4.17	03:55	1.45	10:30	2.56	2.11	04:20	0.171	10:30	0.840	0.524	70085	
5/1/2016	03:20	2.56	11:25	5.38	4.23	04:00	1.38	10:00	2.56	2.13	04:00	0.162	10:50	0.850	0.544	72660	
5/2/2016	03:15	2.34	20:50	5.44	4.23	04:00	1.28	20:35	2.56	2.11	03:15	0.133	20:50	0.880	0.535	71483	
5/3/2016	03:20	2.47	21:20	5.44	4.20	04:20	1.31	21:20	2.59	2.10	03:20	0.152	21:20	0.891	0.529	70654	
5/4/2016	03:45	2.46	20:40	5.39	4.17	03:00	1.38	21:00	2.56	2.08	04:00	0.153	20:40	0.857	0.516	68975	
5/5/2016	03:40	2.36	21:05	5.15	4.18	03:10	1.31	06:55	2.49	2.06	03:40	0.142	21:05	0.781	0.511	68266	
5/6/2016	03:40	2.60	08:45	5.21	4.18	03:40	1.41	08:45	2.49	2.11	03:40	0.168	08:45	0.807	0.520	69543	
5/7/2016	04:25	2.37	10:35	5.31	4.12	04:30	1.31	09:45	2.59	2.10	04:30	0.144	10:00	0.846	0.515	68822	
5/8/2016	04:45	2.47	11:05	5.66	4.18	04:45	1.35	10:50	2.73	2.12	04:45	0.148	10:50	0.967	0.536	71625	
5/9/2016	03:15	2.30	21:20	5.41	4.23	03:45	1.35	09:40	2.59	2.13	03:15	0.143	21:15	0.858	0.542	72514	
5/10/2016	03:00	2.47	20:15	5.21	4.18	03:10	1.31	08:00	2.59	2.12	03:10	0.146	08:00	0.815	0.525	70204	
5/11/2016	03:25	2.27	21:30	5.37	4.18	02:40	1.31	07:25	2.56	2.13	03:25	0.140	20:55	0.865	0.534	71326	
5/12/2016	04:00	2.60	07:35	5.29	4.24	03:15	1.48	07:15	2.52	2.13	03:15	0.177	07:35	0.834	0.539	72058	
5/13/2016	04:10	2.44	08:40	5.36	4.15	04:00	1.28	08:45	2.56	2.09	04:00	0.139	08:45	0.842	0.513	68638	
5/14/2016	03:55	2.47	10:50	5.26	4.12	03:35	1.38	10:30	2.59	2.09	04:00	0.156	10:30	0.842	0.511	68276	
5/15/2016	04:45	2.40	12:00	5.42	4.17	03:15	1.31	10:10	2.63	2.12	04:45	0.145	10:10	0.874	0.535	71498	
5/16/2016	02:45	2.49	20:50	5.45	4.22	03:55	1.38	19:30	2.56	2.12	04:00	0.156	20:50	0.882	0.537	71750	
5/17/2016	03:25	2.29	21:05	5.45	4.12	03:30	1.31	21:00	2.59	2.11	03:30	0.129	21:05	0.870	0.515	68870	
5/18/2016	01:45	2.43	21:35	5.31	4.16	02:40	1.35	21:15	2.49	2.11	02:40	0.149	21:35	0.828	0.520	69546	
5/19/2016	03:15	2.39	07:45	5.26	4.11	03:30	1.31	07:10	2.52	2.10	03:30	0.139	07:45	0.806	0.510	68117	
5/20/2016	03:10	2.46	07:10	5.12	4.07	02:45	1.38	07:45	2.49	2.09	02:45	0.158	07:10	0.775	0.496	66351	
5/21/2016	03:55	2.50	11:30	5.31	4.17	03:40	1.38	11:40	2.52	2.05	03:55	0.158	11:30	0.827	0.508	67900	
5/22/2016	04:05	2.54	10:25	5.72	4.36	04:10	1.25	11:35	2.52	2.00	04:40	0.143	10:30	0.912	0.535	71540	
5/23/2016	04:05	2.36	08:00	5.75	4.27	02:45	1.25	08:00	2.59	2.05	04:05	0.138	08:00	0.964	0.530	70859	
5/24/2016	03:45	2.37	21:15	5.15	4.13	03:20	1.31	18:55	2.49	2.08	03:20	0.138	20:45	0.790	0.510	68192	

Report Summary For The Period 4/9/2016 - 5/24/2016

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total ft3)
Total			3235022
Avg	4.18	2.11	0.526

Site Commentary

Site Information

FM6_V34108	
Pipe Dimensions	11.88 "
Silt Level	0.00"

Overview

Site FM6_V34108 functioned under normal conditions during the period Saturday, April 09, 2016 to Tuesday, May 24, 2016 . No surcharge conditions were experienced at this location. Review of the scattergraph shows that flow in this line remained free-flowing throughout the data period.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

Observations

Average flow depth, velocity, and quantity data observed during Saturday, April 09, 2016 to Tuesday, May 24, 2016 , along with observed minimum and maximum data, are provided in the following table. The minimum and maximum rates recorded in the table are based on 5-minute data intervals. In regards to depth, this site flows at 29% full at its recorded peak of 3.43 inches and approximately 20% full during its recorded average depth of 2.36 inches.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	2.36	1.20	0.088
Minimum	0.99	0.44	0.009
Maximum	4.39	2.26	0.360
Time of Minimum	4/28/2016 2:10 PM	5/12/2016 3:45 AM	4/28/2016 2:10 PM
Time of Maximum	5/12/2016 7:40 AM	4/28/2016 2:05 PM	4/28/2016 2:05 PM

Data Quality

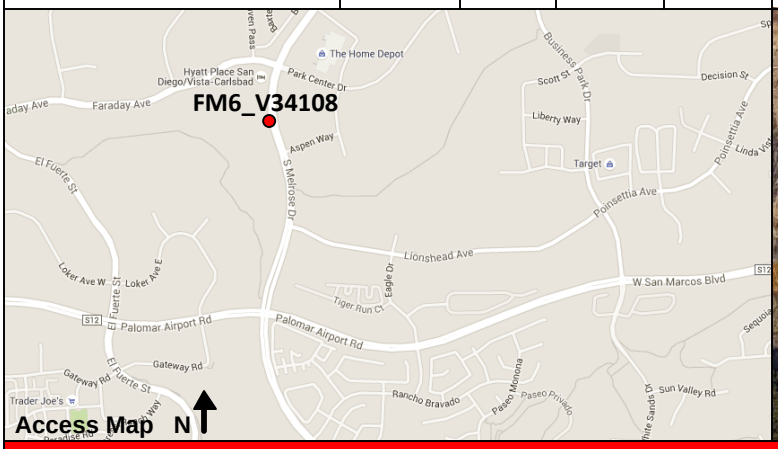
Data uptime observed during the Saturday, April 09, 2016 to the Tuesday, May 24, 2016 monitoring period is provided in the table below. Based upon the quality and consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

Percent Uptime	
Depth (in)	100
Velocity (ft/s)	100
Quantity (MGD)	100

ADS Site Report

Quality Form

Project Name: Vista	**City / State:** Vista, CA	**Date Installed:** 04/08/16	**FM Initials:** JG
Site Name: FM6_V34108	**Monitor Series:** 3600	**Monitor S/N:**	3161
Address / Location: 2685 Melrose Dr.		**Manhole #:**	V34108
		Map Page #:	N/A
Access: Drive / access needed to open gate	**Type of System:** Sanitary [x] Storm [ ] Combined [ ]	**Pipe Height:**	11.88"
		Pipe Width:	11.50"
		IP Address:	N/A



Access Map

Site Map

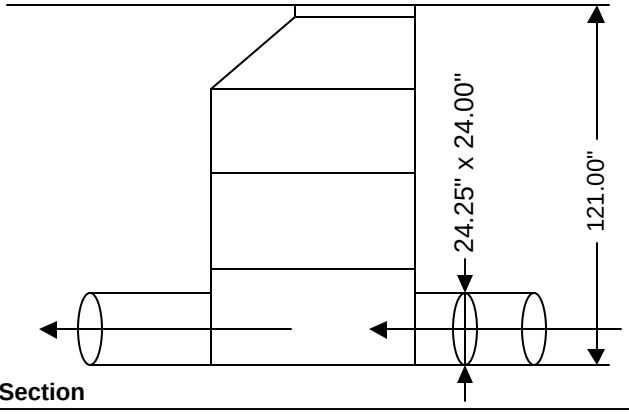
Investigation Information:

Date/Time of Investigation:	04/08/16 19:00		
Site Hydraulics: Good straight smooth low flow			
Upstream Input: (L/S,P/S)	N/A		
Upstream Manhole:	DNI		
Downstream Manhole:	DNI		
Depth of Flow (Wet Dof):	2.25	**+/-** 0.25	
Range (Air Dof):		**+/-**	
Peak Velocity:	1.50	**Fps**	
Silt:	0.00	**Inches**	

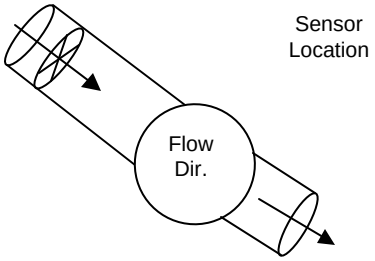
Manhole Information:

Manhole Depth:	72.00"				**Inches**
Manhole Material / Condition:	Concrete / Good				
Pipe Material / Condition:	PVC / NA				
Mini System Character:	**Residential** [ ]	**Commercial** [X]	**Industrial** [ ]	**Other** [ ]	
Telephone Information:	N/A				
Access Pole #:	N/A				
Distance From Manhole:	N/A				**Feet**
Road Cut Length:	N/A				**Feet**
Trench Length:	N/A				**Feet**

Other Information:



Cross Section



Planar

Installation Information		Backup	Yes	No	?	Distance
Installation Type: Standard installation		**Trunk**	[X]	[ ]		
Sensors/ Devices: Ultrasonic Sensor / Velocity Sensor		**Lift/ Pump Station**	[ ]	[ ]		
Surcharge Height: No Evidence of Surcharge	**Feet**	**WWTP**	[ ]	[ ]		
Rain Gauge Zone: N/A		**Other**	[ ]	[ ]		

Additional Site Information / Comments:

SCATTERGRAPH REPORT

FM6_V34108

Flow Monitor

FM6_V34108

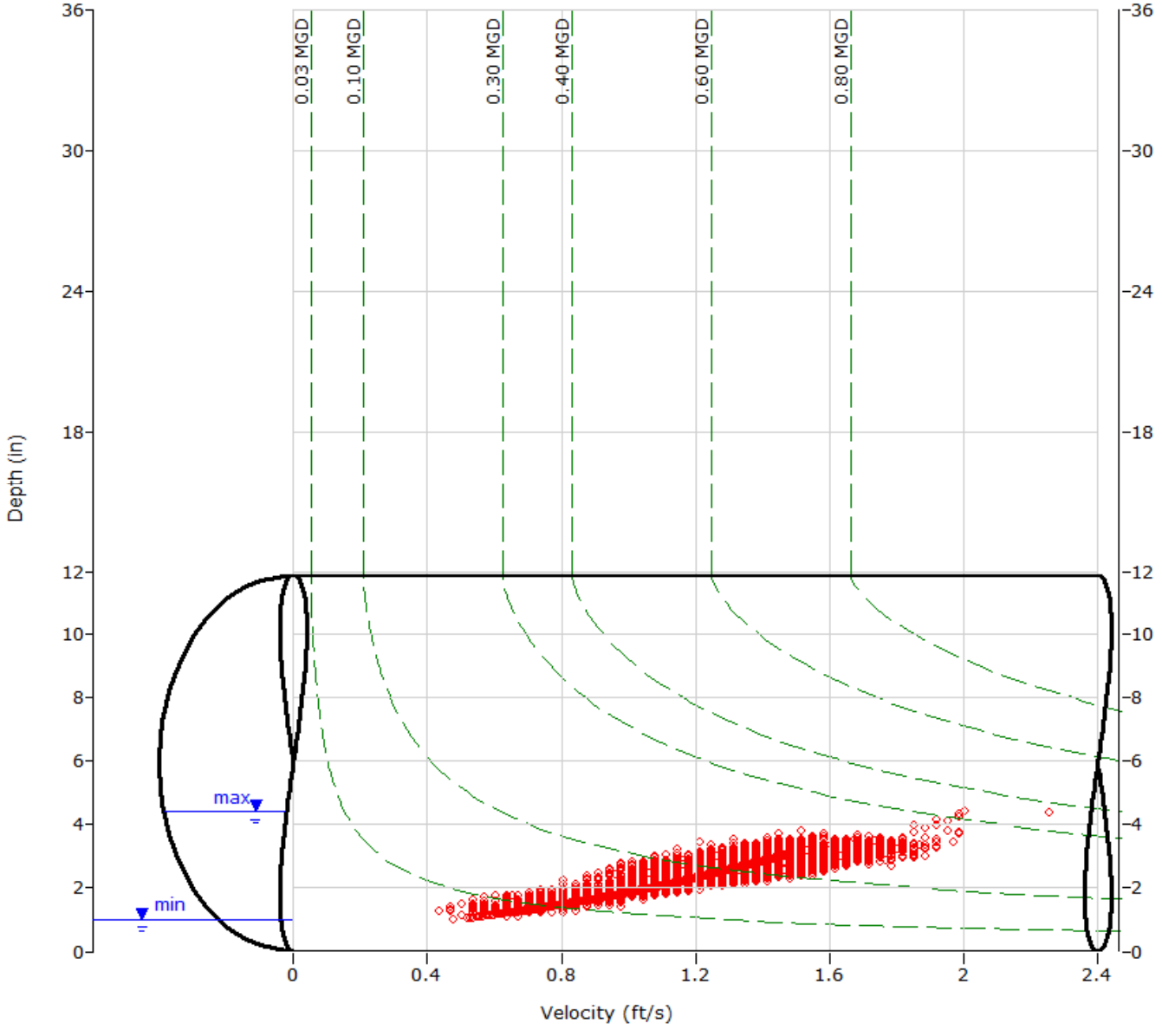
Pipe Height
11.88 in

Report Period

4/9/2016
To
5/24/2016

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth



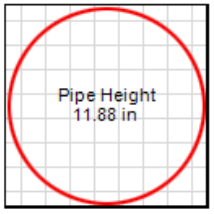
ADS ENVIRONMENTAL SERVICES

HYDROGRAPH REPORT

FM6_V34108

Flow Monitor

FM6_V34108

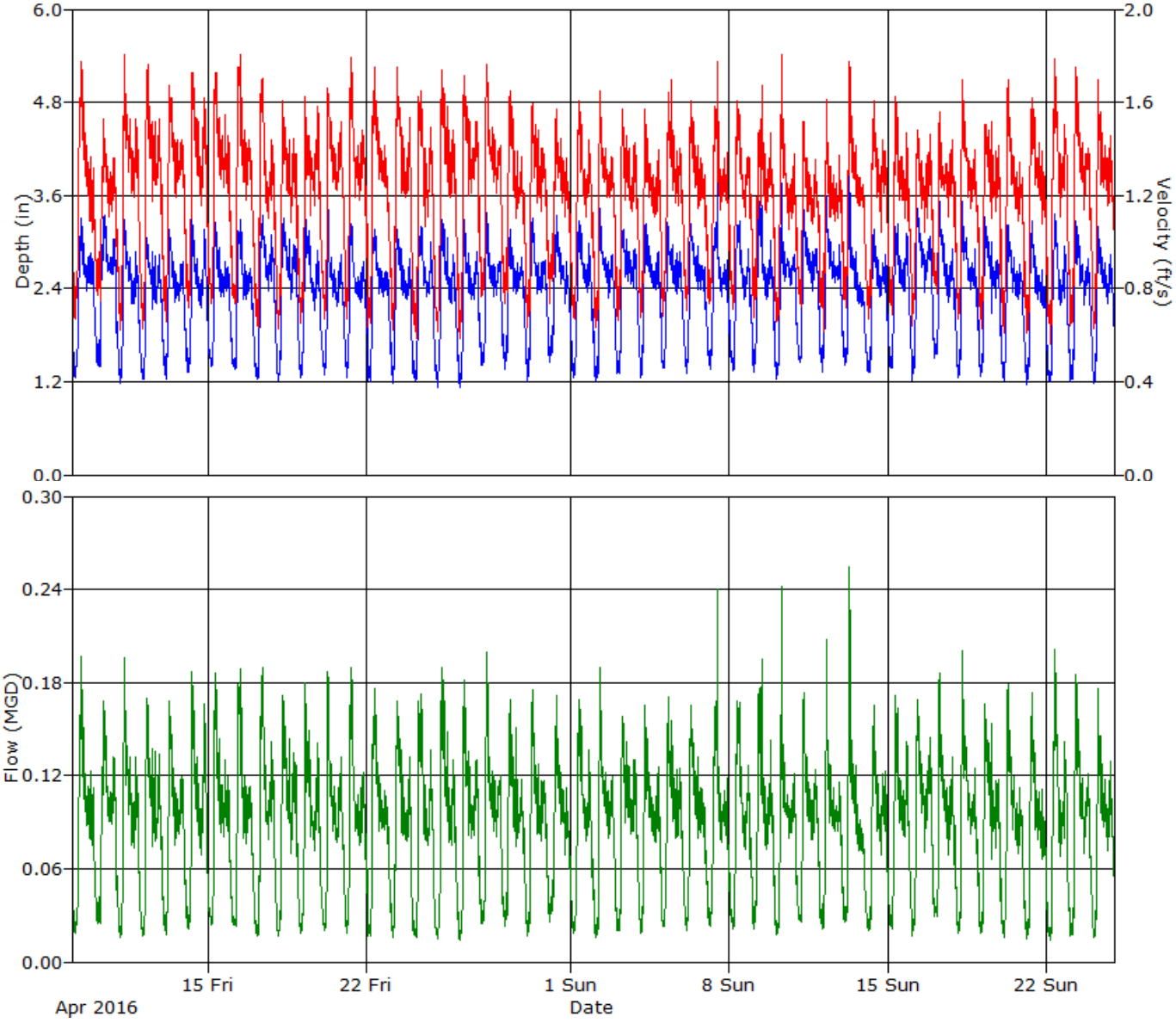


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth
- Velocity
- Quantity



Daily Tabular Report For The Period 4/9/2016 - 5/24/2016

FM6_V34108, Pipe Height: 11.88 in

Daily Tabular Report

Date	Depth (in)					Velocity (ft/s)					Quantity (MGD - Total ft3)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
4/9/2016	04:10	1.21	09:45	3.73	2.37	02:45	0.64	09:45	1.99	1.21	04:10	0.017	09:45	0.257	0.091	12130	
4/10/2016	02:40	1.39	11:25	3.47	2.45	01:15	0.66	09:30	1.68	1.15	02:40	0.024	09:30	0.191	0.088	11801	
4/11/2016	03:35	1.06	08:15	3.40	2.30	03:35	0.54	07:55	1.88	1.24	03:35	0.011	08:15	0.211	0.089	11949	
4/12/2016	04:20	1.11	16:05	3.37	2.27	03:10	0.54	08:30	1.88	1.24	04:20	0.013	16:05	0.186	0.088	11700	
4/13/2016	03:15	1.21	08:30	3.37	2.30	01:55	0.64	07:45	1.82	1.25	03:50	0.017	07:30	0.186	0.089	11839	
4/14/2016	04:25	1.21	09:40	3.42	2.32	04:25	0.64	08:10	1.82	1.26	04:25	0.017	09:40	0.197	0.091	12099	
4/15/2016	03:00	1.24	07:50	3.44	2.34	03:30	0.64	07:50	1.82	1.27	03:00	0.018	07:50	0.210	0.092	12332	
4/16/2016	05:45	1.25	08:20	3.35	2.30	04:15	0.64	10:35	1.92	1.25	05:45	0.018	10:35	0.208	0.089	11942	
4/17/2016	04:15	1.21	09:20	3.69	2.36	04:15	0.57	09:20	1.99	1.17	04:15	0.015	09:20	0.253	0.088	11823	
4/18/2016	03:00	1.13	14:20	3.59	2.40	02:05	0.57	07:35	1.72	1.16	03:00	0.014	14:20	0.211	0.088	11792	
4/19/2016	02:00	1.21	06:50	3.46	2.36	03:00	0.54	06:50	1.68	1.19	02:00	0.017	06:50	0.197	0.088	11815	
4/20/2016	03:15	1.22	07:20	3.52	2.30	03:55	0.57	07:45	1.78	1.24	04:00	0.016	07:20	0.193	0.087	11691	
4/21/2016	02:45	1.23	09:35	3.56	2.32	01:25	0.61	07:20	1.88	1.25	02:45	0.017	09:35	0.228	0.090	12045	
4/22/2016	04:05	1.11	09:10	3.51	2.33	02:05	0.57	09:10	1.82	1.23	04:05	0.013	09:10	0.216	0.089	11888	
4/23/2016	04:05	1.13	09:45	3.22	2.31	03:35	0.54	09:05	1.82	1.22	04:05	0.014	08:40	0.172	0.087	11682	
4/24/2016	04:40	1.14	09:10	3.48	2.29	04:45	0.47	09:10	1.78	1.17	04:45	0.013	09:10	0.210	0.085	11334	
4/25/2016	04:00	1.08	08:45	3.95	2.32	01:55	0.54	08:45	1.92	1.23	04:00	0.012	08:45	0.269	0.090	12042	
4/26/2016	03:45	1.08	08:05	3.39	2.30	03:35	0.50	07:55	1.85	1.24	03:35	0.011	07:55	0.208	0.089	11962	
4/27/2016	01:25	1.35	07:15	3.44	2.35	01:25	0.73	07:05	1.92	1.26	01:25	0.022	07:15	0.206	0.091	12219	
4/28/2016	14:10	0.99	14:05	4.34	2.36	14:10	0.48	14:05	2.26	1.19	14:10	0.009	14:05	0.360	0.087	11652	
4/29/2016	02:15	1.11	08:20	3.46	2.37	02:15	0.57	13:40	1.75	1.19	02:15	0.013	08:20	0.197	0.088	11807	
4/30/2016	01:55	1.41	09:35	3.47	2.39	02:15	0.61	09:25	1.78	1.18	02:15	0.023	09:55	0.196	0.086	11552	
5/1/2016	03:20	1.24	10:20	3.48	2.37	03:05	0.57	09:50	1.75	1.17	04:45	0.015	09:10	0.193	0.087	11656	
5/2/2016	03:15	1.09	07:50	3.58	2.36	03:15	0.56	07:50	1.82	1.17	03:15	0.012	07:50	0.222	0.087	11594	
5/3/2016	01:40	1.23	08:05	3.28	2.41	02:30	0.54	07:00	1.62	1.17	01:20	0.016	07:00	0.169	0.088	11815	
5/4/2016	02:35	1.23	07:45	3.33	2.41	03:05	0.54	06:45	1.65	1.16	02:35	0.017	07:00	0.180	0.087	11675	
5/5/2016	02:15	1.29	07:25	3.38	2.41	02:40	0.57	08:10	1.87	1.22	02:15	0.020	08:10	0.208	0.092	12258	
5/6/2016	03:20	1.26	10:40	3.45	2.42	04:00	0.67	07:20	1.78	1.19	03:20	0.018	10:40	0.204	0.090	12082	
5/7/2016	04:25	1.34	11:30	3.96	2.38	03:25	0.64	11:35	1.88	1.19	03:25	0.021	11:30	0.260	0.088	11754	
5/8/2016	04:00	1.26	11:05	3.42	2.36	04:00	0.64	08:40	1.75	1.18	04:00	0.018	08:40	0.194	0.087	11623	
5/9/2016	03:00	1.22	07:45	3.77	2.44	03:10	0.61	10:55	1.73	1.18	03:00	0.017	10:55	0.206	0.091	12102	
5/10/2016	02:10	1.22	08:25	4.13	2.40	04:10	0.61	08:20	1.95	1.15	02:10	0.017	08:20	0.290	0.087	11660	
5/11/2016	04:10	1.39	07:45	3.53	2.50	04:20	0.47	07:10	1.68	1.14	04:20	0.015	07:10	0.193	0.090	11977	
5/12/2016	03:45	1.27	07:40	4.39	2.47	03:45	0.44	07:40	2.00	1.13	03:45	0.012	07:40	0.324	0.088	11763	
5/13/2016	04:05	1.38	07:50	4.31	2.34	04:25	0.54	07:50	1.99	1.20	04:25	0.018	07:50	0.313	0.086	11540	
5/14/2016	04:50	1.22	08:55	3.34	2.31	04:25	0.54	09:40	1.72	1.17	04:25	0.016	09:40	0.187	0.084	11168	
5/15/2016	02:45	1.33	08:40	3.56	2.39	04:40	0.57	08:40	1.75	1.16	04:40	0.018	08:40	0.213	0.087	11581	
5/16/2016	02:40	1.04	07:35	3.54	2.52	02:40	0.52	07:35	1.62	1.14	02:40	0.011	07:35	0.194	0.092	12315	
5/17/2016	02:15	1.41	07:05	3.60	2.47	04:25	0.61	07:00	1.58	1.19	04:25	0.023	07:05	0.195	0.091	12180	
5/18/2016	02:50	1.21	07:20	3.55	2.41	02:50	0.65	07:25	1.75	1.20	02:50	0.017	07:25	0.208	0.090	12080	
5/19/2016	02:00	1.21	13:55	3.79	2.39	01:55	0.57	13:55	1.95	1.18	01:55	0.015	13:55	0.258	0.089	11854	
5/20/2016	03:45	1.05	08:00	3.33	2.33	03:45	0.53	07:15	1.78	1.18	03:45	0.011	07:20	0.196	0.086	11471	
5/21/2016	04:05	1.04	09:20	3.38	2.28	04:05	0.52	08:35	1.68	1.18	04:05	0.011	09:20	0.186	0.084	11211	
5/22/2016	05:10	1.07	09:45	3.54	2.25	05:00	0.47	09:45	1.92	1.19	05:10	0.012	09:45	0.231	0.084	11293	
5/23/2016	03:30	1.19	09:25	3.76	2.31	03:30	0.63	09:25	1.85	1.22	03:30	0.016	09:25	0.242	0.088	11811	
5/24/2016	02:10	1.13	08:20	3.27	2.30	02:45	0.57	07:05	1.78	1.19	02:10	0.014	07:05	0.188	0.085	11289	

Report Summary For The Period 4/9/2016 - 5/24/2016

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total ft3)
Total			542848
Avg	2.36	1.20	0.088

Site Commentary

Site Information

FM7_B01152	
Pipe Dimensions	20.5 "
Silt Level	0.00"

Overview

Site FM7_B01152 functioned under normal conditions during the period Saturday, April 09, 2016 to Tuesday, May 24, 2016 . No surcharge conditions were experienced at this location. Review of the scattergraph shows that flow in this line remained free-flowing throughout the data period. An increase in depth was observed during weekends.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

Observations

Average flow depth, velocity, and quantity data observed during Saturday, April 09, 2016 to Tuesday, May 24, 2016 , along with observed minimum and maximum data, are provided in the following table. The minimum and maximum rates recorded in the table are based on 5-minute data intervals. In regards to depth, this site flows at 22% full at its recorded peak of 4.44 inches and approximately 16% full during its recorded average depth of 3.18 inches.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	3.18	4.62	0.720
Minimum	1.59	1.84	0.107
Maximum	4.57	5.98	1.422
Time of Minimum	5/22/2016 4:35 AM	5/15/2016 5:10 AM	5/15/2016 5:10 AM
Time of Maximum	4/24/2016 10:35 AM	4/9/2016 9:15 AM	4/9/2016 10:55 AM

Data Quality

Data uptime observed during the Saturday, April 09, 2016 to the Tuesday, May 24, 2016 monitoring period is provided in the table below. Based upon the quality and consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

Percent Uptime	
Depth (in)	100
Velocity (ft/s)	100
Quantity (MGD)	100

ADS Site Report

Quality Form

Project Name: Vista	**City / State:** Vista, CA		**Date Installed:** 04/08/16	**FM Initials:** JG	
Site Name: FM7_B01152	**Monitor Series:** 3600		**Monitor S/N:**	2870	
Address / Location: 1224-1298 Green Oak Rd			**Manhole #:**	B01152	
			Map Page #:	N/A	
Access: Drive	**Type of System:**	Sanitary [x] / Storm [ ] / Combined [ ]	**Pipe Height:**	20.50"	
			Pipe Width:	20.38"	
			IP Address:	N/A	

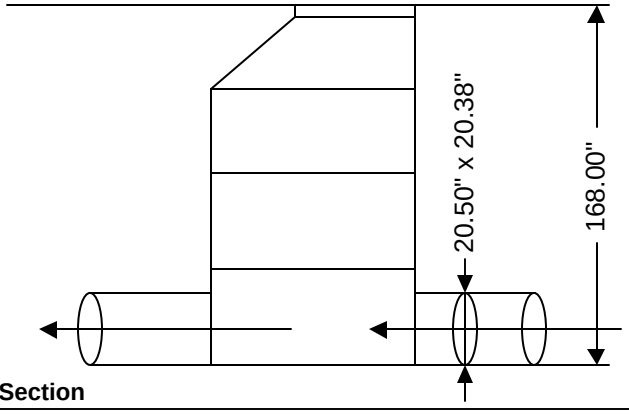
Investigation Information:

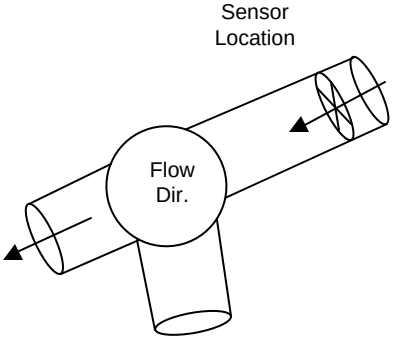
Date/Time of Investigation:	04/08/16
Site Hydraulics:	Good straight smooth low flow
Upstream Input: (L/S,P/S)	N/A
Upstream Manhole:	DNI
Downstream Manhole:	WWTD
Depth of Flow (Wet Dof):	4.00 +/- 0.25
Range (Air Dof):	+/-
Peak Velocity:	6.39 Fps
Silt:	0.00 Inches

Manhole Information:

Manhole Depth:	168.00"				**Inches**
Manhole Material / Condition:	Concrete / Good				
Pipe Material / Condition:	PVC / NA				
Mini System Character:	**Residential** [x]	**Commercial** [ ]	**Industrial** [ ]	**Other** [ ]	
Telephone Information:	N/A				
Access Pole #:	N/A				
Distance From Manhole:	N/A				**Feet**
Road Cut Length:	N/A				**Feet**
Trench Length:	N/A				**Feet**

Other Information:





Installation Information		Backup	Yes	No	?	Distance
Installation Type:	Standard installation	**Trunk**	[ ]	[x]		
Sensors/ Devices:	Ultrasonic Sensor / Velocity Sensor	**Lift/ Pump Station**	[ ]	[x]		
Surcharge Height:	No Evidence of Surcharge **Feet**	**WWTP**	[ ]	[x]		
Rain Gauge Zone:	N/A	**Other**	[ ]	[x]		

Additional Site Information / Comments:

SCATTERGRAPH REPORT

FM7_B01152

Flow Monitor

FM7_B01152

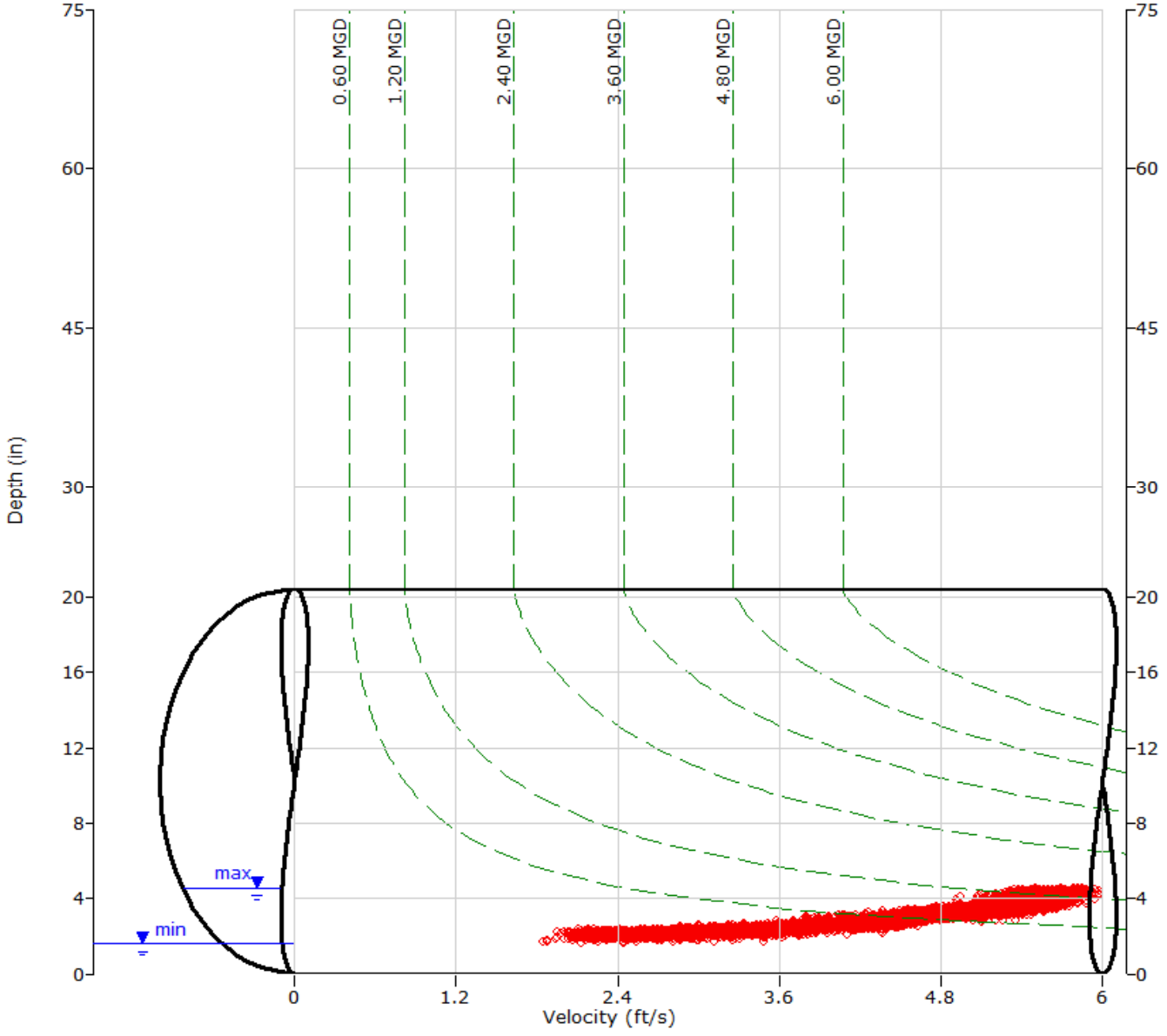
Pipe Height
20.50 in

Report Period

4/9/2016
To
5/24/2016

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth



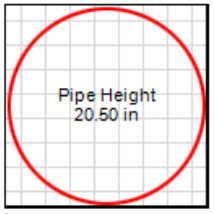
ADS ENVIRONMENTAL SERVICES

HYDROGRAPH REPORT

FM7_B01152

Flow Monitor

FM7_B01152

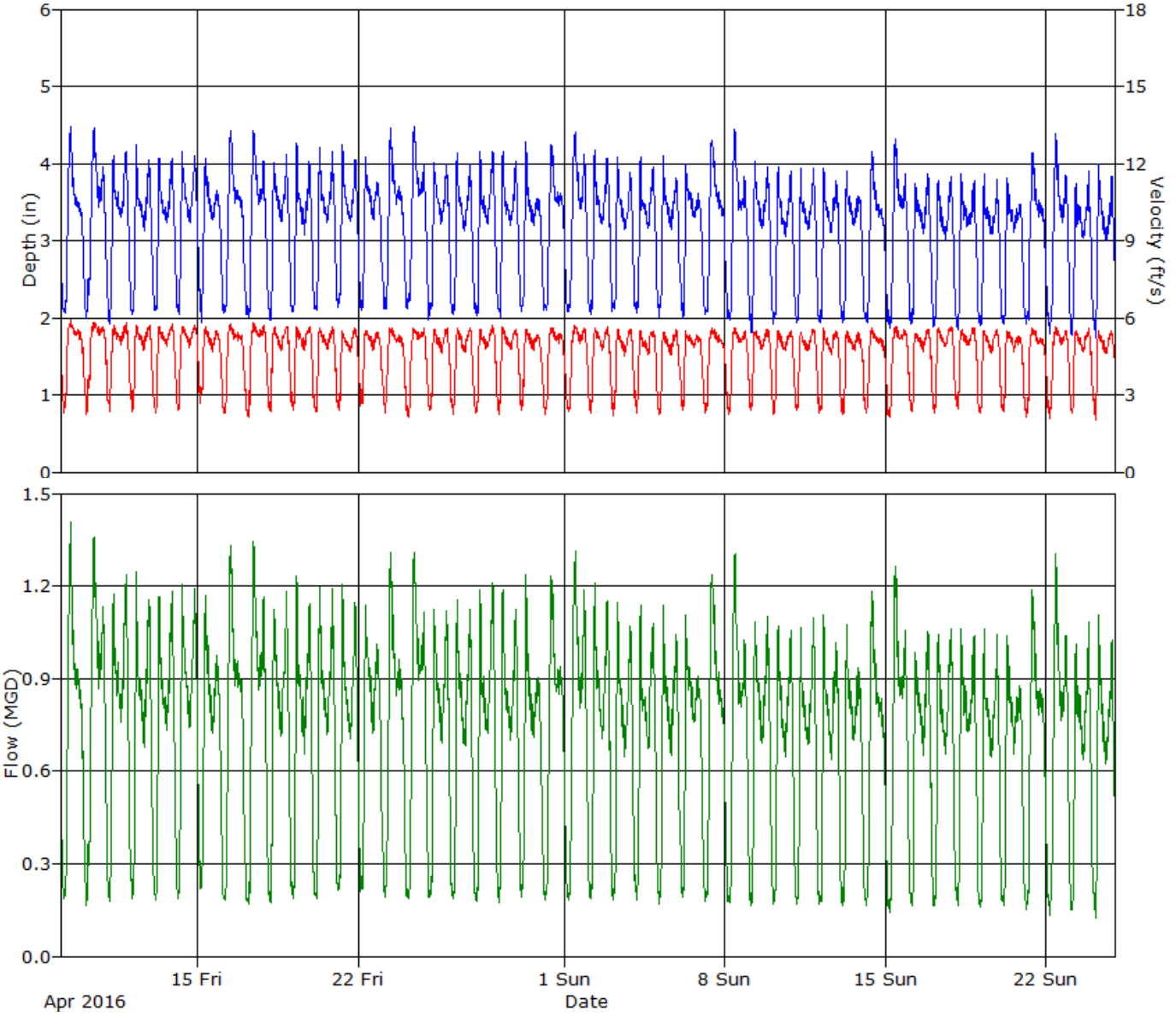


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth
- Velocity
- Quantity



ADS ENVIRONMENTAL SERVICES

Daily Tabular Report For The Period 4/9/2016 - 5/24/2016

FM7_B01152, Pipe Height: 20.5 in

Daily Tabular Report

Date	Depth (in)					Velocity (ft/s)					Quantity (MGD - Total ft3)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
4/9/2016	04:55	2.05	10:40	4.54	3.24	03:30	2.07	09:15	5.98	4.73	03:30	0.165	10:55	1.422	0.762	101913	
4/10/2016	03:15	1.96	11:10	4.51	3.31	03:45	2.11	11:20	5.94	4.81	03:40	0.163	11:45	1.400	0.801	107105	
4/11/2016	02:55	1.78	20:50	4.23	3.27	04:15	1.97	21:15	5.85	4.82	03:00	0.151	21:15	1.273	0.776	103785	
4/12/2016	03:20	2.02	07:50	4.27	3.22	03:40	2.19	08:45	5.79	4.75	03:40	0.168	07:50	1.263	0.746	99689	
4/13/2016	03:30	2.04	07:35	4.16	3.23	03:40	2.02	21:00	5.85	4.73	04:15	0.164	07:35	1.227	0.750	100243	
4/14/2016	04:30	1.87	20:45	4.18	3.28	04:00	2.23	07:35	5.79	4.77	04:00	0.179	07:55	1.233	0.772	103252	
4/15/2016	03:20	1.85	07:45	4.08	3.22	03:00	2.48	07:50	5.72	4.73	03:00	0.191	07:35	1.179	0.736	98359	
4/16/2016	03:10	2.02	10:50	4.45	3.27	04:05	2.16	09:10	5.88	4.64	04:05	0.175	11:00	1.375	0.762	101810	
4/17/2016	06:00	1.98	10:15	4.47	3.28	04:55	1.96	09:45	5.91	4.66	03:25	0.161	10:15	1.401	0.774	103514	
4/18/2016	03:00	1.93	20:10	4.18	3.23	03:40	2.11	21:45	5.88	4.71	03:40	0.155	20:10	1.214	0.747	99798	
4/19/2016	04:00	2.04	07:35	4.35	3.21	03:40	2.18	07:40	5.82	4.70	03:40	0.171	07:40	1.316	0.736	98347	
4/20/2016	04:55	1.99	07:25	4.31	3.24	04:15	2.16	07:50	5.72	4.65	04:15	0.170	08:00	1.256	0.740	98924	
4/21/2016	03:35	2.09	07:15	4.39	3.28	04:00	2.23	20:05	5.72	4.61	02:10	0.198	07:15	1.300	0.742	99176	
4/22/2016	03:35	1.90	07:30	4.26	3.25	04:15	2.26	07:45	5.66	4.68	04:15	0.175	07:30	1.198	0.744	99404	
4/23/2016	04:50	2.05	09:30	4.47	3.29	04:15	2.00	09:05	5.75	4.60	04:15	0.168	09:30	1.326	0.754	100774	
4/24/2016	03:00	2.09	10:35	4.57	3.33	04:45	2.03	10:35	5.69	4.53	04:45	0.170	10:35	1.394	0.768	102723	
4/25/2016	01:45	1.87	20:30	4.12	3.20	03:10	2.11	07:20	5.66	4.60	04:20	0.175	20:30	1.163	0.721	96372	
4/26/2016	02:10	2.00	07:55	4.15	3.18	03:20	2.15	20:45	5.69	4.58	04:20	0.177	20:45	1.170	0.711	94999	
4/27/2016	04:25	1.95	20:40	4.19	3.22	04:25	2.16	07:15	5.79	4.63	04:25	0.154	07:15	1.229	0.735	98280	
4/28/2016	04:50	1.75	07:25	4.20	3.21	02:30	2.23	07:00	5.72	4.65	03:35	0.172	07:00	1.212	0.727	97147	
4/29/2016	04:05	2.00	07:45	4.37	3.17	03:20	2.30	07:45	5.66	4.62	03:05	0.181	07:45	1.301	0.707	94496	
4/30/2016	05:05	2.03	10:40	4.29	3.23	04:15	2.18	09:50	5.72	4.59	04:20	0.180	10:45	1.272	0.735	98254	
5/1/2016	03:55	2.04	11:20	4.46	3.28	04:30	2.19	11:40	5.82	4.61	03:55	0.169	11:15	1.332	0.764	102097	
5/2/2016	04:05	1.98	08:05	4.22	3.22	02:55	2.19	21:05	5.72	4.65	04:05	0.167	08:05	1.243	0.734	98157	
5/3/2016	01:55	2.05	07:45	4.12	3.17	03:10	2.03	07:10	5.72	4.56	03:10	0.172	07:45	1.168	0.702	93873	
5/4/2016	04:15	1.84	07:25	4.16	3.18	04:00	2.16	21:40	5.63	4.58	04:15	0.165	07:50	1.170	0.706	94428	
5/5/2016	03:15	1.86	07:45	4.16	3.17	03:25	2.16	08:50	5.58	4.52	03:15	0.148	07:45	1.171	0.695	92877	
5/6/2016	05:05	1.83	07:05	4.08	3.18	04:30	2.24	07:20	5.59	4.63	03:50	0.180	07:05	1.124	0.708	94673	
5/7/2016	02:55	1.97	09:55	4.37	3.22	05:25	2.11	12:50	5.79	4.54	05:25	0.160	10:00	1.276	0.729	97389	
5/8/2016	05:25	1.92	10:30	4.48	3.21	05:00	2.21	10:30	5.91	4.56	03:25	0.165	10:30	1.407	0.731	97752	
5/9/2016	02:50	1.68	07:30	4.15	3.13	02:55	2.29	07:15	5.69	4.65	02:55	0.150	20:30	1.153	0.706	94352	
5/10/2016	02:35	1.81	07:25	4.07	3.10	03:20	2.11	07:05	5.66	4.60	03:55	0.156	07:05	1.113	0.685	91530	
5/11/2016	03:55	1.88	20:40	4.12	3.10	02:55	2.21	20:40	5.66	4.58	02:55	0.160	20:40	1.194	0.685	91579	
5/12/2016	03:30	1.83	07:50	4.01	3.09	02:40	2.26	07:15	5.69	4.54	03:30	0.161	07:50	1.149	0.677	90491	
5/13/2016	03:40	1.82	07:45	4.03	3.08	02:15	2.13	07:00	5.59	4.54	02:55	0.144	07:00	1.119	0.673	89930	
5/14/2016	05:25	1.92	11:05	4.22	3.08	03:30	2.23	09:55	5.75	4.53	04:05	0.157	10:35	1.205	0.678	90584	
5/15/2016	05:10	1.70	10:50	4.40	3.14	05:10	1.84	09:50	5.75	4.55	05:10	0.107	10:50	1.336	0.713	95319	
5/16/2016	03:15	1.78	20:20	3.91	3.08	03:40	1.96	19:35	5.69	4.61	03:40	0.134	20:20	1.091	0.683	91288	
5/17/2016	02:30	1.81	20:45	3.89	3.04	04:05	2.23	07:55	5.75	4.68	02:30	0.150	20:45	1.107	0.681	91087	
5/18/2016	03:35	1.79	07:20	3.93	3.06	03:40	2.24	21:15	5.79	4.68	03:40	0.154	20:50	1.098	0.688	91953	
5/19/2016	03:05	1.81	07:30	4.11	3.02	02:40	2.15	20:55	5.72	4.58	03:25	0.147	07:30	1.170	0.661	88399	
5/20/2016	03:25	1.85	07:55	3.94	3.03	03:15	2.10	07:05	5.59	4.56	03:15	0.146	07:55	1.082	0.659	88095	
5/21/2016	03:10	1.83	09:45	4.25	3.09	03:45	2.07	11:20	5.69	4.51	03:45	0.142	09:45	1.250	0.682	91200	
5/22/2016	04:35	1.59	10:50	4.46	3.12	04:20	1.94	10:50	5.69	4.55	04:35	0.113	10:50	1.344	0.706	94354	
5/23/2016	03:45	1.67	20:45	3.95	3.01	04:15	2.23	20:45	5.66	4.58	04:15	0.139	20:45	1.124	0.658	88021	
5/24/2016	04:25	1.63	07:20	4.07	3.01	03:50	1.88	07:10	5.59	4.54	03:50	0.108	07:20	1.140	0.653	87247	

Report Summary For The Period 4/9/2016 - 5/24/2016

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total ft3)
Total			4425038
Avg	3.18	4.62	0.720

Site Commentary

Site Information

FM8_V33174	
Pipe Dimensions	17.63 "
Silt Level	0.00"

Overview

Site FM8_V33174 functioned under normal conditions during the period Saturday, April 09, 2016 to Tuesday, May 24, 2016 . No surcharge conditions were experienced at this location. Review of the scattergraph shows that flow in this line remained free-flowing throughout the data period. A loss of data was experienced from April 16, 2016 through April 29, 2016 due to a monitor malfunction.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

Observations

Average flow depth, velocity, and quantity data observed during Saturday, April 09, 2016 to Tuesday, May 24, 2016 , along with observed minimum and maximum data, are provided in the following table. The minimum and maximum rates recorded in the table are based on 5-minute data intervals. In regards to depth, this site flows at 48% full at its recorded peak of 8.42 inches and approximately 36% full during its recorded average depth of 6.39 inches.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	6.39	1.51	0.570
Minimum	3.82	0.67	0.127
Maximum	8.85	2.26	1.183
Time of Minimum	4/12/2016 3:50 AM	5/22/2016 3:20 AM	5/10/2016 3:25 AM
Time of Maximum	5/8/2016 10:05 AM	4/20/2016 7:25 AM	4/20/2016 7:25 AM

Data Quality

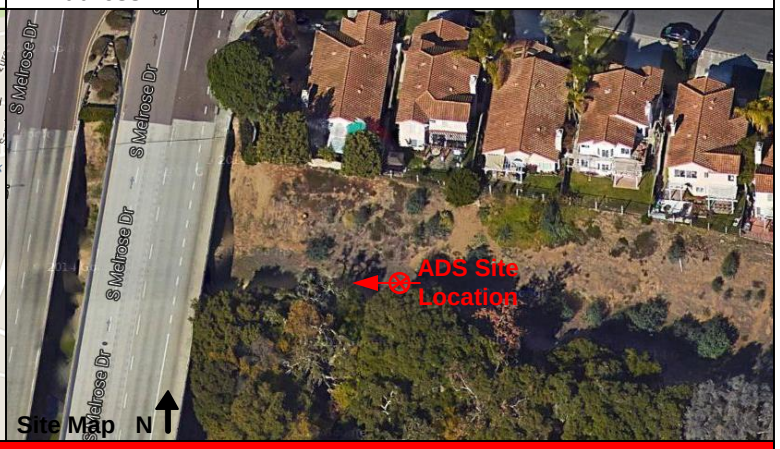
Data uptime observed during the Saturday, April 09, 2016 to the Tuesday, May 24, 2016 monitoring period is provided in the table below. Based upon the quality and consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

Percent Uptime	
Depth (in)	75
Velocity (ft/s)	75
Quantity (MGD)	75

ADS Site Report

Quality Form

Project Name: Vista	**City / State:** Vista, CA		**Date Installed:** 04/08/16	**FM Initials:** JG
Site Name: FM8_V33174	**Monitor Series:** 3600		**Monitor S/N:**	1269
Address / Location: 2009 S Melrose Dr			**Manhole #:**	V33174
			Map Page #:	N/A
Access: Drive	**Type of System:**	Sanitary [x] Storm [ ] Combined [ ]	**Pipe Height:**	17.65"
			Pipe Width:	17.50"
			IP Address:	N/A



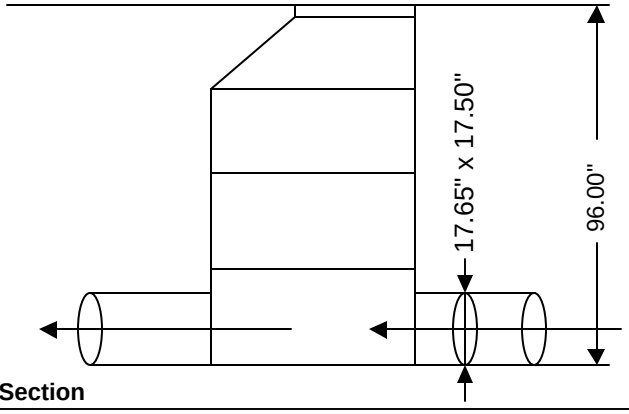
Investigation Information:

Date/Time of Investigation:	04/08/16		
Site Hydraulics: Good straight through flow			
Upstream Input: (L/S,P/S)	N/A		
Upstream Manhole:	DNI		
Downstream Manhole:	WWTD		
Depth of Flow (Wet Dof):	6.88	**+/-** 0.25	
Range (Air Dof):		**+/-**	
Peak Velocity:	1.87	**Fps**	
Silt:	0.00	**Inches**	

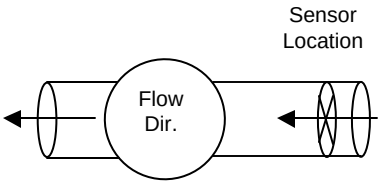
Manhole Information:

Manhole Depth:	96.00"				**Inches**
Manhole Material / Condition:	Concrete / Good				
Pipe Material / Condition:	PVC / NA				
Mini System Character:	**Residential** [ ]	**Commercial** [x]	**Industrial** [ ]	**Other** [ ]	
Telephone Information:	N/A				
Access Pole #:	N/A				
Distance From Manhole:	N/A				**Feet**
Road Cut Length:	N/A				**Feet**
Trench Length:	N/A				**Feet**

Other Information:



Cross Section



Planar N

Installation Information		Backup	Yes	No	?	Distance
Installation Type: Standard installation		**Trunk**	[ ]	[x]		
Sensors/ Devices: Ultrasonic Sensor / Velocity Sensor		**Lift/ Pump Station**	[ ]	[x]		
Surcharge Height: No Evidence of Surcharge	**Feet**	**WWTP**	[ ]	[x]		
Rain Gauge Zone: N/A		**Other**	[ ]	[x]		

Additional Site Information / Comments:

SCATTERGRAPH REPORT

FM8_V33174

Flow Monitor

FM8_V33174

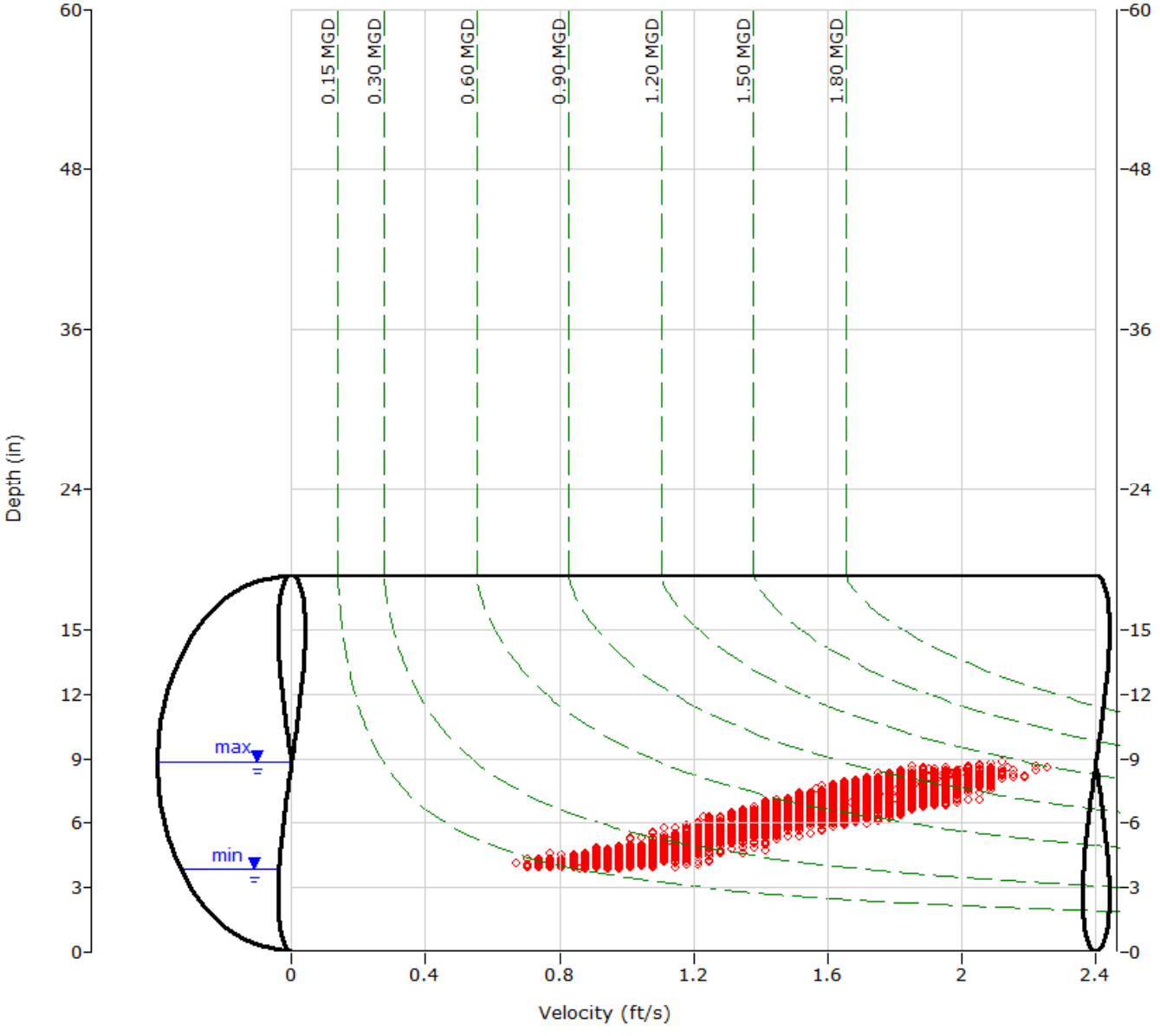
Pipe Height
17.63 in

Report Period

4/9/2016
To
5/24/2016

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth



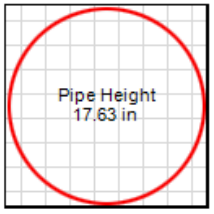
ADS ENVIRONMENTAL SERVICES

HYDROGRAPH REPORT

FM8_V33174

Flow Monitor

FM8_V33174

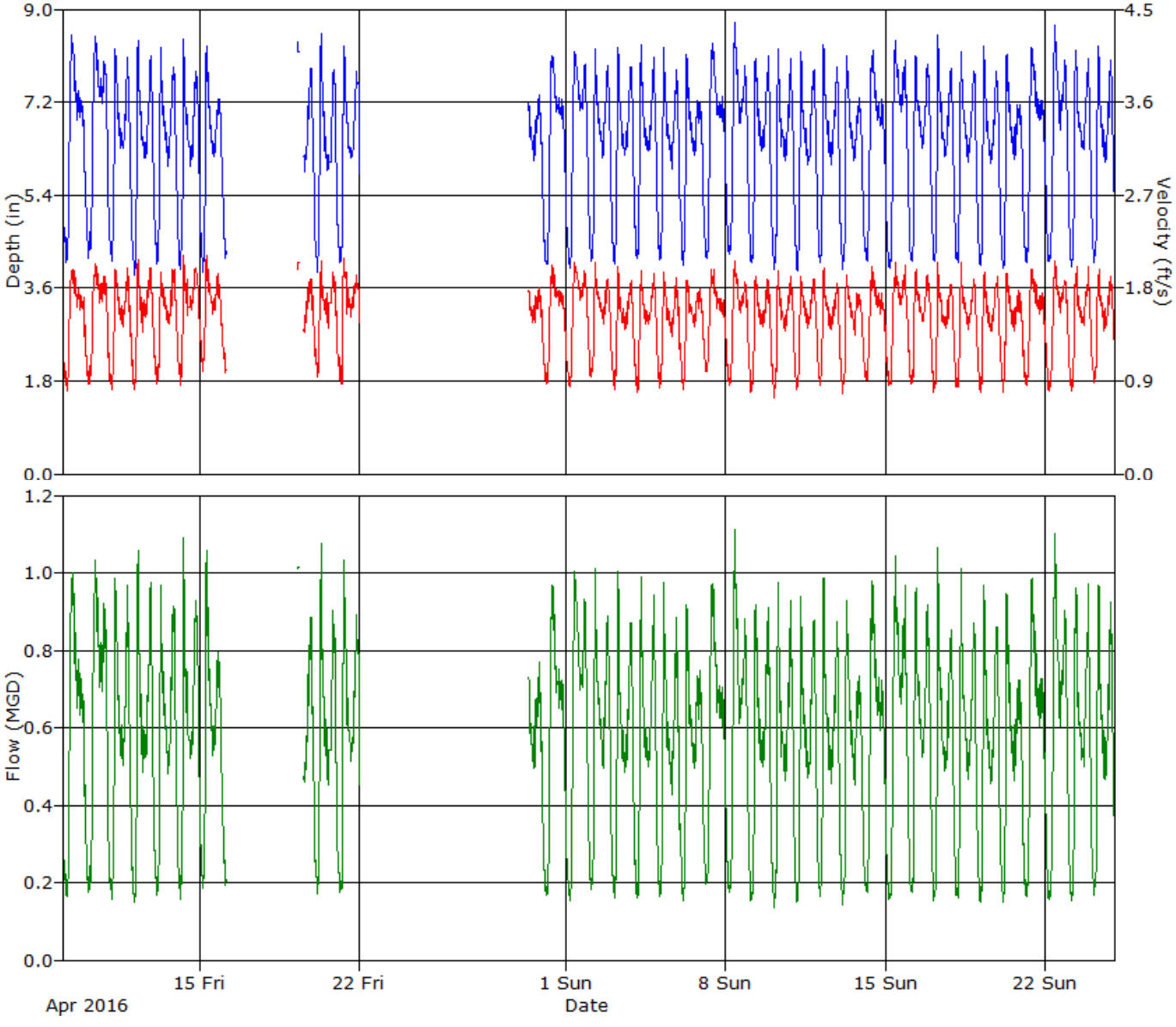


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth
- Velocity
- Quantity



Daily Tabular Report For The Period 4/9/2016 - 5/24/2016

FM8_V33174, Pipe Height: 17.63 in

Daily Tabular Report

Date	Depth (in)					Velocity (ft/s)					Quantity (MGD - Total ft3)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
4/9/2016	03:45	4.08	10:00	8.65	6.50	05:25	0.74	11:00	2.05	1.51	05:25	0.153	11:40	1.041	0.587	78534	
4/10/2016	03:25	4.14	10:10	8.58	6.67	04:05	0.81	10:10	2.14	1.56	03:25	0.164	10:10	1.123	0.629	84123	
4/11/2016	04:20	4.11	07:10	8.34	6.40	04:30	0.74	07:40	2.12	1.50	04:30	0.146	07:40	1.050	0.568	75889	
4/12/2016	03:50	3.82	07:25	8.49	6.32	03:10	0.71	07:30	2.22	1.53	03:10	0.134	07:30	1.142	0.570	76162	
4/13/2016	03:35	4.03	07:30	8.33	6.37	04:20	0.77	07:35	2.12	1.54	03:00	0.158	07:35	1.063	0.574	76703	
4/14/2016	03:30	3.90	07:20	8.62	6.28	03:55	0.77	07:20	2.22	1.60	03:55	0.141	07:20	1.175	0.589	71104	
4/15/2016	03:30	3.88	07:25	8.34	6.23	03:15	0.88	07:15	2.15	1.60	04:00	0.163	07:15	1.078	0.576	77056	
4/16/2016	03:30	4.18	00:00	5.82	4.81	03:25	0.94	00:00	1.45	1.16	03:25	0.188	00:00	0.453	0.283	6298	
4/17/2016																	
4/18/2016																	
4/19/2016	23:55	5.55	07:25	8.37	6.85	23:55	1.25	07:30	2.05	1.67	23:55	0.365	07:30	1.013	0.660	39233	
4/20/2016	03:20	3.86	07:20	8.61	6.17	03:15	0.81	07:25	2.26	1.53	03:15	0.146	07:25	1.183	0.550	61792	
4/21/2016	03:30	4.04	07:55	8.29	6.34	04:00	0.84	07:05	2.09	1.60	04:00	0.166	07:05	1.031	0.595	79566	
4/22/2016	23:45	5.79	23:45	5.79	5.79	23:45	1.45	23:45	1.45	1.45	23:45	0.450	23:45	0.450	0.450	835	
4/23/2016																	
4/24/2016																	
4/25/2016																	
4/26/2016																	
4/27/2016																	
4/28/2016																	
4/29/2016	23:35	5.80	20:25	7.41	6.67	23:45	1.25	10:20	1.85	1.62	23:45	0.389	20:25	0.789	0.611	49098	
4/30/2016	04:55	3.98	09:55	8.14	6.39	03:35	0.81	10:30	2.05	1.53	03:35	0.154	10:30	0.994	0.582	77861	
5/1/2016	05:05	3.96	10:55	8.25	6.54	04:00	0.74	09:40	2.09	1.58	04:00	0.144	10:55	1.043	0.622	83163	
5/2/2016	03:45	4.10	07:25	8.33	6.38	01:50	0.84	07:00	2.09	1.54	03:15	0.177	07:40	1.017	0.574	76788	
5/3/2016	03:45	4.02	07:30	8.39	6.32	02:45	0.77	07:40	2.05	1.46	03:35	0.151	07:40	1.016	0.542	72509	
5/4/2016	04:05	4.16	07:25	8.33	6.37	04:05	0.77	07:20	2.02	1.48	04:05	0.152	07:20	1.021	0.554	74019	
5/5/2016	03:25	4.13	07:10	8.41	6.31	02:55	0.81	07:25	2.02	1.47	02:55	0.157	07:25	1.023	0.540	72178	
5/6/2016	03:40	3.98	07:30	8.21	6.30	03:10	0.77	07:20	1.95	1.48	03:40	0.142	07:20	0.959	0.543	72528	
5/7/2016	03:20	4.15	10:40	8.47	6.50	03:10	0.94	09:05	2.05	1.54	03:25	0.187	10:15	1.021	0.592	79203	
5/8/2016	04:20	4.21	10:05	8.85	6.59	05:30	0.74	09:50	2.22	1.52	05:30	0.152	10:05	1.160	0.602	80521	
5/9/2016	04:40	4.04	20:50	8.18	6.37	02:05	0.74	07:30	1.99	1.47	02:05	0.143	20:45	0.980	0.552	73762	
5/10/2016	03:25	3.92	20:45	8.30	6.32	03:20	0.71	07:10	2.02	1.47	03:25	0.127	20:45	1.016	0.545	72865	
5/11/2016	03:10	3.93	07:15	8.21	6.30	02:45	0.74	06:55	2.02	1.49	03:05	0.140	07:05	0.994	0.548	73315	
5/12/2016	03:35	4.08	07:10	8.42	6.31	02:25	0.81	07:15	2.02	1.48	03:50	0.155	07:10	1.018	0.547	73166	
5/13/2016	03:30	3.94	07:00	8.16	6.21	03:05	0.74	07:00	2.02	1.46	03:05	0.134	07:00	0.995	0.527	70481	
5/14/2016	04:40	4.09	10:50	8.28	6.39	03:25	0.84	09:45	2.05	1.51	04:40	0.167	10:50	1.013	0.570	76217	
5/15/2016	03:55	3.92	10:20	8.47	6.54	04:25	0.77	10:25	2.15	1.54	04:25	0.140	10:25	1.108	0.610	81568	
5/16/2016	03:30	4.10	08:00	8.29	6.46	05:00	0.81	08:00	2.12	1.52	02:55	0.168	08:00	1.066	0.579	77402	
5/17/2016	02:20	4.11	07:20	8.52	6.37	02:20	0.77	07:25	2.12	1.47	02:20	0.149	07:25	1.101	0.551	73650	
5/18/2016	04:35	4.10	07:30	8.28	6.35	04:10	0.71	07:15	2.09	1.48	04:10	0.145	07:15	1.024	0.554	73993	
5/19/2016	03:35	4.04	07:10	8.29	6.31	03:30	0.74	07:05	2.02	1.48	03:30	0.140	07:05	1.012	0.547	73105	
5/20/2016	03:20	3.91	07:45	8.23	6.25	03:40	0.74	07:05	2.09	1.47	03:40	0.136	07:05	1.032	0.536	71630	
5/21/2016	03:45	4.07	09:10	8.33	6.45	03:50	0.77	09:25	2.09	1.51	03:50	0.147	09:25	1.050	0.577	77145	
5/22/2016	03:10	4.03	09:50	8.76	6.55	03:20	0.67	09:50	2.09	1.51	03:20	0.129	09:50	1.126	0.600	80166	
5/23/2016	03:40	3.93	07:20	8.29	6.40	03:35	0.77	20:45	2.09	1.49	03:40	0.140	20:45	1.043	0.566	75618	
5/24/2016	03:05	4.08	07:25	8.43	6.35	02:45	0.88	08:10	2.12	1.50	03:10	0.167	08:10	1.050	0.559	74736	

Report Summary For The Period 4/9/2016 - 5/24/2016

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total ft3)
Total			2663984
Avg	6.39	1.51	0.570

Site Commentary

Site Information

FM9_B01101	
Pipe Dimensions	21.25 "
Silt Level	0.00"

Overview

Site FM9_B01101 functioned under normal conditions during the period Saturday, April 09, 2016 to Tuesday, May 24, 2016 . No surcharge conditions were experienced at this location. Review of the scattergraph shows that flow in this line remained free-flowing throughout the data period.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

This line is located downstream of location FM11. A review of balancing indicated no problems. A net flow of 1.078 MGD was reported for the period.

Observations

Average flow depth, velocity, and quantity data observed during Saturday, April 09, 2016 to Tuesday, May 24, 2016 , along with observed minimum and maximum data, are provided in the following table. The minimum and maximum rates recorded in the table are based on 5-minute data intervals. In regards to depth, this site flows at 47% full at its recorded peak of 10.08 inches and approximately 37% full during its recorded average depth of 7.91 inches.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	7.91	2.49	1.384
Minimum	4.57	1.55	0.397
Maximum	10.67	3.20	2.448
Time of Minimum	5/23/2016 4:05 AM	5/2/2016 3:10 AM	5/14/2016 4:00 AM
Time of Maximum	4/19/2016 12:10 PM	4/21/2016 8:05 AM	4/19/2016 12:10 PM

Data Quality

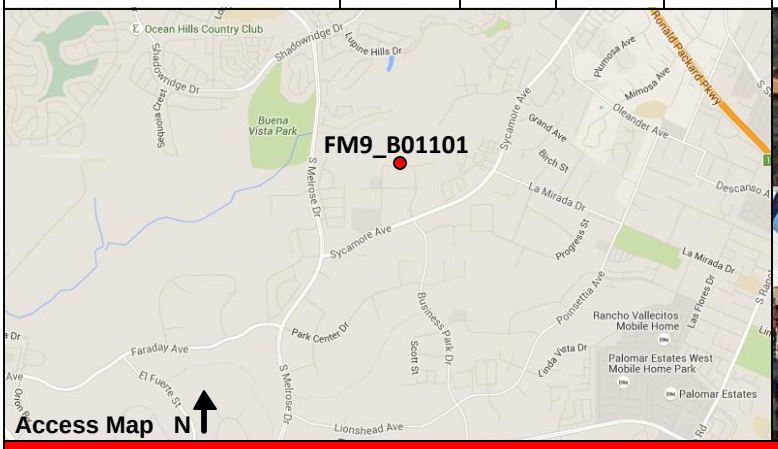
Data uptime observed during the Saturday, April 09, 2016 to the Tuesday, May 24, 2016 monitoring period is provided in the table below. Based upon the quality and consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

Percent Uptime	
Depth (in)	100
Velocity (ft/s)	100
Quantity (MGD)	100

ADS Site Report

Quality Form

Project Name: Vista	**City / State:** Vista, CA		**Date Installed:** 04/08/16	**FM Initials:** JG
Site Name: FM9_B01101	**Monitor Series:** 3600		**Monitor S/N:**	3275
Address / Location: 1451 Engineer St			**Manhole #:**	B01101
			Map Page #:	N/A
Access: Drive	**Type of System:**	Sanitary [x] Storm [ ] Combined [ ]	**Pipe Height:**	21.25
			Pipe Width:	21.00
			IP Address:	N/A



Access Map N

Site Map N

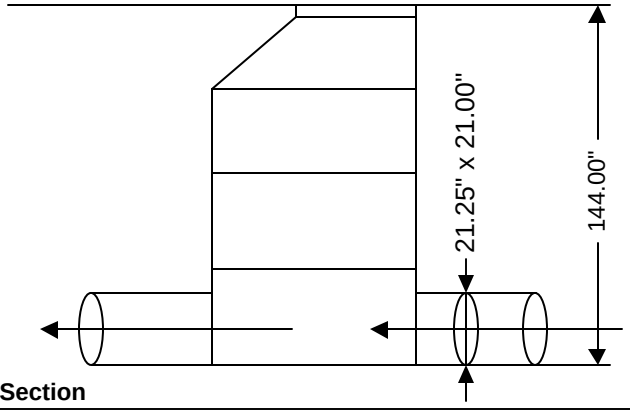
Investigation Information:

Date/Time of Investigation:	04/08/16
Site Hydraulics: Good straight flow through MH	
Upstream Input: (L/S,P/S)	N/A
Upstream Manhole:	DNI
Downstream Manhole:	WWTP
Depth of Flow (Wet Dof):	9.25 +/- 0.25
Range (Air Dof):	+/-
Peak Velocity:	3.25 Fps
Silt:	0.00 Inches

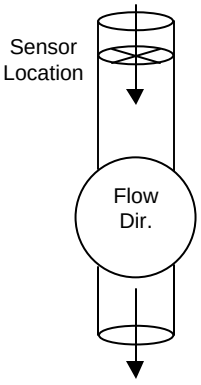
Manhole Information:

Manhole Depth:	144.00"				**Inches**
Manhole Material / Condition:	Precast / Good				
Pipe Material / Condition:	VCP / Good				
Mini System Character:	**Residential** [ ]	**Commercial** [ ]	**Industrial** [ ]	**Other** [x]	
Telephone Information:	N/A				
Access Pole #:	N/A				
Distance From Manhole:	N/A				**Feet**
Road Cut Length:	N/A				**Feet**
Trench Length:	N/A				**Feet**

Other Information:



Cross Section



Planar N

Installation Information		Backup	Yes	No	?	Distance
Installation Type: Standard installation		**Trunk**	[ ]	[x]		
Sensors/ Devices: Ultrasonic Sensor / Velocity Sensor		**Lift/ Pump Station**	[ ]	[x]		
Surcharge Height: No Evidence of Surcharge	**Feet**	**WWTP**	[ ]	[x]		
Rain Gauge Zone: N/A		**Other**	[ ]	[x]		

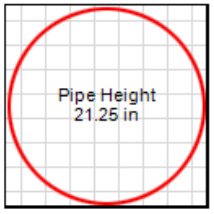
Additional Site Information / Comments:

SCATTERGRAPH REPORT

FM9_B01101

Flow Monitor

FM9_B01101

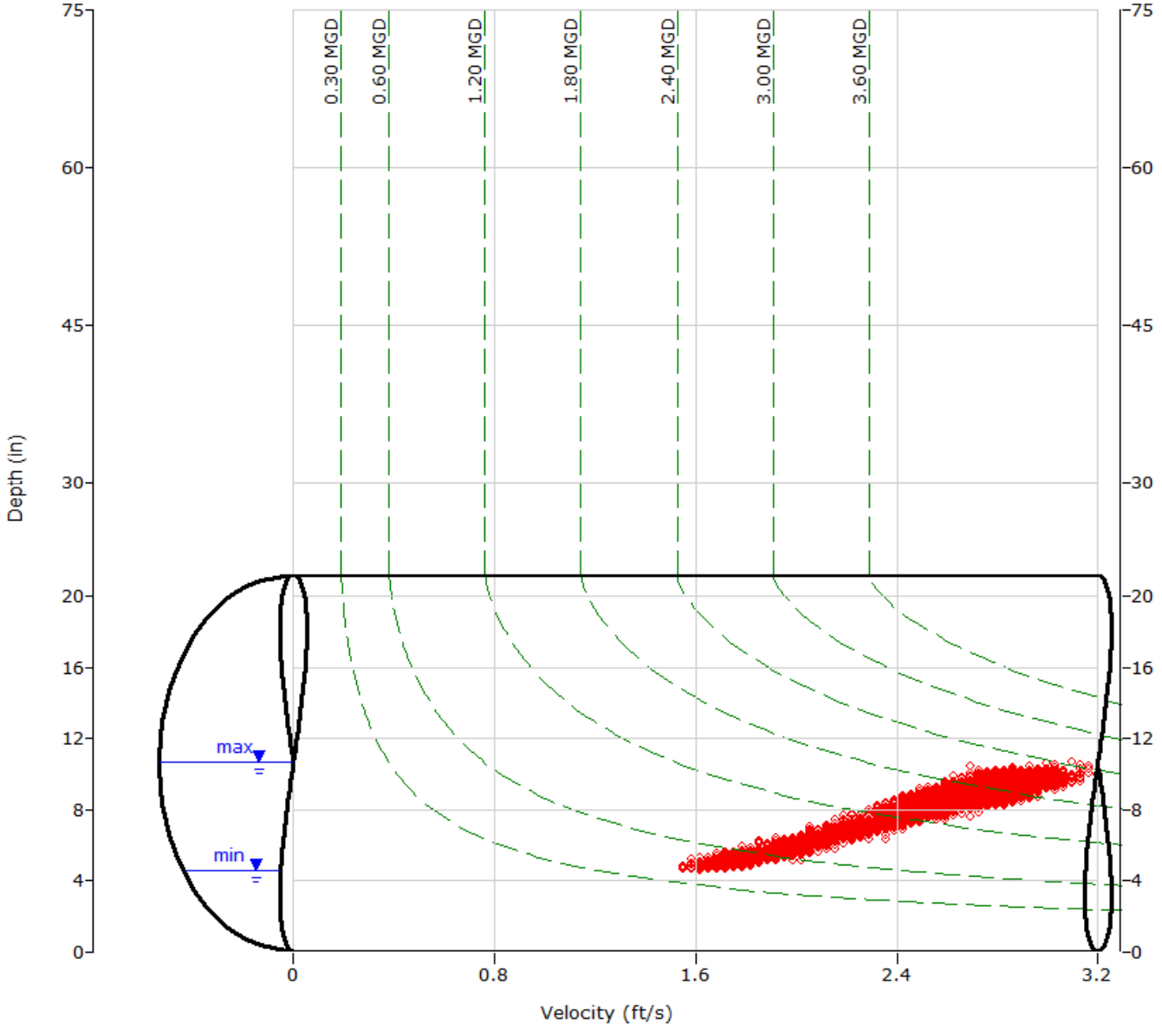


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth

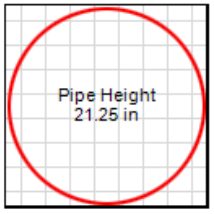


HYDROGRAPH REPORT

FM9_B01101

Flow Monitor

FM9_B01101

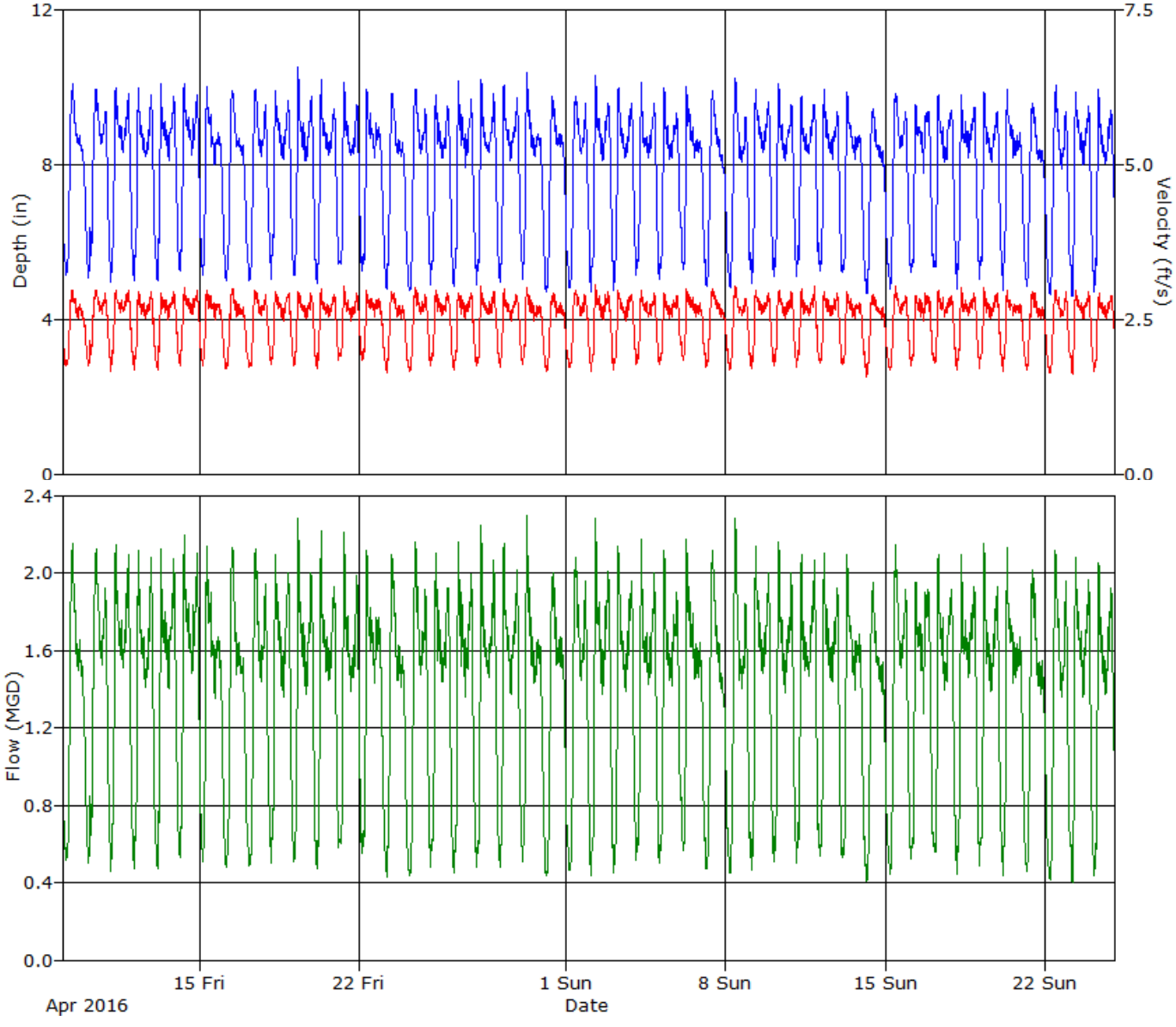


Report Period

4/9/2016
To
5/24/2016

Legend

- Depth
- Velocity
- Quantity



ADS ENVIRONMENTAL SERVICES

Daily Tabular Report For The Period 4/9/2016 - 5/24/2016

FM9_B01101, Pipe Height: 21.25 in

Daily Tabular Report

Date	Depth (in)					Velocity (ft/s)					Quantity (MGD - Total ft3)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
4/9/2016	04:10	5.09	11:05	10.08	7.82	03:40	1.62	10:50	3.06	2.43	03:40	0.487	10:50	2.249	1.333	178144	
4/10/2016	03:55	5.04	11:45	10.01	7.95	03:10	1.72	11:30	3.13	2.49	03:55	0.490	11:30	2.211	1.395	186486	
4/11/2016	03:25	4.94	07:50	10.14	8.12	03:00	1.62	07:25	3.03	2.54	03:25	0.449	07:50	2.220	1.459	195013	
4/12/2016	03:35	4.92	08:00	9.98	8.02	03:35	1.62	07:30	3.00	2.50	03:35	0.446	07:30	2.166	1.410	188488	
4/13/2016	03:55	4.93	07:30	10.07	8.09	03:45	1.65	21:15	3.03	2.52	03:55	0.466	07:40	2.164	1.437	192059	
4/14/2016	03:25	5.21	08:05	10.13	8.19	03:25	1.68	07:25	3.06	2.55	03:25	0.504	08:00	2.233	1.475	197236	
4/15/2016	03:45	4.99	07:45	10.07	7.96	03:45	1.68	11:30	3.06	2.51	03:45	0.473	08:05	2.161	1.396	186584	
4/16/2016	04:10	4.93	09:55	9.94	7.79	03:10	1.58	09:55	3.13	2.45	04:10	0.466	09:55	2.261	1.336	178552	
4/17/2016	04:25	4.95	10:35	9.98	7.82	06:20	1.65	11:45	3.03	2.46	04:55	0.478	10:35	2.151	1.355	181124	
4/18/2016	03:25	5.00	07:25	9.97	8.08	02:40	1.75	07:10	3.03	2.52	03:25	0.495	07:25	2.172	1.434	191662	
4/19/2016	03:15	5.10	12:10	10.67	8.02	03:15	1.68	07:50	3.13	2.51	03:15	0.489	12:10	2.448	1.417	189389	
4/20/2016	03:35	4.86	07:40	10.26	7.99	03:35	1.62	07:40	3.16	2.51	03:35	0.438	07:40	2.380	1.408	188192	
4/21/2016	02:25	5.33	07:10	10.23	8.02	02:05	1.78	08:05	3.20	2.53	02:25	0.562	08:05	2.302	1.420	189803	
4/22/2016	02:50	5.19	07:35	10.02	7.98	02:15	1.78	07:10	3.13	2.52	02:40	0.536	07:35	2.187	1.407	188047	
4/23/2016	04:40	4.72	10:10	9.89	7.67	04:35	1.58	11:35	3.06	2.43	04:35	0.415	09:50	2.134	1.304	174335	
4/24/2016	04:50	4.74	10:50	9.99	7.73	04:15	1.62	10:50	3.10	2.44	05:00	0.424	10:50	2.250	1.338	178874	
4/25/2016	02:50	4.79	07:40	10.08	7.95	03:00	1.65	07:40	3.00	2.52	03:00	0.438	07:40	2.201	1.407	188106	
4/26/2016	03:00	4.78	07:35	10.24	7.98	03:00	1.62	08:00	3.03	2.51	03:00	0.428	07:35	2.222	1.412	188796	
4/27/2016	02:50	4.85	07:55	10.24	8.00	02:45	1.68	07:50	3.06	2.51	02:45	0.465	07:45	2.263	1.418	189546	
4/28/2016	04:10	4.87	07:30	10.21	8.03	04:10	1.68	20:00	3.06	2.51	04:10	0.458	07:10	2.200	1.418	189534	
4/29/2016	03:35	4.94	08:00	10.52	7.98	02:35	1.72	07:45	3.06	2.48	03:10	0.485	08:00	2.352	1.386	185290	
4/30/2016	03:40	4.63	09:50	9.87	7.74	04:05	1.62	12:35	3.06	2.42	03:40	0.417	12:35	2.044	1.316	175956	
5/1/2016	05:00	4.77	11:25	9.83	7.75	03:35	1.68	10:10	3.03	2.46	03:40	0.450	11:35	2.106	1.346	179954	
5/2/2016	03:15	4.68	07:40	10.41	8.02	03:10	1.55	07:40	3.16	2.51	03:10	0.411	07:40	2.426	1.427	190811	
5/3/2016	03:05	4.68	08:10	10.01	7.96	02:45	1.65	08:50	3.06	2.49	03:00	0.427	07:40	2.179	1.396	186638	
5/4/2016	02:40	5.10	07:50	10.33	7.99	02:25	1.72	08:15	3.03	2.51	02:40	0.498	07:45	2.246	1.405	187761	
5/5/2016	02:20	4.91	07:40	10.03	7.95	02:20	1.72	07:20	3.00	2.50	02:20	0.472	07:55	2.167	1.392	186079	
5/6/2016	03:45	5.20	07:15	10.16	7.96	03:30	1.82	07:15	3.06	2.53	03:45	0.542	07:15	2.274	1.401	187342	
5/7/2016	04:05	4.83	10:45	9.96	7.68	03:20	1.62	10:55	3.06	2.46	03:30	0.446	10:20	2.164	1.320	176404	
5/8/2016	05:15	4.75	10:40	10.30	7.73	04:35	1.65	10:40	3.13	2.45	05:15	0.433	10:40	2.366	1.332	178114	
5/9/2016	04:25	4.82	08:00	10.21	8.07	02:10	1.68	07:45	3.06	2.52	04:20	0.456	07:45	2.249	1.435	191861	
5/10/2016	03:05	4.88	08:05	10.18	8.01	03:05	1.68	07:45	3.06	2.52	03:05	0.459	08:05	2.255	1.420	189852	
5/11/2016	03:05	5.03	08:00	9.90	8.01	02:15	1.65	07:15	3.10	2.51	03:05	0.489	08:05	2.167	1.412	188795	
5/12/2016	03:50	5.08	08:05	10.04	7.96	02:00	1.75	21:30	3.00	2.51	03:50	0.515	08:05	2.166	1.402	187451	
5/13/2016	02:30	5.09	07:55	9.94	7.86	02:15	1.72	07:10	3.03	2.49	02:30	0.497	07:40	2.127	1.365	182445	
5/14/2016	04:30	4.61	10:50	9.45	7.53	04:00	1.55	10:50	3.03	2.40	04:00	0.397	10:50	2.047	1.257	168047	
5/15/2016	04:50	4.65	10:10	9.92	7.77	05:05	1.58	10:55	3.10	2.45	04:50	0.428	10:45	2.174	1.345	179760	
5/16/2016	02:25	5.11	07:40	9.65	7.98	02:15	1.72	18:10	3.06	2.51	02:25	0.509	18:10	2.049	1.407	188068	
5/17/2016	04:35	5.21	07:40	9.90	7.97	04:00	1.75	07:35	3.03	2.52	04:00	0.525	07:35	2.142	1.407	188101	
5/18/2016	03:20	4.66	07:35	9.87	7.98	03:25	1.62	07:20	3.13	2.51	03:30	0.425	07:20	2.195	1.411	188687	
5/19/2016	02:55	4.87	07:25	10.15	7.96	02:50	1.68	07:30	3.10	2.52	02:55	0.466	07:30	2.231	1.402	187421	
5/20/2016	03:20	4.68	07:50	10.01	7.87	03:05	1.62	07:30	3.00	2.48	03:20	0.415	07:50	2.182	1.364	182315	
5/21/2016	04:05	4.72	10:05	9.65	7.60	04:20	1.58	09:35	3.00	2.43	04:20	0.433	10:10	2.064	1.283	171448	
5/22/2016	04:55	4.59	11:05	10.15	7.65	03:55	1.55	11:30	3.06	2.43	04:55	0.404	11:10	2.148	1.309	174998	
5/23/2016	04:05	4.57	07:55	9.92	7.93	04:20	1.58	08:05	3.10	2.51	04:20	0.400	08:05	2.133	1.401	187246	
5/24/2016	03:20	4.70	07:40	10.00	7.87	03:30	1.58	20:30	3.03	2.48	03:30	0.410	08:00	2.111	1.368	182739	

Report Summary For The Period 4/9/2016 - 5/24/2016

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total ft3)
Total			8513550
Avg	7.91	2.49	1.384

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Appendix B. Vista - Oceanside Flow Transfers

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Appendix B. Table 1 - Vista - Oceanside Transfers: Total Existing Estimated Flows (gpd)

Land Use	Land Use Generation Rate (gpd/ acre)	OV-1	OV-2	OV-3	OV-4	OV-5	OV-6	Total
Civic Activity (CA)	630	0	2,627	-	8,215	11,036	6,702	28,580
Commercial Office (CO)	980	-	-	-	-	7,044	-	7,044
Commercial Service (CS)	980	-	-	-	-	-	-	-
General Commercial (GC)	980	-	1,113	-	254	19,845	-	21,212
High Density Residential (HD)	3,690	18	-	-	-	5	-	24
Industrial General (IG)	980	-	-	-	11,952	-	1,836	13,788
Industrial Park (IP)	980	-	-	-	1,268	-	-	1,268
Low Density Residential (LD)	310	28,914	17,328	26	46	51,780	66,187	164,282
Medium Density Residential (MD)	1,435	1,962	7,814	5,070	27,780	62,435	9,076	114,137
Medium High Density Residential (MHD)	2,565	-	-	-	-	2	10,619	10,621
Medium Low Density Residential (MLD)	720	17,364	3,382	4,734	6,812	49,275	9,185	90,753
Mixed Use (MU)	6,355	-	-	-	-	-	-	-
Neighborhood Commercial (CN)	980	7,347	-	-	903	2,720	-	10,970
Open Space (OS)	-	-	-	-	-	-	-	-
Open Space Residential (OSR)	65	-	-	-	-	-	-	-
Open Space/Parks (OP)	-	-	-	-	-	-	-	-
Parks and Recreation (PR)	-	-	-	-	-	-	-	-
Research Light Industrial (RLI)	980	-	-	-	-	-	-	-
Rural Residential (RR)	130	22,404	14,668	-	1	19,569	40,611	97,252
Road/ Railroad Right of Way	-	-	-	-	-	-	-	-
Vacant and Undeveloped Land	-	-	-	-	-	-	-	-
Total		78,009	46,931	9,830	57,231	223,712	144,216	559,930

Land Use Generation Rates developed as part of the 2016 Master Plan update.

Existing Estimated Flows exclude properties currently on septic as indicated by City of Vista Septic List.

Land Use Sources: Vista General Plan 2030 (2011), Oceanside General Plan Housing Element (2013), SANGIS County Land Use (2017)

Appendix B. Table 2 - Vista - Oceanside Transfers: Total Projected Buildout Flows (gpd)

Land Use	Land Use Generation Rate (gpd/ acre)	OV-1	OV-2	OV-3	OV-4	OV-5	OV-6	Total
Civic Activity (CA)	630	0	13	-	9,823	10,134	3,581	23,553
Commercial Office (CO)	980	-	-	-	-	7,040	-	7,040
Commercial Service (CS)	980	-	-	-	-	-	-	-
General Commercial (GC)	980	117	-	-	327	20,723	-	21,167
High Density Residential (HD)	3,690	18	-	-	1,236	3,502	-	4,756
Industrial General (IG)	980	-	-	-	13,668	-	0	13,668
Industrial Park (IP)	980	-	-	-	1,274	-	-	1,274
Low Density Residential (LD)	310	36,368	11,233	26	2,071	58,015	12,360	120,073
Medium Density Residential (MD)	1,435	-	12,529	5,070	-	63,246	-	80,845
Medium High Density Residential (MHD)	2,565	-	-	-	-	1,827	-	1,827
Medium Low Density Residential (MLD)	720	26,821	151,482	5,548	6,724	50,555	35	241,165
Mixed Use (MU)	6,355	-	-	-	148,050	32,234	-	180,284
Neighborhood Commercial (CN)	980	7,570	-	-	8,023	1,094	-	16,686
Open Space (OS)	-	-	-	-	-	-	-	-
Open Space Residential (OSR)	65	-	-	-	-	-	-	-
Open Space/Parks (OP)	-	-	-	-	-	-	-	-
Parks and Recreation (PR)	-	-	-	-	-	-	-	-
Research Light Industrial (RLI)	980	-	-	-	-	-	-	-
Rural Residential (RR)	130	35,528	3,200	-	1	40,324	98,356	177,409
Road/ Railroad Right of Way	-	-	-	-	-	-	-	-
Vacant and Undeveloped Land	-	-	-	-	-	-	-	-
Total		106,421	178,457	10,644	191,198	288,695	114,333	889,747

Land Use Generation Rates developed as part of the 2016 Master Plan update.

Projected Buildout Flows flows include properties currently on septic as indicated by City of Vista Septic List.

Land Use Sources: Vista General Plan 2030 (2011) Proposed Land Uses, Oceanside General Plan Housing Element (2013) Zoned Land Uses, SANGIS County Land Use (2017) Planned Land Uses

Appendix B. Table 3 - Vista - Oceanside Transfers: Vista Existing Estimated Flows (gpd)

Land Use	Land Use Generation Rate (gpd/ acre)	OV-1	OV-2	OV-3	OV-4	OV-5	OV-6	Grand Total
Civic Activity (CA)	630	-	4.57	-	8,154	9,921	-	18,079
Commercial Office (CO)	980	-	-	-	-	7,044	-	7,044
Commercial Service (CS)	980	-	-	-	-	-	-	-
General Commercial (GC)	980	-	-	-	254	19,845	-	20,099
High Density Residential (HD)	3,690	18	-	-	-	5	-	23
Industrial General (IG)	980	-	-	-	11,935	-	-	11,935
Industrial Park (IP)	980	-	-	-	90	-	-	90
Low Density Residential (LD)	310	13,157	9,023	13	46	28,266	1,137	51,644
Medium Density Residential (MD)	1,435	-	7,814	5,070	27,780	62,418	-	103,082
Medium High Density Residential (MHD)	2,565	-	-	-	-	2	-	2
Medium Low Density Residential (MLD)	720	14,645	2,370	4,733	6,794	48,135	-	76,678
Mixed Use (MU)	6,355	-	-	-	-	-	-	-
Neighborhood Commercial (CN)	980	5,337	-	-	-	2,709	-	8,046
Open Space (OS)	-	-	-	-	-	-	-	-
Open Space Residential (OSR)	65	-	-	-	-	-	-	-
Open Space/Parks (OP)	-	-	-	-	-	-	-	-
Parks and Recreation (PR)	-	-	-	-	-	-	-	-
Research Light Industrial (RLI)	980	-	-	-	-	-	-	-
Rural Residential (RR)	130	1,307	3,088	-	0	1,707	-	6,103
Road/ Railroad Right of Way	-	-	-	-	-	-	-	-
Vacant and Undeveloped Land	-	-	-	-	-	-	-	-
Total		34,465	22,300	9,815	55,054	180,053	1,137	302,825

Land Use Generation Rates developed as part of the 2016 Master Plan update.

Existing Estimated Flows exclude properties currently on septic as indicated by City of Vista Septic List.

Land Use Sources: Vista General Plan 2030 (2011)

Appendix B. Table 4 - Vista - Oceanside Transfers: Vista Projected Buildout Flows (gpd)

Land Use	Land Use Generation Rate (gpd/ acre)	OV-1	OV-2	OV-3	OV-4	OV-5	OV-6	Grand Total
Civic Activity (CA)	630	-	5	-	8,154	10,134	-	18,292.7
Commercial Office (CO)	980	-	-	-	-	7,040	-	7,040
Commercial Service (CS)	980	-	-	-	-	-	-	
General Commercial (GC)	980	64	-	-	327	20,723	-	21,114
High Density Residential (HD)	3,690	18	-	-	1,236	3,502	-	4,756
Industrial General (IG)	980	-	-	-	13,652	-	-	13,652
Industrial Park (IP)	980	-	-	-	98	-	-	98
Low Density Residential (LD)	310	36,263	10,552	13	31	41,181	3,080	91,120
Medium Density Residential (MD)	1,435	-	12,529	5,070	-	63,229	-	80,828
Medium High Density Residential (MHD)	2,565	-	-	-	-	1,827	-	1,827
Medium Low Density Residential (MLD)	720	19,217	7	5,547	6,723	50,435	-	81,929
Mixed Use (MU)	6,355	-	-	-	123,651	-	-	123,651
Neighborhood Commercial (CN)	980	5,337	-	-	4	1,084	-	6,425
Open Space (OS)	-	-	-	-	-	-	-	
Open Space Residential (OSR)	65	-	-	-	-	-	-	
Open Space/Parks (OP)	-	-	-	-	-	-	-	-
Parks and Recreation (PR)	-	-	-	-	-	-	-	
Research Light Industrial (RLI)	980	-	-	-	-	-	-	
Rural Residential (RR)	130	2,945	3,073	-	-	1,797	8	7,824
Road/ Railroad Right of Way	-	-	-	-	-	-	-	
Vacant and Undeveloped Land	-	-	-	-	-	-	-	
Total		63,844	26,165	10,629	153,877	200,952	3,088	458,556

Land Use Generation Rates developed as part of the 2016 Master Plan update.

Projected Buildout Flows flows include properties currently on septic as indicated by City of Vista Septic List.

Land Use Sources: Vista General Plan 2030 (2011) Proposed Land Uses

Appendix B. Table 5 - Vista - Oceanside Transfers: Oceanside Existing Estimated Flows (gpd)

Land Use	Land Use Generation Rate (gpd/ acre)	OV-1	OV-2	OV-3	OV-4	OV-5	OV-6	Grand Total
Civic Activity (CA)	630	0	-	-	61	-	3,717	3,778
Commercial Office (CO)	980	-	-	-	-	-	-	-
Commercial Service (CS)	980	-	-	-	-	-	-	-
General Commercial (GC)	980	-	-	-	-	-	-	-
High Density Residential (HD)	3,690	0	-	-	-	-	-	0
Industrial General (IG)	980	-	-	-	16	-	-	16
Industrial Park (IP)	980	-	-	-	1,177	-	-	1,177
Low Density Residential (LD)	310	24	342	14	-	40	8,691	9,111
Medium Density Residential (MD)	1,435	-	-	-	-	-	-	-
Medium High Density Residential (MHD)	2,565	-	-	-	-	-	-	-
Medium Low Density Residential (MLD)	720	-	-	1	18	29	35	83
Mixed Use (MU)	6,355	-	-	-	-	-	-	-
Neighborhood Commercial (CN)	980	1,965	-	-	903	-	-	2,867
Open Space (OS)	-	-	-	-	-	-	-	-
Open Space Residential (OSR)	65	-	-	-	-	-	-	-
Open Space/Parks (OP)	-	-	-	-	-	-	-	-
Parks and Recreation (PR)	-	-	-	-	-	-	-	-
Research Light Industrial (RLI)	980	-	-	-	-	-	-	-
Rural Residential (RR)	130	9	-	-	1	356	241	607
Road/ Railroad Right of Way	-	-	-	-	-	-	-	-
Vacant and Undeveloped Land	-	-	-	-	-	-	-	-
Total		1,998	342	15	2,177	425	12,684	17,641

Land Use Generation Rates developed as part of the 2016 Master Plan update.

Existing Estimated Flows exclude properties currently on septic as indicated by City of Vista Septic List.

Land Use Sources: Oceanside General Plan Housing Element (2013) and SANGIS County Land Use (2017)

Appendix B. Table 6 - Vista - Oceanside Transfers: Oceanside Projected Buildout Flows (gpd)

Land Use	Land Use Generation Rate (gpd/ acre)	OV-1	OV-2	OV-3	OV-4	OV-5	OV-6	Grand Total
Civic Activity (CA)	630	0	-	-	1,670	-	3,581	5,251
Commercial Office (CO)	980	-	-	-	-	-	-	-
Commercial Service (CS)	980	-	-	-	-	-	-	-
General Commercial (GC)	980	13	-	-	-	-	-	13
High Density Residential (HD)	3,690	0	-	-	-	-	-	0
Industrial General (IG)	980	-	-	-	16	-	-	16
Industrial Park (IP)	980	-	-	-	1,176	-	-	1,176
Low Density Residential (LD)	310	4	342	14	2,040	16,740	9,273	28,412
Medium Density Residential (MD)	1,435	-	-	-	-	-	-	-
Medium High Density Residential (MHD)	2,565	-	-	-	-	-	-	-
Medium Low Density Residential (MLD)	720	36	16	1	0	105	35	194
Mixed Use (MU)	6,355	-	-	-	24,399	32,234	-	56,633
Neighborhood Commercial (CN)	980	2,187	-	-	8,018	-	-	10,206
Open Space (OS)	-	-	-	-	-	-	-	-
Open Space Residential (OSR)	65	-	-	-	-	-	-	-
Open Space/Parks (OP)	-	-	-	-	-	-	-	-
Parks and Recreation (PR)	-	-	-	-	-	-	-	-
Research Light Industrial (RLI)	980	-	-	-	-	-	-	-
Rural Residential (RR)	130	22	-	-	1	5	50	78
Road/ Railroad Right of Way	-	-	-	-	-	-	-	-
Vacant and Undeveloped Land	-	-	-	-	-	-	-	-
Total		2,263	358	15	37,321	49,084	12,939	101,981

Land Use Generation Rates developed as part of the 2016 Master Plan update.

Projected Buildout Flows flows include properties currently on septic as indicated by City of Vista Septic List.

Land Use Sources: Oceanside General Plan Housing Element (2013) Zoned Land Uses and SANGIS County Land Use (2017) Planned Land Uses

Appendix B. Table 7 - Vista - Oceanside Transfers: Unincorporated San Diego County Existing Estimated Flows (gpd)

Land Use	Land Use Generation Rate (gpd/ acre)	OV-1	OV-2	OV-3	OV-4	OV-5	OV-6	Grand Total
Civic Activity (CA)	630	-	2,622	-	-	1,116	2,985	6,723
Commercial Office (CO)	980	-	-	-	-	-	-	-
Commercial Service (CS)	980	-	-	-	-	-	-	-
General Commercial (GC)	980	-	1,113	-	-	-	-	1,113
High Density Residential (HD)	3,690	-	-	-	-	-	-	-
Industrial General (IG)	980	-	-	-	-	-	1,836	1,836
Industrial Park (IP)	980	-	-	-	-	-	-	-
Low Density Residential (LD)	310	15,732	7,963	-	-	23,474	56,359	103,528
Medium Density Residential (MD)	1,435	1,962	-	-	-	17	9,076	11,056
Medium High Density Residential (MHD)	2,565	-	-	-	-	-	10,619	10,619
Medium Low Density Residential (MLD)	720	2,718	1,012	-	-	1,111	9,150	13,991
Mixed Use (MU)	6,355	-	-	-	-	-	-	-
Neighborhood Commercial (CN)	980	45	-	-	-	11	-	56
Open Space (OS)	-	-	-	-	-	-	-	-
Open Space Residential (OSR)	65	-	-	-	-	-	-	-
Open Space/Parks (OP)	-	-	-	-	-	-	-	-
Parks and Recreation (PR)	-	-	-	-	-	-	-	-
Research Light Industrial (RLI)	980	-	-	-	-	-	-	-
Rural Residential (RR)	130	21,088	11,579	-	-	17,505	40,369	90,543
Road/ Railroad Right of Way	-	-	-	-	-	-	-	-
Vacant and Undeveloped Land	-	-	-	-	-	-	-	-
Total		41,546	24,289	-	-	43,234	130,394	239,463

Land Use Generation Rates developed as part of the 2016 Master Plan update.

Existing Estimated Flows exclude properties currently on septic as indicated by City of Vista Septic List.

Land Use Sources: SANGIS County Land Use (2017)

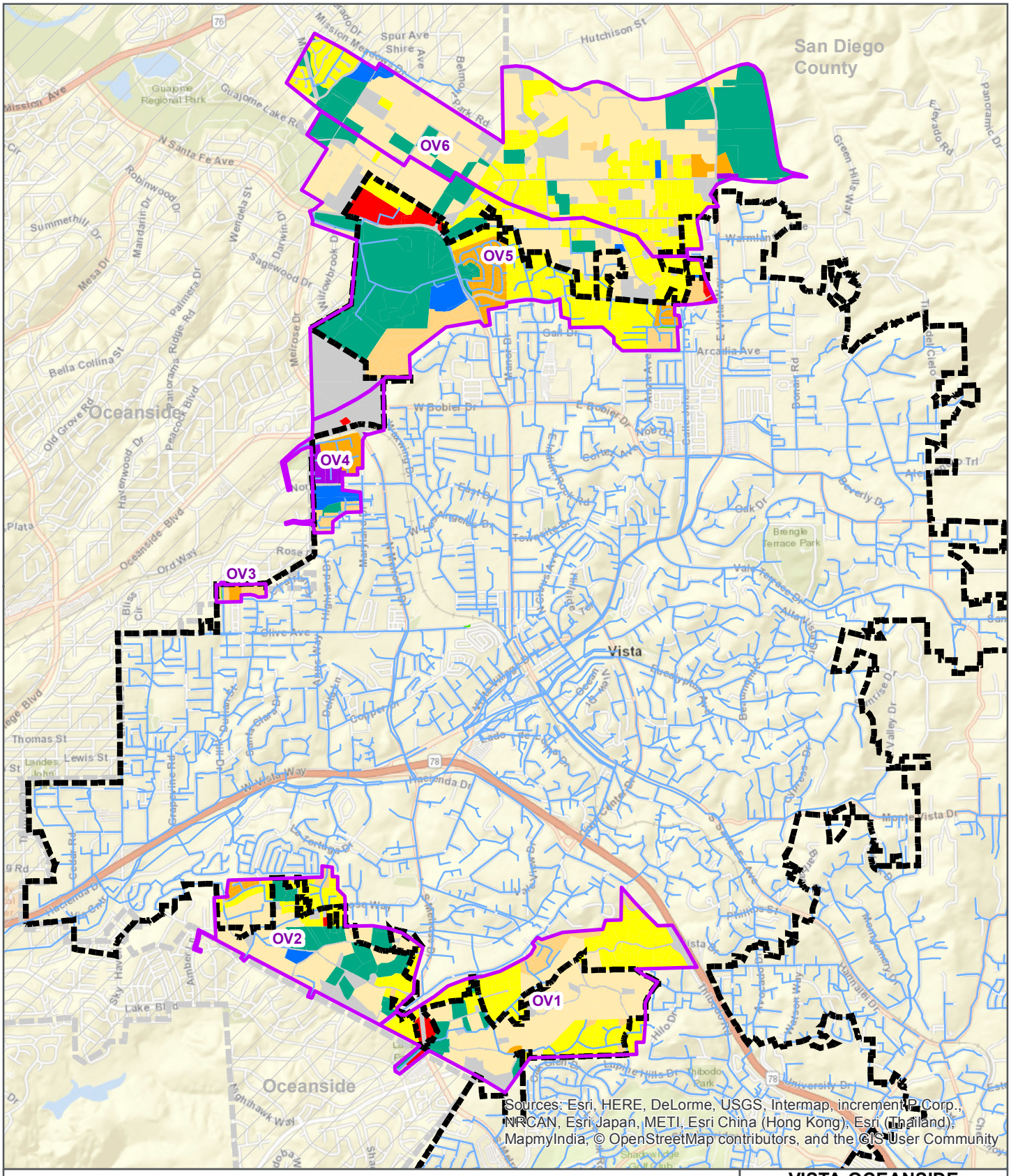
Appendix B. Table 8 - Vista - Oceanside Transfers: Unincorporated San Diego County Projected Buildout Flows (gpd)

Land Use	Land Use Generation Rate (gpd/ acre)	OV-1	OV-2	OV-3	OV-4	OV-5	OV-6	Grand Total
Civic Activity (CA)	630	-	9	-	-	-	-	9
Commercial Office (CO)	980	-	-	-	-	-	-	-
Commercial Service (CS)	980	-	-	-	-	-	-	-
General Commercial (GC)	980	39	-	-	-	-	-	39
High Density Residential (HD)	3,690	-	-	-	-	-	-	-
Industrial General (IG)	980	-	-	-	-	-	0	0
Industrial Park (IP)	980	-	-	-	-	-	-	-
Low Density Residential (LD)	310	100	339	-	-	94	7	541
Medium Density Residential (MD)	1,435	-	-	-	-	17	-	17
Medium High Density Residential (MHD)	2,565	-	-	-	-	-	-	-
Medium Low Density Residential (MLD)	720	7,567	151,459	-	-	15	-	159,041
Mixed Use (MU)	6,355	-	-	-	-	-	-	-
Neighborhood Commercial (CN)	980	45	-	-	-	11	-	56
Open Space (OS)	-	-	-	-	-	-	-	-
Open Space Residential (OSR)	65	-	-	-	-	-	-	-
Open Space/Parks (OP)	-	-	-	-	-	-	-	-
Parks and Recreation (PR)	-	-	-	-	-	-	-	-
Research Light Industrial (RLI)	980	-	-	-	-	-	-	-
Rural Residential (RR)	130	32,561	126	-	-	38,522	98,298	169,507
Road/ Railroad Right of Way	-	-	-	-	-	-	-	-
Vacant and Undeveloped Land	-	-	-	-	-	-	-	-
Total		40,314	151,934	-	-	38,659	98,305	329,211

Land Use Generation Rates developed as part of the 2016 Master Plan update.

Projected Buildout Flows flows include properties currently on septic as indicated by City of Vista Septic List.

Land Use Sources: SANGIS County Land Use (2017) Planned Land Uses



Existing Land Use
- Other
- Civic Activity (CA)
- Commercial Office (CO)
- Commercial Service (CS)
- General Commercial (GC)
- High Density Residential (HD)
- Industrial General (IG)
- Industrial Park (IP)
- Low Density Residential (LD)
- Medium Density Residential (MD)
- Medium High Density Residential (MHD)
- Medium Low Density Residential (MLD)
- Mixed Use (MU)
- Mobile Home Park
- Neighborhood Commercial (CN)
- Open Space (OS)
- Open Space Residential (OSR)
- Open Space/Parks (OP)
- Parks and Recreation (PR)
- Railroad Right-of-Way (RR ROW)
- Research Light Industrial (RLI)
- Rural Residential (RR)

Hydrological Boundaries
- Vista-Oceanside Basins

Sewer Collection System
- Gravity Main
- Force Main

Jurisdictional Boundaries
- City of Vista
- City of Oceanside

Land Use Sources: Vista General Plan, Oceanside General Plan, SANDAG Land Use

VISTA-OCEANSIDE TRANSFER BASINS EXISTING LAND USE

CITY OF VISTA, CALIFORNIA

N

0 0.5 1 MILES

CITY OF VISTA CALIFORNIA

HDR

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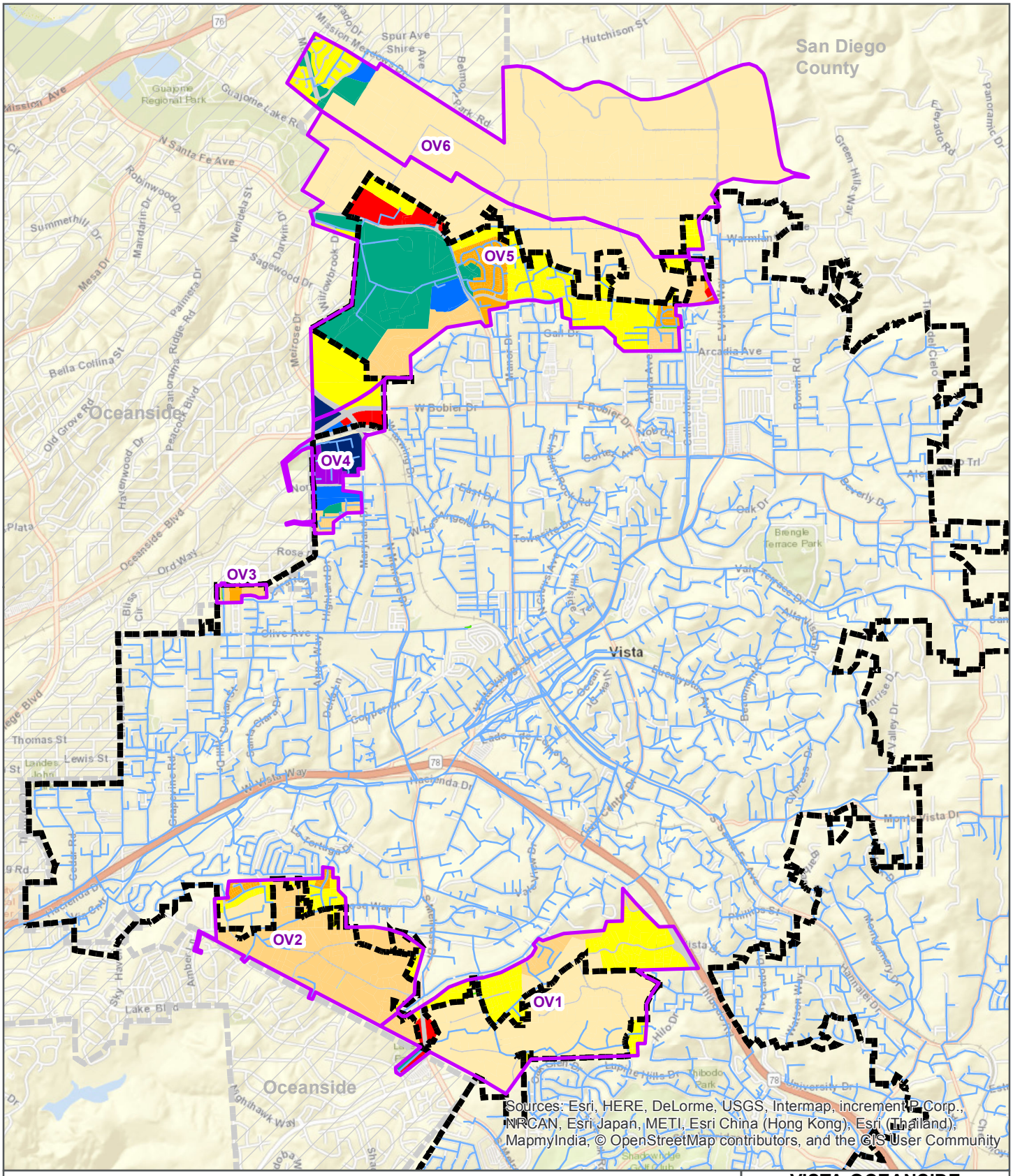

Planned Land Use
- Other
- Civic Activity (CA)
- Commercial Office (CO)
- Commercial Service (CS)
- General Commercial (GC)
- High Density Residential (HD)
- Industrial General (IG)
- Industrial Park (IP)
- Low Density Residential (LD)
- Medium Density Residential (MD)
- Medium High Density Residential (MHD)
- Medium Low Density Residential (MLD)
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Hydrological Boundaries
- Vista-Oceanside Basins

Sewer Collection System
- Gravity Main
- Force Main

Jurisdictional Boundaries
- City of Vista
- City of Oceanside

Land Use Sources: Vista General Plan, Oceanside General Plan, SANDAG Land Use

VISTA-OCEANSIDE TRANSFER BASINS PLANNED LAND USE

CITY OF VISTA, CALIFORNIA

N

0 0.5 1 MILES

CITY OF VISTA CALIFORNIA

HDR

PATH: C:\USERS\JENGLESO\DOCUMENTS\DOCUMENTS\PROJECTS\VISTA\SEWER_MASTER_PLAN_000000\MODEL_FILES\VISTA_OCEANSIDE_TRANSFERS_PROJECTED_85X11.MXD - USER: JENGLESO - DATE: 4/18/2017

Appendix C-1.Temporary Flow Meter Dry Weather Flow Model Validation Graphs

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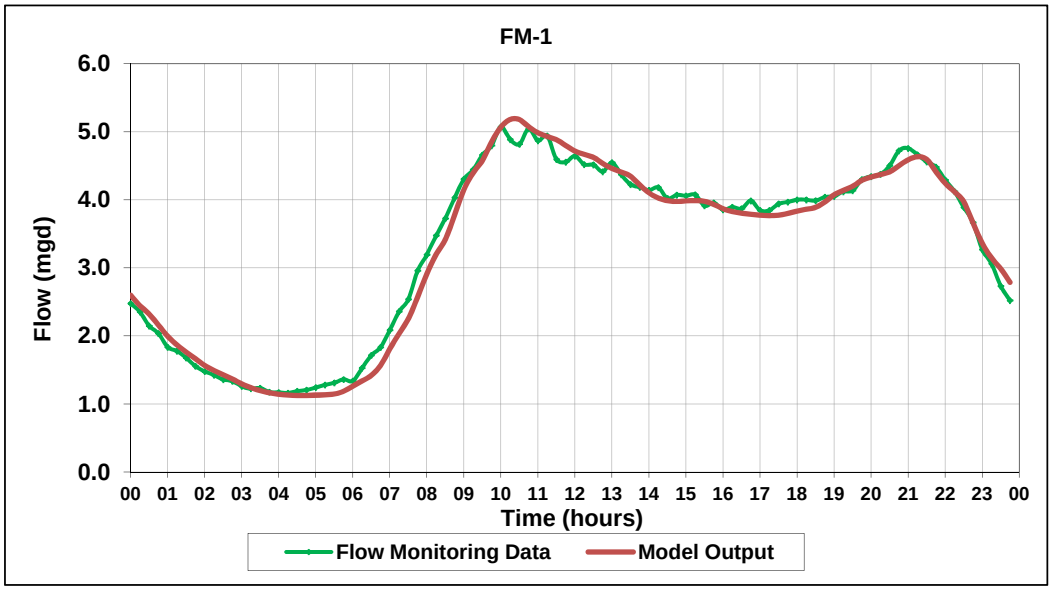
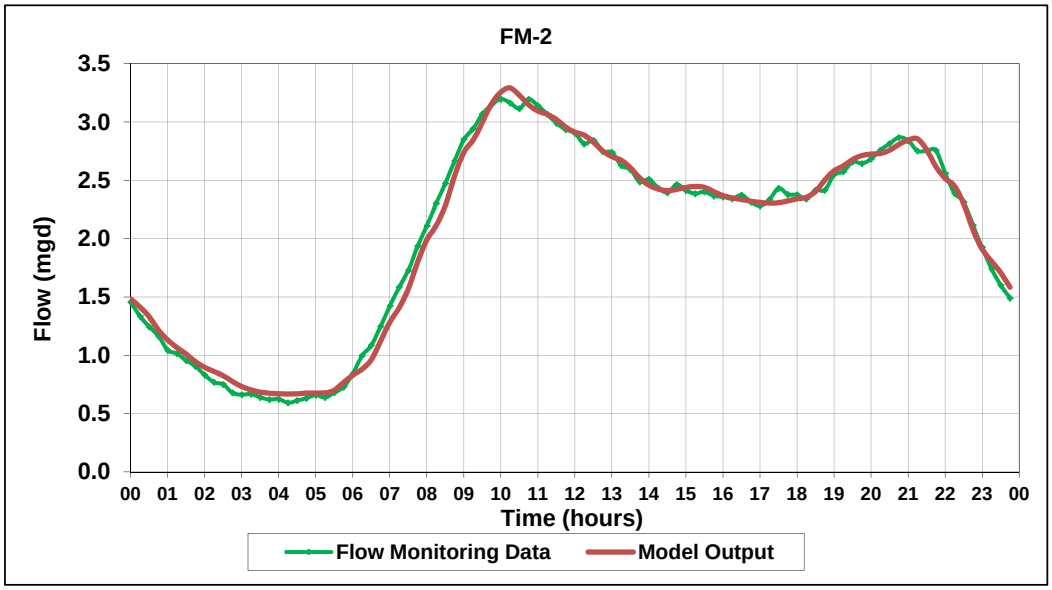
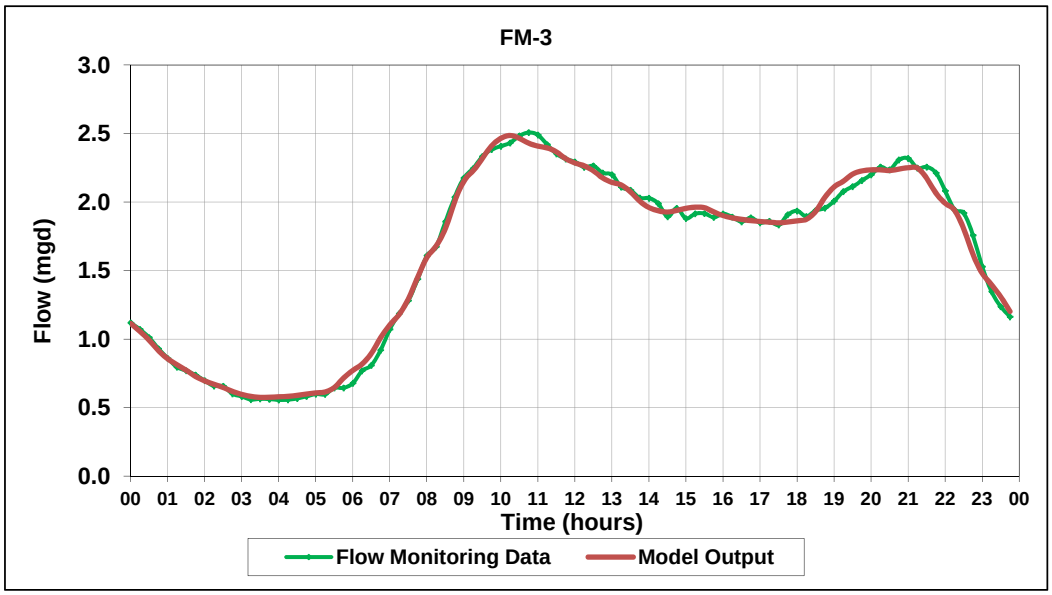
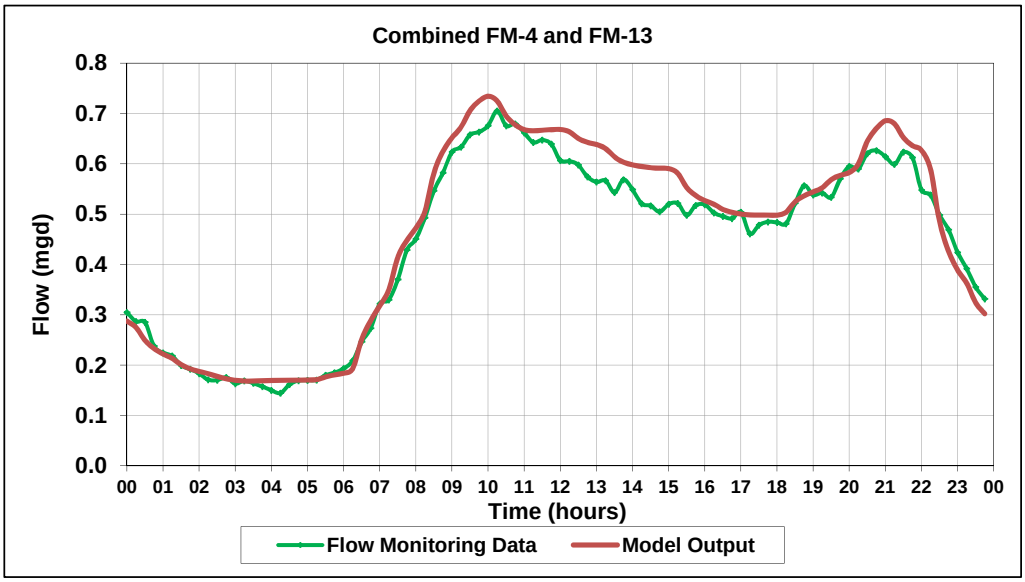
Appendix C-1. Temporary Flow Meter Dry Weather Flow Model Validation Graphs



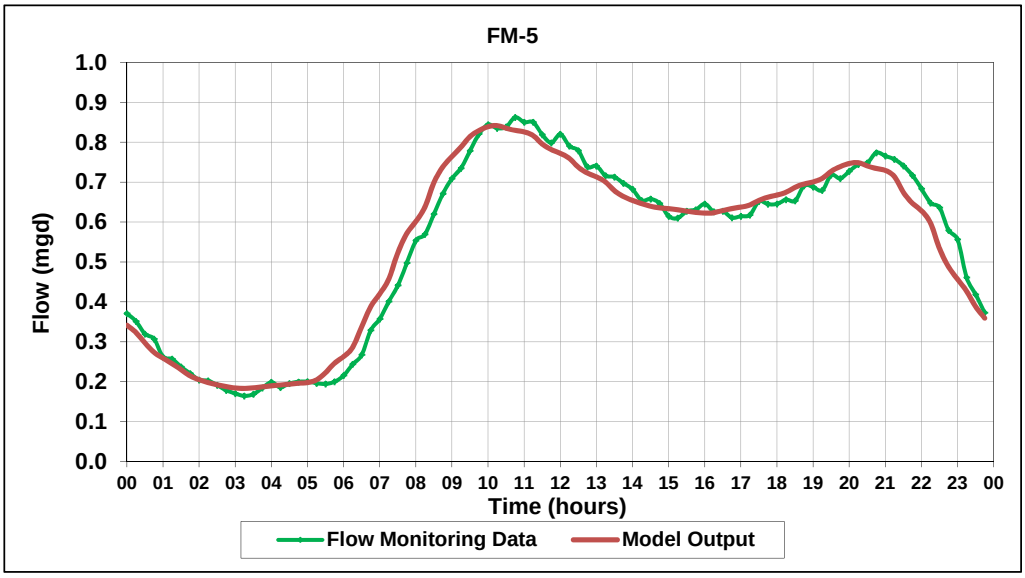


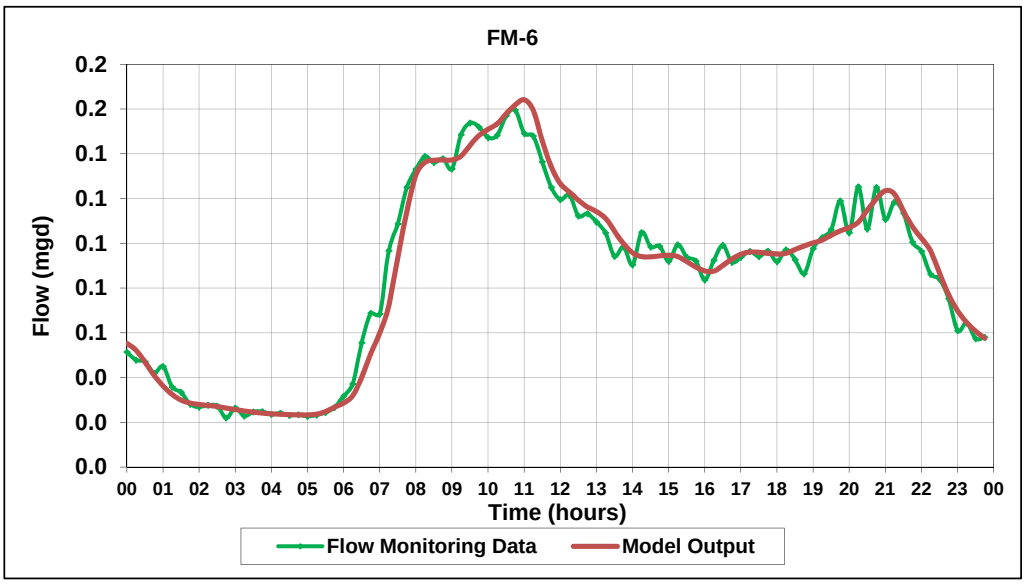


Appendix C-1. Temporary Flow Meter Dry Weather Flow Model Validation Graphs

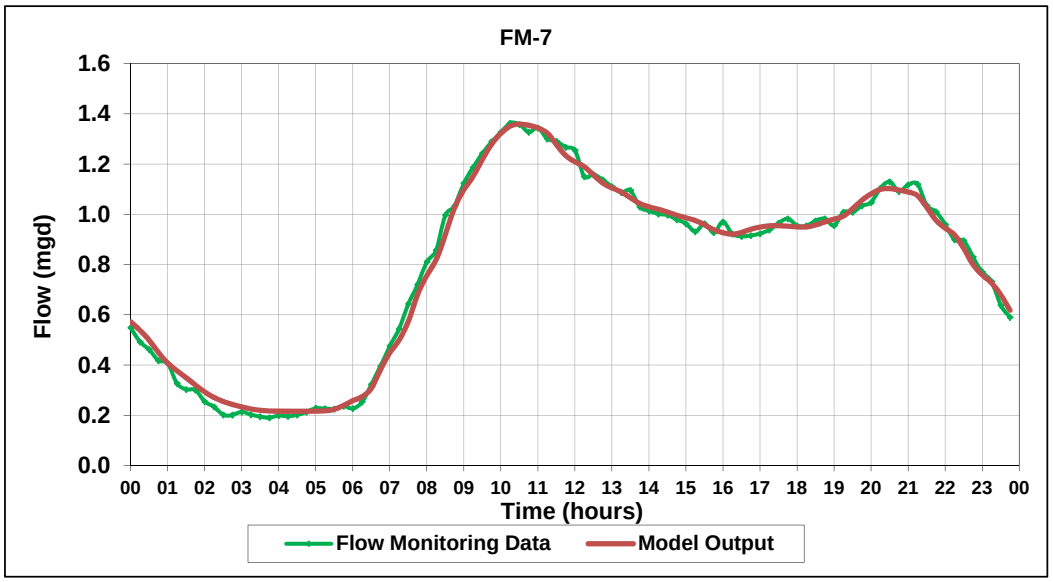


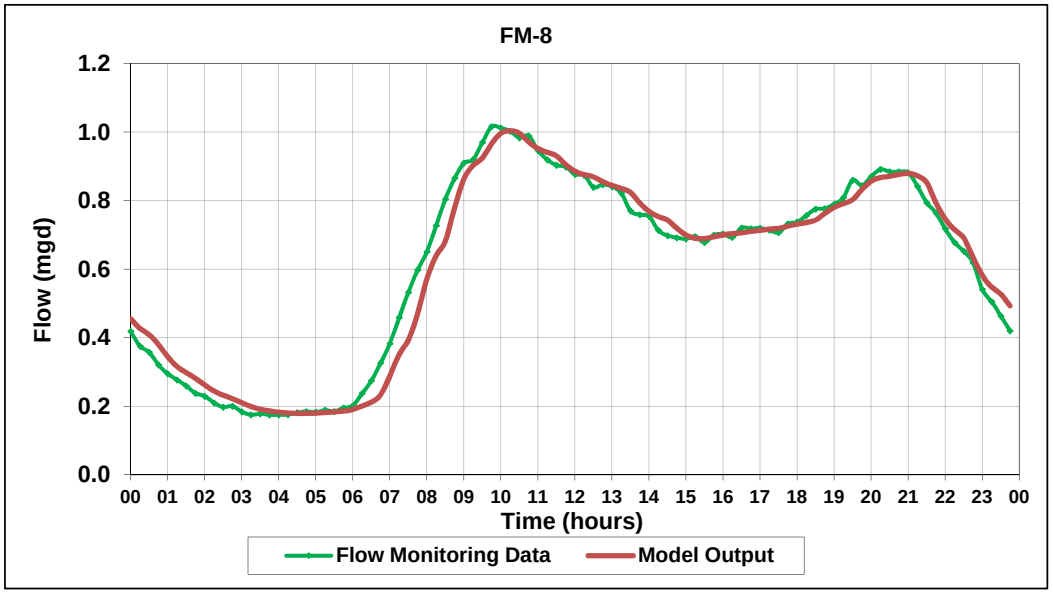
Note: Flows from FM-13 and FM-4 were combined for validation purposes

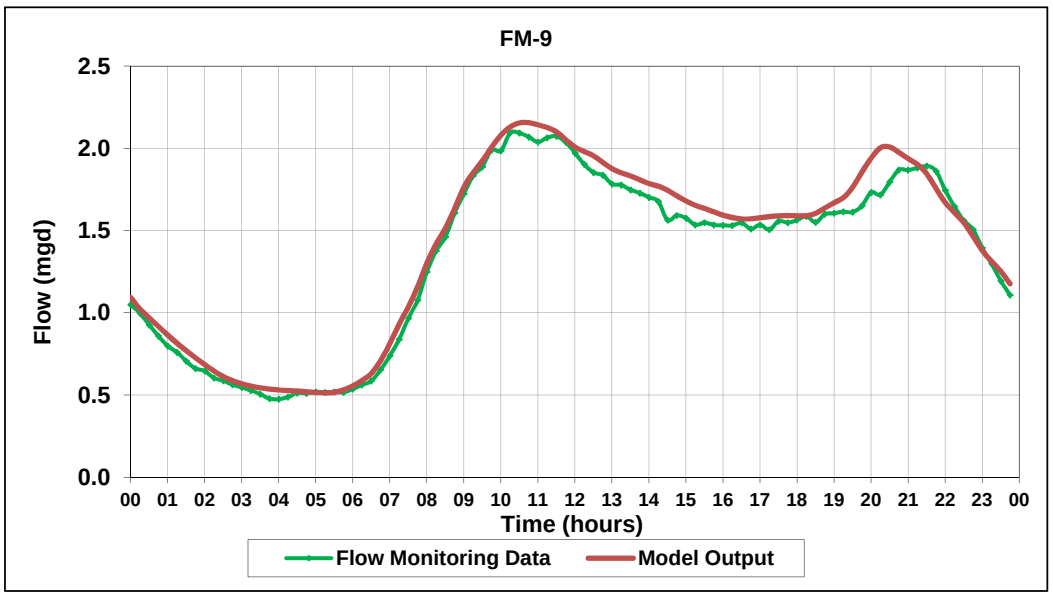




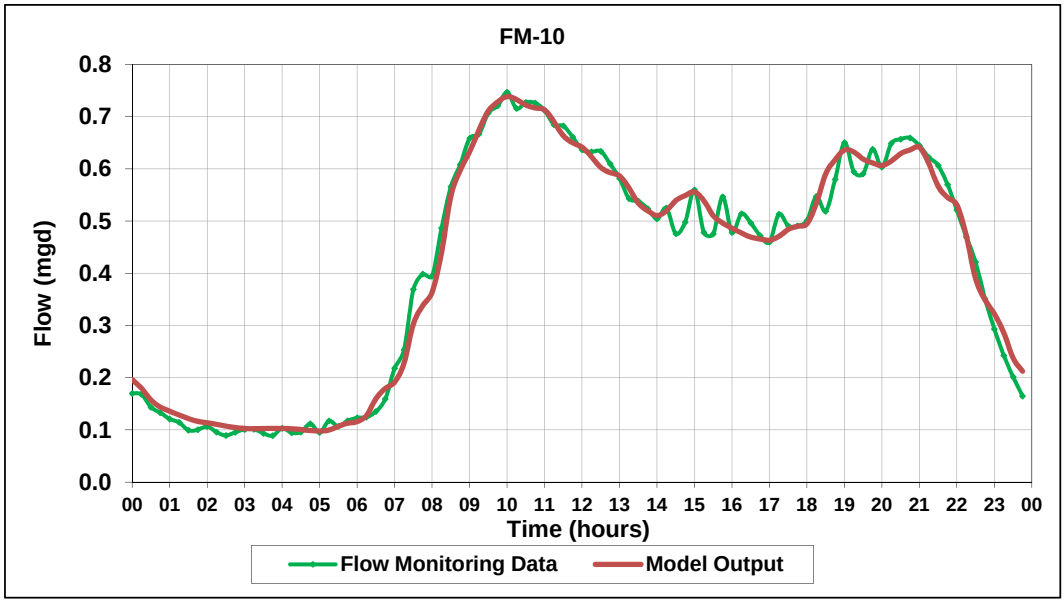
Appendix C-1. Temporary Flow Meter Dry Weather Flow Model Validation Graphs

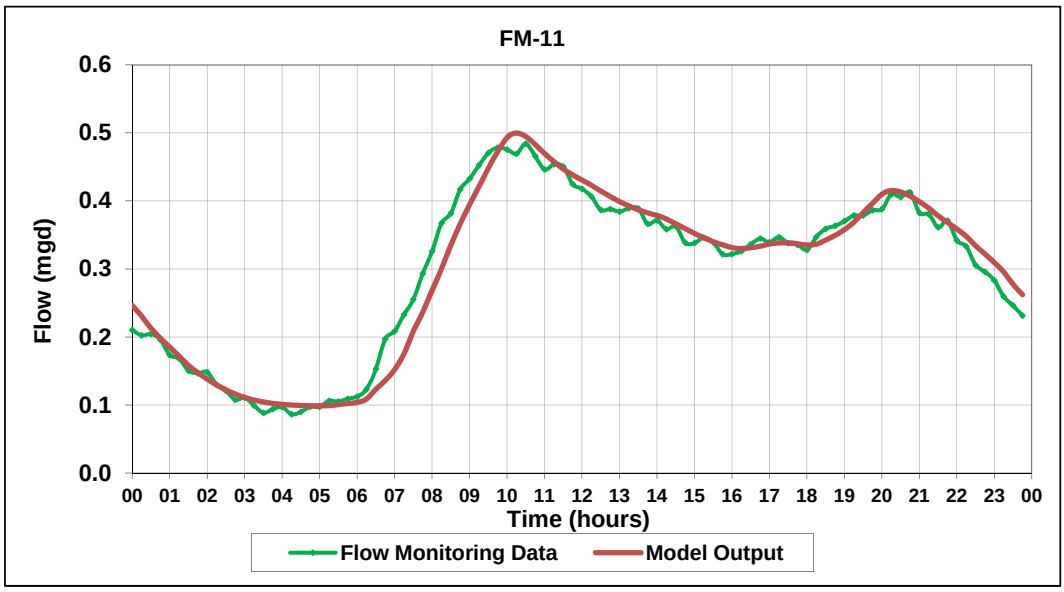






Appendix C-1. Temporary Flow Meter Dry Weather Flow Model Validation Graphs





Note: Data from FM-12 were not used as part of the calibration effort. The data from this flow meter appeared inconsistent with SCADA data. The Encina Wastewater Authority V1 SCADA flows were used for boundary condition calculations for the Vista basin.

Appendix C-2. Model Output by Modeled Pipe

Table 1 – Existing Collection System Gravity Main Model Output

Table 2 – Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

Table 3 – Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

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Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B01001-B01003	86	508	8	0.010	0.77	0.02	0.09	0.02	0.09	0.01	0.08	0.01	0.08
B01002-B01003	3300	101	8	0.040	1.55	0.00	0.06	0.00	0.06	0.00	0.04	0.00	0.05
B01003-B01004	85	257	8	0.038	1.51	0.02	0.08	0.02	0.09	0.01	0.07	0.02	0.08
B01004-B01005	82	338	8	0.042	1.60	0.02	0.11	0.03	0.13	0.01	0.10	0.02	0.12
B01005-B01006	81	355	8	0.006	0.58	0.02	0.16	0.03	0.18	0.02	0.15	0.03	0.19
B01006-B01007	80	398	8	0.004	0.50	0.03	0.18	0.05	0.21	0.03	0.18	0.05	0.23
B01007-B01010	79	265	8	0.004	0.49	0.04	0.21	0.05	0.24	0.04	0.20	0.06	0.25
B01008-B01009	78	149	6	0.072	0.97	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
B01009-B01010	77	152	6	0.070	0.96	0.01	0.18	0.01	0.21	0.00	0.17	0.00	0.21
B01010-B01011	76	141	8	0.004	0.49	0.05	0.19	0.07	0.22	0.05	0.18	0.07	0.23
B01011-B01013	75	499	8	0.022	1.15	0.05	0.13	0.07	0.16	0.05	0.13	0.08	0.16
B01012-B01013	3301	140	8	0.081	2.22	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.08
B01013-B01014	71	429	8	0.082	2.24	0.07	0.15	0.09	0.17	0.05	0.13	0.09	0.17
B01014-B01020	70	123	8	0.019	1.09	0.07	0.17	0.10	0.20	0.06	0.15	0.10	0.20
B01015-B01016	299	398	8	0.073	2.10	0.00	0.02	-	0.02	0.01	0.04	0.01	0.05
B01016-B01017	298	349	8	0.064	1.98	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.06
B01017-B01018	161	351	8	0.076	2.15	0.01	0.06	0.01	0.08	0.01	0.08	0.02	0.10
B01018-B01020	156	342	8	0.014	0.92	0.01	0.12	0.02	0.15	0.02	0.12	0.03	0.16
B01019-B01020	153	478	8	0.005	0.52	0.01	0.12	0.01	0.13	0.01	0.11	0.01	0.14
B01020-B01021	140	358	8	0.047	1.70	0.09	0.27	0.14	0.32	0.08	0.26	0.14	0.33
B01021-B01024	130	65	8	0.001	0.22	0.09	0.28	0.14	0.33	0.08	0.27	0.15	0.34
B01022.A0-B01022	7648	6	8	0.002	0.35	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B01022-B01023	121	235	8	0.085	2.28	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
B01023-B01024	289	226	8	0.078	2.18	0.01	0.11	0.01	0.13	0.01	0.10	0.01	0.13
B01024-B01025	700	285	8	0.049	1.73	0.10	0.16	0.16	0.19	0.09	0.15	0.17	0.20
B01025-B01026	691	250	8	0.111	2.60	0.11	0.15	0.17	0.19	0.10	0.15	0.17	0.19
B01026.A0-B01026	7649	36	8	0.013	0.88	0.00	0.09	0.00	0.11	0.00	0.10	0.00	0.13
B01026-B01050	690	177	8	0.055	1.84	0.11	0.20	0.17	0.25	0.10	0.20	0.18	0.26
B01027-B01028	3308	20	8	0.002	0.35	0.01	0.07	0.01	0.07	0.00	0.06	0.00	0.06
B01028-B01030	689	372	8	0.067	2.02	0.01	0.08	0.01	0.09	0.00	0.08	0.00	0.09
B01029-B01030	681	64	8	0.005	0.55	0.01	0.11	0.01	0.11	0.01	0.12	0.01	0.12
B01030-B01034	683	217	8	0.005	0.55	0.02	0.16	0.02	0.18	0.02	0.17	0.02	0.20
B01031.B0-B01031.E0	527	216	8	0.006	0.60	0.01	0.09	0.01	0.09	0.01	0.11	0.01	0.11
B01031.D0-B01031.E0	530	180	8	0.016	0.98	0.01	0.09	0.01	0.09	0.01	0.11	0.01	0.11
B01031.E0-B01031.F0	531	338	8	0.016	0.98	0.02	0.09	0.02	0.09	0.03	0.11	0.04	0.12
B01031.F0-B01031	532	109	8	0.080	2.21	0.02	0.07	0.03	0.08	0.03	0.09	0.04	0.10
B01031-B01032	533	119	8	0.081	2.22	0.02	0.07	0.03	0.08	0.04	0.09	0.05	0.11
B01032-B01033	680	240	8	0.071	2.08	0.03	0.08	0.03	0.09	0.04	0.10	0.05	0.11
B01033-B01034	684	295	8	0.104	2.52	0.03	0.14	0.04	0.16	0.04	0.16	0.06	0.18
B01034-B01035	679	335	8	0.007	0.67	0.05	0.18	0.07	0.20	0.07	0.19	0.09	0.23
B01035-B01036	675	264	8	0.022	1.15	0.06	0.19	0.08	0.22	0.07	0.19	0.10	0.23
B01036-B01037	674	322	10	0.006	1.06	0.08	0.19	0.10	0.21	0.07	0.18	0.10	0.22
B01037-B01038	673	326	10	0.005	1.00	0.08	0.19	0.10	0.22	0.07	0.19	0.11	0.23
B01038.A0-B01038	1834	37	6	0.323	2.06	0.00	0.17	0.00	0.19	0.01	0.19	0.01	0.22
B01038-B01039	672	251	10	0.005	1.00	0.08	0.20	0.11	0.23	0.08	0.20	0.12	0.25
B01039-B01047	671	115	10	0.004	0.85	0.08	0.21	0.11	0.25	0.08	0.21	0.13	0.27
B01040-B01041	3303	45	8	0.583	5.97	0.00	0.01	-	0.01	0.00	0.02	0.00	0.02
B01041-B01043	3304	180	8	0.021	1.13	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.04
B01043-B01044	670	308	8	0.055	1.83	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.08
B01044-B01045	669	304	8	0.004	0.49	0.00	0.06	0.01	0.09	0.01	0.07	0.01	0.10
B01045-B01046	3306	193	8	0.037	1.50	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.07
B01046-B01047	3307	168	8	0.216	3.63	0.01	0.16	0.02	0.19	0.01	0.15	0.02	0.20
B01047-B01048	668	233	10	0.006	1.06	0.10	0.18	0.14	0.21	0.09	0.18	0.15	0.23
B01048-B01049	667	342	10	0.025	2.24	0.10	0.14	0.14	0.17	0.10	0.14	0.16	0.18
B01049-B01050	665	398	10	0.027	2.34	0.10	0.17	0.15	0.21	0.10	0.16	0.16	0.21
B01050-B01051	664	249	12	0.026	3.70	0.21	0.16	0.33	0.20	0.20	0.16	0.35	0.21
B01051-B01053	663	265	12	0.024	3.56	0.21	0.16	0.33	0.21	0.20	0.16	0.36	0.22
B01052-B01053	3309	46	8	0.006	0.59	0.00	0.12	-	0.16	0.00	0.13	0.00	0.17
B01053-B01055	528	499	12	0.024	3.57	0.21	0.16	0.34	0.21	0.20	0.16	0.36	0.22
B01054-B01055	3310	47	8	0.013	0.89	0.00	0.12	-	0.16	0.00	0.13	0.00	0.17
B01055-B01056	525	271	12	0.024	3.57	0.21	0.16	0.34	0.21	0.20	0.16	0.37	0.22
B01056-B01057.J0	524	235	12	0.024	3.57	0.21	0.17	0.35	0.23	0.20	0.18	0.38	0.24
B01057.A0-B01057.B0	8071	103	8	0.013	0.89	0.00	0.05	0.01	0.06	0.02	0.11	0.03	0.12
B01057.AA-B01057.A0	B01057.AA-B01057.A0	203	8	0.013	0.88	0.00	0.05	0.00	0.05	0.01	0.08	0.01	0.09
B01057.B0-B01057.CB	B01057.B0-B01057.CB	100	8	0.012	0.86	0.00	0.05	0.01	0.07	0.02	0.11	0.03	0.12
B01057.C0-B01057.DB	B01057.C0-B01057.DB	67	8	0.009	0.73	0.00	0.05	0.01	0.09	0.03	0.13	0.04	0.15
B01057.CA-B01057.CB	B01057.CA-B01057.CB	201	8	0.010	0.80	0.00	0.02	-	0.03	0.00	0.05	0.00	0.06
B01057.CB-B01057.C0	B01057.CB-B01057.C0	133	8	0.018	1.05	0.00	0.05	0.01	0.08	0.02	0.12	0.03	0.13
B01057.D0-B01057.EB	B01057.D0-B01057.EB	43	8	0.037	1.50	0.01	0.05	0.02	0.09	0.03	0.10	0.05	0.12
B01057.DA-B01057.DB	B01057.DA-B01057.DB	217	8	0.010	0.78	0.00	0.02	-	0.04	0.00	0.06	0.00	0.07
B01057.DB-B01057.DF	B01057.DB-B01057.DF	143	8	0.015	0.95	0.00	0.05	0.01	0.10	0.03	0.12	0.04	0.14
B01057.DC-B01057.DE	B01057.DC-B01057.DE	126	8	0.012	0.84	0.00	0.02	-	0.03	0.00	0.00	0.00	0.02
B01057.DD-B01057.DE	B01057.DD-B01057.DE	100	8	0.012	0.85	0.00	0.02	-	0.03	0.00	0.00	0.00	0.02
B01057.DE-B01057.DF	B01057.DE-B01057.DF	134	8	0.011	0.84	0.00	0.05	0.01	0.08	0.00	0.06	0.00	0.09
B01057.DF-B01057.D0	B01057.DF-B01057.D0	33	8	0.020	1.09	0.01	0.06	0.02	0.10	0.03	0.10	0.04	0.13
B01057.E0-B01057.F0	8075	67	8	0.019	1.07	0.01	0.08	0.03	0.13	0.05	0.17	0.07	0.20
B01057.EA-B01057.EB	B01057.EA-B01057.EB	153	8	0.010	0.78	0.00	0.05	0.00	0.06	0.01	0.09	0.01	0.10
B01057.EB-B01057.E0	B01057.EB-B01057.E0	136	8	0.056	1.85	0.01	0.06	0.03	0.10	0.04	0.12	0.06	0.15
B01057.F0-B01057.G0	7818	300	8	0.009	0.73	0.01	0.11	0.03	0.16	0.06	0.19	0.08	0.23
B01057.G0-B01057.H0	7819	321	8	0.009	0.73	0.02	0.12	0.05	0.17	0.06	0.19	0.08	0.22
B01057.H0-B01057.I0	7836	335	8	0.012	0.84	0.02	0.12	0.05	0.17	0.06	0.18	0.09	0.22
B01057.I0-B01057.J0	7972	149	8	0.012	0.85	0.03	0.20	0.06	0.27	0.06	0.24	0.10	0.31
B01057.J0-B01057	8301	111	12	0.025	3.63	0.23	0.15	0.41	0.20	0.26	0.16	0.48	0.21
B01057-B01058	523	324	12	0.114	7.78	0.23	0.29	0.41	0.58	0.26	0.33	0.48	0.58
B01058-B01060	522	476	12	0.008	2.03	0.88	0.45	2.03	1.00	1.14	0.53	2.43	1.00
B01060-B01061	3283	115	12	0.009	2.15	0.88	0.52	2.04	1.00	1.14	0.75	2.44	1.00
B01061-B01062	519	399	18	0.007	5.74	2.11	0.45	6.41	1.00	4.56	0.73	7.69	1.00
B01062-B01063	3312	502	18	0.005	4.90	2.11	0.41	6.42	0.91	4.56	0.65	7.70	1.00
B01063-B01065	512	245	18	0.016	8.55	2.11	0.44	6.44	0.91	4.56	0.70	7.71	1.00
B01064-B01065	3313	21	8	0.541	5.74	0.00	0.50	-	0.50	0.00	0.50	0.00	0.50
B01065-B01068	506	280	21	0.002	4.86	2.11	0.45	6.44	1.00	4.56	0.73	7.72	1.00
B01066-B01068	3315	23	8	0.414	5.02	0.00	0.50	-	0.50	0.00	0.50	0.00	0.50
B01067-B01068	3314	21	8	0.595	6.02	0.00	0.51	0.00	0.51	0.00	0.50	0.00	0.50
B01068-B01093	505	447	21	0.003	5.50	2.11	0.43	6.46	1.00	4.56	0.69	7.73	1.00
B01069-B01070	504	117	8	0.017	1.03	0.00	0.04	0.00	0.04	0.02	0.10	0.02	0.10
B01070-B01071	503	221	8	0.018	1.06	0.00	0.04	0.00	0.05	0.02	0.10	0.03	0.11
B01071-B01075	500	127	8	0.018	1.04	0.00	0.07	0.01	0.09	0.02	0.11	0.03	0.13
B01072-B01073	206	210	8	0.038	1.52	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B01073-B01074	199	300	8	0.039	1.54	0.01	0.07	0.01	0.07	0.01	0.06	0.01	0.07
B01074-B01075	493	300	8	0.033	1.41	0.02	0.09	0.02	0.10	0.01	0.09	0.02	0.11
B01075-B01076.A0	488	296	8	0.019	1.09	0.03	0.11	0.04	0.13	0.04	0.13	0.05	0.16
B01076.A0-B01076	B01076.A0-B01076	51	8	0.017	1.02	0.00	0.07	0.00	0.08	0.00	0.09	0.00	0.10
B01076-B01079	483	297	8	0.021	1.13	0.03	0.11	0.04	0.13	0.05	0.14	0.07	0.16
B01077-B01078	478	187	8	0.045	1.65	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B01078-B01079	471	228	8	0.063	1.96	0.00	0.06	0.00	0.08	0.01	0.09	0.01	0.11
B01079-B01080	466	169	8	0.038	1.51	0.03	0.09	0.05	0.12	0.06	0.13	0.08	0.15
B01080-B01082	459	252	8	0.078	2.17	0.03	0.14	0.06	0.20	0.06	0.18	0.09	0.24

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B01081.A0-B01081.B0	7848	177	8	0.040	1.56	0.01	0.05	0.01	0.07	0.00	0.03	0.01	0.06
B01081.AA-B01081.AB	7849	330	8	0.013	0.91	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.02
B01081.AB-B01081.A0	7850	206	8	0.038	1.53	0.01	0.04	0.01	0.05	0.00	0.00	0.00	0.04
B01081.B0-B01081.CH	7839	52	8	0.021	1.12	0.01	0.06	0.01	0.09	0.01	0.07	0.01	0.10
B01081.C0-B01081.D0	7846	99	8	0.014	0.92	0.01	0.08	0.03	0.13	0.02	0.09	0.04	0.14
B01081.CA-B01081.CC	7855	209	8	0.005	0.54	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.06
B01081.CB-B01081.CC	7841	79	8	0.020	1.10	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
B01081.CC-B01081.CD	7856	161	8	0.005	0.53	0.00	0.05	0.00	0.08	0.00	0.05	0.01	0.08
B01081.CD-B01081.CE	7854	60	8	0.007	0.66	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
B01081.CE-B01081.CF	7853	84	8	0.064	1.98	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.05
B01081.CF-B01081.CG	7852	177	8	0.101	2.48	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.06
B01081.CG-B01081.CH	7851	73	8	0.058	1.88	0.01	0.06	0.01	0.08	0.01	0.06	0.02	0.09
B01081.CH-B01081.C0	7840	276	8	0.028	1.30	0.01	0.08	0.03	0.11	0.02	0.09	0.03	0.13
B01081.D0-B01081.E0	7847	171	8	0.014	0.92	0.01	0.08	0.03	0.13	0.02	0.09	0.04	0.14
B01081.E0-B01081.FI	B01081.EO-B01081.FI	65	8	0.013	0.91	0.01	0.10	0.04	0.16	0.02	0.10	0.04	0.16
B01081.EA-B01081.E0	B01081.EA-B01081.EO	207	8	0.011	0.82	0.00	0.04	-	0.07	0.00	0.05	0.00	0.07
B01081.F0-B01081.G0	7843	67	8	0.095	2.40	0.02	0.08	0.06	0.12	0.02	0.07	0.06	0.12
B01081.FA-B01081.FB	B01081.FA-B01081.FB	69	8	0.011	0.81	0.00	0.04	-	0.04	0.00	0.00	0.00	0.01
B01081.FB-B01081.FC	B01081.FB-B01081.FC	112	8	0.011	0.82	0.01	0.09	0.01	0.09	0.00	0.00	0.00	0.03
B01081.FC-B01081.FE	B01081.FC-B01081.FE	52	8	0.011	0.82	0.01	0.09	0.01	0.09	0.00	0.01	0.00	0.04
B01081.FD-B01081.FE	B01081.FD-B01081.FE	68	8	0.010	0.78	0.00	0.04	-	0.05	0.00	0.01	0.00	0.03
B01081.FE-B01081.FF	B01081.FE-B01081.FF	133	8	0.011	0.81	0.01	0.09	0.01	0.09	0.00	0.03	0.00	0.06
B01081.FF-B01081.FG	B01081.FF-B01081.FG	322	8	0.010	0.79	0.01	0.09	0.02	0.10	0.00	0.03	0.01	0.07
B01081.FG-B01081.FH	B01081.FG-B01081.FH	93	8	0.011	0.84	0.01	0.08	0.02	0.10	0.00	0.03	0.01	0.07
B01081.FH-B01081.FI	B01081.FH-B01081.FI	110	8	0.014	0.93	0.01	0.10	0.02	0.14	0.00	0.06	0.01	0.12
B01081.FI-B01081.F0	B01081.FI-B01081.FO	104	8	0.016	1.00	0.02	0.09	0.06	0.14	0.02	0.08	0.06	0.14
B01081.G0-B01081.H0	7844	272	8	0.042	1.60	0.02	0.11	0.06	0.16	0.02	0.11	0.06	0.17
B01081.H0-B01081.I0	7838	116	8	0.009	0.76	0.02	0.13	0.06	0.20	0.03	0.14	0.07	0.21
B01081.I0-B01081	7837	82	8	0.010	0.78	0.02	0.11	0.07	0.18	0.03	0.12	0.07	0.19
B01081-B01082	449	127	8	0.023	1.19	0.02	0.15	0.07	0.23	0.03	0.18	0.08	0.26
B01082-B01083	114	252	8	0.010	0.77	0.06	0.16	0.13	0.23	0.09	0.20	0.17	0.27
B01083-B01084	113	144	8	0.071	2.08	0.06	0.11	0.13	0.16	0.10	0.14	0.18	0.19
B01084-B01085	102	104	8	0.109	2.58	0.06	0.11	0.13	0.16	0.10	0.14	0.18	0.19
B01085-B01086	287	144	8	0.064	1.98	0.06	0.14	0.13	0.21	0.10	0.17	0.18	0.24
B01086-B01088	96	51	8	0.020	1.09	0.06	0.16	0.13	0.24	0.10	0.20	0.18	0.28
B01087-B01088	2127	15	8	0.000	0.06	0.00	0.16	0.00	0.24	0.00	0.20	0.00	0.28
B01088-B01089	95	209	8	0.022	1.15	0.06	0.15	0.14	0.22	0.10	0.18	0.18	0.25
B01089-B01090	93	63	8	0.045	1.65	0.06	0.13	0.14	0.20	0.10	0.16	0.18	0.23
B01090-B01091	92	101	8	0.044	1.63	0.06	0.15	0.14	0.23	0.10	0.19	0.18	0.26
B01091-B01092	91	82	8	0.015	0.95	0.06	0.17	0.14	0.26	0.10	0.22	0.19	0.31
B01092-B01093	90	90	8	0.013	0.88	0.06	0.18	0.14	0.29	0.10	0.22	0.19	0.66
B01093-B01096	89	54	21	0.004	6.42	2.16	0.44	6.61	1.00	4.62	0.70	7.95	1.00
B01094-B01096	3317	26	8	0.187	3.38	0.00	0.50	-	0.50	0.00	0.50	0.00	0.50
B01095-B01096	3316	32	8	0.149	3.01	0.00	0.50	-	0.50	0.00	0.50	0.00	0.50
B01096-B01097	88	439	21	0.002	4.96	2.16	0.36	6.61	0.73	4.62	0.55	7.94	0.75
B01097-B01099	69	383	21	0.024	15.78	2.16	0.33	6.62	0.73	4.62	0.52	7.95	0.75
B01098-B01099	68	13	8	0.228	3.73	0.00	0.50	-	0.50	0.00	0.50	0.05	1.00
B01099-B01100	67	523	21	0.003	5.86	2.16	0.45	6.64	1.00	4.62	0.73	7.97	1.00
B01100-B01101	66	520	21	0.002	5.00	2.16	0.43	6.65	0.88	4.62	0.69	7.98	0.94
B01101-B01127	FM09	390	21	0.005	7.35	2.16	0.32	6.67	0.61	4.62	0.48	8.00	0.75
B01102-B01103	3319	24	8	0.002	0.35	0.02	0.12	0.02	0.12	0.02	0.12	0.02	0.12
B01103-B01105	64	231	8	0.012	0.84	0.01	0.09	0.02	0.09	0.02	0.09	0.02	0.10
B01104-B01105	63	22	8	0.002	0.35	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.07
B01105-B01106	62	230	8	0.015	0.95	0.01	0.08	0.02	0.09	0.02	0.09	0.02	0.10
B01106.A0-B01106	60	19	8	0.002	0.35	0.00	0.05	0.00	0.05	0.00	0.06	0.00	0.07
B01106-B01107	61	46	8	0.028	1.31	0.01	0.07	0.02	0.08	0.02	0.09	0.03	0.10
B01107-B01111.A0	2121	20	8	0.036	1.47	0.01	0.10	0.02	0.11	0.02	0.11	0.03	0.12
B01108-B01109	58	300	8	0.023	1.18	0.01	0.08	0.01	0.08	0.01	0.06	0.01	0.06
B01109-B01110	57	163	8	0.011	0.82	0.01	0.08	0.02	0.09	0.01	0.06	0.01	0.07
B01110-B01111	56	35	8	0.034	1.45	0.01	0.11	0.02	0.12	0.01	0.09	0.01	0.11
B01111.A0-B01111.B0	2134	224	8	0.007	0.63	0.02	0.14	0.03	0.15	0.02	0.13	0.03	0.15
B01111.B0-B01111.C0	2122	202	8	0.007	0.63	0.03	0.14	0.03	0.15	0.02	0.13	0.03	0.15
B01111.C0-B01111	2123	50	8	0.008	0.70	0.03	0.14	0.03	0.16	0.02	0.13	0.04	0.16
B01111-B01113.A0	2124	102	8	0.014	0.92	0.04	0.16	0.05	0.18	0.03	0.14	0.05	0.17
B01113.A0-B01113.B0	2125	187	8	0.009	0.72	0.05	0.17	0.06	0.19	0.03	0.14	0.05	0.18
B01113.B0-B01113.C0	7828	230	8	0.013	0.89	0.05	0.15	0.06	0.16	0.03	0.12	0.05	0.16
B01113-B01113.C0	2126	25	8	0.051	1.77	0.05	0.10	0.06	0.11	0.04	0.09	0.06	0.11
B01113-B01114	55	100	8	0.338	4.54	0.05	0.12	0.06	0.13	0.04	0.10	0.06	0.13
B01114-B01115	54	161	8	0.014	0.93	0.05	0.18	0.06	0.20	0.04	0.14	0.06	0.18
B01115-B01116	53	209	8	0.014	0.92	0.08	0.18	0.09	0.20	0.04	0.13	0.06	0.17
B01116-B01123	52	102	8	0.036	1.48	0.08	0.14	0.09	0.15	0.04	0.10	0.07	0.13
B01117-B01118	51	287	8	0.050	1.75	0.02	0.10	0.02	0.10	0.00	0.05	0.00	0.05
B01118-B01119	50	283	8	0.016	0.98	0.03	0.11	0.03	0.12	0.01	0.06	0.01	0.07
B01119-B01120	49	125	8	0.036	1.49	0.03	0.11	0.03	0.12	0.01	0.05	0.01	0.07
B01120-B01121	194	188	8	0.040	1.57	0.05	0.12	0.06	0.13	0.01	0.06	0.02	0.08
B01121-B01122	193	192	8	0.040	1.56	0.05	0.14	0.06	0.14	0.01	0.07	0.02	0.10
B01122-B01123	192	225	8	0.021	1.14	0.05	0.13	0.06	0.14	0.01	0.08	0.03	0.11
B01123-B01124	3006	157	8	0.339	4.55	0.13	0.17	0.15	0.19	0.07	0.12	0.11	0.16
B01124-B01125	3005	101	8	0.025	1.25	0.13	0.20	0.15	0.21	0.07	0.14	0.11	0.18
B01125-B01126	191	201	8	0.081	2.23	0.13	0.18	0.15	0.19	0.07	0.13	0.11	0.23
B01126-B01127	190	20	8	0.044	1.63	0.13	0.42	0.16	0.60	0.07	0.54	0.20	0.66
B01127-B01128	FMB2_2	54	21	0.023	15.62	2.25	0.26	6.82	0.46	4.65	0.37	8.19	0.81
B01151-B01061	B01151-B01061	252	18	0.000	1.21	1.36	0.53	4.38	1.00	3.51	0.84	5.58	1.00
B01152-B01151	FM07	79	24	0.001	4.64	1.36	0.47	4.38	1.00	3.51	0.84	5.78	1.00
B02001-B01058	2977	323	12	0.022	3.44	0.65	0.38	1.61	0.74	0.94	0.44	1.94	1.00
B02002-B02003	183	158	8	0.029	1.34	0.00	0.02	-	0.02	0.00	0.03	0.00	0.03
B02003-B02004	182	165	8	0.064	1.98	0.01	0.04	0.01	0.04	0.01	0.04	0.01	0.05
B02004-B02027	181	134	8	0.113	2.63	0.01	0.30	0.01	0.50	0.01	0.36	0.01	0.52
B02005-B02006	48	278	8	0.010	0.78	0.04	0.15	0.04	0.15	0.01	0.07	0.01	0.07
B02006-B02007	47	299	8	0.036	1.48	0.05	0.15	0.06	0.15	0.01	0.08	0.02	0.09
B02007-B02008	46	329	8	0.023	1.20	0.07	0.18	0.07	0.19	0.02	0.11	0.03	0.13
B02008-B02009	45	272	8	0.016	0.99	0.07	0.15	0.08	0.15	0.03	0.09	0.04	0.11
B02009-B02010	6938	143	8	0.410	5.00	0.08	0.12	0.08	0.12	0.03	0.08	0.04	0.09
B02010-B02014	6937	31	8	0.042	1.60	0.08	0.15	0.09	0.16	0.03	0.10	0.05	0.12
B02011.A0-B02011	7651	52	8	0.008	0.70	0.00	0.01	-	0.01	0.00	0.04	0.00	0.04
B02011-B02012	6936	339	8	0.020	1.10	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B02012-B02013	6935	365	8	0.058	1.89	0.00	0.02	0.00	0.05	0.01	0.04	0.01	0.06
B02013-B02014	6934	297	8	0.057	1.87	0.00	0.08	0.01	0.10	0.01	0.07	0.02	0.10
B02014-B02015	6933	303	8	0.058	1.89	0.08	0.14	0.10	0.16	0.04	0.10	0.07	0.13
B02015-B02016.B0	6939	365	8	0.066	2.00	0.08	0.13	0.10	0.14	0.04	0.09	0.07	0.12
B02016.A0-B02016.B0	7294	269	8	0.014	0.91	0.00	0.55	0.01	0.56	0.00	0.54	0.00	0.55
B02016.B0-B02016	6940	32	8	0.194	3.44	0.09	0.12	0.11	0.14	0.05	0.09	0.08	0.12
B02016-B02024	6932	383	8	0.075	2.14	0.09	0.17	0.11	0.20	0.05	0.13	0.08	0.18
B02017-B02018	6931	456	8	0.050	1.75	0.01	0.06	0.01	0.06	0.00	0.05	0.00	0.05
B02018-B02019	6930	268	8	0.080	2.21	0.02	0.07	0.02	0.08	0.01	0.06	0.02	0.07
B02019-B02022	6929	250	8	0.055	1.82	0.02	0.09	0.03	0.10	0.02	0.08	0.03	0.10
B02020-B02021.D0	2982	193	8	0.006	0.63	0.01	0.24	0.01	0.25	0.01	0.23	0.01	0.25

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B02021.A0-B02021.C0	2980	311	8	0.009	0.75	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.05
B02021.B0-B02021.C0	2981	196	8	0.011	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.05
B02021.C0-B02021.D0	2979	78	8	0.083	2.26	0.00	0.21	0.01	0.23	0.01	0.21	0.01	0.24
B02021.D0-B02021	3047	74	8	0.002	0.38	0.02	0.23	0.02	0.25	0.01	0.22	0.02	0.25
B02021-B02022.B0	7830	167	8	0.048	1.71	0.02	0.07	0.02	0.09	0.02	0.07	0.03	0.09
B02022.A0-B02022.B0	7829	282	8	0.011	0.83	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.07
B02022.B0-B02022	7293	160	8	0.047	1.70	0.02	0.08	0.03	0.10	0.02	0.08	0.03	0.11
B02022-B02023	6928	234	8	0.073	2.11	0.04	0.10	0.06	0.12	0.04	0.10	0.07	0.12
B02023-B02024	6927	346	8	0.070	2.07	0.04	0.15	0.07	0.18	0.04	0.13	0.07	0.17
B02024-B02025	6926	216	8	0.044	1.63	0.13	0.18	0.19	0.21	0.09	0.15	0.16	0.20
B02025-B02026	6925	233	8	0.112	2.62	0.13	0.16	0.19	0.19	0.09	0.13	0.17	0.18
B02026-B02027	6924	196	12	0.048	5.04	0.14	0.24	0.20	0.39	0.09	0.27	0.17	0.56
B02027-B02001	2975	325	12	0.010	2.28	0.64	0.34	1.60	0.56	0.94	0.41	1.93	1.00
B02028-B02030	B02028-B02030	113	8	0.198	3.48	0.00	0.00	-	0.02	0.03	0.14	0.03	0.53
B02029-B02030	B02029-B02030	40	8	0.443	5.20	0.00	0.00	-	0.02	0.03	0.13	0.03	0.53
B02030-B02031	6923	128	8	0.010	0.76	0.00	0.31	0.00	0.52	0.07	0.52	0.12	1.00
B02031-B02027	2976	98	12	0.004	1.45	0.51	0.39	1.39	0.70	0.90	0.51	1.75	1.00
B02032-B02031	2973	378	15	0.028	7.03	0.51	0.25	1.38	0.45	0.83	0.34	1.68	0.67
B02033-B02032	2972	383	15	0.007	3.53	0.50	0.23	1.37	0.38	0.83	0.29	1.67	0.42
B02034-B02033	2971	378	15	0.007	3.56	0.48	0.26	1.34	0.44	0.83	0.34	1.66	0.49
B02036.A0-B02036.C0	B02036.A0-B02036.C0	127	8	0.111	2.60	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B02036.C0-B02036.D0	B02036.C0-B02036.D0	67	8	0.023	1.19	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
B02036.D0-B02036	B02036.D0-B02036	69	8	0.023	1.18	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B02036-B02038	6922	214	8	0.023	1.20	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
B02037-B02038	3626	30	8	0.002	0.35	0.00	0.01	-	0.02	0.00	0.01	0.00	0.02
B02038-B02039	6921	202	8	0.069	2.05	0.00	0.26	0.01	0.46	0.00	0.35	0.01	0.51
B02039-B02034	2970	385	15	0.006	3.10	0.48	0.26	1.34	0.44	0.83	0.34	1.65	0.50
B02040-B02041	6920	350	8	0.049	1.72	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
B02041-B02042	6919	351	8	0.048	1.71	0.01	0.06	0.01	0.07	0.00	0.02	0.00	0.05
B02042-B02043	6918	282	8	0.032	1.40	0.01	0.53	0.02	0.54	0.00	0.51	0.01	0.53
B02043-B02039	2969	42	15	0.005	3.01	0.48	0.40	1.33	0.63	0.82	0.51	1.62	0.69
B02044-B02043	2968	25	15	0.004	2.66	0.47	0.50	1.31	0.76	0.81	0.62	1.61	0.83
B02045-B02046	2978	241	8	0.081	2.22	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B02046-B02048	6917	155	8	0.049	1.72	0.00	0.02	0.00	0.05	0.00	0.03	0.00	0.05
B02047-B02048	6916	238	8	0.051	1.77	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
B02048-B02049	6915	99	8	0.013	0.89	0.00	0.04	0.01	0.08	0.00	0.05	0.01	0.09
B02049-B02055	6914	94	8	0.004	0.50	0.00	0.06	0.01	0.12	0.00	0.06	0.01	0.12
B02050-B02051	6913	110	8	0.065	2.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.01
B02051-B02052	6912	116	8	0.084	2.26	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
B02052-B02053	6911	177	8	0.064	1.97	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B02053-B02054	6910	166	8	0.043	1.62	0.00	0.03	0.01	0.05	0.00	0.02	0.01	0.04
B02054-B02055	6909	314	8	0.059	1.89	0.00	0.05	0.01	0.10	0.00	0.04	0.01	0.10
B02055-B02056	6908	120	8	0.004	0.49	0.00	0.07	0.02	0.15	0.00	0.07	0.02	0.15
B02056-B02063	6907	83	8	0.005	0.55	0.01	0.07	0.02	0.14	0.00	0.06	0.02	0.13
B02057-B02058	6906	140	8	0.065	2.00	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B02059-B02058	6905	106	8	0.119	2.69	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.03
B02060-B02059	6904	142	8	0.077	2.16	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B02061-B02060	6903	176	8	0.083	2.25	0.00	0.03	0.01	0.05	0.00	0.02	0.01	0.05
B02061-B02062	6902	286	8	0.024	1.20	0.00	0.04	0.01	0.07	0.00	0.03	0.01	0.06
B02062-B02063	6901	195	8	0.020	1.11	0.00	0.05	0.01	0.10	0.00	0.04	0.01	0.09
B02063-B02064	6900	161	8	0.028	1.32	0.01	0.06	0.04	0.12	0.01	0.05	0.04	0.12
B02064-B02065	6899	73	8	0.032	1.39	0.01	0.06	0.04	0.12	0.01	0.05	0.04	0.12
B02065-B02066	6898	188	8	0.027	1.28	0.01	0.07	0.04	0.14	0.01	0.06	0.04	0.13
B02066-B02067	2965	195	8	0.022	1.16	0.01	0.06	0.05	0.12	0.01	0.06	0.04	0.12
B02067-B02068	2966	26	8	0.100	2.47	0.01	0.22	0.05	0.39	0.01	0.29	0.05	0.43
B02068-B02044	2967	195	12	0.018	3.07	0.47	0.42	1.30	0.68	0.81	0.54	1.61	0.76
B02069-B02070	6897	288	8	0.091	2.35	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B02070-B02071	6896	61	8	0.033	1.43	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B02071-B02073	6895	105	8	0.091	2.35	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.05
B02072-B02073	6894	48	8	0.010	0.78	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B02073-B02074	3322	180	8	0.015	0.96	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B02074-B02075	3323	121	8	0.102	2.50	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B02075-B02076	3324	47	8	0.122	2.72	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B02076-B02077.A0	3325	120	8	0.140	2.92	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B02077.A0-B02077	3326	69	8	0.069	2.05	0.00	0.04	0.01	0.06	0.01	0.04	0.01	0.06
B02077-B02079	6188	301	8	0.049	1.73	0.00	0.25	0.02	0.43	0.01	0.34	0.02	0.49
B02078-B02079.D0	8345	57	12	0.008	2.00	0.42	0.31	1.07	0.52	0.72	0.41	1.34	0.59
B02079.A0-B02079.B0	8279	10	8	0.035	1.46	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
B02079.B0-B02079.C0	8346	263	8	0.050	1.75	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B02079.C0-B02079.D0	8347	113	8	0.056	1.85	0.00	0.24	0.00	0.40	0.00	0.33	0.01	0.46
B02079.D0-B02079	3648	214	12	0.008	2.07	0.42	0.31	1.08	0.52	0.73	0.42	1.35	0.60
B02079-B02080	1968	220	12	0.008	1.99	0.43	0.32	1.10	0.54	0.74	0.43	1.37	0.62
B02080-B02081	6178	301	12	0.007	1.98	0.43	0.29	1.10	0.49	0.74	0.39	1.38	0.56
B02081-B02082	5993	251	12	0.016	2.92	0.43	0.29	1.11	0.50	0.74	0.39	1.39	0.57
B02082.A0-B02082.B0	3332	168	8	0.055	1.84	0.01	0.05	0.02	0.08	0.01	0.05	0.02	0.08
B02082.AA-B02082.AB	B02082.AA-B02082.AB	344	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.02
B02082.AB-B02082.AF	B02082.AB-B02082.AF	183	8	0.015	0.96	0.00	0.04	0.01	0.06	0.00	0.02	0.00	0.05
B02082.AC-B02082.AD	B02082.AC-B02082.AD	257	8	0.010	0.78	0.00	0.00	-	0.02	0.01	0.08	0.01	0.08
B02082.AD-B02082.AF	B02082.AD-B02082.AF	143	8	0.010	0.78	0.00	0.02	0.00	0.05	0.01	0.06	0.01	0.08
B02082.AE-B02082.AF	B02082.AE-B02082.AF	340	8	0.021	1.14	0.00	0.02	-	0.03	0.00	0.02	0.00	0.03
B02082.AF-B02082.AG	B02082.AF-B02082.AG	66	8	0.132	2.83	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.08
B02082.AG-B02082.A0	B02082.AG-B02082.A0	20	8	0.037	1.49	0.01	0.05	0.02	0.08	0.01	0.05	0.02	0.08
B02082.B0-B02082.C0	3331	209	8	0.072	2.09	0.01	0.05	0.02	0.07	0.01	0.05	0.03	0.08
B02082.C0-B02082.D0	3330	42	8	0.105	2.53	0.01	0.05	0.03	0.09	0.01	0.06	0.03	0.09
B02082.D0-B02082.E0	3329	253	8	0.027	1.28	0.01	0.06	0.03	0.09	0.01	0.06	0.03	0.10
B02082.E0-B02082.F0	3328	71	8	0.083	2.25	0.01	0.05	0.03	0.08	0.01	0.05	0.03	0.08
B02082.F0-B02082.G0	3327	108	8	0.102	2.49	0.01	0.05	0.03	0.08	0.01	0.05	0.03	0.09
B02082.G0-B02082.H0	3054	74	8	0.070	2.07	0.01	0.05	0.03	0.09	0.01	0.05	0.04	0.10
B02082.H0-B02082.M0	3053	53	8	0.048	1.72	0.01	0.08	0.03	0.14	0.01	0.08	0.04	0.14
B02082.I0-B02082.J0	3048	77	8	0.008	0.70	0.00	0.05	0.01	0.09	0.00	0.05	0.01	0.09
B02082.IA-B02082.IB	348	270	8	0.072	2.10	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B02082.IB-B02082.IF	349	91	8	0.067	2.02	0.00	0.03	0.00	0.06	0.00	0.04	0.00	0.06
B02082.IC-B02082.ID	350	139	8	0.070	2.07	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B02082.ID-B02082.IE	920	122	8	0.094	2.39	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
B02082.IE-B02082.IF	921	75	8	0.012	0.87	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.07
B02082.IF-B02082.I0	922	48	8	0.010	0.78	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.08
B02082.J0-B02082.K0	3050	78	8	0.009	0.76	0.00	0.05	0.01	0.09	0.00	0.05	0.01	0.09
B02082.K0-B02082.L0	3051	78	8	0.009	0.76	0.00	0.05	0.01	0.09	0.00	0.05	0.01	0.09
B02082.L0-B02082.M0	3052	197	8	0.011	0.80	0.00	0.07	0.01	0.13	0.00	0.07	0.01	0.13
B02082.M0-B02082.N0	3334	287	8	0.012	0.86	0.02	0.08	0.05	0.15	0.01	0.08	0.05	0.16
B02082.N0-B02082.P0	3335	168	8	0.035	1.47	0.02	0.08	0.06	0.14	0.02	0.07	0.06	0.14
B02082.O0-B02082.P0	3337	114	8	0.017	1.02	0.00	0.05	0.00	0.08	0.00	0.05	0.00	0.08
B02082.P0-B02082.Q0	3336	89	8	0.036	1.48	0.02	0.07	0.06	0.13	0.02	0.07	0.06	0.13
B02082.Q0-B02082.R0	6870	89	8	0.071	2.08	0.02	0.06	0.06	0.12	0.02	0.06	0.06	0.12
B02082.R0-B02082.S0	6871	98	8	0.069	2.05	0.02	0.07	0.06	0.13	0.02	0.07	0.06	0.13
B02082.S0-B02082.T0	3338	95	8	0.046	1.68	0.02	0.09	0.06	0.16	0.02	0.08	0.07	0.16
B02082.T0-B02082.U0	3339	212	8	0.017	1.02	0.02	0.08	0.06	0.15	0.02	0.08	0.07	0.15

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B02082.U0-B02082.V0	3340	104	8	0.107	2.55	0.02	0.07	0.07	0.13	0.02	0.07	0.07	0.13
B02082.UA-B02082.UB	B02082.UA-B02082.UB	48	8	0.009	0.75	0.00	0.00	-	0.01	0.00	0.04	0.00	0.04
B02082.UB-B02082.U0	B02082.UB-B02082.U0	208	8	0.011	0.83	0.00	0.03	0.00	0.07	0.00	0.05	0.00	0.08
B02082.V0-B02082.W0	3341	234	8	0.037	1.49	0.02	0.08	0.07	0.16	0.02	0.09	0.08	0.17
B02082.W0-B02082.X0	3342	23	8	0.019	1.09	0.02	0.10	0.07	0.20	0.02	0.10	0.08	0.21
B02082.X0-B02082.Y0	3343	79	8	0.007	0.66	0.02	0.11	0.07	0.22	0.02	0.12	0.08	0.23
B02082.Y0-B02082.Z0	3358	38	8	0.009	0.74	0.02	0.16	0.08	0.40	0.02	0.25	0.08	0.47
B02082.Z0-B02082	3423	49	8	0.004	0.47	0.02	0.35	0.08	0.72	0.02	0.52	0.08	0.85
B02082-B02083	6156	251	12	0.007	1.94	0.45	0.33	1.19	0.58	0.76	0.45	1.47	0.67
B02083-B02084	6138	273	12	0.008	2.03	0.45	0.26	1.19	0.45	0.77	0.35	1.48	0.51
B02084-B02068	2964	118	12	0.073	6.23	0.46	0.22	1.25	0.38	0.80	0.30	1.55	0.43
B02085-B02084	3321	195	12	0.125	8.16	0.01	0.11	0.05	0.18	0.03	0.14	0.06	0.20
B02086-B02087	6122	359	8	0.018	1.06	0.00	0.06	0.00	0.07	0.00	0.07	0.00	0.07
B02087-B02088	6498	290	8	0.005	0.55	0.01	0.07	0.01	0.10	0.01	0.10	0.01	0.12
B02088-B02085	1845	245	12	0.039	4.54	0.01	0.03	0.05	0.06	0.03	0.05	0.06	0.07
B02089-B02088	1844	86	8	0.077	2.16	0.01	0.05	0.03	0.10	0.02	0.08	0.04	0.11
B02090-B02089	1843	270	8	0.076	2.16	0.01	0.04	0.03	0.08	0.02	0.07	0.04	0.10
B02091-B02090	1842	136	8	0.076	2.15	0.01	0.04	0.03	0.08	0.02	0.07	0.04	0.09
B02092-B02091	5896	184	8	0.050	1.74	0.00	0.04	0.02	0.08	0.02	0.07	0.03	0.09
B02093-B02092	1841	242	8	0.050	1.75	0.00	0.04	0.02	0.08	0.01	0.07	0.03	0.09
B02094-B02093	1840	156	8	0.029	1.32	0.00	0.04	0.02	0.08	0.01	0.07	0.03	0.09
B02095-B02094	1839	269	8	0.098	2.44	0.00	0.04	0.02	0.07	0.01	0.06	0.02	0.08
B02096-B02095	1838	39	8	0.076	2.15	0.00	0.03	0.02	0.06	0.01	0.05	0.02	0.07
B02097-B02096	1837	266	8	0.018	1.04	0.00	0.03	0.01	0.07	0.01	0.06	0.02	0.08
B02098-B02097	1836	348	8	0.021	1.13	0.00	0.04	0.01	0.07	0.01	0.06	0.01	0.08
B02099-B02098	186	174	8	0.043	1.61	0.00	0.03	0.01	0.05	0.00	0.05	0.01	0.06
B02100-B02099	187	159	8	0.010	0.80	0.00	0.02	0.00	0.04	0.00	0.05	0.01	0.06
B02101-B02100	1835	226	8	0.003	0.44	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
B03001-B03002	6481	300	8	0.004	0.49	0.01	0.10	0.01	0.11	0.01	0.10	0.01	0.10
B03002-B03003	4479	305	8	0.004	0.49	0.01	0.10	0.02	0.10	0.01	0.09	0.01	0.10
B03003-B03004	6477	429	8	0.032	1.39	0.01	0.09	0.02	0.11	0.01	0.11	0.02	0.13
B03004-B03010	6260	57	8	0.005	0.54	0.01	0.09	0.02	0.12	0.02	0.12	0.04	0.14
B03005-B03006	5661	131	8	0.050	1.74	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
B03006-B03007	6113	119	8	0.050	1.75	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
B03007-B03008	2417	167	8	0.114	2.64	0.00	0.03	0.01	0.05	0.00	0.01	0.00	0.04
B03008-B03009	4769	165	8	0.023	1.17	0.00	0.04	0.01	0.06	0.00	0.01	0.00	0.05
B03009-B03010	5760	187	8	0.062	1.94	0.00	0.05	0.01	0.07	0.00	0.04	0.01	0.07
B03010-B03011.C0	7820	152	8	0.060	1.91	0.02	0.07	0.04	0.10	0.02	0.08	0.04	0.11
B03011.A0-B03011.B0	7835	75	8	0.115	2.65	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01
B03011.B0-B03011.C0	7868	300	8	0.090	2.34	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
B03011.C0-B03011	7821	125	8	0.067	2.03	0.02	0.07	0.04	0.10	0.02	0.08	0.05	0.11
B03011-B03014	3016	188	8	0.065	1.99	0.02	0.07	0.04	0.11	0.02	0.08	0.05	0.12
B03013-B03014	4190	413	6	0.090	1.09	0.00	0.06	0.00	0.09	0.00	0.06	0.00	0.08
B03014-B03024	5743	387	8	0.049	1.72	0.02	0.13	0.05	0.22	0.02	0.16	0.06	0.24
B03015-B03016	4189	175	8	0.103	2.51	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
B03016-B03017	1107	166	8	0.018	1.06	0.00	0.03	0.00	0.04	0.00	0.01	0.00	0.03
B03017-B03018	5733	274	8	0.143	2.95	0.00	0.03	0.01	0.05	0.00	0.02	0.01	0.04
B03018-B03019	5716	321	8	0.028	1.30	0.00	0.04	0.01	0.07	0.00	0.03	0.01	0.07
B03019-B03021	4833	184	8	0.019	1.08	0.00	0.05	0.01	0.09	0.00	0.06	0.01	0.09
B03020-B03021	605	240	8	0.144	2.97	0.00	0.03	0.00	0.05	0.01	0.07	0.01	0.08
B03021-B03022	4816	74	8	0.021	1.12	0.01	0.05	0.02	0.09	0.02	0.08	0.03	0.10
B03022-B03023	5974	343	8	0.035	1.46	0.01	0.05	0.02	0.08	0.02	0.07	0.03	0.09
B03023-B03024	5868	352	8	0.092	2.37	0.01	0.11	0.03	0.20	0.03	0.15	0.04	0.22
B03024-B03025	5852	373	8	0.004	0.48	0.03	0.13	0.09	0.22	0.04	0.16	0.11	0.25
B03025-B03026	5395	349	8	0.109	2.58	0.03	0.13	0.09	0.22	0.05	0.15	0.11	0.24
B03026-B03027	5844	282	8	0.004	0.48	0.03	0.17	0.10	0.30	0.05	0.21	0.12	0.34
B03027-B03028	5831	322	8	0.004	0.51	0.03	0.17	0.10	0.31	0.05	0.22	0.12	0.34
B03028-B03067	5817	349	8	0.004	0.48	0.03	0.21	0.10	0.41	0.05	0.25	0.13	0.44
B03029-B03030	5641	322	8	0.105	2.53	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
B03030-B03031	5624	65	8	0.011	0.81	0.00	0.04	0.01	0.07	0.00	0.06	0.01	0.07
B03031-B03034	1015	230	8	0.005	0.54	0.00	0.06	0.01	0.10	0.00	0.09	0.01	0.11
B03032-B03033	595	200	8	0.105	2.54	0.00	0.01	0.00	0.02	0.01	0.04	0.01	0.04
B03033-B03034	5813	102	8	0.145	2.97	0.00	0.04	0.00	0.07	0.01	0.07	0.01	0.09
B03034-B03035	5796	255	8	0.006	0.58	0.00	0.05	0.01	0.09	0.01	0.08	0.02	0.10
B03035-B03036	5781	358	8	0.125	2.76	0.00	0.03	0.02	0.05	0.01	0.04	0.02	0.06
B03036-B03043.A0	4723	50	8	0.435	5.15	0.01	0.51	0.02	0.52	0.01	0.52	0.03	0.53
B03038-B03039	1280	340	8	0.004	0.52	0.00	0.01	-	0.03	0.00	0.02	0.00	0.04
B03039-B03040	1262	373	8	0.004	0.49	0.00	0.02	0.00	0.08	0.00	0.02	0.00	0.08
B03040-B03041	5695	298	8	0.004	0.48	0.00	0.03	0.01	0.10	0.00	0.02	0.01	0.10
B03041-B03042	4811	290	8	0.004	0.52	0.00	0.03	0.01	0.09	0.00	0.02	0.01	0.09
B03042-B03043.A0	7295	45	8	0.057	1.86	0.00	0.51	0.02	0.53	0.00	0.51	0.01	0.53
B03043.A0-B03043	7299	356	8	0.003	0.41	0.01	0.53	0.04	0.56	0.01	0.54	0.04	0.56
B03043-B03044	4978	242	8	0.034	1.45	0.01	0.05	0.04	0.12	0.01	0.07	0.05	0.12
B03044-B03047	4547	105	8	0.048	1.72	0.01	0.05	0.05	0.12	0.01	0.07	0.05	0.12
B03045-B03046	4178	5	8	1.440	9.37	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00
B03046-B03047	7296	215	8	0.065	2.00	0.00	0.04	0.00	0.07	0.00	0.03	0.00	0.06
B03047-B03048	5504	244	8	0.048	1.72	0.01	0.07	0.05	0.14	0.01	0.08	0.05	0.15
B03048-B03049	5495	428	8	0.017	1.02	0.01	0.07	0.06	0.14	0.02	0.07	0.06	0.14
B03049-B03062	5494	267	8	0.112	2.61	0.01	0.11	0.06	0.22	0.02	0.12	0.06	0.22
B03050-B03051	5493	166	8	0.005	0.56	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.01
B03051-B03053	3037	271	8	0.082	2.24	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B03052-B03053	3456	224	8	0.002	0.34	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
B03053-B03060.A0	3462	115	8	0.063	1.97	0.00	0.03	0.01	0.05	0.01	0.05	0.01	0.06
B03054-B03055	2281	15	8	0.020	1.10	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00
B03055-B03056	5492	130	8	0.042	1.61	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.01
B03056-B03059	5491	279	8	0.088	2.32	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.03
B03057-B03058	2275	15	8	0.020	1.10	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00
B03058-B03059	5490	130	8	0.039	1.53	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.02
B03059-B03060	5489	228	8	0.064	1.97	0.01	0.07	0.01	0.11	0.00	0.05	0.01	0.10
B03060.A0-B03060	3463	123	8	0.010	0.79	0.00	0.08	0.01	0.13	0.01	0.09	0.02	0.13
B03060-B03061	5488	398	8	0.005	0.57	0.01	0.08	0.03	0.13	0.01	0.08	0.03	0.13
B03061-B03062	5486	379	8	0.049	1.73	0.01	0.12	0.03	0.22	0.01	0.12	0.03	0.21
B03062-B03063	5485	350	8	0.004	0.51	0.03	0.13	0.10	0.24	0.03	0.13	0.10	0.24
B03063-B03066	5484	185	8	0.085	2.27	0.03	0.07	0.11	0.14	0.03	0.07	0.11	0.14
B03064-B03065	5483	295	8	0.085	2.28	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.02
B03065-B03066	5482	252	8	0.014	0.91	0.00	0.06	0.01	0.09	0.00	0.03	0.00	0.08
B03066-B03067	5481	128	8	0.211	3.58	0.03	0.16	0.12	0.31	0.03	0.17	0.11	0.32
B03067-B03068	5480	349	8	0.004	0.48	0.06	0.24	0.23	0.48	0.08	0.27	0.25	0.50
B03068-B03077	5479	335	8	0.005	0.57	0.06	0.23	0.23	0.44	0.08	0.26	0.25	0.46
B03069-B03070	5478	234	8	0.125	2.76	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.02
B03070-B03071	5477	298	8	0.007	0.64	0.00	0.04	0.00	0.06	0.00	0.00	0.00	0.05
B03071-B03072	4167	194	8	0.026	1.26	0.00	0.04	0.01	0.06	0.00	0.00	0.01	0.05
B03072-B03075	2366	261	8	0.081	2.22	0.00	0.04	0.01	0.07	0.00	0.01	0.01	0.06
B03073-B03074	5476	241	8	0.118	2.69	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B03074-B03075	4948	163	8	0.063	1.95	0.00	0.03	0.00	0.06	0.00	0.02	0.00	0.06
B03075-B03076	4947	215	8	0.024	1.20	0.01	0.06	0.02	0.11	0.00	0.05	0.02	0.11
B03076-B03077	4946	318	8	0.005	0.57	0.01	0.15	0.02	0.28	0.01	0.17	0.02	0.29

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B03077-B03078	4945	20	8	0.004	0.52	0.07	0.18	0.26	0.34	0.09	0.20	0.28	0.35
B03078-B03080	4944	237	8	0.066	2.01	0.07	0.14	0.26	0.26	0.09	0.15	0.29	0.27
B03079-B03080	4942	331	8	0.025	1.23	0.00	0.08	0.00	0.15	0.00	0.09	0.00	0.16
B03080-B03094	4941	246	8	0.042	1.61	0.07	0.22	0.27	0.58	0.09	0.24	0.29	0.41
B03081-B03082	4940	350	8	0.092	2.37	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.02
B03082-B03083	4939	205	8	0.054	1.81	0.03	0.09	0.03	0.09	0.00	0.00	0.00	0.04
B03083-B03084	4938	290	8	0.043	1.61	0.03	0.10	0.03	0.11	0.00	0.05	0.01	0.07
B03084-B03085	4937	276	8	0.022	1.15	0.03	0.10	0.03	0.12	0.02	0.09	0.02	0.10
B03085-B03086	4936	198	8	0.030	1.35	0.03	0.11	0.04	0.12	0.02	0.09	0.03	0.11
B03086-B03087	4935	252	8	0.020	1.11	0.03	0.10	0.04	0.12	0.02	0.10	0.03	0.11
B03087-B03088	4083	316	8	0.036	1.49	0.03	0.11	0.04	0.13	0.02	0.09	0.04	0.11
B03088-B03089	4158	151	8	0.032	1.40	0.05	0.14	0.06	0.15	0.02	0.10	0.04	0.12
B03089-B03090	4934	179	8	0.024	1.21	0.05	0.13	0.06	0.15	0.02	0.09	0.04	0.12
B03090-B03091	4070	204	8	0.043	1.61	0.05	0.13	0.07	0.16	0.02	0.11	0.04	0.14
B03091-B03092	4933	241	8	0.021	1.14	0.05	0.13	0.07	0.16	0.05	0.13	0.06	0.15
B03092-B03093	4932	207	8	0.041	1.58	0.05	0.13	0.07	0.16	0.05	0.13	0.06	0.15
B03093-B03094	4931	353	8	0.025	1.22	0.05	0.21	0.07	0.52	0.05	0.23	0.07	0.35
B03094-B03173	4930	156	8	0.007	0.67	0.12	0.37	0.35	0.94	0.14	0.39	0.37	0.63
B03107-B03108	3885	150	6	0.006	0.28	0.00	0.06	0.00	0.07	0.00	0.04	0.00	0.04
B03108-B03110	4919	239	8	0.004	0.49	0.00	0.07	0.00	0.08	0.00	0.05	0.00	0.07
B03109-B03110	3900	197	6	0.025	0.58	0.00	0.07	0.00	0.09	0.00	0.04	0.00	0.06
B03110-B03112	4918	288	8	0.004	0.49	0.01	0.10	0.01	0.12	0.00	0.05	0.01	0.10
B03111-B03112	3909	212	6	0.023	0.55	0.00	0.10	0.00	0.12	0.00	0.03	0.00	0.07
B03112-B03113	4917	256	8	0.004	0.50	0.01	0.10	0.02	0.13	0.00	0.08	0.01	0.12
B03113-B03114	4916	262	8	0.013	0.88	0.01	0.08	0.02	0.12	0.02	0.10	0.03	0.13
B03114-B03172	4915	271	8	0.013	0.88	0.01	0.20	0.03	0.28	0.02	0.21	0.03	0.28
B03115-B03117	741	265	8	0.008	0.70	0.00	0.04	0.00	0.05	0.01	0.06	0.01	0.06
B03116-B03117	744	300	8	0.034	1.44	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.02
B03117-B03118	4914	220	8	0.102	2.50	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.05
B03118-B03122	4913	217	8	0.102	2.50	0.01	0.07	0.02	0.10	0.01	0.06	0.01	0.09
B03119-B03121	3458	190	8	0.032	1.40	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.01
B03120-B03121	742	100	8	0.032	1.40	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.01
B03121-B03122	4912	231	8	0.072	2.09	0.00	0.07	0.01	0.09	0.00	0.04	0.00	0.08
B03122-B03123	5475	63	8	0.008	0.71	0.01	0.08	0.03	0.11	0.01	0.06	0.02	0.10
B03123-B03124	5474	162	8	0.140	2.92	0.02	0.07	0.04	0.09	0.01	0.05	0.02	0.07
B03124-B03125	5473	273	8	0.107	2.55	0.03	0.11	0.05	0.13	0.02	0.08	0.03	0.11
B03125-B03127	5472	113	8	0.012	0.86	0.04	0.28	0.05	0.34	0.02	0.21	0.04	0.29
B03126-B03127	5471	301	8	0.005	0.58	0.00	0.21	-	0.25	0.00	0.16	0.00	0.22
B03127-B03128	5470	238	8	0.000	0.02	0.04	0.28	0.06	0.35	0.02	0.21	0.04	0.30
B03128-B03129	5469	277	8	0.013	0.90	0.04	0.12	0.06	0.16	0.02	0.11	0.04	0.15
B03129-B03130	5468	312	8	0.044	1.64	0.04	0.10	0.06	0.13	0.06	0.12	0.08	0.15
B03130-B03131	5467	333	8	0.060	1.91	0.04	0.10	0.07	0.14	0.06	0.12	0.08	0.15
B03131-B03166.M0	7622	353	8	0.042	1.61	0.04	0.17	0.07	0.24	0.06	0.17	0.09	0.24
B03132-B03133	746	87	8	0.022	1.16	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.01
B03133-B03134	5466	350	8	0.060	1.91	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.03
B03134-B03135	5465	194	8	0.085	2.28	0.01	0.04	0.01	0.05	0.00	0.01	0.01	0.04
B03135-B03136	5464	316	8	0.089	2.33	0.01	0.05	0.01	0.06	0.00	0.01	0.01	0.05
B03136-B03137	5463	350	8	0.088	2.32	0.01	0.07	0.02	0.08	0.00	0.01	0.01	0.06
B03137-B03140	5461	368	8	0.031	1.38	0.02	0.07	0.03	0.09	0.00	0.01	0.01	0.07
B03138-B03139	2061	139	8	0.036	1.48	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.01
B03139-B03140	5460	85	8	0.031	1.38	0.00	0.04	0.00	0.06	0.00	0.00	0.00	0.04
B03140-B03166.C0	5459	143	8	0.143	2.95	0.02	0.08	0.04	0.11	0.00	0.04	0.02	0.09
B03144-B03145	745	249	8	0.106	2.54	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.01
B03145-B03146	5457	210	8	0.107	2.56	0.00	0.03	0.01	0.04	0.00	0.02	0.00	0.04
B03146-B03150	5456	344	8	0.059	1.90	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
B03147-B03149	743	135	8	0.036	1.47	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.02
B03148-B03149	3457	220	8	0.016	0.99	0.00	0.04	0.00	0.04	0.01	0.05	0.01	0.05
B03149-B03150	5455	361	8	0.089	2.33	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.06
B03150-B03151	5454	270	8	0.059	1.89	0.02	0.06	0.03	0.09	0.01	0.06	0.03	0.08
B03151-B03156	5453	348	8	0.079	2.20	0.02	0.08	0.03	0.10	0.01	0.06	0.03	0.09
B03152-B03153	747	155	8	0.173	3.25	0.01	0.04	0.01	0.04	0.00	0.03	0.00	0.03
B03153-B03155	5452	365	8	0.081	2.22	0.01	0.05	0.01	0.05	0.01	0.04	0.01	0.05
B03154-B03155	5451	161	8	0.124	2.76	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B03155-B03156	5450	120	8	0.091	2.35	0.01	0.08	0.02	0.09	0.01	0.06	0.01	0.08
B03156-B03157	5449	183	8	0.092	2.36	0.05	0.13	0.08	0.15	0.02	0.08	0.05	0.12
B03157-B03166.F0	8283	123	8	0.020	1.11	0.05	0.14	0.08	0.17	0.02	0.09	0.05	0.14
B03161.A0-B03161.B0	8058	75	8	0.148	3.01	0.00	0.00	-	0.01	0.01	0.03	0.01	0.03
B03161.B0-B03161.C0	8059	109	8	0.163	3.16	0.00	0.03	0.00	0.04	0.01	0.03	0.01	0.04
B03161.C0-B03161.D0	8060	122	8	0.094	2.40	0.02	0.06	0.02	0.07	0.01	0.05	0.01	0.05
B03161.D0-B03166.G0	8061	102	8	0.052	1.78	0.02	0.15	0.02	0.19	0.01	0.12	0.02	0.17
B03166.A0-B03166.B0	8313	290	8	0.055	1.83	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
B03166.B0-B03166.D0	8304	128	8	0.034	1.45	0.00	0.06	0.00	0.08	0.00	0.05	0.01	0.08
B03166.C0-B03166.D0	8305	37	8	0.012	0.85	0.02	0.10	0.04	0.14	0.01	0.07	0.03	0.12
B03166.D0-B03166.G0	8306	332	8	0.030	1.35	0.02	0.17	0.05	0.22	0.01	0.12	0.04	0.19
B03166.F0-B03166.G0	5448	145	8	0.037	1.50	0.05	0.19	0.08	0.24	0.02	0.13	0.05	0.20
B03166.G0-B03166.H0	8312	250	8	0.008	0.71	0.09	0.25	0.15	0.32	0.04	0.18	0.11	0.28
B03166.H0-B03166.I0	8311	275	8	0.008	0.71	0.09	0.23	0.15	0.29	0.05	0.16	0.12	0.26
B03166.I0-B03166.J0	5415	155	8	0.022	1.16	0.09	0.17	0.16	0.23	0.05	0.13	0.12	0.20
B03166.J0-B03166.K0	8310	90	8	0.064	1.98	0.09	0.17	0.16	0.22	0.05	0.12	0.13	0.20
B03166.K0-B03166.L0	5414	209	8	0.023	1.18	0.09	0.20	0.16	0.27	0.05	0.15	0.13	0.24
B03166.L0-B03166.M0	5413	203	8	0.013	0.88	0.09	0.23	0.16	0.31	0.05	0.19	0.13	0.29
B03166.M0-B03167	5412	410	8	0.017	1.01	0.13	0.25	0.24	0.34	0.10	0.23	0.22	0.33
B03167-B03168	5411	334	8	0.017	1.01	0.14	0.31	0.25	0.43	0.13	0.30	0.25	0.43
B03168-B03169	5113	189	8	0.004	0.48	0.14	0.38	0.26	0.52	0.13	0.36	0.25	0.52
B03169-B03170	5112	164	8	0.004	0.50	0.14	0.31	0.26	0.42	0.13	0.29	0.25	0.41
B03170-B03171	5111	280	8	0.029	1.32	0.16	0.24	0.28	0.32	0.13	0.22	0.26	0.31
B03171-B03172	5110	215	8	0.023	1.19	0.16	0.29	0.28	0.39	0.15	0.28	0.27	0.38
B03172-B03173	5109	506	8	0.010	0.78	0.18	0.39	0.32	0.72	0.17	0.39	0.31	0.58
B03173-B03174	2004	353	10	0.006	1.08	0.30	0.42	0.67	1.00	0.31	0.43	0.69	0.64
B03174-B03176	2003	66	10	0.000	0.06	0.30	0.35	0.68	0.72	0.31	0.35	0.69	0.52
B03175-B03176	1199	165	8	0.039	1.54	0.03	0.63	0.04	0.72	0.03	0.64	0.03	0.71
B03176-B03178	2002	276	10	0.045	2.99	0.30	0.28	0.68	0.65	0.32	0.29	0.70	0.44
B03177-B03178	1736	60	8	0.002	0.35	0.00	0.34	0.01	0.77	0.00	0.35	0.00	0.60
B03178-B03181	2001	296	10	0.008	1.24	0.30	0.32	0.68	0.77	0.32	0.33	0.71	0.51
B03179-B03180	4063	167	6	0.084	1.05	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B03180-B03181	2000	201	8	0.054	1.81	0.00	0.20	0.00	0.35	0.00	0.21	0.00	0.31
B03181-B03182	1999	271	10	0.013	1.63	0.31	0.28	0.69	0.62	0.33	0.29	0.71	0.44
B03182-B03183	1998	253	10	0.022	2.12	0.31	0.26	0.70	0.55	0.34	0.27	0.72	0.40
B03183-B02078	3643	253	10	0.024	2.17	0.31	0.31	0.70	0.66	0.34	0.38	0.73	0.56
B04001-B04002	2877	71	8	0.009	0.74	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
B04002-B04003	1358	207	8	0.064	1.98	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
B04003-B04004	1335	214	8	0.079	2.20	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B04004-B04006	2878	461	8	0.059	1.89	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B04005.C0-B04005	B04005.C0-B04005	85	8	0.146	2.99	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02
B04005-B04006	2879	168	8	0.117	2.67	0.00	0.02	0.00	0.05	0.00	0.03	0.00	0.05
B04006-B04008	2880	286	8	0.038	1.53	0.00	0.05	0.02	0.12	0.00	0.06	0.02	0.12
B04007-B04008	3460	252	8	0.056	1.85	0.00	0.04	0.00	0.09	0.00	0.04	0.00	0.08

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B04008-B04009.F0	8266	85	8	0.003	0.44	0.00	0.07	0.02	0.15	0.01	0.08	0.02	0.15
B04009.A0-B04009.B0	8268	15	8	0.010	0.78	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
B04009.B0-B04009.D0	8269	173	8	0.046	1.68	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B04009.C0-B04009.D0	8270	25	8	0.010	0.78	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
B04009.D0-B04009.E0	8271	139	8	0.109	2.57	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.03
B04009.E0-B04009.F0	8272	38	8	0.191	3.41	0.00	0.04	0.00	0.09	0.00	0.05	0.01	0.09
B04009.F0-B04009	8267	124	8	0.008	0.68	0.00	0.05	0.03	0.12	0.01	0.06	0.03	0.12
B04009-B04032	1334	336	8	0.042	1.60	0.01	0.04	0.03	0.10	0.01	0.06	0.03	0.10
B04030.B0-B04030	3835	98	8	0.004	0.49	0.00	0.01	-	0.02	0.01	0.11	0.01	0.11
B04030-B04032	2120	403	8	0.004	0.51	0.00	0.03	0.00	0.07	0.01	0.09	0.01	0.10
B04032-B04033	1330	171	8	0.065	1.99	0.01	0.05	0.04	0.11	0.02	0.08	0.05	0.12
B04033-B04036	1329	137	8	0.025	1.22	0.01	0.05	0.04	0.13	0.02	0.09	0.05	0.14
B04034-B04035	2128	236	8	0.006	0.58	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
B04035-B04036	1328	247	8	0.037	1.50	0.00	0.04	0.00	0.08	0.00	0.06	0.00	0.09
B04036-B04037.E0	B04036-B04037.E0	390	8	0.034	1.44	0.01	0.05	0.05	0.13	0.02	0.08	0.06	0.14
B04037.A0-B04037.B0	B04037.A0-B04037.B0	81	8	0.011	1.07	0.00	0.00	-	0.01	0.00	0.00	0.00	0.01
B04037.B0-B04037.C0	B04037.B0-B04037.C0	270	8	0.012	0.84	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.03
B04037.C0-B04037.D0	B04037.C0-B04037.D0	296	8	0.056	1.84	0.00	0.01	0.00	0.03	0.00	0.01	0.00	0.04
B04037.D0-B04037.E0	B04037.D0-B04037.E0	77	8	0.238	3.81	0.00	0.03	0.01	0.08	0.00	0.04	0.01	0.09
B04037.E0-B04037	B04037.E0-B04037	27	8	0.055	1.83	0.01	0.05	0.07	0.14	0.02	0.08	0.07	0.15
B04037-B04038	1325	370	8	0.036	1.49	0.01	0.06	0.07	0.15	0.02	0.10	0.08	0.17
B04038-B04039	1324	403	8	0.025	1.23	0.01	0.08	0.07	0.19	0.04	0.14	0.10	0.23
B04039-B04041	1323	298	8	0.011	0.83	0.02	0.09	0.08	0.19	0.04	0.14	0.11	0.22
B04040-B04041	2129	160	8	0.019	1.08	0.00	0.05	0.00	0.09	0.00	0.07	0.00	0.10
B04041-B04042	1321	234	8	0.038	1.53	0.02	0.08	0.08	0.17	0.04	0.12	0.11	0.19
B04042-B04043	3479	190	8	0.031	1.37	0.02	0.09	0.09	0.19	0.04	0.14	0.12	0.22
B04043-B04044	3480	259	8	0.012	0.87	0.02	0.10	0.09	0.22	0.04	0.16	0.12	0.25
B04044-B04045	1318	209	8	0.012	0.87	0.02	0.10	0.09	0.22	0.05	0.16	0.13	0.26
B04045-B04046	3481	108	8	0.012	0.87	0.02	0.10	0.10	0.23	0.05	0.17	0.13	0.26
B04046-B04058	3109	149	8	0.012	0.86	0.02	0.13	0.10	0.26	0.05	0.22	0.13	0.32
B04047-B04048	1927	280	8	0.052	1.78	0.00	0.00	-	0.02	0.00	0.05	0.00	0.05
B04048-B04052	1317	238	10	0.012	1.57	0.00	0.01	0.00	0.04	0.01	0.07	0.02	0.08
B04051-B04052	1933	200	8	0.017	1.01	0.00	0.02	0.00	0.04	0.01	0.07	0.01	0.08
B04052-B04055	1316	205	10	0.012	1.57	0.00	0.05	0.01	0.10	0.02	0.10	0.03	0.13
B04053-B04054	1935	225	8	0.001	0.24	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B04054.A0-B04054.B0	4929	323	8	0.026	1.27	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B04054.B0-B04054.C0	4928	309	8	0.039	1.54	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.06
B04054.C0-B04054.G0	4927	307	8	0.064	1.98	0.01	0.05	0.01	0.08	0.01	0.08	0.02	0.10
B04054.D0-B04054.E0	4926	116	8	0.065	1.99	0.00	0.00	-	0.01	0.02	0.08	0.02	0.08
B04054.E0-B04054.F0	4923	271	8	0.068	2.04	0.00	0.01	0.00	0.03	0.03	0.08	0.03	0.09
B04054.F0-B04054.G0	4922	381	8	0.074	2.13	0.00	0.03	0.00	0.06	0.03	0.09	0.03	0.11
B04054.G0-B04054.H0	4921	212	8	0.046	1.67	0.01	0.07	0.03	0.11	0.04	0.13	0.06	0.16
B04054.H0-B04054.IC	8178	164	8	0.011	0.84	0.01	0.10	0.03	0.16	0.04	0.16	0.06	0.21
B04054.I0-B04054.K0	4920	180	8	0.010	0.78	0.02	0.12	0.04	0.19	0.04	0.19	0.07	0.25
B04054.IA-B04054.IB	8176	237	8	0.026	1.26	0.00	0.04	0.00	0.04	0.00	0.02	0.00	0.03
B04054.IB-B04054.IC	8177	373	8	0.023	1.18	0.00	0.08	0.01	0.11	0.00	0.11	0.01	0.14
B04054.IC-B04054.I0	8179	67	8	0.007	0.64	0.02	0.11	0.04	0.17	0.04	0.17	0.07	0.22
B04054.J0-B04054.K0	3867	47	6	0.010	0.36	0.00	0.10	0.00	0.16	0.00	0.16	0.00	0.20
B04054.K0-B04054.L0	3850	366	8	0.004	0.48	0.02	0.12	0.05	0.20	0.04	0.19	0.08	0.25
B04054.L0-B04054	3860	300	8	0.016	1.00	0.02	0.08	0.05	0.13	0.05	0.12	0.08	0.16
B04054-B04055	1315	30	8	0.227	3.72	0.02	0.07	0.06	0.13	0.05	0.12	0.09	0.16
B04055-B04056	1314	242	10	0.016	1.81	0.02	0.07	0.07	0.13	0.06	0.14	0.12	0.18
B04056-B04057	1313	297	10	0.020	2.01	0.02	0.08	0.08	0.15	0.09	0.17	0.15	0.21
B04057-B04058	1312	130	10	0.008	1.24	0.02	0.10	0.08	0.21	0.10	0.20	0.16	0.27
B04058-B04089	25	103	10	0.011	1.46	0.04	0.23	0.18	0.42	0.15	0.42	0.30	0.54
B04059-B04060	3560	155	8	0.003	0.46	0.00	0.04	0.00	0.08	0.01	0.15	0.01	0.15
B04060-B04065	1310	109	8	0.000	0.02	0.00	0.05	0.00	0.10	0.01	0.15	0.01	0.16
B04061-B04065	3517	273	6	0.003	0.18	0.00	0.06	0.00	0.07	0.00	0.10	0.00	0.10
B04062-B04063	1936	195	8	0.005	0.54	0.00	0.03	0.00	0.03	0.01	0.07	0.01	0.07
B04063-B04064	1309	273	8	0.101	2.48	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
B04064-B04065	44	116	8	0.086	2.29	0.00	0.03	0.01	0.06	0.02	0.08	0.02	0.09
B04065-B04066	43	110	8	0.045	1.65	0.00	0.06	0.02	0.12	0.03	0.17	0.04	0.18
B04066-B04067	87	257	8	0.002	0.35	0.00	0.08	0.02	0.15	0.04	0.22	0.04	0.24
B04067-B04068	42	253	8	0.005	0.53	0.00	0.06	0.02	0.13	0.04	0.18	0.05	0.19
B04068-B04070	41	76	8	0.012	0.87	0.01	0.06	0.02	0.12	0.05	0.17	0.06	0.19
B04069-B04070	3602	167	8	0.199	3.49	0.00	0.04	0.00	0.07	0.02	0.12	0.02	0.13
B04070-B04071	40	35	8	0.013	0.91	0.01	0.06	0.03	0.12	0.07	0.19	0.08	0.20
B04071-B04072	39	179	8	0.018	1.04	0.01	0.05	0.03	0.10	0.07	0.16	0.08	0.17
B04072-B04074	38	322	8	0.064	1.97	0.01	0.04	0.03	0.09	0.09	0.14	0.09	0.15
B04073-B04074	3121	250	8	0.002	0.35	0.00	0.04	0.00	0.06	0.00	0.11	0.00	0.11
B04074-B04075	37	280	8	0.092	2.37	0.01	0.05	0.04	0.10	0.10	0.15	0.11	0.16
B04075-B04079	36	255	8	0.049	1.73	0.01	0.06	0.04	0.11	0.10	0.17	0.11	0.18
B04076-B04078	3363	270	6	0.002	0.15	0.00	0.08	0.00	0.09	0.01	0.19	0.01	0.19
B04077-B04078	3122	92	6	0.002	0.17	0.00	0.08	0.00	0.09	0.01	0.18	0.01	0.18
B04078-B04079	35	353	6	0.002	0.16	0.00	0.09	0.01	0.14	0.02	0.24	0.02	0.24
B04079-B04081	34	191	8	0.049	1.73	0.01	0.06	0.05	0.12	0.12	0.18	0.14	0.19
B04080-B04081	33	132	6	0.002	0.16	0.00	0.07	0.00	0.10	0.00	0.17	0.00	0.18
B04081-B04083	32	228	8	0.068	2.04	0.01	0.07	0.06	0.13	0.13	0.19	0.15	0.21
B04082-B04083	2051	196	6	0.071	0.97	0.00	0.05	0.00	0.10	0.01	0.17	0.01	0.18
B04083-B04088	31	208	8	0.031	1.38	0.01	0.07	0.06	0.14	0.14	0.21	0.16	0.23
B04084-B04085	30	103	8	0.010	0.78	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.05
B04085-B04086	29	192	8	0.080	2.21	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
B04086-B04087	28	215	8	0.071	2.09	0.00	0.03	0.01	0.04	0.02	0.07	0.02	0.07
B04087-B04088	27	351	8	0.088	2.32	0.00	0.05	0.01	0.09	0.02	0.14	0.02	0.15
B04088-B04089	26	100	8	0.049	1.72	0.02	0.25	0.08	0.44	0.16	0.49	0.19	0.60
B04089-B04092	927	109	10	0.000	0.04	0.06	0.23	0.26	0.42	0.29	0.44	0.48	0.56
B04090-B04091	24	423	8	0.030	1.35	0.00	0.03	0.00	0.03	0.01	0.06	0.01	0.06
B04091-B04092	23	305	8	0.099	2.45	0.00	0.09	0.01	0.17	0.02	0.20	0.02	0.24
B04092-B04093.B0	351	173	10	0.021	2.06	0.06	0.15	0.28	0.27	0.31	0.28	0.51	0.36
B04093.A0-B04093.B0	8300	75	8	0.012	0.86	0.04	0.18	0.04	0.25	0.01	0.22	0.01	0.27
B04093.B0-B04093	8299	125	10	0.014	1.67	0.11	0.17	0.31	0.30	0.32	0.30	0.52	0.39
B04093-B04095	347	336	10	0.013	1.60	0.11	0.18	0.31	0.30	0.33	0.31	0.52	0.40
B04094-B04095	346	299	6	0.002	0.16	0.00	0.18	0.00	0.29	0.01	0.34	0.01	0.40
B04095-B04097	345	241	10	0.013	1.60	0.11	0.17	0.32	0.30	0.34	0.30	0.54	0.39
B04096-B04097	3372	310	6	0.073	0.98	0.00	0.15	0.00	0.25	0.00	0.27	0.00	0.33
B04097-B04098	344	125	10	0.017	1.83	0.11	0.17	0.33	0.30	0.34	0.31	0.55	0.39
B04098-B04105.B0	22	138	10	0.012	1.57	0.11	0.18	0.33	0.31	0.34	0.32	0.55	0.40
B04099-B04100	19	360	8	0.100	2.47	0.00	0.02	0.00	0.03	0.01	0.05	0.01	0.05
B04100-B04101	3384	223	8	0.060	1.92	0.00	0.03	0.01	0.05	0.01	0.07	0.01	0.07
B04101-B04103	2680	336	8	0.027	1.27	0.00	0.04	0.01	0.06	0.01	0.08	0.02	0.08
B04102-B04103	2659	40	8	0.121	2.72	0.00	0.02	0.00	0.04	0.01	0.06	0.01	0.06
B04103-B04104	2667	230	8	0.052	1.79	0.00	0.03	0.01	0.06	0.02	0.08	0.03	0.09
B04104-B04105	2675	201	8	0.067	2.02	0.00	0.11	0.02	0.20	0.02	0.21	0.03	0.27
B04105.A0-B04105.B0	6869	249	8	0.008	0.69	0.01	0.61	0.02	0.69	0.04	0.70	0.04	0.75
B04105.B0-B04105	18	168	10	0.015	1.71	0.11	0.17	0.34	0.29	0.35	0.30	0.56	0.38
B04105-B04106	17	323	10	0.025	2.22	0.11	0.15	0.36	0.27	0.38	0.28	0.60	0.35
B04106-B02078	3394	197	10	0.026	2.29	0.11	0.26	0.36	0.45	0.38	0.39	0.60	0.53

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B07001-B07002	1507	73	8	0.020	1.12	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B07002-B07003	1506	190	8	0.016	0.97	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B07003-B07004	1505	239	8	0.025	1.24	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
B07004-B07005	1504	446	8	0.005	0.55	0.01	0.08	0.01	0.12	0.01	0.08	0.01	0.11
B07005-B07010	1503	135	8	0.005	0.55	0.01	0.07	0.02	0.11	0.01	0.07	0.02	0.11
B07006-B07007	1502	77	8	0.004	0.50	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B07007-B07008	1501	177	8	0.029	1.33	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B07008-B07009	1500	180	8	0.008	0.70	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
B07009-B07010	1499	178	8	0.086	2.29	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
B07010-B07011	1498	61	8	0.064	1.98	0.01	0.05	0.03	0.08	0.01	0.05	0.03	0.08
B07011-B07012	1497	382	8	0.102	2.49	0.01	0.05	0.03	0.08	0.01	0.05	0.03	0.08
B07012-B07013	1496	410	8	0.095	2.41	0.01	0.06	0.04	0.11	0.01	0.07	0.03	0.11
B07013-B07022	1495	252	8	0.014	0.92	0.01	0.08	0.04	0.15	0.01	0.09	0.04	0.14
B07014-B07017	1494	466	8	0.024	1.21	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
B07015-B07016	1493	162	8	0.018	1.05	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B07016-B07017	1492	141	8	0.034	1.44	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
B07017-B07019	1491	225	8	0.019	1.09	0.01	0.05	0.01	0.08	0.01	0.05	0.01	0.07
B07018-B07019	1490	131	8	0.017	1.01	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B07019-B07022	1489	137	8	0.083	2.26	0.01	0.06	0.02	0.11	0.01	0.07	0.02	0.11
B07020-B07021	1488	196	8	0.020	1.11	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B07021-B07022	1487	247	8	0.047	1.69	0.00	0.05	0.00	0.09	0.00	0.06	0.00	0.09
B07022-B07023	1486	178	8	0.037	1.49	0.02	0.08	0.07	0.15	0.02	0.09	0.07	0.14
B07023-B07024	2245	236	8	0.048	1.70	0.02	0.10	0.07	0.18	0.02	0.11	0.07	0.18
B07024-B07028	2246	201	8	0.010	0.77	0.02	0.10	0.08	0.19	0.03	0.11	0.07	0.19
B07025-B07026	1485	159	8	0.020	1.09	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B07026-B07027	1484	123	8	0.019	1.08	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B07027-B07028	1483	140	8	0.020	1.10	0.00	0.06	0.01	0.10	0.00	0.07	0.01	0.10
B07028-B07029	1482	178	8	0.046	1.68	0.03	0.09	0.09	0.15	0.03	0.09	0.08	0.15
B07029-B07038	1481	178	8	0.055	1.83	0.03	0.10	0.09	0.17	0.03	0.11	0.09	0.17
B07030-B07031	1480	139	8	0.044	1.64	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
B07031-B07033	1479	142	8	0.055	1.82	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B07032-B07033	1478	122	8	0.051	1.77	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B07033-B07034	1476	257	8	0.015	0.96	0.00	0.06	0.01	0.09	0.00	0.07	0.01	0.09
B07034-B07037	1244	214	8	0.004	0.49	0.01	0.07	0.01	0.11	0.01	0.08	0.01	0.10
B07035-B07036	1243	181	8	0.050	1.75	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B07036-B07037	1242	90	8	0.066	2.01	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
B07037-B07038	1241	243	8	0.024	1.21	0.01	0.09	0.02	0.14	0.01	0.09	0.02	0.14
B07038-B07043	1240	102	8	0.033	1.41	0.04	0.16	0.12	0.28	0.04	0.17	0.11	0.28
B07039-B07040	1239	180	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
B07040-B07041	1238	202	8	0.004	0.49	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
B07041-B07042	1237	136	8	0.004	0.50	0.00	0.05	0.01	0.08	0.00	0.06	0.01	0.08
B07042-B07043	1236	153	8	0.032	1.40	0.00	0.12	0.01	0.21	0.01	0.14	0.01	0.21
B07043-B07044	1235	171	8	0.004	0.49	0.04	0.17	0.13	0.30	0.05	0.19	0.13	0.30
B07044-B07051	1234	219	8	0.018	1.04	0.04	0.14	0.13	0.25	0.05	0.15	0.13	0.24
B07045-B07046	1233	82	8	0.010	0.78	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B07046-B07047	1232	82	8	0.010	0.79	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B07047-B07050	1231	153	8	0.010	0.78	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
B07048-B07049	1230	139	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B07049-B07050	1229	54	8	0.004	0.50	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
B07050-B07051	1228	148	8	0.017	1.02	0.00	0.10	0.01	0.16	0.01	0.11	0.01	0.16
B07051-B07055	1227	131	8	0.017	1.02	0.05	0.16	0.15	0.29	0.06	0.18	0.14	0.29
B07054.A0-B07054.B0	B07054.A0-B07054.B0	86	8	0.025	1.62	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B07054.B0-B07054.C0	B07054.B0-B07054.C0	271	8	0.017	1.02	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B07054.C0-B07054.D0	B07054.C0-B07054.D0	271	8	0.011	0.81	0.00	0.06	0.01	0.08	0.00	0.05	0.01	0.07
B07054.D0-B07054.H0	B07054.D0-B07054.H0	125	8	0.012	0.84	0.01	0.05	0.01	0.08	0.00	0.05	0.01	0.08
B07054.F0-B07054.G0	B07054.F0-B07054.G0	127	8	0.014	0.93	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B07054.G0-B07054.H0	B07054.G0-B07054.H0	110	8	0.110	2.59	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
B07054.H0-B07054.I0	B07054.H0-B07054.I0	134	8	0.061	1.92	0.01	0.05	0.02	0.09	0.01	0.07	0.02	0.10
B07054.I0-B07054.J0	B07054.I0-B07054.J0	54	8	0.013	0.89	0.01	0.07	0.02	0.12	0.01	0.10	0.02	0.13
B07054.J0-B07054	B07054.J0-B07054	145	8	0.005	0.57	0.01	0.09	0.02	0.14	0.01	0.12	0.03	0.15
B07054-B07055	1226	55	8	0.004	0.48	0.01	0.14	0.02	0.24	0.02	0.16	0.03	0.24
B07055-B07057	1225	215	8	0.010	0.78	0.06	0.19	0.17	0.34	0.07	0.22	0.17	0.32
B07056-B07057	1224	197	8	0.004	0.49	0.00	0.12	0.00	0.20	0.00	0.14	0.00	0.19
B07057-B07058	1223	217	8	0.010	0.78	0.06	0.16	0.18	0.27	0.08	0.18	0.18	0.66
B07058-B07079	B07058-B07079	94	8	0.096	2.42	0.06	0.37	0.18	0.59	0.08	0.56	0.19	1.00
B07059.A0-B07090	B07059.A0-B07090	151	8	0.064	1.97	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.01
B07062.A0-B07062	B07062.A0-B07062	172	8	0.016	0.99	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.04
B07062-B07063	1160	244	8	0.180	3.31	0.00	0.02	0.00	0.03	0.01	0.03	0.01	0.04
B07063-B07064	1475	67	8	0.079	2.20	0.00	0.02	0.01	0.04	0.01	0.04	0.01	0.05
B07079-B01152	B07079-B01152	210	20	0.011	9.64	1.36	0.40	4.37	1.00	3.51	0.71	5.78	1.00
B07080-B07079	B07080-B07079	253	20	0.012	10.03	1.30	0.25	4.18	0.73	3.43	0.41	5.58	1.00
B07081-B07080	B07081-B07080	642	20	0.004	5.83	1.30	0.29	4.16	0.55	3.43	0.49	5.56	1.00
B07082-B07081	B07082-B07081	571	20	0.004	5.66	1.30	0.33	4.14	0.64	3.43	0.57	5.55	1.00
B07083-B07082	B07083-B07082	111	8	0.125	2.76	0.00	0.42	0.01	0.52	0.01	0.52	0.01	0.52
B07084-B07082	B07084-B07082	65	20	0.004	5.79	1.30	0.32	4.13	0.63	3.43	0.56	5.53	1.00
B07085-B07084	B07085-B07084	51	20	0.007	7.57	1.30	0.30	4.13	0.60	3.43	0.53	5.53	1.00
B07086-B07085	B07086-B07085	221	20	0.006	6.77	1.30	0.29	4.12	0.56	3.43	0.50	5.52	1.00
B07087-B07086	B07087-B07086	262	20	0.006	6.79	1.30	0.30	4.12	0.56	3.42	0.50	5.52	1.00
B07089-B07087	B07089-B07087	248	8	0.025	1.24	0.00	0.38	0.00	0.52	0.00	0.50	0.07	1.00
B07090-B07089	B07090-B07089	36	8	0.052	1.78	0.00	0.02	0.00	0.04	0.00	0.01	0.00	0.51
B08001-B08002	1997	20	8	0.002	0.33	0.00	0.04	0.00	0.04	0.01	0.05	0.01	0.05
B08002-B08004	748	54	8	0.498	5.51	0.00	0.04	0.00	0.04	0.01	0.05	0.01	0.05
B08003-B08004	1140	23	8	0.002	0.35	0.00	0.03	-	0.03	0.00	0.05	0.00	0.05
B08004-B08005	1141	246	8	0.005	0.54	0.00	0.05	0.00	0.07	0.01	0.08	0.01	0.09
B08005-B08006	2302	357	8	0.004	0.51	0.00	0.06	0.01	0.09	0.01	0.09	0.01	0.11
B08006-B08007	2301	355	8	0.004	0.50	0.00	0.06	0.01	0.11	0.01	0.12	0.02	0.14
B08007-B08020	2300	350	8	0.006	0.59	0.00	0.14	0.02	0.22	0.02	0.27	0.03	0.30
B08008-B08009	2299	39	8	0.008	0.71	0.04	0.16	0.04	0.16	0.06	0.19	0.06	0.19
B08009-B08010	2298	311	8	0.009	0.75	0.04	0.16	0.04	0.17	0.06	0.19	0.06	0.19
B08010-B08011	2297	268	8	0.010	0.80	0.04	0.15	0.05	0.15	0.06	0.18	0.07	0.18
B08011-B08012	2296	341	8	0.024	1.21	0.04	0.13	0.05	0.14	0.07	0.16	0.07	0.16
B08012-B08014	2295	270	8	0.030	1.35	0.04	0.32	0.05	0.36	0.07	0.42	0.08	0.43
B08013-B08014	2294	294	8	0.019	1.07	0.00	0.26	-	0.29	0.02	0.39	0.02	0.40
B08014-B08015	2293	80	8	0.003	0.39	0.04	0.32	0.06	0.36	0.09	0.42	0.10	0.44
B08015-B08016	2292	300	8	0.044	1.63	0.05	0.17	0.07	0.20	0.10	0.24	0.11	0.25
B08016-B08019	2291	299	8	0.004	0.50	0.05	0.18	0.07	0.22	0.10	0.26	0.11	0.28
B08017-B08019	2290	81	8	0.032	1.39	0.00	0.56	0.01	0.58	0.03	0.61	0.03	0.61
B08018.A0-B08018.B0	1142	301	8	0.013	0.90	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
B08018.B0-B08018	1143	291	8	0.028	1.30	0.00	0.03	0.00	0.05	0.01	0.08	0.01	0.09
B08018.C0-B08018	1144	42	8	0.015	0.96	0.00	0.04	0.00	0.05	0.00	0.07	0.00	0.08
B08019.A0-B08019	1146	56	8	0.073	2.12	0.01	0.56	0.02	0.58	0.03	0.61	0.04	0.61
B08019.A0-B08019	CDT-51	341	8	0.022	1.15	0.00	0.52	0.01	0.53	0.03	0.55	0.03	0.56
B08019-B08020	2289	345	10	0.030	2.45	0.05	0.14	0.09	0.20	0.15	0.25	0.17	0.27
B08020-B08021	2288	279	10	0.003	0.83	0.06	0.15	0.11	0.21	0.17	0.26	0.20	0.28
B08022-B08024	2768	324	15	0.004	2.53	0.50	0.27	2.02	0.58	1.62	0.50	2.77	0.77
B08023-B08024	909	111	8	0.010	0.79	0.00	0.21	0.00	0.45	0.00	0.41	0.00	0.52
B08024-B08025.A0	FM11	42	15	0.012	4.59	0.50	0.23	2.03	0.50	1.63	0.44	2.79	0.61

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B08025.A0-B08025	2285	191	15	0.008	3.77	0.50	0.30	2.03	0.64	1.63	0.56	2.79	0.82
B08025-B08028	2286	176	15	0.002	1.89	0.50	0.29	2.03	0.61	1.63	0.55	2.79	0.79
B08026.D0-B08026.F0	B08026.D0-B08026.F0	150	8	0.049	1.73	0.00	0.01	0.00	0.02	0.01	0.05	0.01	0.06
B08026.F0-B08026.G0	B08026.F0-B08026.G0	155	8	0.039	1.55	0.00	0.01	0.00	0.03	0.01	0.06	0.01	0.07
B08026.G0-B08026.H0	B08026.G0-B08026.H0	141	8	0.030	1.35	0.00	0.02	0.00	0.05	0.01	0.08	0.01	0.08
B08026.H0-B08026.I0	B08026.H0-B08026.I0	56	8	0.011	0.81	0.00	0.09	0.01	0.19	0.01	0.23	0.01	0.27
B08026.I0-B08026	B08026.I0-B08026	180	8	0.031	1.36	0.07	0.16	0.29	0.32	0.46	0.41	0.57	0.46
B08026-B08027	3243	150	8	0.026	1.25	0.07	0.17	0.29	0.33	0.46	0.42	0.57	0.48
B08027-B08028	3242	116	8	0.024	1.22	0.08	0.30	0.30	0.61	0.46	0.62	0.58	0.74
B08028-B08021	2287	248	10	0.027	2.31	0.06	0.22	0.12	0.43	0.17	0.40	0.21	0.54
B08028-B08030	3241	221	15	0.017	5.50	0.63	0.25	2.45	0.52	2.19	0.49	3.56	0.66
B08029-B08030	1147	51	8	0.131	2.83	0.00	0.27	0.00	0.51	0.00	0.51	0.00	0.51
B08030-B08032	3239	370	15	0.009	4.03	0.63	0.25	2.46	0.53	2.19	0.49	3.57	0.70
B08031.A0-B08031.B0	1152	66	8	0.042	1.60	0.01	0.08	0.05	0.15	0.09	0.20	0.10	0.22
B08031.B0-B08031.C0	1153	108	8	0.012	0.84	0.01	0.07	0.05	0.13	0.09	0.17	0.11	0.19
B08031.C0-B08031.D0	1059	77	8	0.350	4.62	0.01	0.07	0.05	0.14	0.09	0.17	0.11	0.20
B08031.D0-B08031.E0	1060	179	8	0.006	0.62	0.01	0.10	0.05	0.20	0.09	0.26	0.11	0.29
B08031.E0-B08031	1061	147	8	0.006	0.63	0.01	0.09	0.05	0.18	0.09	0.22	0.11	0.25
B08031-B08032	3238	81	8	0.027	1.28	0.01	0.25	0.06	0.52	0.09	0.51	0.11	0.60
B08032-B08050	3237	267	15	0.017	5.46	0.65	0.30	2.53	0.72	2.28	0.64	3.70	0.83
B08033.A0-B08033	7652	160	8	0.100	2.47	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.05
B08033-B08034	3236	376	8	0.045	1.65	0.00	0.03	0.00	0.04	0.02	0.08	0.02	0.08
B08034-B08043	3235	419	8	0.060	1.91	0.00	0.07	0.01	0.13	0.03	0.19	0.03	0.20
B08035-B08036	1062	185	8	0.005	0.56	0.00	0.03	0.00	0.04	0.00	0.07	0.00	0.07
B08036-B08038	3234	195	8	0.006	0.58	0.00	0.03	0.00	0.06	0.01	0.09	0.01	0.09
B08037-B08038	1063	221	8	0.158	3.10	0.00	0.02	0.00	0.04	0.01	0.07	0.01	0.07
B08038-B08040	3233	107	8	0.024	1.21	0.00	0.03	0.01	0.05	0.02	0.08	0.02	0.09
B08039-B08040	1065	118	8	0.024	1.21	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
B08040-B08041	1066	183	8	0.156	3.09	0.00	0.02	0.01	0.05	0.03	0.07	0.03	0.08
B08041-B08042	1067	273	8	0.137	2.89	0.00	0.03	0.01	0.06	0.03	0.08	0.04	0.09
B08042-B08043	3232	209	8	0.105	2.53	0.00	0.07	0.02	0.13	0.04	0.19	0.04	0.20
B08043-B08048	1068	213	8	0.003	0.46	0.01	0.08	0.04	0.15	0.07	0.21	0.08	0.23
B08044-B08045	3459	150	8	0.045	1.66	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B08045-B08047	3231	185	8	0.032	1.39	0.00	0.02	0.00	0.04	0.01	0.05	0.01	0.05
B08046-B08047	3230	90	8	0.285	4.17	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.04
B08047-B08048	1150	118	8	0.173	3.25	0.00	0.04	0.01	0.07	0.01	0.09	0.02	0.10
B08048-B08031.A0	1151	107	8	0.094	2.40	0.01	0.06	0.05	0.11	0.09	0.14	0.10	0.16
B08050-B08051	3229	27	15	0.003	2.11	0.65	0.37	2.53	0.95	2.28	0.82	3.71	1.00
B08051-B08052	3228	372	15	0.003	2.34	0.65	0.31	2.53	0.72	2.28	0.64	3.71	0.90
B08052-B08054	3227	308	15	0.015	5.16	0.65	0.26	2.54	0.53	2.28	0.50	3.70	0.90
B08054-B08071	3226	127	15	0.010	4.11	0.65	0.26	2.55	0.54	2.28	0.50	3.71	1.00
B08055-B08056	4317	348	8	0.010	0.76	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
B08056-B08058	4316	282	8	0.037	1.50	0.00	0.03	0.01	0.05	0.01	0.07	0.01	0.07
B08057-B08058	4314	220	8	0.007	0.65	0.00	0.02	0.00	0.04	0.00	0.06	0.00	0.07
B08058-B08061	4313	176	8	0.035	1.46	0.00	0.03	0.01	0.08	0.02	0.08	0.02	0.10
B08059-B08060	4312	339	8	0.005	0.57	0.00	0.01	-	0.02	0.00	0.02	0.00	0.03
B08060-B08061	4311	361	8	0.039	1.55	0.00	0.02	0.00	0.06	0.00	0.06	0.01	0.08
B08061-B08062	4310	328	8	0.027	1.29	0.00	0.05	0.02	0.13	0.02	0.13	0.04	0.16
B08062-B08063	4309	361	8	0.004	0.49	0.00	0.06	0.03	0.15	0.02	0.14	0.04	0.18
B08063-B08064	4308	295	8	0.015	0.94	0.01	0.05	0.03	0.13	0.03	0.12	0.05	0.16
B08064-B08066	4307	484	8	0.018	1.04	0.01	0.13	0.04	0.21	0.03	0.18	0.06	0.58
B08065.A0-B08065.B0	B08065.A0-B08065.B0	246	8	0.021	1.13	0.03	0.12	0.03	0.12	0.00	0.07	0.00	0.07
B08065.B0-B08065.C0	B08065.B0-B08065.C0	88	8	0.010	0.80	0.03	0.13	0.03	0.14	0.02	0.11	0.02	0.11
B08065.C0-B08065.D0	B08065.C0-B08065.D0	190	8	0.009	0.75	0.03	0.13	0.03	0.14	0.02	0.11	0.02	0.12
B08065.D0-B08065	B08065.D0-B08065	54	8	0.010	0.79	0.03	0.13	0.03	0.14	0.02	0.11	0.02	0.12
B08065-B08066	4306	310	8	0.015	0.96	0.03	0.16	0.03	0.21	0.02	0.17	0.02	0.55
B08066-B08067	4305	274	8	0.004	0.48	0.04	0.23	0.09	0.33	0.06	0.29	0.12	1.00
B08067-B08068	4304	245	8	0.002	0.38	0.04	0.20	0.09	0.28	0.07	0.25	0.13	1.00
B08068-B08071	4303	42	8	0.024	1.21	0.04	0.29	0.09	0.56	0.07	0.49	0.15	1.00
B08069-B08070	4302	122	8	0.055	1.83	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
B08070-B08071	4301	272	8	0.021	1.13	0.00	0.24	0.00	0.49	0.00	0.45	0.00	0.52
B08071-B08072	4300	231	15	0.016	5.26	0.69	0.27	2.65	0.56	2.31	0.51	3.81	1.00
B08072-B08091	4299	404	15	0.008	3.79	0.69	0.29	2.66	0.60	2.31	0.56	3.82	1.00
B08073-B08074	1252	282	6	0.121	1.26	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
B08074-B08076	1073	218	6	0.092	1.10	0.00	0.10	0.00	0.11	0.01	0.07	0.01	0.08
B08075-B08076	1254	204	6	0.156	1.43	0.00	0.09	0.00	0.10	0.00	0.06	0.00	0.06
B08076-B08077	1255	339	6	0.038	0.71	0.04	0.15	0.04	0.16	0.01	0.08	0.01	0.10
B08077-B08085	4298	137	6	0.084	1.05	0.04	0.17	0.05	0.19	0.01	0.09	0.02	0.12
B08078-B08079	4297	197	8	0.025	1.23	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B08079-B08080	4296	151	8	0.117	2.67	0.00	0.07	0.00	0.08	0.01	0.04	0.01	0.04
B08080-B08081	4295	223	8	0.046	1.68	0.05	0.11	0.05	0.11	0.01	0.05	0.01	0.05
B08081-B08082	4294	117	8	0.094	2.39	0.05	0.10	0.05	0.11	0.01	0.05	0.01	0.06
B08082-B08083	4293	104	8	0.096	2.42	0.05	0.09	0.06	0.10	0.01	0.04	0.02	0.05
B08083-B08084	4292	85	8	0.268	4.04	0.05	0.12	0.06	0.13	0.01	0.06	0.02	0.07
B08084-B08085	4291	136	8	0.014	0.93	0.05	0.16	0.06	0.17	0.01	0.08	0.02	0.10
B08085-B08086	4236	280	8	0.048	1.72	0.09	0.15	0.11	0.17	0.02	0.14	0.04	0.15
B08086-B08087	4235	283	8	0.053	1.80	0.09	0.16	0.11	0.18	0.17	0.21	0.17	0.21
B08087-B08090	4234	65	8	0.043	1.62	0.09	0.18	0.12	0.20	0.17	0.26	0.17	0.26
B08088-B08089	1072	58	8	0.039	1.55	0.00	0.03	-	0.03	0.07	0.19	0.07	0.19
B08089-B08090	4538	357	8	0.005	0.55	0.00	0.13	0.01	0.14	0.07	0.27	0.07	0.27
B08090-B08091	4537	372	8	0.024	1.21	0.10	0.36	0.13	0.61	0.24	0.65	0.24	0.65
B08091-B08092	4536	106	15	0.011	4.32	0.79	0.30	2.79	0.61	2.54	0.57	4.03	1.00
B08092-B08093	3974	365	15	0.009	3.93	0.79	0.31	2.80	0.63	2.54	0.59	4.04	1.00
B08093-B08094	3972	119	15	0.008	3.78	0.79	0.32	2.81	0.66	2.54	0.62	4.05	1.00
B08094-B08095	4957	169	15	0.007	3.47	0.79	0.35	2.81	0.77	2.54	0.70	4.05	1.00
B08095.A0-B08095	5380	124	8	0.009	0.73	0.00	0.35	0.00	0.50	0.00	0.52	0.05	1.00
B08095-B08096	5674	226	15	0.004	2.70	0.79	0.37	2.81	0.87	2.54	0.77	4.06	1.00
B08096-B08097	5366	253	15	0.004	2.70	0.80	0.40	2.83	0.89	2.54	0.80	4.07	1.00
B08097-B08098	5355	22	15	0.001	1.26	0.80	0.39	2.83	0.87	2.54	0.79	4.08	1.00
B08098-B08099	5609	259	15	0.005	2.82	0.80	0.35	2.83	0.76	2.54	0.69	4.08	0.96
B08099-B08116	B08099-B08116	102	15	0.006	3.29	0.80	0.30	2.84	0.60	2.55	0.57	4.09	0.79
B08101-B08102	B08101-B08102	203	8	0.026	1.26	0.00	0.01	-	0.01	0.02	0.07	0.02	0.07
B08102-B08103	B08102-B08103	224	8	0.075	2.14	0.00	0.02	0.00	0.04	0.02	0.07	0.02	0.08
B08103-B08104	B08103-B08104	27	4	0.091	0.37	0.00	0.06	0.01	0.10	0.02	0.17	0.02	0.18
B08104-B08105	1070	174	8	0.032	1.39	0.00	0.03	0.01	0.05	0.02	0.09	0.02	0.09
B08105-B08106	5542	135	8	0.040	1.57	0.00	0.03	0.01	0.06	0.02	0.09	0.03	0.10
B08106-B08107	5261	298	8	0.040	1.56	0.00	0.03	0.01	0.06	0.03	0.08	0.03	0.09
B08107-B08120	B08107-B08120	21	8	0.170	3.22	0.00	0.03	0.01	0.06	0.03	0.08	0.03	0.09
B08110-B08111	B08110-B08111	96	8	0.013	0.88	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
B08111-B08112	B08111-B08112	252	8	0.021	1.14	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B08112-B08115	B08112-B08115	25	8	0.018	1.05	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B08114-B08115	B08114-B08115	39	8	0.015	0.97	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B08115-B08118	B08115-B08118	9	8	0.213	3.60	0.00	0.19	0.01	0.35	0.01	0.33	0.01	0.49
B08116-B08117	B08116-B08117	134	18	0.011	7.16	0.80	0.23	2.85	0.45	2.55	0.43	4.09	0.56
B08117-B08118	B08117-B08118	254	18	0.010	6.94	0.80	0.20	2.85	0.38	2.55	0.36	4.10	0.50
B08118-B08119	B08118-B08119	78	18	0.047	14.75	0.81	0.18	2.86	0.35	2.55	0.33	4.11	0.71
B08119-B08126	B08119-B08126	40	18	0.016	8.52	0.81	0.20	2.87	0.38	2.55	0.36	4.11	1.00

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B08120-B08121	B08120-B08121	62	8	0.045	1.65	0.00	0.04	0.01	0.07	0.03	0.10	0.04	0.11
B08121-B08122	B08121-B08122	138	8	0.028	1.31	0.00	0.03	0.02	0.07	0.03	0.10	0.04	0.11
B08122-B08124	B08122-B08124	41	8	0.096	2.42	0.00	0.04	0.02	0.08	0.03	0.10	0.04	0.54
B08124-B08125	B08124-B08125	95	8	0.019	1.07	0.00	0.04	0.02	0.09	0.03	0.12	0.05	1.00
B08125-B08126	B08125-B08126	85	8	0.021	1.13	0.00	0.24	0.02	0.46	0.03	0.44	0.07	1.00
B08126-B08154	B08126-B08154	64	18	0.021	9.86	0.81	0.23	2.89	0.42	2.58	0.39	4.16	1.00
B08154-B07087	B08154-B07087	152	20	0.015	11.00	1.30	0.26	4.11	0.49	3.42	0.44	5.51	1.00
B08155-B14319	B08155-B14319	186	16	0.008	4.50	0.50	0.25	1.22	0.39	0.85	0.32	1.37	1.00
B08156-B08155	CDT-41	75	16	0.008	4.43	0.50	0.23	1.21	0.36	0.85	0.30	1.37	1.00
B09001-B09002	5256	116	8	0.006	0.63	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B09002-B09003	5252	267	8	0.059	1.90	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.06
B09003-B09006	5246	329	8	0.027	1.28	0.00	0.04	0.01	0.06	0.02	0.09	0.02	0.10
B09004-B09005	2771	31	8	0.000	0.14	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B09005-B09006	5242	201	8	0.210	3.58	0.00	0.02	0.00	0.04	0.00	0.06	0.00	0.06
B09006-B09007	5240	55	8	0.025	1.23	0.00	0.04	0.01	0.07	0.02	0.09	0.03	0.10
B09007-B09010	5236	135	8	0.044	1.63	0.00	0.03	0.01	0.07	0.02	0.09	0.03	0.10
B09008-B09009	2770	130	8	0.002	0.35	0.00	0.01	-	0.03	0.00	0.03	0.00	0.04
B09009-B09010	8055	370	8	0.002	0.35	0.00	0.03	0.00	0.07	0.00	0.06	0.00	0.08
B09010-B09011	3420	138	8	0.053	1.80	0.00	0.04	0.02	0.08	0.03	0.11	0.04	0.12
B09011-B09039	3415	352	8	0.047	1.70	0.00	0.06	0.02	0.13	0.06	0.17	0.07	0.19
B09012-B09013	5521	100	8	0.015	0.95	0.00	0.01	0.00	0.02	0.06	0.16	0.06	0.16
B09013-B09015	5442	239	8	0.047	1.69	0.00	0.02	0.00	0.03	0.06	0.13	0.06	0.13
B09014-B09015	5434	136	8	0.201	3.50	0.00	0.02	0.00	0.03	0.00	0.07	0.00	0.07
B09015-B09016	5430	287	8	0.053	1.79	0.00	0.03	0.01	0.05	0.06	0.13	0.06	0.13
B09016-B09017	5098	230	8	0.050	1.74	0.00	0.04	0.01	0.08	0.06	0.19	0.06	0.19
B09017-B09018	5093	299	8	0.004	0.50	0.00	0.05	0.01	0.12	0.06	0.24	0.06	0.25
B09018-B09028	5086	282	8	0.004	0.49	0.00	0.08	0.02	0.18	0.06	0.28	0.07	0.30
B09019-B09020	5084	211	8	0.197	3.47	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B09020-B09021	5076	178	8	0.005	0.55	0.00	0.03	0.00	0.06	0.00	0.05	0.00	0.07
B09021-B09026	5342	245	8	0.010	0.78	0.00	0.05	0.01	0.10	0.00	0.11	0.01	0.13
B09022-B09023	5331	74	8	0.004	0.50	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
B09023-B09025	5330	215	8	0.032	1.39	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.05
B09024-B09025	5328	150	8	0.109	2.58	0.00	0.02	0.00	0.03	0.03	0.07	0.03	0.07
B09025-B09026	5312	230	8	0.124	2.75	0.00	0.05	0.01	0.09	0.03	0.12	0.03	0.13
B09026-B09027	4673	261	8	0.004	0.50	0.00	0.06	0.02	0.11	0.03	0.14	0.04	0.16
B09027-B09028	4672	249	8	0.032	1.39	0.01	0.07	0.02	0.16	0.03	0.21	0.04	0.24
B09028-B09029	4671	281	8	0.004	0.50	0.01	0.07	0.05	0.16	0.10	0.23	0.11	0.25
B09029-B09030	5305	274	8	0.086	2.29	0.01	0.05	0.05	0.10	0.10	0.14	0.12	0.16
B09030-B09031	5302	434	8	0.075	2.14	0.01	0.06	0.05	0.13	0.10	0.17	0.12	0.19
B09031-B09032	5294	311	8	0.020	1.12	0.01	0.07	0.06	0.15	0.10	0.20	0.12	0.22
B09032-B09034	4760	233	8	0.026	1.25	0.01	0.07	0.06	0.15	0.10	0.19	0.13	0.21
B09033-B09034	2769	113	8	0.020	1.10	0.00	0.05	0.00	0.09	0.00	0.10	0.00	0.11
B09034-B09035	388	251	8	0.032	1.40	0.01	0.07	0.07	0.15	0.10	0.18	0.13	0.21
B09035-B09036	379	245	8	0.031	1.37	0.01	0.07	0.07	0.16	0.10	0.18	0.14	0.21
B09036-B09037	378	205	8	0.031	1.36	0.01	0.07	0.07	0.16	0.10	0.18	0.14	0.22
B09037-B09038	4755	358	8	0.034	1.44	0.01	0.07	0.08	0.15	0.10	0.17	0.14	0.20
B09038-B09039	4753	272	8	0.053	1.80	0.02	0.07	0.08	0.16	0.10	0.19	0.15	0.22
B09039-B09040	4747	309	8	0.047	1.70	0.02	0.08	0.11	0.18	0.18	0.22	0.23	0.25
B09040-B09047	4738	310	8	0.050	1.74	0.02	0.08	0.12	0.19	0.19	0.22	0.24	0.26
B09041-B09042	1303	113	6	0.108	1.19	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B09042-B09044	1289	249	6	0.007	0.31	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
B09043-B09044	656	278	6	0.084	1.05	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B09044.A0-B09044	2772	123	8	0.006	0.58	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B09044-B09045	3410	277	8	0.050	1.75	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B09045-B09046	3407	263	8	0.020	1.10	0.00	0.04	0.01	0.09	0.00	0.04	0.01	0.09
B09046-B09047	3406	304	8	0.009	0.72	0.00	0.07	0.02	0.15	0.00	0.14	0.02	0.18
B09047-B09055	3405	136	8	0.048	1.70	0.02	0.11	0.14	0.26	0.19	0.30	0.26	0.36
B09048-B09049	2773	83	8	0.235	3.78	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B09049-B09051	2774	103	8	0.088	2.31	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
B09050-B09051	3404	48	8	0.023	1.19	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B09051-B09052	3403	322	8	0.061	1.94	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
B09052-B09053	3401	111	8	0.004	0.47	0.00	0.07	0.01	0.11	0.01	0.11	0.01	0.12
B09053-B09054	653	131	8	0.004	0.50	0.01	0.08	0.01	0.11	0.01	0.13	0.02	0.14
B09054-B09055	647	362	8	0.005	0.53	0.01	0.11	0.01	0.22	0.02	0.26	0.03	0.30
B09055-B09059	642	204	8	0.008	0.71	0.03	0.15	0.16	0.33	0.22	0.38	0.30	0.45
B09056-B09057	2775	157	8	0.087	2.30	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
B09057-B09058	5232	256	8	0.044	1.65	0.00	0.05	0.00	0.07	0.01	0.08	0.01	0.08
B09058-B09059	4378	251	8	0.004	0.49	0.00	0.11	0.01	0.21	0.01	0.24	0.01	0.28
B09059-B09060	4371	182	8	0.010	0.79	0.04	0.14	0.18	0.30	0.23	0.34	0.32	0.40
B09060-B09061	4363	300	8	0.023	1.18	0.04	0.12	0.18	0.26	0.23	0.30	0.32	0.36
B09061-B09062	4357	168	8	0.023	1.18	0.04	0.12	0.18	0.27	0.23	0.30	0.33	0.36
B09062-B09064	212	70	8	0.023	1.18	0.04	0.12	0.19	0.27	0.24	0.31	0.33	0.37
B09063-B09064	867	253	8	0.020	1.12	0.00	0.07	0.00	0.15	0.00	0.16	0.00	0.19
B09064-B09081.A0	2776	276	8	0.021	1.13	0.04	0.13	0.19	0.27	0.24	0.30	0.33	0.36
B09065.A0-B09065	2777	97	8	0.007	0.66	0.00	0.01	-	0.01	0.01	0.07	0.01	0.07
B09065-B09066	860	212	8	0.094	2.39	0.00	0.03	0.00	0.04	0.01	0.07	0.01	0.07
B09066-B09067	4353	222	8	0.032	1.41	0.00	0.04	0.01	0.06	0.02	0.09	0.02	0.09
B09067-B09081	4343	360	8	0.085	2.27	0.01	0.10	0.02	0.18	0.04	0.23	0.04	0.26
B09068-B09069	2778	146	8	0.182	3.33	0.00	0.02	0.00	0.02	0.01	0.06	0.01	0.06
B09069-B09070	4339	465	8	0.059	1.89	0.00	0.03	0.00	0.04	0.02	0.08	0.02	0.08
B09070-B09071	4333	199	8	0.062	1.95	0.00	0.03	0.01	0.06	0.03	0.09	0.03	0.09
B09071-B09074	5225	139	8	0.055	1.83	0.00	0.04	0.01	0.07	0.03	0.11	0.04	0.12
B09072-B09073	5222	136	8	0.079	2.19	0.00	0.02	0.00	0.02	0.01	0.06	0.01	0.06
B09073-B09074	4988	344	8	0.109	2.57	0.00	0.03	0.00	0.05	0.03	0.10	0.03	0.10
B09074-B09075	4985	113	8	0.055	1.83	0.01	0.05	0.02	0.08	0.07	0.13	0.07	0.14
B09075-B09078	4905	178	8	0.049	1.72	0.01	0.08	0.02	0.13	0.07	0.22	0.08	0.22
B09076-B09077	4894	145	8	0.004	0.49	0.00	0.02	0.00	0.03	0.00	0.06	0.00	0.06
B09077-B09078	5213	326	8	0.004	0.50	0.00	0.06	0.00	0.11	0.01	0.20	0.01	0.20
B09078-B09079	5203	154	8	0.005	0.53	0.01	0.09	0.03	0.15	0.09	0.24	0.10	0.25
B09079-B09080	4284	247	8	0.030	1.36	0.02	0.07	0.04	0.11	0.10	0.17	0.11	0.18
B09080-B09081	5191	191	8	0.064	1.98	0.02	0.11	0.05	0.21	0.11	0.27	0.11	0.30
B09081.A0-B09081	7583	225	8	0.028	1.30	0.04	0.14	0.20	0.28	0.25	0.34	0.34	0.39
B09081-B09082	5190	308	8	0.028	1.30	0.07	0.17	0.27	0.34	0.39	0.41	0.50	0.47
B09082-B09085	5186	41	8	0.015	0.95	0.07	0.18	0.27	0.36	0.40	0.44	0.50	0.51
B09084.A0-B09084	7584	50	6	0.002	0.16	0.00	0.05	0.00	0.07	0.00	0.16	0.00	0.20
B09084-B09085	2780	184	6	0.001	0.11	0.00	0.15	0.00	0.28	0.01	0.40	0.01	0.48
B09085-B09087	5185	200	8	0.019	1.08	0.07	0.17	0.27	0.33	0.40	0.41	0.51	0.47
B09086-B09087	2779	136	6	0.002	0.17	0.00	0.14	0.00	0.24	0.01	0.33	0.01	0.36
B09087-B09088	2224	182	8	0.027	1.29	0.07	0.17	0.28	0.33	0.41	0.42	0.52	0.48
B09088-B09089	2223	296	8	0.020	1.10	0.07	0.17	0.28	0.33	0.45	0.43	0.55	0.48
B09089-B08026.I0	B09089-B08026.I0	42	8	0.028	1.32	0.07	0.16	0.29	0.32	0.45	0.40	0.56	0.45
B10001-B10002	761	184	8	0.008	0.68	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B10002-B10003	775	204	8	0.017	1.01	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B10003-B10004	2219	211	8	0.029	1.33	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B10004-B10005	3090	207	8	0.030	1.36	0.00	0.03	0.01	0.06	0.00	0.04	0.01	0.06
B10005-B10006	3084	270	8	0.030	1.34	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
B10006-B10007	4529	269	8	0.030	1.35	0.00	0.04	0.02	0.08	0.00	0.04	0.02	0.08

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B10007-B10008	4522	365	8	0.040	1.57	0.00	0.15	0.02	0.34	0.01	0.24	0.02	0.38
B10008-B10009	4509	206	10	0.014	1.66	0.15	0.22	0.77	0.52	0.45	0.38	0.98	0.60
B10009-B10015	1602	250	10	0.009	1.36	0.15	0.21	0.78	0.50	0.45	0.37	0.98	0.58
B10010-B10011	2073	191	8	0.033	1.42	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
B10011-B10012	2070	206	8	0.089	2.33	0.00	0.02	0.00	0.03	0.00	0.03	0.01	0.04
B10012-B10014	2066	180	8	0.151	3.03	0.00	0.02	0.01	0.03	0.00	0.03	0.01	0.04
B10013-B10014	3218	154	8	0.011	0.82	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
B10014-B10015	3216	259	8	0.296	4.25	0.00	0.13	0.01	0.30	0.01	0.22	0.01	0.34
B10015-B10016	3200	461	10	0.021	2.07	0.16	0.18	0.80	0.41	0.45	0.30	1.00	0.47
B10016-B10025	5180	420	10	0.035	2.65	0.16	0.21	0.80	0.50	0.46	0.36	1.01	0.57
B10017-B10019	5179	224	8	0.002	0.35	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B10018-B10019	5178	231	8	0.004	0.50	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B10019-B10021	5177	183	8	0.091	2.36	0.00	0.03	0.01	0.06	0.00	0.02	0.01	0.05
B10020-B10021	5176	225	8	0.027	1.28	0.00	0.03	0.00	0.05	0.00	0.02	0.00	0.04
B10021-B10023	5175	149	8	0.023	1.17	0.00	0.04	0.01	0.08	0.00	0.03	0.01	0.07
B10022-B10023	5174	188	8	0.433	5.14	0.00	0.52	0.00	0.54	0.00	0.52	0.00	0.54
B10023-B10024	5173	249	8	0.027	1.29	0.01	0.06	0.02	0.10	0.00	0.04	0.02	0.09
B10024-B10025	5171	213	8	0.007	0.67	0.01	0.19	0.02	0.45	0.00	0.30	0.02	0.50
B10025-B10026	5170	362	12	0.005	1.61	0.16	0.22	0.84	0.52	0.46	0.37	1.04	0.60
B10026-B10027	5162	256	12	0.004	1.51	0.16	0.23	0.84	0.55	0.46	0.39	1.05	0.63
B10027.A0-B10027.B0	B10027.A0-B10027.B0	115	8	0.060	2.49	0.00	0.01	-	0.01	0.00	0.01	0.00	0.01
B10027.B0-B10027.C0	B10027.B0-B10027.C0	115	8	0.146	2.99	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
B10027.C0-B10027.D0	B10027.C0-B10027.D0	316	8	0.137	2.90	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B10027.D0-B10027	B10027.D0-B10027	106	8	0.063	1.96	0.00	0.18	0.01	0.45	0.00	0.31	0.01	0.51
B10027-B10070	2408	189	12	0.004	1.39	0.17	0.24	0.85	0.56	0.46	0.42	1.06	0.65
B10028-B10029	2393	206	8	0.005	0.55	0.00	0.04	0.00	0.05	0.01	0.11	0.01	0.11
B10029-B10030	2488	230	8	0.005	0.55	0.00	0.04	0.00	0.06	0.01	0.10	0.01	0.11
B10030-B10031	2483	228	8	0.016	1.00	0.00	0.03	0.01	0.05	0.01	0.07	0.02	0.08
B10031-B10032	4883	174	8	0.201	3.50	0.00	0.03	0.01	0.05	0.02	0.06	0.02	0.07
B10032-B10033	4875	182	8	0.050	1.74	0.00	0.03	0.01	0.06	0.02	0.06	0.02	0.07
B10033-B10034	320	167	8	0.200	3.50	0.00	0.03	0.02	0.05	0.02	0.05	0.02	0.06
B10034-B10035	8202	154	8	0.187	3.38	0.01	0.05	0.02	0.09	0.02	0.08	0.03	0.10
B10035-B10036	4715	142	8	0.010	0.78	0.01	0.05	0.02	0.09	0.02	0.08	0.03	0.10
B10036-B10037	1608	66	8	0.334	4.52	0.01	0.04	0.02	0.08	0.02	0.07	0.03	0.09
B10037-B10038	2133	110	8	0.020	1.11	0.01	0.06	0.02	0.12	0.02	0.11	0.03	0.13
B10038-B10039	5042	288	8	0.010	0.78	0.01	0.07	0.03	0.11	0.02	0.10	0.03	0.13
B10039-B10040	5038	272	8	0.041	1.59	0.01	0.06	0.03	0.10	0.02	0.09	0.04	0.11
B10040-B10054	5032	254	8	0.064	1.98	0.01	0.07	0.04	0.12	0.03	0.15	0.05	0.16
B10041-B10042	4664	336	8	0.108	2.56	0.00	0.01	0.00	0.02	0.02	0.06	0.02	0.06
B10042-B10043	4661	176	8	0.144	2.96	0.00	0.01	0.00	0.03	0.02	0.06	0.02	0.06
B10043-B10044.A0	1579	135	8	0.157	3.09	0.00	0.01	0.01	0.03	0.02	0.06	0.02	0.06
B10044.A0-B10044	412	134	8	0.247	3.88	0.00	0.01	0.01	0.03	0.02	0.05	0.02	0.06
B10044-B10045	3464	116	8	0.260	3.99	0.00	0.01	0.01	0.04	0.02	0.06	0.03	0.06
B10045-B10046	4650	175	8	0.154	3.06	0.00	0.01	0.01	0.04	0.02	0.06	0.03	0.07
B10046-B10047	2530	282	8	0.207	3.55	0.00	0.02	0.01	0.06	0.02	0.07	0.03	0.09
B10047-B10048	2547	316	8	0.035	1.45	0.00	0.02	0.02	0.07	0.02	0.08	0.03	0.10
B10048-B10049	4643	244	8	0.100	2.47	0.00	0.01	0.02	0.05	0.03	0.07	0.04	0.08
B10049-B10050	4639	102	8	1.968	10.96	0.00	0.50	0.02	0.52	0.09	0.53	0.10	0.53
B10050-B10051	4630	45	8	4.390	16.36	0.00	0.51	0.02	0.54	0.09	0.58	0.10	0.58
B10051-B10053	5018	105	8	0.056	1.84	0.00	0.03	0.02	0.09	0.09	0.16	0.10	0.16
B10052-B10053	5005	235	8	0.060	1.91	0.00	0.03	0.00	0.06	0.00	0.10	0.00	0.10
B10053-B10054	5004	224	8	0.047	1.70	0.00	0.06	0.03	0.12	0.10	0.19	0.10	0.20
B10054-B10057	5000	186	8	0.043	1.63	0.02	0.08	0.07	0.15	0.16	0.21	0.18	0.23
B10055-B10056	4993	415	8	0.012	0.86	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B10055-B10058	4259	206	8	0.042	1.61	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B10056-B10057	4253	399	8	0.047	1.70	0.00	0.06	0.01	0.11	0.00	0.12	0.01	0.14
B10057-B10060	4244	197	8	0.041	1.59	0.02	0.12	0.09	0.22	0.16	0.28	0.19	0.31
B10058-B10059	4242	471	8	0.026	1.26	0.00	0.05	0.01	0.06	0.00	0.05	0.01	0.06
B10059-B10060	4132	341	8	0.032	1.41	0.01	0.10	0.01	0.17	0.01	0.20	0.01	0.23
B10060-B10062	3818	194	8	0.007	0.68	0.03	0.17	0.11	0.31	0.17	0.39	0.21	0.43
B10061-B10062	3816	350	8	0.007	0.63	0.00	0.11	0.00	0.19	0.00	0.23	0.00	0.26
B10062-B10063	3808	204	8	0.004	0.52	0.04	0.19	0.12	0.34	0.20	0.47	0.24	0.52
B10063-B10064	3804	281	8	0.004	0.49	0.04	0.19	0.13	0.34	0.24	0.48	0.28	0.52
B10064-B10068	3794	276	8	0.006	0.60	0.04	0.19	0.13	0.35	0.25	0.48	0.29	0.53
B10065-B10066	3789	381	8	0.031	1.38	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B10065-B10067	556	186	8	0.049	1.74	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B10066-B10068	4700	221	8	0.030	1.36	0.00	0.12	0.01	0.22	0.00	0.27	0.01	0.31
B10067-B10068	4694	268	8	0.035	1.47	0.00	0.12	0.01	0.21	0.00	0.28	0.00	0.31
B10068-B10069	4682	261	8	0.004	0.49	0.05	0.21	0.15	0.38	0.26	0.51	0.31	0.57
B10069-B10070	4624	123	8	0.004	0.51	0.05	0.28	0.16	0.60	0.26	0.59	0.31	0.77
B10070-B10071	4622	182	12	0.006	1.84	0.21	0.20	1.02	0.46	0.72	0.38	1.37	0.54
B10071-B10072	4617	257	12	0.024	3.58	0.21	0.16	1.02	0.36	0.73	0.30	1.37	0.42
B10072-B10073	4610	292	12	0.028	3.84	0.21	0.16	1.02	0.35	0.73	0.29	1.38	0.41
B10073-B10074	4603	292	12	0.030	4.00	0.21	0.16	1.03	0.37	0.73	0.31	1.38	0.43
B10074-B10075	4598	326	12	0.021	3.30	0.21	0.19	1.03	0.44	0.75	0.37	1.41	0.53
B10075-B10076	4597	413	12	0.008	2.08	0.21	0.23	1.04	0.55	0.78	0.47	1.43	0.69
B10076-B10081	4585	273	12	0.005	1.58	0.21	0.25	1.05	0.58	0.79	0.49	1.45	0.72
B10077-B10078	4502	209	8	0.072	2.09	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
B10078.A0-B10078	2119	316	8	0.002	0.35	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
B10078-B10079	4498	295	8	0.068	2.04	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B10079-B10080	4273	290	8	0.139	2.91	0.01	0.05	0.01	0.06	0.00	0.05	0.01	0.06
B10080-B10081	2325	409	8	0.104	2.52	0.02	0.21	0.03	0.45	0.02	0.38	0.03	0.53
B10081-B10082	2317	52	12	0.006	1.78	0.23	0.23	1.08	0.52	0.81	0.44	1.48	0.62
B10082-B10083	2308	133	12	0.010	2.35	0.23	0.20	1.09	0.44	0.81	0.38	1.49	0.53
B10083-B10084	959	234	12	0.020	3.24	0.23	0.19	1.09	0.42	0.81	0.37	1.49	0.51
B10084.A0-B10084.B0	1722	97	8	0.036	1.47	0.00	0.02	0.00	0.02	0.07	0.15	0.07	0.15
B10084.B0-B10084.C0	2717	151	8	0.039	1.55	0.00	0.05	0.00	0.06	0.07	0.17	0.07	0.17
B10084.C0-B10084.D0	1975	278	8	0.025	1.24	0.02	0.10	0.03	0.11	0.10	0.21	0.10	0.21
B10084.D0-B10084.E0	2737	212	8	0.012	0.85	0.02	0.15	0.03	0.17	0.10	0.26	0.10	0.26
B10084.E0-B10084.F0	2754	82	8	0.005	0.55	0.04	0.20	0.05	0.22	0.10	0.32	0.10	0.32
B10084.F0-B10084.G0	2811	266	8	0.005	0.55	0.04	0.16	0.05	0.17	0.13	0.27	0.13	0.27
B10084.G0-B10084	711	167	8	0.055	1.83	0.04	0.21	0.06	0.39	0.13	0.39	0.13	0.49
B10084-B10085	1592	290	12	0.016	2.91	0.27	0.20	1.15	0.42	0.94	0.38	1.60	0.51
B10085-B10089	548	264	12	0.021	3.35	0.27	0.22	1.15	0.48	0.94	0.43	1.61	0.60
B10086.A0-B10086.B0	2933	198	8	0.058	1.88	0.00	0.03	0.00	0.03	0.01	0.05	0.01	0.05
B10086.B0-B10086	1851	192	8	0.128	2.80	0.00	0.04	0.01	0.05	0.01	0.07	0.01	0.07
B10086-B10088	2836	330	8	0.022	1.15	0.01	0.06	0.01	0.08	0.02	0.13	0.02	0.13
B10087-B10088	2688	219	8	0.130	2.82	0.00	0.04	0.00	0.05	0.02	0.11	0.02	0.11
B10088-B10089	2348	71	8	0.016	1.00	0.01	0.22	0.02	0.47	0.06	0.46	0.06	0.58
B10089-B10092	1535	341	12	0.007	1.95	0.28	0.25	1.17	0.56	1.00	0.51	1.67	0.71
B10090-B10091	953	325	8	0.002	0.35	0.00	0.01	-	0.02	0.00	0.04	0.00	0.04
B10091-B10092	944	221	8	0.089	2.33	0.00	0.20	0.00	0.44	0.01	0.39	0.01	0.52
B10092-B10093	4269	310	12	0.007	1.98	0.28	0.25	1.19	0.56	1.01	0.51	1.69	0.72
B10093-B10094	4263	347	12	0.008	2.01	0.28	0.24	1.19	0.53	1.03	0.48	1.71	0.66
B10094-B08022	2765	265	12	0.012	2.52	0.28	0.31	1.20	0.67	1.04	0.59	1.72	0.80
B11001-B11002	2494	292	8	0.076	2.15	0.00	0.02	0.00	0.03	0.05	0.11	0.05	0.11
B11002-B11003	4459	162	8	0.051	1.76	0.00	0.03	0.00	0.05	0.05	0.13	0.05	0.13

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B11003-B11004	4450	35	8	0.032	1.40	0.00	0.02	0.01	0.04	0.05	0.11	0.05	0.11
B11004-B11005	4443	209	8	0.218	3.65	0.00	0.02	0.01	0.04	0.05	0.09	0.05	0.09
B11005-B11006	6373	248	8	0.134	2.86	0.00	0.04	0.01	0.07	0.05	0.14	0.05	0.15
B11006-B11007	6581	223	8	0.007	0.67	0.00	0.05	0.01	0.10	0.06	0.19	0.06	0.20
B11007-B11008	4435	291	8	0.008	0.70	0.00	0.05	0.02	0.11	0.06	0.20	0.06	0.20
B11008-B11021	4428	206	8	0.008	0.71	0.00	0.05	0.02	0.11	0.06	0.17	0.06	0.18
B11009-B11010	4419	196	8	0.095	2.40	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.01
B11010-B11011	4415	282	8	0.054	1.81	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.03
B11011-B11012	4414	76	8	0.127	2.79	0.00	0.02	0.01	0.04	0.00	0.01	0.01	0.03
B11012-B11021	4412	278	8	0.167	3.19	0.00	0.03	0.01	0.07	0.00	0.08	0.01	0.10
B11013-B11014	4410	250	8	0.040	1.57	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.02
B11014-B11015	4409	249	8	0.021	1.13	0.00	0.02	0.00	0.04	0.00	0.00	0.00	0.03
B11015-B11018	1094	120	8	0.304	4.31	0.00	0.02	0.01	0.04	0.00	0.02	0.01	0.04
B11016-B11017	1077	173	8	0.005	0.56	0.00	0.04	0.00	0.05	0.01	0.10	0.01	0.10
B11017-B11018	4398	263	8	0.005	0.56	0.00	0.03	0.00	0.05	0.01	0.08	0.01	0.08
B11018-B11019	6259	147	8	0.175	3.27	0.00	0.03	0.01	0.06	0.01	0.05	0.02	0.07
B11019-B11020	5281	195	8	0.045	1.65	0.00	0.03	0.02	0.07	0.01	0.07	0.02	0.08
B11020-B11021	4117	309	8	0.095	2.41	0.00	0.04	0.02	0.09	0.02	0.11	0.03	0.12
B11021-B11023	4097	220	8	0.071	2.08	0.01	0.07	0.06	0.16	0.09	0.19	0.11	0.22
B11022-B11023	331	21	8	0.001	0.30	0.00	0.11	0.00	0.22	0.00	0.27	0.00	0.31
B11023-B11024	913	249	8	0.010	0.79	0.01	0.07	0.06	0.16	0.09	0.19	0.12	0.22
B11024-B11025	4382	450	8	0.080	2.21	0.01	0.05	0.06	0.12	0.09	0.14	0.12	0.16
B11025-B11026	4229	237	8	0.097	2.43	0.01	0.06	0.07	0.12	0.09	0.13	0.13	0.16
B11026-B11028	4225	132	8	0.097	2.43	0.02	0.06	0.08	0.13	0.09	0.14	0.13	0.16
B11027-B11026	3066	351	6	0.007	0.31	0.00	0.06	0.00	0.10	0.00	0.09	0.00	0.11
B11028-B11030	4224	342	8	0.079	2.20	0.02	0.06	0.08	0.13	0.09	0.14	0.13	0.17
B11029-B11030	4223	378	8	0.005	0.56	0.00	0.05	0.00	0.09	0.00	0.07	0.00	0.08
B11030-B11037	4222	39	8	0.092	2.37	0.02	0.07	0.09	0.15	0.09	0.15	0.14	0.18
B11031-B11032	4221	119	8	0.020	1.09	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B11032-B11033	640	98	8	0.113	2.63	0.00	0.02	0.00	0.03	0.01	0.05	0.01	0.05
B11033-B11035	636	166	8	0.021	1.12	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
B11034-B11035	631	331	8	0.006	0.60	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
B11035-B11036	257	322	8	0.170	3.22	0.00	0.03	0.01	0.05	0.01	0.04	0.02	0.05
B11036-B11037	254	328	8	0.142	2.94	0.00	0.06	0.02	0.11	0.01	0.10	0.02	0.13
B11037-B11040	7368	412	8	0.060	1.91	0.03	0.09	0.11	0.18	0.11	0.17	0.17	0.22
B11038-B11039	623	250	8	0.006	0.60	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.06
B11039-B11043	6865	152	8	0.005	0.55	0.00	0.07	0.00	0.13	0.00	0.12	0.01	0.16
B11040-B11043	612	64	8	0.033	1.41	0.03	0.10	0.12	0.20	0.11	0.19	0.17	0.24
B11041-B11042	1158	5	8	0.152	3.04	0.00	0.01	0.00	0.01	0.01	0.04	0.01	0.04
B11042-B11043	3039	492	8	0.136	2.88	0.00	0.06	0.00	0.11	0.01	0.11	0.01	0.14
B11043-B11046	2764	186	8	0.036	1.49	0.03	0.10	0.13	0.20	0.12	0.19	0.19	0.24
B11044-B11045	3455	163	6	0.099	1.14	0.00	0.03	0.00	0.03	0.00	0.01	0.00	0.01
B11045-B11046	2763	251	6	0.084	1.05	0.00	0.08	0.00	0.16	0.00	0.13	0.00	0.18
B11046-B11047	2762	159	8	0.035	1.46	0.03	0.10	0.14	0.21	0.12	0.20	0.20	0.25
B11047-B11048	2761	329	8	0.028	1.32	0.03	0.13	0.14	0.29	0.12	0.25	0.20	0.34
B11048-B11049	2760	284	8	0.044	1.64	0.09	0.17	0.46	0.37	0.31	0.30	0.62	0.44
B11049-B11050	2759	297	8	0.038	1.52	0.09	0.16	0.46	0.37	0.31	0.30	0.63	0.44
B11050-B11051	2758	378	8	0.051	1.76	0.09	0.18	0.47	0.41	0.31	0.33	0.63	0.49
B11051-B11055	2757	234	8	0.019	1.06	0.09	0.20	0.47	0.48	0.32	0.38	0.64	0.57
B11052-B11053	2756	342	8	0.080	2.21	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B11053-B11054	2755	343	8	0.073	2.11	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.04
B11054-B11055	2956	128	8	0.088	2.32	0.00	0.12	0.01	0.27	0.01	0.21	0.01	0.32
B11055-B11056	2955	116	8	0.017	1.03	0.09	0.20	0.48	0.48	0.33	0.39	0.66	0.58
B11056-B11057	2954	193	8	0.019	1.06	0.09	0.20	0.49	0.47	0.33	0.38	0.66	0.56
B11057-B11061	2953	157	8	0.022	1.15	0.10	0.21	0.49	0.48	0.34	0.39	0.67	0.59
B11058-B11059	3270	273	8	0.081	2.22	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
B11059-B11060	910	334	8	0.057	1.87	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.04
B11060-B11061	908	338	8	0.059	1.90	0.00	0.12	0.01	0.28	0.00	0.22	0.01	0.34
B11061-B11062	907	233	8	0.016	0.98	0.10	0.21	0.50	0.50	0.34	0.41	0.69	0.61
B11062-B11113	906	349	8	0.018	1.04	0.10	0.21	0.51	0.50	0.35	0.39	0.69	0.59
B11063-B11064	905	265	8	0.007	0.66	0.00	0.24	0.00	0.25	0.00	0.26	0.00	0.26
B11064-B11065	904	71	8	0.017	1.03	0.01	0.73	0.01	0.74	0.01	0.74	0.01	0.75
B11065-B11066	903	14	8	0.107	2.55	0.00	0.52	0.01	0.53	0.00	0.52	0.01	0.53
B11066-B11067	902	265	8	0.019	1.07	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.06
B11067-B11068	901	332	8	0.043	1.62	0.00	0.05	0.01	0.09	0.00	0.06	0.01	0.09
B11068-B11084	900	324	8	0.004	0.49	0.00	0.06	0.01	0.12	0.00	0.07	0.01	0.12
B11069-B11070	899	337	8	0.004	0.47	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
B11070-B11084	898	314	8	0.075	2.15	0.00	0.04	0.01	0.08	0.00	0.04	0.00	0.08
B11071-B11072	835	160	8	0.055	1.84	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B11072-B11076	897	227	8	0.078	2.18	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B11073-B11074	1190	291	8	0.006	0.58	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B11074-B11075	896	176	8	0.073	2.10	0.00	0.02	0.01	0.04	0.00	0.01	0.00	0.03
B11075-B11076	895	175	8	0.089	2.33	0.00	0.03	0.01	0.05	0.00	0.02	0.01	0.04
B11076-B11082	894	206	8	0.127	2.78	0.00	0.03	0.02	0.07	0.00	0.03	0.01	0.06
B11077-B11078	893	300	8	0.033	1.42	0.00	0.00	-	0.01	0.00	0.02	0.00	0.02
B11078-B11082	892	185	8	0.110	2.59	0.00	0.02	0.00	0.05	0.00	0.02	0.00	0.05
B11079-B11080	1364	235	6	0.053	0.84	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B11080-B11081	1311	195	6	0.014	0.43	0.00	0.03	0.00	0.06	0.00	0.05	0.00	0.07
B11081-B11082	891	259	6	0.013	0.41	0.00	0.04	0.00	0.09	0.00	0.05	0.00	0.09
B11082-B11083	890	170	8	0.112	2.61	0.01	0.03	0.03	0.07	0.01	0.03	0.03	0.07
B11083-B11084	889	83	8	0.205	3.54	0.01	0.04	0.03	0.10	0.01	0.04	0.03	0.10
B11084-B11087	888	341	8	0.046	1.68	0.01	0.06	0.06	0.14	0.01	0.06	0.06	0.14
B11085-B11086	887	302	8	0.004	0.49	0.00	0.03	0.00	0.04	0.00	0.01	0.00	0.03
B11086-B11087	2952	409	8	0.021	1.13	0.00	0.05	0.00	0.10	0.00	0.04	0.00	0.10
B11087-B11092	2951	211	8	0.032	1.40	0.01	0.10	0.07	0.22	0.01	0.09	0.07	0.22
B11088.A0-B11088	2949	30	8	0.009	0.76	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B11088-B11089	2950	400	8	0.080	2.21	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
B11089-B11092	2948	413	8	0.060	1.92	0.00	0.08	0.01	0.17	0.00	0.07	0.01	0.16
B11090-B11091	2947	318	6	0.003	0.20	0.00	0.03	-	0.05	0.00	0.03	0.00	0.05
B11091-B11092	2946	397	6	0.003	0.19	0.00	0.11	0.00	0.24	0.00	0.10	0.00	0.23
B11092-B11094	203	256	8	0.005	0.53	0.02	0.14	0.10	0.32	0.02	0.13	0.09	0.31
B11094-B11097	666	86	8	0.003	0.41	0.02	0.15	0.10	0.33	0.02	0.14	0.10	0.32
B11095-B11096	3454	163	8	0.030	1.34	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B11096-B11097	2945	349	8	0.052	1.78	0.00	0.09	0.00	0.17	0.00	0.09	0.01	0.17
B11097-B11099	2944	319	8	0.005	0.55	0.02	0.15	0.11	0.33	0.02	0.15	0.11	0.32
B11098-B11099	1767	76	8	0.002	0.35	0.00	0.10	0.00	0.24	0.00	0.11	0.00	0.23
B11099-B11100	1766	324	8	0.003	0.46	0.03	0.16	0.12	0.35	0.03	0.16	0.11	0.34
B11100-B11106.A0	59	366	8	0.004	0.49	0.03	0.17	0.12	0.38	0.03	0.17	0.12	0.37
B11101-B11102	1765	115	8	0.009	0.73	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B11102-B11104	1764	206	8	0.098	2.45	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B11103-B11104	1818	11	8	20.204	35.11	0.00	0.50	0.01	0.50	0.00	0.50	0.00	0.50
B11104-B11105	1763	145	8	0.004	0.49	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.03
B11105-B11106	1762	334	8	0.004	0.50	0.00	0.09	0.00	0.20	0.00	0.08	0.00	0.19
B11106.A0-B11106	94	93	8	0.002	0.38	0.03	0.17	0.13	0.38	0.03	0.17	0.12	0.37
B11106-B11110	1761	124	8	0.005	0.53	0.03	0.16	0.14	0.35	0.03	0.16	0.13	0.34
B11107-B11108	7582	168	8	0.005	0.55	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B11108-B11109	1876	361	8	0.009	0.72	0.00	0.03	0.00	0.05	0.00	0.02	0.00	0.04

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B11109-B11110	1875	234	8	0.074	2.12	0.00	0.10	0.01	0.20	0.00	0.09	0.01	0.20
B11110-B11111	1874	136	8	0.005	0.53	0.03	0.17	0.15	0.38	0.03	0.17	0.14	0.37
B11111-B11112	1873	349	8	0.004	0.49	0.03	0.14	0.15	0.32	0.03	0.14	0.14	0.31
B11112-B11113	16	352	8	0.032	1.41	0.03	0.16	0.16	0.37	0.03	0.23	0.15	0.40
B11113-B11117	1872	372	8	0.027	1.29	0.13	0.22	0.67	0.52	0.38	0.37	0.85	0.60
B11114-B11115	188	309	6	0.020	0.52	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B11115-B11116	1871	53	6	0.119	1.25	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B11116-B11117.A0	B11116-B11117.A0	233	6	0.090	1.09	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.04
B11117.A0-B11117	B11117.A0-B11117	30	6	0.264	1.86	0.00	0.16	0.01	0.37	0.00	0.26	0.01	0.42
B11117-B11118	1870	317	8	0.027	1.27	0.13	0.22	0.68	0.52	0.38	0.37	0.86	0.60
B11118-B11119.C0	7484	128	8	0.026	1.27	0.13	0.22	0.69	0.52	0.38	0.37	0.86	0.60
B11119.A0-B11119.B0	1877	300	8	0.119	2.70	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B11119.B0-B11119.C0	1526	272	8	0.100	2.46	0.00	0.12	0.00	0.28	0.00	0.20	0.00	0.32
B11119.C0-B11119	7191	206	8	0.027	1.28	0.13	0.22	0.69	0.53	0.38	0.37	0.87	0.60
B11119-B11120	1869	288	8	0.027	1.29	0.14	0.23	0.70	0.54	0.38	0.38	0.87	0.61
B11120-B11133	1868	96	10	0.016	1.77	0.14	0.19	0.70	0.44	0.38	0.32	0.88	0.50
B11121-B11122	1867	22	8	0.012	0.86	0.00	0.03	0.00	0.03	0.01	0.13	0.01	0.13
B11122-B11123	1866	301	8	0.007	0.67	0.00	0.03	0.00	0.04	0.05	0.15	0.05	0.15
B11123-B11124	1865	335	8	0.073	2.11	0.00	0.03	0.01	0.05	0.05	0.11	0.05	0.11
B11124-B11125	1864	106	8	0.073	2.11	0.00	0.04	0.01	0.06	0.05	0.12	0.05	0.12
B11125-B11126	1863	319	8	0.036	1.48	0.01	0.05	0.01	0.08	0.05	0.13	0.05	0.14
B11126-B11130	1862	392	8	0.025	1.24	0.01	0.08	0.02	0.14	0.05	0.19	0.05	0.21
B11127-B11128	1861	70	8	0.013	0.89	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B11128-B11129	1860	281	8	0.177	3.28	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B11129-B11130	1859	291	8	0.065	1.99	0.00	0.07	0.01	0.12	0.00	0.14	0.01	0.15
B11130-B11131	1858	521	8	0.004	0.49	0.01	0.09	0.03	0.15	0.06	0.19	0.07	0.21
B11131-B11132	1857	213	8	0.033	1.41	0.01	0.09	0.04	0.18	0.06	0.21	0.07	0.24
B11132-B11133	1856	147	8	0.002	0.35	0.01	0.18	0.04	0.40	0.06	0.35	0.08	0.48
B11133-B11134	1855	186	10	0.017	1.84	0.15	0.19	0.75	0.45	0.44	0.34	0.95	0.52
B11134-B10008	1477	176	10	0.016	1.77	0.15	0.20	0.75	0.47	0.44	0.35	0.95	0.54
B11143-B11094	179	321	6	0.005	0.25	0.00	0.13	0.00	0.26	0.00	0.12	0.00	0.25
B12002-B12003	1816	4	8	0.002	0.35	0.00	0.07	0.00	0.17	0.00	0.21	0.00	0.24
B12003.A0-B12003.B0	7902	214	8	0.145	2.98	0.00	0.01	0.00	0.02	0.01	0.06	0.01	0.06
B12003.B0-B12003.C0	7903	65	8	0.125	2.76	0.00	0.01	0.00	0.03	0.02	0.07	0.02	0.07
B12003.C0-B12003.D0	7904	135	8	0.095	2.40	0.00	0.02	0.00	0.04	0.02	0.08	0.02	0.08
B12003.D0-B12003.E0	7905	166	8	0.047	1.69	0.00	0.02	0.01	0.05	0.02	0.10	0.03	0.10
B12003.E0-B12003.F0	7906	84	8	0.019	1.06	0.00	0.03	0.01	0.06	0.02	0.10	0.03	0.11
B12003.F0-B12003.G0	7907	43	8	0.025	1.23	0.00	0.03	0.01	0.06	0.02	0.09	0.03	0.10
B12003.G0-B12003.K0	7908	99	8	0.042	1.61	0.00	0.03	0.01	0.06	0.02	0.10	0.03	0.10
B12003.H0-B12003.I0	7897	43	8	0.043	1.63	0.00	0.01	0.00	0.01	0.01	0.04	0.01	0.04
B12003.I0-B12003.J0	7898	59	8	0.074	2.12	0.00	0.08	0.00	0.10	0.01	0.15	0.01	0.15
B12003.J0-B12003.K0	7899	73	8	0.001	0.24	0.00	0.09	0.00	0.12	0.01	0.18	0.01	0.18
B12003.K0-B12003.L0	7900	303	8	0.034	1.43	0.00	0.03	0.01	0.07	0.03	0.10	0.04	0.11
B12003.L0-B12003.N0	7901	35	8	0.065	1.99	0.00	0.04	0.02	0.10	0.03	0.13	0.04	0.14
B12003.M0-B12003.N0	7890	130	8	0.006	0.62	0.00	0.03	0.00	0.09	0.01	0.13	0.01	0.14
B12003.MA-B12003.MB	B12003.MA-B12003.MB	240	8	0.058	1.88	0.00	0.01	-	0.02	0.00	0.01	0.00	0.02
B12003.MB-B12003.MC	B12003.MB-B12003.MC	60	8	0.010	0.80	0.00	0.01	0.00	0.04	0.00	0.03	0.00	0.05
B12003.MC-B12003.M0	B12003.MC-B12003.M0	16	8	0.020	1.10	0.00	0.02	0.00	0.05	0.00	0.07	0.01	0.08
B12003.N0-B12003.O0	7891	60	8	0.008	0.70	0.00	0.05	0.02	0.13	0.04	0.17	0.05	0.19
B12003.O0-B12003.P0	7892	88	8	0.007	0.66	0.00	0.06	0.02	0.13	0.05	0.18	0.06	0.20
B12003.P0-B12003.Q0	7893	91	8	0.007	0.66	0.00	0.05	0.03	0.12	0.05	0.16	0.06	0.18
B12003.Q0-B12003.Y0	7894	9	8	0.026	1.26	0.00	0.06	0.03	0.14	0.05	0.17	0.06	0.20
B12003.R0-B12003.S0	7438	275	8	0.068	2.03	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.01
B12003.S0-B12003.T0	7439	37	8	0.108	2.57	0.00	0.01	0.00	0.03	0.00	0.00	0.00	0.03
B12003.T0-B12003.U0	7440	138	8	0.016	0.99	0.00	0.04	0.02	0.08	0.03	0.10	0.04	0.12
B12003.TA-B12003.TB	7430	89	8	0.149	3.01	0.00	0.01	0.00	0.01	0.01	0.05	0.01	0.05
B12003.TB-B12003.TC	7431	168	8	0.132	2.83	0.00	0.01	0.00	0.02	0.01	0.05	0.01	0.05
B12003.TC-B12003.TD	7435	291	8	0.090	2.34	0.00	0.02	0.00	0.04	0.01	0.08	0.01	0.08
B12003.TD-B12003.TE	7436	149	8	0.033	1.42	0.00	0.03	0.01	0.07	0.03	0.13	0.03	0.14
B12003.TE-B12003.T0	7437	281	8	0.005	0.55	0.00	0.04	0.01	0.09	0.03	0.16	0.03	0.16
B12003.U0-B12003.V0	7441	82	8	0.105	2.53	0.00	0.03	0.02	0.06	0.03	0.08	0.04	0.09
B12003.V0-B12003.W0	7442	89	8	0.107	2.55	0.00	0.03	0.02	0.06	0.03	0.08	0.04	0.09
B12003.W0-B12003.X0	7443	74	8	0.092	2.37	0.00	0.03	0.02	0.07	0.03	0.08	0.04	0.10
B12003.X0-B12003.Y0	7889	70	8	0.069	2.05	0.00	0.03	0.02	0.07	0.03	0.09	0.04	0.10
B12003.Y0-B12003.Z0	7895	34	8	0.010	0.80	0.01	0.06	0.05	0.15	0.08	0.18	0.10	0.21
B12003.Z0-B12003	7896	255	8	0.043	1.63	0.01	0.05	0.05	0.12	0.08	0.15	0.10	0.17
B12003-B12004	1854	203	8	0.012	0.84	0.01	0.06	0.05	0.16	0.08	0.19	0.11	0.22
B12004-B12006	1853	196	8	0.030	1.35	0.01	0.07	0.06	0.17	0.08	0.20	0.11	0.24
B12005-B12006	1815	5	8	0.002	0.35	0.00	0.08	0.00	0.20	0.00	0.23	0.00	0.28
B12006-B12008	1852	23	8	0.006	0.59	0.01	0.07	0.06	0.18	0.08	0.21	0.11	0.24
B12007-B12008	1814	3	8	0.002	0.35	0.00	0.06	0.00	0.14	0.00	0.17	0.00	0.19
B12008-B12009	1760	164	8	0.032	1.40	0.01	0.06	0.06	0.13	0.08	0.15	0.11	0.18
B12009-B12010	1759	235	8	0.070	2.06	0.01	0.05	0.06	0.13	0.08	0.15	0.12	0.17
B12010-B12011	1758	273	8	0.050	1.75	0.01	0.06	0.07	0.13	0.09	0.16	0.12	0.18
B12011-B12012	1757	300	8	0.050	1.74	0.01	0.07	0.07	0.15	0.09	0.17	0.13	0.20
B12012-B12013	1756	358	8	0.026	1.25	0.01	0.08	0.07	0.17	0.10	0.19	0.13	0.23
B12013-B12014	1755	334	8	0.027	1.29	0.01	0.07	0.08	0.16	0.10	0.18	0.14	0.22
B12014-B12015	2943	313	8	0.048	1.71	0.01	0.06	0.08	0.15	0.10	0.16	0.15	0.19
B12015-B12016	2942	319	8	0.071	2.08	0.02	0.07	0.09	0.16	0.11	0.18	0.15	0.21
B12016-B12017	2941	155	8	0.024	1.20	0.02	0.08	0.09	0.19	0.11	0.21	0.16	0.25
B12017-B12030	2940	156	8	0.022	1.15	0.02	0.09	0.09	0.19	0.11	0.19	0.16	0.24
B12018-B12019	2939	341	8	0.035	1.45	0.00	0.03	0.00	0.04	0.01	0.06	0.01	0.06
B12019-B12020	5546	346	8	0.040	1.56	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.08
B12020-B12021	3402	345	8	0.026	1.27	0.01	0.05	0.01	0.07	0.02	0.07	0.02	0.08
B12021-B12024	5228	231	8	0.054	1.82	0.01	0.05	0.02	0.08	0.02	0.07	0.02	0.09
B12022-B12023	2938	306	6	1.016	3.66	0.00	0.53	0.00	0.54	0.00	0.53	0.00	0.53
B12023-B12024	393	423	6	0.032	0.65	0.00	0.07	0.01	0.10	0.00	0.07	0.01	0.10
B12024-B12025	5096	117	8	0.056	1.85	0.01	0.06	0.03	0.10	0.02	0.08	0.03	0.10
B12025-B12028	2937	288	8	0.030	1.36	0.01	0.07	0.03	0.12	0.02	0.09	0.04	0.12
B12026-B12027	2936	186	6	0.008	0.33	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B12027-B12028	2935	227	6	0.066	0.93	0.00	0.06	0.00	0.10	0.00	0.07	0.00	0.10
B12028-B12029	2934	64	8	0.031	1.37	0.01	0.07	0.04	0.11	0.02	0.08	0.04	0.11
B12029-B12030	2932	352	8	0.068	2.03	0.01	0.07	0.04	0.14	0.02	0.12	0.04	0.16
B12030-B12031.C0	2163	323	8	0.066	2.01	0.03	0.09	0.14	0.19	0.13	0.18	0.21	0.23
B12031.A0-B12031.B0	7824	130	8	0.076	2.15	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
B12031.B0-B12031.C0	7823	160	8	0.084	2.26	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.02
B12031.C0-B12031	2164	61	8	0.041	1.57	0.03	0.10	0.15	0.22	0.13	0.20	0.21	0.26
B12031-B12043	2931	70	8	0.030	1.35	0.03	0.11	0.15	0.23	0.13	0.21	0.21	0.27
B12032-B12033	2930	3	8	0.002	0.35	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.05
B12033-B12035	2929	130	8	0.034	1.44	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B12034-B12035	2261	197	8	0.084	2.26	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B12035-B12036	2260	51	8	0.037	1.50	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.04
B12036-B12037	2259	152	8	0.100	2.46	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B12037-B12038	2258	213	8	0.037	1.51	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B12038-B12039	2257	136	8	0.083	2.25	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
B12039-B12040	2161	82	8	0.015	0.97	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
B12040-B12042	2160	225	8	0.076	2.16	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B12042-B12043	2159	256	8	0.019	1.06	0.00	0.08	0.02	0.16	0.00	0.13	0.02	0.18
B12043-B12063	2158	176	8	0.032	1.39	0.04	0.11	0.17	0.25	0.13	0.22	0.23	0.30
B12044-B12045	5446	158	8	0.431	5.13	0.00	0.01	0.00	0.01	0.01	0.03	0.01	0.03
B12045-B12046	2157	59	8	0.448	5.23	0.00	0.01	0.00	0.02	0.01	0.03	0.01	0.03
B12046-B12047.A0	4315	141	8	0.382	4.83	0.00	0.01	0.00	0.03	0.01	0.03	0.01	0.03
B12047-B12047.A0	3240	183	8	0.117	2.67	0.00	0.02	0.00	0.04	0.01	0.05	0.01	0.05
B12047-B12048	2156	307	8	0.042	1.61	0.00	0.03	0.01	0.08	0.01	0.09	0.01	0.11
B12048-B12049	2155	289	8	0.005	0.56	0.00	0.03	0.01	0.08	0.02	0.10	0.02	0.12
B12049-B12050	2154	281	8	0.153	3.06	0.00	0.02	0.01	0.06	0.06	0.12	0.07	0.13
B12050-B12051	2153	144	8	0.039	1.53	0.00	0.02	0.02	0.08	0.06	0.14	0.07	0.15
B12051-B12106	2152	151	8	0.035	1.46	0.00	0.02	0.02	0.08	0.06	0.13	0.07	0.14
B12052-B12056	2151	300	8	0.088	2.32	0.00	0.02	0.03	0.08	0.07	0.12	0.08	0.13
B12055-B12103	B12055-B12103	108	8	0.102	2.50	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B12056-B12057	1589	279	8	0.062	1.94	0.00	0.03	0.03	0.09	0.07	0.13	0.08	0.14
B12057-B12058	1588	296	8	0.063	1.96	0.00	0.04	0.04	0.12	0.07	0.16	0.09	0.18
B12058-B12062	1587	264	8	0.015	0.95	0.00	0.04	0.04	0.13	0.07	0.16	0.09	0.19
B12062-B12063	2927	337	8	0.064	1.98	0.00	0.07	0.05	0.19	0.07	0.18	0.10	0.24
B12063-B12064	2926	294	8	0.038	1.52	0.04	0.17	0.23	0.41	0.17	0.35	0.34	0.52
B12064-B12086	2925	90	8	0.003	0.39	0.04	0.22	0.23	0.53	0.18	0.44	0.35	0.67
B12065-B12066	2924	310	8	0.036	1.48	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B12066-B12067	2923	498	8	0.040	1.57	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B12067-B12068	2922	205	8	0.114	2.64	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B12068-B12070	2324	56	8	0.111	2.60	0.00	0.03	0.02	0.06	0.00	0.03	0.01	0.06
B12069-B12070	4411	151	8	0.005	0.55	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.05
B12070-B12071	3793	131	8	0.114	2.63	0.01	0.04	0.02	0.08	0.01	0.05	0.02	0.08
B12071-B12072	2921	231	8	0.022	1.16	0.01	0.05	0.02	0.09	0.01	0.05	0.02	0.09
B12072-B12073	2920	282	8	0.039	1.54	0.01	0.05	0.02	0.10	0.01	0.05	0.02	0.10
B12073-B12074	2919	251	8	0.020	1.10	0.01	0.06	0.03	0.11	0.01	0.06	0.03	0.11
B12074-B12075	2918	224	8	0.022	1.17	0.01	0.06	0.03	0.11	0.01	0.05	0.03	0.10
B12075-B12076	2917	237	8	0.046	1.68	0.01	0.05	0.04	0.10	0.01	0.05	0.03	0.09
B12076-B12086	2916	168	8	0.101	2.48	0.01	0.13	0.04	0.30	0.01	0.22	0.04	0.35
B12077-B12079	2915	283	8	0.007	0.67	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
B12078-B12079	2914	240	8	0.009	0.74	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.07
B12079-B12080	2913	301	8	0.005	0.53	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
B12080-B12081	2912	182	8	0.082	2.23	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B12082-B12083	2910	120	8	0.004	0.52	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
B12083-B12084	4943	111	8	0.018	1.04	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
B12084-B12085	5487	143	8	0.263	4.00	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.05
B12085-B12081	2911	134	8	0.134	2.86	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B12085-B12086	2909	334	8	0.098	2.45	0.00	0.12	0.02	0.29	0.01	0.22	0.02	0.34
B12086-B12087	2908	191	8	0.007	0.64	0.06	0.18	0.30	0.41	0.19	0.32	0.41	0.49
B12087-B12088	2907	374	8	0.033	1.41	0.06	0.15	0.30	0.35	0.19	0.27	0.41	0.41
B12088-B11048	7264	396	8	0.016	1.00	0.06	0.16	0.31	0.37	0.19	0.30	0.42	0.44
B12094-B12062	B12094-B12062	108	8	0.017	1.02	0.00	0.02	0.01	0.09	0.00	0.09	0.01	0.12
B12095-B12094	B12095-B12094	180	8	0.159	3.11	0.00	0.00	0.01	0.05	0.00	0.04	0.01	0.06
B12096-B12095	B12096-B12095	185	8	0.162	3.14	0.00	0.00	0.01	0.03	0.00	0.03	0.01	0.04
B12097-B12096	B12097-B12096	165	8	0.165	3.17	0.00	0.00	0.00	0.03	0.00	0.03	0.01	0.04
B12098-B12097	B12098-B12097	72	8	0.173	3.25	0.00	0.00	0.00	0.02	0.00	0.03	0.01	0.03
B12099-B12098	B12099-B12098	68	8	0.156	3.09	0.00	0.00	0.00	0.02	0.00	0.03	0.01	0.03
B12100-B12099	B12100-B12099	68	8	0.109	2.58	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.03
B12101-B12100	B12101-B12100	63	8	0.057	1.87	0.00	0.00	-	0.01	0.00	0.03	0.00	0.03
B12102-B12055	B12102-B12055	85	8	0.094	2.40	0.00	0.00	-	0.01	0.00	0.00	0.00	0.01
B12103-B12104	B12103-B12104	176	8	0.057	1.87	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.05
B12104-B12105	B12104-B12105	127	8	0.007	0.63	0.00	0.02	0.00	0.06	0.00	0.02	0.00	0.06
B12105-B12106	B12105-B12106	103	8	0.015	0.97	0.00	0.01	0.01	0.05	0.00	0.03	0.01	0.06
B12105-B12106	CDT-48	34	8	0.041	1.59	0.00	0.02	0.01	0.06	0.00	0.07	0.01	0.09
B13001-B13002	2958	150	6	0.094	1.11	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
B13002-B13003	2906	316	6	0.148	1.39	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
B13003-B13005	2905	373	6	0.030	0.63	0.00	0.05	0.01	0.07	0.00	0.03	0.00	0.06
B13004-B13005	2957	148	8	0.002	0.35	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B13005-B13006	2364	217	8	0.106	2.54	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.05
B13006-B13007	2204	184	8	0.057	1.86	0.01	0.04	0.02	0.07	0.00	0.03	0.01	0.06
B13007-B13012	2205	281	8	0.057	1.87	0.01	0.05	0.02	0.08	0.00	0.04	0.02	0.08
B13008-B13009	7654	291	8	0.035	1.46	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B13009-B13010	2201	352	8	0.133	2.85	0.00	0.03	0.01	0.05	0.00	0.02	0.01	0.04
B13010-B13011	2202	148	8	0.048	1.72	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
B13011-B13012	2363	97	8	0.011	0.82	0.00	0.05	0.01	0.09	0.00	0.04	0.01	0.09
B13012-B13013	2362	144	8	0.058	1.87	0.01	0.06	0.04	0.10	0.01	0.05	0.03	0.10
B13013-B13026	2361	323	8	0.040	1.55	0.01	0.08	0.04	0.15	0.01	0.07	0.03	0.14
B13014-B13015	2193	190	8	0.003	0.45	0.00	0.20	-	0.21	0.00	0.21	0.00	0.22
B13015-B13016	2194	77	8	0.009	0.75	0.01	0.70	0.01	0.71	0.01	0.70	0.01	0.71
B13016-B13017	2195	195	8	0.005	0.55	0.00	0.51	0.01	0.52	0.01	0.51	0.01	0.52
B13017-B13018	2360	150	8	0.190	3.41	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
B13018-B13019	2359	258	8	0.070	2.07	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
B13019-B13020	2196	250	8	0.011	0.82	0.00	0.06	0.01	0.11	0.00	0.06	0.01	0.10
B13020.A0-B13020.B0	2197	136	8	0.060	1.92	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B13020.B0-B13020.C0	2198	380	8	0.010	0.78	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B13020.C0-B13020	2199	91	8	0.078	2.18	0.00	0.05	0.01	0.08	0.00	0.04	0.01	0.08
B13020-B13024	2200	265	8	0.012	0.84	0.01	0.07	0.03	0.12	0.01	0.07	0.02	0.11
B13021-B13022	2203	135	8	0.007	0.65	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
B13022-B13023	2358	219	8	0.059	1.89	0.00	0.03	0.00	0.04	0.01	0.04	0.01	0.04
B13023-B13024	2357	337	8	0.076	2.15	0.01	0.05	0.01	0.08	0.01	0.05	0.01	0.08
B13024-B13025	2356	86	8	0.048	1.71	0.01	0.07	0.04	0.11	0.01	0.07	0.04	0.11
B13025-B13026	2355	272	8	0.048	1.72	0.02	0.09	0.05	0.15	0.02	0.08	0.04	0.14
B13026-B13222.A0	2354	248	8	0.024	1.21	0.03	0.10	0.09	0.18	0.02	0.09	0.08	0.17
B13028-B13029	1539	212	8	0.002	0.35	0.00	0.06	0.00	0.07	0.01	0.11	0.01	0.11
B13029-B13030	2352	182	8	0.002	0.35	0.00	0.06	0.00	0.08	0.01	0.10	0.01	0.11
B13030-B13032	2351	43	8	0.008	0.71	0.00	0.10	0.01	0.15	0.01	0.18	0.01	0.19
B13031-B13032	1540	191	6	0.003	0.21	0.00	0.14	0.00	0.18	0.01	0.24	0.01	0.25
B13032-B13033	1537	134	8	0.000	0.02	0.00	0.11	0.01	0.17	0.02	0.21	0.02	0.22
B13033-B13034	1538	209	8	0.003	0.42	0.00	0.08	0.01	0.14	0.02	0.16	0.02	0.18
B13034.A0-B13034.B0	2959	242	8	0.010	0.78	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
B13034.B0-B13034.C0	2960	130	8	0.114	2.63	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.05
B13034.C0-B13034.D0	2961	51	8	0.196	3.46	0.00	0.02	0.01	0.03	0.01	0.04	0.01	0.05
B13034.D0-B13034	1536	186	8	0.170	3.22	0.00	0.06	0.01	0.10	0.01	0.11	0.02	0.13
B13034-B13035	1543	345	8	0.005	0.54	0.01	0.07	0.02	0.12	0.03	0.13	0.04	0.15
B13035.A0-B13035.B0	1541	228	8	0.063	1.95	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
B13035.B0-B13035	1542	128	8	0.156	3.08	0.00	0.03	0.00	0.06	0.00	0.05	0.00	0.06
B13035-B13036	1544	58	8	0.086	2.29	0.01	0.05	0.03	0.08	0.03	0.08	0.05	0.10
B13036-B13037	1545	214	8	0.103	2.50	0.01	0.05	0.04	0.09	0.03	0.08	0.05	0.10
B13037-B13038	1546	339	8	0.089	2.33	0.01	0.06	0.04	0.10	0.03	0.09	0.05	0.12
B13038-B13043	1547	175	8	0.033	1.42	0.01	0.07	0.04	0.12	0.03	0.10	0.06	0.14
B13039-B13040	2350	278	6	0.079	1.02	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B13040-B13041	1548	159	6	0.047	0.78	0.00	0.05	0.00	0.07	0.00	0.04	0.00	0.06
B13041-B13042	1549	246	8	0.010	0.78	0.00	0.04	0.01	0.06	0.00	0.03	0.00	0.06
B13042-B13043	1550	268	8	0.031	1.38	0.00	0.05	0.01	0.09	0.00	0.07	0.01	0.10
B13043-B13222.B0	1551	321	8	0.046	1.67	0.02	0.07	0.06	0.14	0.04	0.11	0.07	0.15

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B13053-B13054	3461	288	6	0.216	1.69	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B13054-B13055	2344	247	6	0.102	1.16	0.00	0.52	0.00	0.52	0.00	0.52	0.00	0.52
B13055-B13056.D0	1248	126	8	0.007	0.66	0.00	0.53	0.01	0.54	0.01	0.53	0.01	0.54
B13056.A0-B13056.BA	7193	79	8	0.030	1.34	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B13056.B0-B13056.C0	1249	237	8	0.172	3.24	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B13056.BA-B13056.B0	7194	87	8	0.104	2.52	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B13056.C0-B13056.D0	1250	80	8	0.026	1.26	0.00	0.04	0.01	0.07	0.00	0.05	0.01	0.07
B13056.D0-B13056	1251	96	8	0.024	1.21	0.01	0.05	0.02	0.08	0.01	0.05	0.02	0.08
B13056.E0-B13056	8318	65	8	0.004	0.49	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B13056-B13222.I0	2343	305	8	0.055	1.84	0.01	0.04	0.02	0.08	0.01	0.05	0.02	0.08
B13059.A0-B13059	7653	121	8	0.055	1.83	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B13059-B13060	2342	190	8	0.055	1.83	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
B13060-B13061	2904	215	8	0.004	0.52	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
B13061-B13063	2903	166	8	0.078	2.18	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
B13062-B13063	2902	156	8	0.004	0.49	0.00	0.04	0.00	0.06	0.00	0.07	0.00	0.07
B13063-B13076	2695	350	8	0.011	0.82	0.01	0.07	0.02	0.11	0.01	0.11	0.02	0.13
B13073-B13074	2694	252	8	0.073	2.12	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.06
B13074-B13075	2693	320	8	0.011	0.81	0.00	0.03	0.00	0.05	0.01	0.08	0.01	0.08
B13075-B13076	2692	123	8	0.066	2.01	0.00	0.05	0.01	0.09	0.02	0.09	0.02	0.11
B13076-B13077	2691	111	8	0.017	1.01	0.01	0.06	0.03	0.11	0.03	0.10	0.04	0.13
B13077-B13078	2690	217	8	0.070	2.07	0.01	0.05	0.03	0.09	0.03	0.08	0.04	0.10
B13078-B13079	2689	220	8	0.070	2.06	0.01	0.05	0.03	0.09	0.03	0.09	0.05	0.11
B13079-B13080	2687	200	8	0.061	1.92	0.01	0.07	0.04	0.12	0.03	0.11	0.05	0.14
B13080-B13081	2686	263	8	0.016	0.98	0.01	0.08	0.04	0.15	0.03	0.14	0.05	0.17
B13081-B13082	2685	251	8	0.011	0.83	0.01	0.08	0.04	0.15	0.04	0.14	0.06	0.17
B13082-B13083	2684	189	8	0.020	1.10	0.01	0.08	0.05	0.15	0.04	0.14	0.06	0.18
B13083-B13084	2683	198	8	0.014	0.92	0.01	0.07	0.05	0.14	0.04	0.13	0.07	0.16
B13084-B13088	2847	153	8	0.061	1.93	0.01	0.06	0.05	0.11	0.04	0.10	0.07	0.13
B13085-B13086	1055	170	8	0.005	0.57	0.00	0.03	0.00	0.04	0.00	0.07	0.00	0.07
B13086-B13087	2846	211	8	0.004	0.52	0.00	0.05	0.00	0.07	0.01	0.10	0.01	0.10
B13087-B13088	2845	355	8	0.003	0.45	0.00	0.06	0.01	0.10	0.01	0.11	0.01	0.13
B13088-B13089	2844	187	8	0.098	2.44	0.02	0.06	0.07	0.12	0.06	0.11	0.09	0.14
B13089-B13090	2843	140	8	0.079	2.19	0.02	0.07	0.07	0.13	0.06	0.12	0.09	0.15
B13090-B13222.K0	1054	337	8	0.047	1.69	0.02	0.15	0.07	0.29	0.06	0.21	0.10	0.32
B13097-B13098	2842	129	8	0.078	2.18	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B13098-B13222.O0	B13098-B13222.O0	188	8	0.068	2.04	0.00	0.11	0.00	0.22	0.00	0.14	0.00	0.23
B13102-B13103	1058	107	6	0.048	0.79	0.00	0.06	0.00	0.09	0.00	0.10	0.00	0.12
B13103.A0-B13103.B0	1131	225	8	0.117	2.67	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
B13103.B0-B13103.C0	789	353	8	0.051	1.77	0.00	0.03	0.00	0.04	0.02	0.07	0.02	0.07
B13103.C0-B13103.I0	788	179	8	0.071	2.07	0.00	0.13	0.01	0.22	0.02	0.25	0.02	0.28
B13103.D0-B13103.E0	1137	104	8	0.044	1.64	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B13103.E0-B13103.G0	1136	202	8	0.060	1.92	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B13103.F0-B13103.G0	1135	70	8	0.073	2.11	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B13103.G0-B13103.H0	1134	204	8	0.074	2.12	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.05
B13103.H0-B13103.I0	1132	190	8	0.119	2.70	0.00	0.14	0.01	0.22	0.01	0.24	0.01	0.27
B13103.I0-B13103	787	367	8	0.000	0.01	0.01	0.15	0.02	0.25	0.03	0.27	0.04	0.31
B13103-B13105	B13103-B13105	399	8	0.022	1.17	0.01	0.09	0.03	0.14	0.03	0.15	0.05	0.18
B13104-B13105.A0	1057	295	8	0.157	3.10	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
B13105.A0-B13105	B13105.A0-B13105	162	8	0.121	2.72	0.01	0.08	0.01	0.11	0.01	0.12	0.01	0.13
B13105-B13106	B13105-B13106	378	8	0.009	0.74	0.02	0.11	0.05	0.18	0.06	0.19	0.08	0.22
B13106-B13109	2838	351	8	0.009	0.74	0.02	0.13	0.06	0.22	0.06	0.24	0.08	0.28
B13107-B13108	1056	154	8	0.125	2.77	0.00	0.01	0.00	0.02	0.01	0.04	0.01	0.04
B13108-B13109	B13108-B13109	270	8	0.264	4.01	0.00	0.08	0.00	0.14	0.01	0.16	0.01	0.19
B13109-B13110	1529	249	8	0.004	0.51	0.02	0.12	0.07	0.20	0.08	0.22	0.10	0.25
B13110-B13111	1528	279	8	0.047	1.69	0.02	0.08	0.07	0.14	0.08	0.15	0.11	0.17
B13111-B13113	B13111-B13113	386	8	0.058	1.88	0.02	0.54	0.07	0.57	0.08	0.57	0.12	0.58
B13112-B13113	B13112-B13113	154	8	0.041	1.57	0.00	0.51	0.00	0.51	0.00	0.52	0.00	0.52
B13113-B13114	B13113-B13114	15	8	0.366	4.73	0.03	0.62	0.08	0.71	0.09	0.72	0.13	0.76
B13114-B13115	B13114-B13115	550	8	0.002	0.34	0.02	0.16	0.08	0.28	0.09	0.29	0.13	0.35
B13115-B13116	2107	126	8	0.060	1.91	0.02	0.08	0.09	0.15	0.09	0.16	0.13	0.19
B13116-B13119	2106	377	8	0.038	1.52	0.02	0.09	0.09	0.17	0.09	0.18	0.14	0.22
B13117-B13118	733	112	8	0.165	3.17	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B13118-B13119	732	250	8	0.117	2.68	0.00	0.06	0.00	0.11	0.01	0.12	0.01	0.13
B13119-B13126	2105	213	8	0.030	1.36	0.03	0.10	0.10	0.18	0.10	0.18	0.15	0.22
B13120-B13122	734	170	8	0.015	0.94	0.00	0.51	0.00	0.52	0.01	0.52	0.01	0.53
B13121-B13122	735	72	8	0.037	1.51	0.00	0.51	0.00	0.52	0.00	0.52	0.00	0.53
B13122-B13123	1813	48	8	0.061	1.93	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
B13123-B13124	2104	221	8	0.064	1.98	0.00	0.03	0.01	0.05	0.01	0.05	0.01	0.06
B13124-B13125	2103	239	8	0.059	1.90	0.00	0.04	0.01	0.06	0.01	0.06	0.02	0.07
B13125-B13126	2102	384	8	0.049	1.73	0.00	0.07	0.01	0.12	0.02	0.12	0.02	0.14
B13126-B13222.R0	2101	96	8	0.056	1.84	0.03	0.18	0.12	0.36	0.12	0.28	0.18	0.40
B13127-B13128	739	318	8	0.133	2.85	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.03
B13128-B13133	740	267	8	0.023	1.20	0.00	0.04	0.00	0.07	0.00	0.03	0.00	0.06
B13129-B13130	2100	146	6	0.211	1.67	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
B13130-B13131	2099	147	6	0.196	1.60	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.03
B13131-B13132.C0	1064	67	6	0.166	1.48	0.00	0.03	0.00	0.05	0.00	0.02	0.00	0.04
B13132.A0-B13132.B0	1145	72	8	0.191	3.41	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
B13132.AA-B13132.AB	7195	129	8	0.163	3.16	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
B13132.AB-B13132.A0	7196	20	8	0.157	3.09	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
B13132.B0-B13132.C0	1149	135	8	0.103	2.50	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B13132.C0-B13132	1253	34	6	0.142	1.37	0.00	0.04	0.01	0.07	0.00	0.03	0.01	0.06
B13132-B13133	2098	369	6	0.089	1.08	0.00	0.06	0.01	0.10	0.00	0.04	0.01	0.09
B13133-B13137	2097	244	8	0.029	1.34	0.01	0.06	0.02	0.11	0.00	0.05	0.02	0.10
B13134-B13135	2096	48	8	0.031	1.38	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B13135-B13136	2095	218	8	0.169	3.21	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B13136-B13137	2094	350	8	0.114	2.64	0.00	0.05	0.01	0.08	0.00	0.04	0.00	0.08
B13137-B13138	738	351	8	0.014	0.92	0.01	0.08	0.04	0.15	0.01	0.06	0.03	0.14
B13138-B13139	2093	369	8	0.010	0.78	0.01	0.08	0.04	0.14	0.01	0.06	0.04	0.13
B13139-B13143	2092	343	8	0.038	1.52	0.01	0.07	0.05	0.13	0.01	0.05	0.04	0.12
B13140-B13141	437	340	8	0.053	1.80	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.05
B13141-B13142	2091	106	8	0.006	0.58	0.00	0.03	0.00	0.06	0.00	0.04	0.01	0.06
B13142-B13143.A0	934	239	8	0.034	1.45	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.05
B13143.A0-B13143	937	246	8	0.035	1.46	0.00	0.06	0.01	0.10	0.00	0.05	0.01	0.10
B13143-B13222.R0	2090	110	8	0.036	1.48	0.02	0.18	0.07	0.35	0.01	0.23	0.06	0.36
B13147-B13148	2089	4	8	0.283	4.16	0.00	0.01	-	0.01	0.00	0.02	0.00	0.02
B13148-B13222.V0	2835	258	8	0.030	1.36	0.00	0.12	0.00	0.24	0.00	0.18	0.00	0.27
B13150-B13222.W0	2833	413	8	0.040	1.57	0.00	0.13	0.00	0.25	0.00	0.18	0.00	0.27
B13153-B13222.Y0	2832	292	8	0.063	1.96	0.00	0.14	0.00	0.27	0.01	0.21	0.01	0.52
B13155.A0-B13222.Z0	3320	162	6	0.098	1.13	0.00	0.18	0.00	0.35	0.00	0.26	0.00	0.52
B13156-B13157	1138	233	8	0.007	0.64	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.06
B13157-B13158	2828	51	8	0.003	0.42	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
B13158-B13160	2827	245	8	0.076	2.15	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.06
B13159-B13160	2826	231	8	0.039	1.55	0.01	0.05	0.01	0.06	0.01	0.07	0.01	0.07
B13160-B13165	2825	158	8	0.076	2.16	0.01	0.06	0.02	0.08	0.02	0.08	0.02	0.09
B13161-B13162	2824	78	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.08	0.00	0.08
B13162-B13163	1139	163	8	0.004	0.49	0.00	0.06	0.00	0.07	0.01	0.09	0.01	0.09
B13163-B13164	725	226	8	0.004	0.50	0.00	0.06	0.01	0.09	0.01	0.11	0.01	0.11

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B13164-B13165	2823	67	8	0.004	0.50	0.00	0.06	0.01	0.09	0.01	0.11	0.01	0.11
B13165-B13166	2822	451	8	0.061	1.94	0.01	0.07	0.03	0.11	0.04	0.13	0.05	0.14
B13166-B13173.A0	7989	165	8	0.015	0.97	0.01	0.08	0.04	0.13	0.05	0.15	0.06	0.17
B13168-B13170	727	240	8	0.065	1.99	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
B13169-B13170	2821	375	6	0.031	0.64	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.07
B13170-B13173.E0	7211	136	8	0.046	1.67	0.00	0.04	0.01	0.07	0.01	0.07	0.02	0.09
B13173.A0-B13173.B0	729	265	8	0.017	1.03	0.01	0.09	0.04	0.14	0.05	0.16	0.06	0.18
B13173.B0-B13173.C0	2829	223	8	0.011	0.81	0.01	0.09	0.04	0.16	0.05	0.17	0.07	0.20
B13173.C0-B13173.D0	7991	141	8	0.011	0.84	0.01	0.08	0.04	0.14	0.05	0.15	0.07	0.18
B13173.D0-B13173	7992	168	8	0.032	1.39	0.01	0.08	0.04	0.14	0.05	0.15	0.07	0.18
B13173.E0-B13173.F0	7212	104	8	0.012	0.85	0.00	0.05	0.01	0.08	0.01	0.09	0.02	0.11
B13173.F0-B13173.G0	7213	91	8	0.012	0.86	0.00	0.04	0.01	0.07	0.01	0.08	0.02	0.09
B13173.G0-B13173	7987	156	8	0.052	1.78	0.00	0.06	0.01	0.11	0.01	0.11	0.02	0.14
B13173-B13174	730	329	8	0.023	1.17	0.02	0.10	0.06	0.17	0.07	0.18	0.10	0.21
B13174-B13208	2820	430	8	0.016	0.99	0.02	0.17	0.07	0.30	0.08	0.30	0.11	0.37
B13179.A0-B13179.B0	7197	86	8	0.178	3.29	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
B13179.B0-B13179.C0	7198	160	8	0.011	0.82	0.00	0.03	0.00	0.04	0.00	0.05	0.01	0.05
B13179.C0-B13179.D0	7199	209	8	0.139	2.91	0.00	0.03	0.01	0.05	0.01	0.06	0.01	0.06
B13179.D0-B13179.E0	7200	85	8	0.028	1.30	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.08
B13179.E0-B13179	7202	40	8	0.023	1.18	0.00	0.04	0.01	0.06	0.01	0.07	0.02	0.07
B13179-B13180	3436	163	8	0.066	2.01	0.00	0.04	0.01	0.05	0.01	0.06	0.02	0.07
B13180-B13197	1534	259	8	0.097	2.43	0.01	0.07	0.01	0.12	0.02	0.12	0.02	0.14
B13181-B13182	1533	387	8	0.072	2.09	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
B13182-B13183	1532	292	8	0.024	1.22	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.07
B13183-B13184	590	366	8	0.031	1.37	0.00	0.04	0.01	0.07	0.01	0.07	0.02	0.09
B13184-B13185	1898	206	8	0.028	1.31	0.01	0.04	0.02	0.08	0.02	0.07	0.02	0.09
B13185-B13186	2793	280	8	0.061	1.93	0.01	0.04	0.02	0.07	0.02	0.07	0.03	0.09
B13186-B13188	538	279	8	0.087	2.30	0.01	0.04	0.02	0.08	0.02	0.07	0.03	0.09
B13187-B13188	1897	215	8	0.175	3.27	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
B13188-B13190	537	63	8	0.087	2.31	0.01	0.05	0.03	0.08	0.03	0.08	0.04	0.10
B13189-B13190	536	171	6	0.019	0.50	0.00	0.05	0.00	0.08	0.01	0.09	0.01	0.10
B13190-B13191	535	244	8	0.090	2.34	0.01	0.07	0.03	0.13	0.03	0.13	0.05	0.16
B13191-B13192	534	119	8	0.005	0.58	0.01	0.10	0.04	0.18	0.04	0.18	0.06	0.22
B13192-B13196	168	469	8	0.004	0.49	0.01	0.12	0.04	0.22	0.04	0.21	0.06	0.26
B13193-B13194	167	198	8	0.151	3.04	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
B13194-B13195	931	151	8	0.175	3.27	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
B13195-B13196	930	200	8	0.131	2.83	0.00	0.08	0.01	0.14	0.01	0.14	0.01	0.16
B13196-B13197	550	148	8	0.004	0.50	0.02	0.12	0.06	0.21	0.05	0.21	0.08	0.25
B13197-B13198	549	292	8	0.018	1.06	0.02	0.10	0.08	0.18	0.07	0.17	0.11	0.21
B13198-B13208	547	428	8	0.030	1.35	0.03	0.17	0.08	0.30	0.08	0.28	0.12	0.36
B13199-B13200	546	199	8	0.031	1.36	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B13200-B13201	545	111	8	0.031	1.37	0.00	0.04	0.01	0.05	0.00	0.03	0.00	0.04
B13201-B13203	544	180	8	0.030	1.34	0.01	0.06	0.01	0.09	0.00	0.05	0.01	0.07
B13202-B13203	543	278	8	0.019	1.07	0.00	0.06	0.00	0.07	0.00	0.05	0.00	0.06
B13203-B13204	542	320	8	0.007	0.66	0.01	0.09	0.02	0.12	0.01	0.08	0.01	0.11
B13204-B13205	541	69	8	0.008	0.71	0.01	0.10	0.02	0.14	0.01	0.09	0.02	0.13
B13205-B13206	540	187	8	0.004	0.50	0.01	0.12	0.03	0.16	0.01	0.10	0.02	0.15
B13206-B13207	539	344	8	0.004	0.49	0.02	0.12	0.03	0.17	0.01	0.12	0.03	0.16
B13207-B13208	814	140	8	0.004	0.50	0.02	0.18	0.04	0.31	0.02	0.26	0.03	0.34
B13211.B0-B13211.C0	B13211.B0-B13211.C0	102	8	0.012	0.85	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.05
B13211.C0-B13211.E0	B13211.C0-B13211.E0	189	8	0.011	0.82	0.00	0.02	0.00	0.04	0.00	0.05	0.00	0.05
B13211.D0-B13211.E0	B13211.D0-B13211.E0	79	8	0.014	1.18	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
B13211.E0-B13211.F0	B13211.E0-B13211.F0	131	8	0.093	2.38	0.00	0.15	0.01	0.26	0.01	0.24	0.01	0.31
B13211.F0-B13211	813	313	8	0.004	0.50	0.07	0.22	0.21	0.39	0.18	0.36	0.29	0.47
B13211.F0-B13211	CDT-49	102	8	0.004	0.51	0.07	0.25	0.20	0.45	0.17	0.42	0.27	0.54
B13211-B13213	811	69	8	0.016	0.99	0.07	0.24	0.21	0.43	0.18	0.40	0.29	0.52
B13212-B13213	810	224	8	0.004	0.47	0.00	0.16	0.00	0.29	0.01	0.30	0.01	0.38
B13213-B13214	809	216	8	0.003	0.40	0.07	0.27	0.22	0.50	0.19	0.47	0.30	0.61
B13214-B13215	808	157	8	0.005	0.54	0.07	0.26	0.22	0.47	0.20	0.45	0.31	0.59
B13215-B13217	807	200	8	0.003	0.45	0.07	0.27	0.22	0.49	0.21	0.46	0.32	0.60
B13216-B13217	806	299	8	0.047	1.70	0.00	0.14	0.00	0.24	0.00	0.23	0.00	0.29
B13217-B13218	805	99	8	0.004	0.51	0.07	0.22	0.23	0.39	0.21	0.37	0.32	0.47
B13218-B13219	804	373	8	0.023	1.19	0.07	0.16	0.23	0.29	0.22	0.28	0.34	0.35
B13219-B13222	803	273	8	0.034	1.43	0.07	0.35	0.23	0.64	0.23	0.59	0.35	0.67
B13220-B13221	802	147	6	0.050	0.81	0.00	0.03	0.00	0.03	0.01	0.06	0.01	0.06
B13221-B13222	801	41	6	0.081	1.03	0.00	0.37	0.00	0.52	0.01	0.53	0.01	0.53
B13222.A0-B13222.C0	2353	146	8	0.037	1.49	0.03	0.12	0.10	0.22	0.02	0.12	0.09	0.21
B13222.B0-B13222.C0	B13222.B0-B13222.C0	200	8	0.031	1.37	0.02	0.11	0.06	0.20	0.04	0.14	0.07	0.21
B13222.C0-B13222.D0	B13222.C0-B13222.D0	354	8	0.019	1.08	0.05	0.15	0.16	0.28	0.06	0.17	0.16	0.28
B13222.D0-B13222.F0	B13222.D0-B13222.F0	210	8	0.013	0.90	0.05	0.16	0.17	0.30	0.06	0.18	0.17	0.30
B13222.E0-B13222.F0	2347	327	8	0.070	2.07	0.00	0.09	0.00	0.16	0.00	0.10	0.00	0.16
B13222.F0-B13222.G0	B13222.F0-B13222.G0	313	8	0.013	0.90	0.05	0.16	0.18	0.30	0.06	0.18	0.18	0.30
B13222.G0-B13222.H0	B13222.G0-B13222.H0	204	8	0.016	0.99	0.05	0.16	0.18	0.30	0.06	0.17	0.18	0.30
B13222.H0-B13222.J0	B13222.H0-B13222.J0	157	8	0.014	0.93	0.05	0.16	0.18	0.30	0.06	0.17	0.18	0.30
B13222.I0-B13222.J0	15	238	8	0.050	1.75	0.01	0.10	0.02	0.19	0.01	0.11	0.02	0.18
B13222.J0-B13222.K0	790	89	8	0.022	1.16	0.06	0.19	0.21	0.37	0.07	0.23	0.21	0.38
B13222.K0-B13222.L0	B13222.K0-B13222.L0	243	8	0.008	0.71	0.08	0.21	0.29	0.42	0.13	0.28	0.31	0.44
B13222.L0-B13222.M0	B13222.L0-B13222.M0	166	8	0.013	0.90	0.08	0.20	0.29	0.40	0.13	0.26	0.31	0.42
B13222.M0-B13222.N0	B13222.M0-B13222.N0	221	8	0.012	0.85	0.08	0.20	0.29	0.40	0.13	0.26	0.32	0.41
B13222.N0-B13222.O0	B13222.N0-B13222.O0	248	8	0.015	0.96	0.08	0.20	0.30	0.40	0.13	0.26	0.32	0.42
B13222.O0-B13222.P0	B13222.O0-B13222.P0	219	8	0.011	0.82	0.08	0.21	0.30	0.43	0.13	0.27	0.33	0.44
B13222.P0-B13222.Q0	B13222.P0-B13222.Q0	251	8	0.010	0.80	0.08	0.22	0.31	0.45	0.13	0.28	0.33	0.46
B13222.Q0-B13222.R0	B13222.Q0-B13222.R0	352	8	0.009	0.72	0.08	0.25	0.31	0.51	0.13	0.34	0.33	0.54
B13222.R0-B13222.S0	B13222.R0-B13222.S0	276	10	0.008	1.25	0.13	0.22	0.50	0.44	0.26	0.31	0.57	0.48
B13222.S0-B13222.T0	B13222.S0-B13222.T0	203	10	0.008	1.26	0.13	0.22	0.51	0.44	0.26	0.31	0.58	0.48
B13222.T0-B13222.U0	B13222.T0-B13222.U0	171	10	0.008	1.28	0.13	0.21	0.51	0.41	0.26	0.29	0.58	0.44
B13222.U0-B13222.V0	B13222.U0-B13222.V0	139	10	0.014	1.67	0.13	0.19	0.51	0.38	0.27	0.27	0.58	0.41
B13222.V0-B13222.W0	2834	130	10	0.014	1.70	0.13	0.19	0.52	0.38	0.27	0.27	0.59	0.41
B13222.W0-B13222.X0	3302	307	10	0.013	1.64	0.13	0.19	0.53	0.39	0.27	0.27	0.60	0.42
B13222.X0-B13222.Y0	3311	236	10	0.014	1.66	0.13	0.20	0.53	0.41	0.28	0.29	0.61	0.71
B13222.Y0-B13222.Z0	2831	59	10	0.010	1.43	0.14	0.20	0.54	0.42	0.28	0.30	0.63	1.00
B13222.Z0-B13222	1846	79	10	0.012	1.56	0.14	0.32	0.54	0.70	0.29	0.51	0.63	1.00
B13222-B13229	1996	194	10	0.002	0.63	0.21	0.37	0.78	0.83	0.52	0.62	0.98	1.00
B13223-B13224	3333	130	8	0.039	1.53	0.00	0.03	0.00	0.03	0.01	0.07	0.01	0.07
B13224-B13227	3049	208	8	0.008	0.68	0.00	0.04	0.00	0.05	0.01	0.08	0.01	0.08
B13225-B13226	1995	130	8	0.093	2.38	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
B13226-B13227	1994	21	8	0.121	2.72	0.00	0.02	0.00	0.03	0.01	0.05	0.01	0.05
B13227-B13228	1993	221	8	0.097	2.44	0.00	0.03	0.01	0.05	0.02	0.07	0.02	0.07
B13228-B13229	1992	96	8	0.053	1.80	0.00	0.21	0.01	0.45	0.02	0.36	0.03	0.54
B13229-B13230	1991	72	10	0.006	1.06	0.22	0.35	0.80	0.81	0.55	0.59	1.01	1.00
B13230-B13231	1990	335	10	0.003	0.73	0.22	0.36	0.80	0.84	0.55	0.63	1.02	1.00
B13231.A0-B13231	7110	75	8	0.005	0.55	0.00	0.23	0.00	0.64	0.01	0.44	0.02	1.00
B13231-B08022	2767	314	10	0.004	0.90	0.22	0.40	0.81	0.87	0.57	0.73	1.04	1.00
B13242-B13222.C0	B13242-B13222.C0	30	8	0.041	1.58	0.00	0.08	0.00	0.14	0.00	0.09	0.00	0.14
B14001-B14002	1989	88	8	0.058	1.89	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B14002-B14004	1988	155	8	0.104	2.52	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.04
B14004-B14005	1987	262	8	0.035	1.46	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B14005-B14006.CH	7636	50	8	0.152	3.05	0.00	0.05	0.01	0.11	0.00	0.06	0.01	0.11
B14006.A0-B14006.B0	1256	334	8	0.033	1.42	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B14006.AA-B14006.A0	2117	23	8	0.002	0.33	0.00	0.01	-	0.01	0.00	0.03	0.00	0.03
B14006.B0-B14006.C0	1257	287	8	0.066	2.01	0.00	0.04	0.01	0.08	0.00	0.05	0.01	0.08
B14006.C0-B14006.D0	B14006.C0-B14006.D0	33	8	0.045	1.66	0.01	0.06	0.04	0.12	0.01	0.07	0.04	0.12
B14006.CA-B14006.CB	7641	300	8	0.069	2.05	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
B14006.CB-B14006.CD	7642	308	8	0.005	0.55	0.00	0.05	0.01	0.10	0.00	0.06	0.01	0.10
B14006.CC-B14006.CD	7643	120	8	0.174	3.25	0.00	0.03	0.00	0.06	0.00	0.04	0.00	0.06
B14006.CD-B14006.CE	7640	184	8	0.005	0.55	0.00	0.07	0.01	0.13	0.00	0.08	0.01	0.13
B14006.CE-B14006.CF	7639	315	8	0.003	0.41	0.00	0.07	0.02	0.14	0.01	0.08	0.02	0.14
B14006.CF-B14006.CG	7635	259	8	0.005	0.56	0.00	0.06	0.02	0.13	0.01	0.07	0.02	0.13
B14006.CG-B14006.CH	7638	59	8	0.013	0.88	0.00	0.07	0.02	0.14	0.01	0.08	0.02	0.14
B14006.CH-B14006.C0	7637	114	8	0.005	0.57	0.01	0.07	0.03	0.14	0.01	0.08	0.03	0.14
B14006.D0-B14006	B14006.D0-B14006	124	8	0.026	1.25	0.01	0.07	0.04	0.15	0.01	0.08	0.05	0.15
B14006-B14008	1986	111	8	0.011	0.80	0.01	0.07	0.05	0.15	0.01	0.08	0.05	0.15
B14007-B14008	1985	236	8	0.045	1.67	0.00	0.04	0.00	0.07	0.00	0.04	0.00	0.07
B14008-B14013	2111	217	8	0.037	1.50	0.01	0.08	0.05	0.16	0.01	0.09	0.05	0.16
B14009-B14010	1984	106	8	0.047	1.69	0.00	0.00	-	0.01	0.00	0.02	0.00	0.02
B14010-B14011	1983	184	8	0.071	2.08	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.03
B14011-B14012	2962	197	8	0.026	1.27	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.05
B14012.A0-B14012	443	73	8	0.035	1.47	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B14012-B14013	2113	234	8	0.050	1.74	0.00	0.06	0.01	0.12	0.00	0.07	0.01	0.12
B14013-B14014	2112	190	8	0.010	0.78	0.01	0.09	0.06	0.20	0.02	0.11	0.07	0.20
B14014-B14015	1982	250	8	0.011	0.82	0.01	0.08	0.07	0.18	0.02	0.10	0.07	0.18
B14015-B14016	1597	232	8	0.022	1.16	0.01	0.08	0.07	0.17	0.02	0.09	0.07	0.17
B14016-B14018	1596	245	8	0.025	1.24	0.01	0.08	0.07	0.17	0.02	0.09	0.08	0.17
B14017-B14018	1595	226	8	0.074	2.12	0.00	0.04	0.00	0.09	0.00	0.05	0.00	0.09
B14018-B14019	1594	351	8	0.027	1.27	0.01	0.07	0.08	0.16	0.02	0.09	0.08	0.17
B14019-B14020	2233	248	8	0.038	1.53	0.01	0.07	0.08	0.16	0.02	0.08	0.08	0.16
B14020-B14026	2963	195	8	0.040	1.56	0.01	0.08	0.09	0.19	0.02	0.10	0.09	0.19
B14021-B14022	1593	288	8	0.027	1.29	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B14022-B14023	1525	299	8	0.095	2.41	0.00	0.02	0.00	0.04	0.00	0.04	0.01	0.05
B14023-B14024	1524	348	8	0.070	2.07	0.00	0.02	0.01	0.04	0.01	0.04	0.01	0.05
B14024-B14025	1523	318	8	0.225	3.70	0.00	0.03	0.01	0.07	0.01	0.05	0.02	0.08
B14025-B14026	1522	62	8	0.013	0.90	0.00	0.07	0.02	0.15	0.01	0.09	0.02	0.16
B14026-B14027	1521	116	8	0.018	1.06	0.02	0.09	0.11	0.21	0.03	0.12	0.11	0.22
B14027-B14028	1520	349	8	0.019	1.08	0.02	0.09	0.11	0.22	0.03	0.12	0.11	0.22
B14028-B14031	1519	248	8	0.018	1.04	0.02	0.10	0.11	0.23	0.03	0.13	0.12	0.24
B14029-B14030	1518	120	8	0.050	1.74	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B14030-B14031	816	333	8	0.068	2.04	0.00	0.06	0.00	0.13	0.00	0.08	0.00	0.14
B14031-B14032	800	104	8	0.018	1.05	0.02	0.09	0.12	0.20	0.04	0.11	0.13	0.21
B14032-B14033	799	137	8	0.076	2.15	0.02	0.07	0.12	0.16	0.04	0.09	0.13	0.17
B14033-B14034	798	233	8	0.088	2.32	0.02	0.07	0.12	0.16	0.04	0.09	0.13	0.17
B14034-B14111.I0	797	223	8	0.078	2.19	0.02	0.12	0.13	0.25	0.04	0.20	0.14	0.28
B14035-B14036	431	144	8	0.026	1.25	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
B14036-B14038	2241	126	8	0.008	0.72	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.05
B14037-B14038	428	157	6	0.002	0.16	0.00	0.04	0.00	0.05	0.00	0.10	0.00	0.10
B14038-B14039	427	219	8	0.096	2.41	0.00	0.03	0.01	0.04	0.01	0.05	0.01	0.05
B14039-B14041	796	295	8	0.134	2.86	0.00	0.04	0.01	0.07	0.01	0.07	0.02	0.08
B14040-B14041	429	197	8	0.015	0.95	0.00	0.03	0.00	0.05	0.00	0.07	0.00	0.07
B14041-B14044	795	232	8	0.020	1.11	0.01	0.05	0.02	0.08	0.02	0.08	0.03	0.10
B14042-B14043	2240	64	8	0.080	2.21	0.00	0.01	-	0.01	0.00	0.02	0.00	0.02
B14043-B14044	724	261	8	0.091	2.35	0.00	0.03	0.00	0.05	0.00	0.06	0.00	0.06
B14044-B14052	723	303	8	0.077	2.17	0.01	0.07	0.03	0.14	0.03	0.15	0.04	0.18
B14045-B14046	722	335	8	0.002	0.35	0.00	0.04	0.00	0.06	0.01	0.10	0.01	0.10
B14046-B14048	721	212	8	0.002	0.35	0.00	0.04	0.00	0.09	0.01	0.11	0.01	0.13
B14047-B14048	2239	211	8	0.004	0.52	0.00	0.04	0.00	0.07	0.00	0.09	0.00	0.10
B14048-B14049	720	210	8	0.006	0.60	0.00	0.04	0.01	0.08	0.02	0.10	0.02	0.11
B14049-B14050	719	254	8	0.034	1.45	0.00	0.04	0.01	0.08	0.02	0.09	0.02	0.11
B14050-B14051	718	200	8	0.014	0.92	0.00	0.06	0.02	0.12	0.02	0.14	0.03	0.16
B14051-B14052	717	222	8	0.003	0.45	0.00	0.09	0.02	0.18	0.03	0.19	0.04	0.23
B14052-B14067	716	439	8	0.006	0.59	0.01	0.11	0.05	0.20	0.06	0.21	0.08	0.25
B14053-B14054	559	14	8	0.037	1.50	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B14054-B14057	715	341	8	0.099	2.46	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
B14055-B14056	714	70	8	0.064	1.97	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
B14056-B14057	713	7	8	0.177	3.29	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B14057-B14067	794	445	8	0.032	1.40	0.00	0.07	0.01	0.13	0.01	0.13	0.01	0.16
B14058-B14059	2235	195	8	0.090	2.34	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B14059-B14061	793	313	8	0.050	1.75	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
B14060-B14061	2236	129	6	0.102	1.16	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
B14061-B14063	856	134	8	0.052	1.78	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.07
B14062-B14063	2237	184	8	0.102	2.49	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
B14063-B14065	855	375	8	0.028	1.30	0.00	0.07	0.01	0.12	0.01	0.11	0.02	0.14
B14064-B14066	2238	210	8	0.094	2.39	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
B14065-B14066	854	254	8	0.003	0.44	0.01	0.08	0.02	0.13	0.02	0.12	0.03	0.15
B14066-B14067	853	334	8	0.028	1.30	0.01	0.08	0.03	0.15	0.02	0.15	0.04	0.18
B14067-B14068	852	238	8	0.024	1.22	0.03	0.11	0.11	0.20	0.10	0.20	0.15	0.24
B14068-B14070	851	299	8	0.024	1.21	0.03	0.12	0.11	0.22	0.11	0.22	0.16	0.27
B14069-B14070	430	238	8	0.111	2.60	0.00	0.07	0.00	0.13	0.01	0.14	0.01	0.16
B14070-B14075	850	162	8	0.014	0.93	0.03	0.13	0.12	0.25	0.12	0.24	0.17	0.30
B14071-B14073	849	155	8	0.065	1.99	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B14072-B14073	848	253	8	0.040	1.55	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
B14073-B14074	847	202	8	0.122	2.73	0.00	0.03	0.01	0.05	0.01	0.06	0.01	0.06
B14074-B14075	846	101	8	0.022	1.15	0.00	0.09	0.01	0.16	0.01	0.16	0.02	0.19
B14075-B14076	845	162	8	0.014	0.94	0.04	0.14	0.13	0.25	0.13	0.25	0.19	0.31
B14076-B14080	844	336	8	0.015	0.95	0.04	0.14	0.14	0.27	0.13	0.26	0.20	0.32
B14077-B14078	712	228	8	0.029	1.33	0.00	0.03	0.00	0.03	0.01	0.05	0.01	0.05
B14078-B14079	325	344	8	0.118	2.68	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.08
B14079-B14080	324	59	8	0.010	0.79	0.00	0.10	0.01	0.18	0.02	0.19	0.02	0.22
B14080-B14089	323	350	8	0.014	0.91	0.04	0.18	0.15	0.34	0.15	0.34	0.22	0.42
B14081-B14083	1531	214	6	0.002	0.16	0.00	0.07	0.00	0.08	0.01	0.16	0.01	0.16
B14082-B14083	1530	7	8	0.002	0.35	0.00	0.05	0.00	0.07	0.00	0.11	0.00	0.12
B14083-B14085	1785	89	8	0.002	0.35	0.00	0.05	0.00	0.07	0.01	0.11	0.01	0.11
B14084-B14085	1784	297	8	0.026	1.27	0.00	0.03	0.00	0.04	0.01	0.07	0.01	0.07
B14085-B14088	1783	342	8	0.031	1.38	0.00	0.07	0.01	0.15	0.02	0.19	0.03	0.22
B14086-B14087	2819	273	8	0.042	1.60	0.00	0.03	0.00	0.04	0.02	0.08	0.02	0.08
B14087-B14088	2818	267	8	0.015	0.96	0.00	0.07	0.01	0.14	0.02	0.19	0.02	0.22
B14088-B14089	2817	130	8	0.001	0.25	0.01	0.16	0.02	0.31	0.04	0.35	0.05	0.43
B14089-B14100	2816	210	8	0.006	0.58	0.05	0.18	0.18	0.34	0.20	0.36	0.28	0.43
B14091-B14092	2815	200	6	0.007	0.30	0.00	0.07	0.01	0.11	0.01	0.12	0.01	0.13
B14092-B14094.F0	8327	17	8	0.008	0.69	0.00	0.05	0.01	0.09	0.01	0.10	0.01	0.11
B14093-B14094.F0	2813	174	8	0.119	2.70	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02
B14094.A0-B14094.B0	8323	205	8	0.053	1.80	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B14094.B0-B14094.C0	8328	180	8	0.056	1.86	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.06
B14094.C0-B14094.D0	8329	47	8	0.012	0.86	0.00	0.04	0.01	0.07	0.01	0.08	0.01	0.09
B14094.D0-B14094.E0	8330	226	8	0.008	0.71	0.00	0.04	0.01	0.07	0.01	0.08	0.01	0.09
B14094.E0-B14094.F0	8331	69	8	0.031	1.37	0.00	0.04	0.01	0.06	0.01	0.07	0.02	0.08

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B14094.F0-B14094	8326	163	8	0.019	1.09	0.01	0.06	0.02	0.10	0.03	0.10	0.04	0.12
B14094-B14095	2812	368	8	0.036	1.49	0.01	0.06	0.03	0.10	0.03	0.10	0.04	0.12
B14095-B14097	2810	261	8	0.028	1.30	0.01	0.06	0.03	0.11	0.03	0.11	0.05	0.13
B14096-B14097	433	152	6	0.004	0.24	0.00	0.54	0.00	0.57	0.01	0.58	0.01	0.59
B14097-B14098	2809	104	8	0.031	1.38	0.01	0.07	0.04	0.12	0.04	0.12	0.05	0.14
B14098-B14100	2808	284	8	0.025	1.24	0.01	0.11	0.04	0.21	0.04	0.21	0.06	0.25
B14099-B14100	434	105	8	0.009	0.75	0.00	0.09	0.00	0.16	0.00	0.17	0.00	0.20
B14100-B14101	2807	222	8	0.025	1.23	0.06	0.20	0.23	0.39	0.24	0.40	0.35	0.49
B14101-B14102	2806	154	8	0.004	0.49	0.06	0.25	0.23	0.50	0.25	0.52	0.35	0.65
B14102-B14103	435	126	8	0.003	0.44	0.06	0.26	0.23	0.51	0.25	0.53	0.35	0.67
B14103-B14104	436	97	8	0.004	0.47	0.06	0.25	0.23	0.50	0.25	0.52	0.36	0.65
B14104-B14105	438	170	8	0.004	0.49	0.07	0.24	0.24	0.45	0.25	0.47	0.36	0.58
B14105-B14106	439	202	8	0.013	0.88	0.07	0.15	0.24	0.27	0.25	0.28	0.36	0.34
B14106-B14107	440	127	8	0.486	5.45	0.07	0.13	0.24	0.24	0.25	0.25	0.37	0.30
B14107-B14111.A0	8006	32	10	0.011	1.48	0.07	0.15	0.24	0.27	0.27	0.29	0.38	0.34
B14111.A0-B14111.B0	8007	133	10	0.011	1.47	0.07	0.15	0.24	0.27	0.27	0.29	0.38	0.35
B14111.B0-B14111.C0	8008	80	10	0.011	1.47	0.07	0.15	0.24	0.28	0.27	0.29	0.38	0.35
B14111.C0-B14111.D0	8009	39	10	0.011	1.46	0.07	0.15	0.25	0.28	0.27	0.29	0.38	0.35
B14111.D0-B14111.E0	7094	39	10	0.011	1.47	0.07	0.15	0.25	0.28	0.27	0.30	0.38	0.36
B14111.E0-B14111.F0	7095	209	10	0.009	1.33	0.07	0.15	0.25	0.29	0.27	0.31	0.38	0.37
B14111.F0-B14111.G0	7096	178	10	0.009	1.33	0.07	0.15	0.25	0.30	0.27	0.31	0.39	0.37
B14111.G0-B14111.H0	7097	84	10	0.009	1.33	0.07	0.15	0.25	0.28	0.27	0.30	0.39	0.36
B14111.H0-B14111.I0	7098	48	10	0.015	1.74	0.07	0.13	0.25	0.26	0.31	0.27	0.42	0.33
B14111.I0-B14111.M0	7099	125	10	0.033	2.56	0.09	0.17	0.38	0.32	0.35	0.30	0.56	0.38
B14111.J0-B14111.K0	7102	141	10	0.010	1.42	0.00	0.08	-	0.08	0.03	0.10	0.03	0.10
B14111.K0-B14111.L0	7103	291	10	0.010	1.42	0.06	0.12	0.06	0.12	0.03	0.08	0.03	0.08
B14111.L0-B14111.M0	7101	27	10	0.058	3.42	0.06	0.16	0.07	0.24	0.03	0.21	0.03	0.26
B14111.M0-B14111	7100	96	10	0.010	1.42	0.15	0.24	0.45	0.44	0.38	0.41	0.59	0.54
B14111-B14154	2802	341	8	0.007	0.65	0.15	0.33	0.45	0.61	0.40	0.55	0.61	0.75
B14113-B14114	2800	324	8	0.080	2.21	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
B14114-B14115	2799	358	8	0.050	1.75	0.00	0.03	0.01	0.05	0.01	0.05	0.01	0.06
B14115-B14116	2798	359	8	0.031	1.38	0.00	0.03	0.01	0.07	0.01	0.05	0.01	0.08
B14116-B14119	2797	352	8	0.026	1.25	0.00	0.04	0.01	0.10	0.01	0.07	0.02	0.11
B14117-B14118	2796	166	8	0.189	3.40	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02
B14118-B14119	2795	164	8	0.162	3.14	0.00	0.03	0.00	0.07	0.00	0.05	0.00	0.08
B14119-B14121	2753	63	8	0.011	0.81	0.00	0.04	0.02	0.10	0.01	0.07	0.03	0.11
B14120-B14121	2234	121	8	0.020	1.11	0.00	0.02	0.00	0.04	0.00	0.04	0.00	0.05
B14121-B14122	2752	242	8	0.107	2.56	0.00	0.04	0.03	0.08	0.01	0.06	0.03	0.09
B14122-B14123	2751	158	8	0.033	1.43	0.00	0.05	0.03	0.11	0.01	0.07	0.03	0.12
B14123-B14124	2750	124	8	0.015	0.95	0.00	0.05	0.03	0.13	0.01	0.08	0.04	0.14
B14124-B14130.A0	B14124-B14130.A0	33	8	0.010	0.79	0.00	0.05	0.03	0.14	0.01	0.09	0.04	0.15
B14125-B14126	2749	179	8	0.010	0.77	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B14126-B14127	2748	360	8	0.010	0.78	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
B14127-B14128	2747	309	8	0.026	1.26	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B14128-B14129	2746	352	8	0.072	2.09	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B14129-B14130	2745	351	8	0.097	2.43	0.01	0.04	0.02	0.09	0.00	0.05	0.02	0.09
B14130.A0-B14130	B14130.A0-B14130	30	8	0.011	0.83	0.00	0.05	0.03	0.13	0.01	0.08	0.04	0.14
B14130-B14131	2744	273	8	0.043	1.62	0.01	0.06	0.05	0.13	0.02	0.07	0.06	0.13
B14131-B14144	2743	358	8	0.041	1.58	0.01	0.09	0.06	0.20	0.02	0.11	0.06	0.20
B14132-B14134	2742	86	8	0.083	2.25	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
B14133-B14134	2741	165	8	0.022	1.15	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B14134-B14135	2740	152	8	0.042	1.60	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.05
B14135-B14136	2739	309	8	0.035	1.46	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
B14136-B14138	2738	284	8	0.080	2.21	0.00	0.04	0.01	0.06	0.01	0.04	0.01	0.06
B14137-B14138	2736	195	8	0.037	1.50	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B14138-B14140	2735	333	8	0.070	2.07	0.01	0.05	0.02	0.08	0.01	0.05	0.02	0.08
B14139-B14140	2734	190	8	0.043	1.62	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
B14140-B14141	2733	214	8	0.063	1.96	0.01	0.06	0.03	0.10	0.01	0.07	0.03	0.10
B14141-B14142	2732	364	8	0.020	1.10	0.01	0.07	0.03	0.12	0.01	0.08	0.03	0.12
B14142-B14143	2731	97	8	0.017	1.02	0.01	0.10	0.04	0.16	0.01	0.10	0.04	0.16
B14143-B14144	2730	113	8	0.004	0.49	0.01	0.12	0.04	0.23	0.01	0.13	0.04	0.22
B14144-B14145	2729	200	8	0.010	0.78	0.02	0.11	0.10	0.21	0.03	0.12	0.10	0.22
B14145-B14153	2728	186	8	0.050	1.74	0.02	0.09	0.11	0.17	0.03	0.10	0.11	0.17
B14146-B14147	2727	193	8	0.073	2.11	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B14147-B14150	1981	228	8	0.050	1.74	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
B14148-B14150	1980	176	8	0.004	0.47	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.07
B14150-B14152	1979	95	8	0.004	0.49	0.00	0.07	0.01	0.11	0.00	0.08	0.01	0.11
B14151-B14152	1978	245	8	0.116	2.66	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
B14152-B14153	1977	163	8	0.004	0.49	0.01	0.08	0.02	0.15	0.01	0.09	0.02	0.15
B14153-B14154	1976	303	8	0.059	1.90	0.03	0.21	0.13	0.39	0.04	0.31	0.13	0.44
B14154-B14155	7995	358	10	0.007	1.20	0.18	0.27	0.58	0.51	0.44	0.43	0.74	0.59
B14155-B14156	1974	347	10	0.006	1.14	0.18	0.25	0.59	0.47	0.44	0.40	0.75	0.54
B14156-B14172	1973	333	10	0.016	1.77	0.19	0.22	0.61	0.40	0.47	0.34	0.77	0.45
B14157-B14159	1972	128	8	0.028	1.30	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
B14158-B14159	1971	176	8	0.012	0.85	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B14159-B14161	1970	277	8	0.024	1.22	0.00	0.06	0.01	0.09	0.00	0.06	0.01	0.08
B14160-B14161	1969	258	8	0.005	0.53	0.00	0.06	0.00	0.08	0.00	0.05	0.00	0.07
B14161-B14164	2726	124	8	0.007	0.66	0.01	0.09	0.02	0.13	0.01	0.08	0.01	0.12
B14162-B14163	2725	175	8	0.005	0.55	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B14163-B14164	2724	166	8	0.007	0.64	0.00	0.08	0.01	0.10	0.00	0.07	0.00	0.09
B14164-B14165	2723	115	8	0.006	0.59	0.01	0.10	0.03	0.15	0.01	0.09	0.02	0.13
B14165-B14166	2722	151	8	0.008	0.68	0.01	0.09	0.03	0.13	0.01	0.08	0.02	0.12
B14166-B14168	2721	68	8	0.032	1.40	0.02	0.09	0.03	0.13	0.01	0.08	0.03	0.12
B14167-B14168	2720	119	8	0.003	0.42	0.00	0.07	0.00	0.09	0.00	0.06	0.00	0.08
B14168-B14169	2719	109	8	0.007	0.67	0.02	0.12	0.04	0.17	0.01	0.11	0.03	0.16
B14169-B14170	2718	248	8	0.006	0.59	0.02	0.10	0.04	0.14	0.01	0.09	0.03	0.13
B14170-B14171	2716	74	8	0.114	2.63	0.02	0.07	0.04	0.10	0.02	0.06	0.04	0.09
B14171-B14172	2715	76	8	0.066	2.01	0.02	0.17	0.04	0.29	0.02	0.24	0.04	0.32
B14172-B14238	2714	79	12	0.017	2.98	0.21	0.22	0.66	0.38	0.49	0.31	0.81	0.42
B14173-B14174	2713	141	8	0.048	1.71	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B14174-B14176	1754	326	8	0.047	1.69	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
B14175-B14176	1753	153	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
B14176-B14177	1752	183	8	0.027	1.29	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
B14177-B14179	1850	187	8	0.030	1.35	0.01	0.06	0.02	0.08	0.01	0.07	0.02	0.09
B14178-B14179	1849	187	8	0.040	1.56	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.06
B14179-B14181	1848	286	8	0.030	1.35	0.01	0.07	0.02	0.10	0.02	0.08	0.03	0.10
B14180-B14181	1847	90	8	0.014	0.92	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
B14181-B14182	1770	258	8	0.030	1.35	0.01	0.07	0.03	0.10	0.02	0.08	0.03	0.10
B14182-B14184	6893	152	8	0.057	1.86	0.01	0.06	0.03	0.09	0.02	0.08	0.04	0.10
B14183-B14184	6892	38	8	0.080	2.21	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
B14184-B14204	6891	225	8	0.076	2.16	0.02	0.09	0.04	0.14	0.02	0.11	0.04	0.15
B14185-B14187	6890	173	8	0.004	0.49	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.07
B14186-B14187	6889	256	8	0.022	1.15	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.07
B14187-B14188	7581	306	8	0.004	0.49	0.00	0.08	0.01	0.11	0.01	0.10	0.01	0.12
B14188-B14189	7580	318	8	0.004	0.50	0.01	0.07	0.01	0.10	0.01	0.09	0.02	0.11
B14189-B14192	7579	268	8	0.040	1.56	0.01	0.06	0.02	0.09	0.01	0.08	0.02	0.10
B14190-B14191	7578	291	8	0.020	1.11	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B14191-B14192	7577	219	8	0.040	1.56	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
B14192-B14196	7576	274	8	0.036	1.48	0.01	0.08	0.03	0.12	0.02	0.10	0.04	0.13
B14193-B14194	7575	206	8	0.048	1.71	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B14194-B14195	7574	181	8	0.040	1.56	0.00	0.03	0.00	0.05	0.00	0.04	0.01	0.05
B14195-B14196	7573	159	8	0.039	1.55	0.00	0.06	0.01	0.10	0.01	0.08	0.01	0.10
B14196-B14198	7572	266	8	0.020	1.11	0.02	0.09	0.05	0.14	0.03	0.11	0.05	0.14
B14197-B14198	7571	290	8	0.045	1.65	0.00	0.05	0.00	0.08	0.00	0.07	0.00	0.08
B14198-B14199	7570	256	8	0.044	1.64	0.02	0.08	0.06	0.13	0.04	0.11	0.06	0.14
B14199-B14201	7569	223	8	0.036	1.48	0.02	0.12	0.06	0.19	0.04	0.16	0.07	0.20
B14200-B14201	7568	135	8	0.051	1.76	0.00	0.08	0.00	0.13	0.00	0.11	0.00	0.14
B14201-B14202	7567	78	8	0.004	0.50	0.02	0.16	0.07	0.26	0.04	0.21	0.08	0.27
B14202-B14203	7566	152	8	0.004	0.49	0.03	0.13	0.07	0.20	0.05	0.17	0.08	0.22
B14203-B14204	7565	298	8	0.050	1.74	0.03	0.10	0.07	0.17	0.05	0.13	0.08	0.17
B14204-B14205	7564	198	8	0.032	1.40	0.04	0.12	0.11	0.20	0.07	0.16	0.13	0.21
B14205-B14206	7563	339	8	0.030	1.35	0.04	0.13	0.12	0.21	0.07	0.17	0.13	0.22
B14206-B14228	7543	180	8	0.018	1.05	0.04	0.17	0.12	0.27	0.07	0.21	0.13	0.28
B14207-B14208	7542	38	8	0.030	1.35	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
B14208-B14209	557	39	8	0.025	1.22	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
B14209-B14210	7541	145	8	0.036	1.48	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B14210-B14211	7540	69	8	0.016	0.98	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B14211-B14222	7539	462	8	0.048	1.71	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.06
B14212-B14213	7538	308	8	0.034	1.44	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B14213-B14214	7537	175	8	0.040	1.56	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
B14214-B14218	7536	46	8	0.041	1.57	0.01	0.06	0.01	0.08	0.01	0.05	0.01	0.07
B14215-B14216	7535	54	8	0.013	0.90	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B14216-B14217	7278	43	8	0.010	0.77	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B14217-B14218	7277	91	8	0.015	0.95	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.06
B14218-B14219	7276	48	8	0.010	0.78	0.01	0.07	0.02	0.10	0.01	0.07	0.01	0.09
B14219-B14220	7275	148	8	0.013	0.88	0.01	0.06	0.02	0.09	0.01	0.06	0.01	0.08
B14220-B14221	3281	37	8	0.033	1.43	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.10
B14221-B14222	3280	128	8	0.004	0.50	0.01	0.08	0.02	0.12	0.01	0.08	0.02	0.11
B14222-B14223	3279	46	8	0.081	2.23	0.02	0.08	0.04	0.11	0.01	0.07	0.03	0.10
B14223-B14224	3278	251	8	0.015	0.95	0.02	0.50	0.04	0.55	0.02	0.50	0.03	0.54
B14224-B14227	3277	189	8	0.003	0.41	0.02	0.52	0.04	0.56	0.02	0.51	0.04	0.54
B14225-B14226	3276	494	8	0.014	0.93	0.02	0.09	0.02	0.09	0.01	0.07	0.01	0.07
B14226-B14227	3275	161	8	0.058	1.89	0.03	0.10	0.04	0.12	0.03	0.09	0.03	0.10
B14227.A0-B14228	3274	116	8	0.009	0.72	0.05	0.20	0.09	0.27	0.05	0.20	0.07	0.26
B14227-B14227.A0	7113	128	8	0.060	1.92	0.05	0.15	0.09	0.19	0.04	0.14	0.07	0.17
B14228-B14235	3273	76	8	0.018	1.03	0.10	0.20	0.21	0.29	0.12	0.21	0.20	0.28
B14229-B14230	3272	147	8	0.055	1.84	0.01	0.07	0.01	0.07	0.00	0.03	0.00	0.03
B14230-B14232	3271	154	8	0.030	1.35	0.01	0.09	0.02	0.10	0.00	0.04	0.00	0.05
B14231-B14232	3269	154	8	0.007	0.64	0.00	0.07	0.00	0.08	0.00	0.04	0.00	0.05
B14232-B14233	2710	355	8	0.017	1.01	0.02	0.08	0.02	0.09	0.00	0.04	0.01	0.06
B14233-B14234	2709	56	8	0.242	3.85	0.02	0.08	0.03	0.09	0.01	0.05	0.01	0.06
B14234-B14235	2708	43	8	0.017	1.03	0.02	0.14	0.03	0.19	0.01	0.13	0.02	0.17
B14235-B14236	2707	302	8	0.038	1.52	0.12	0.20	0.24	0.29	0.13	0.21	0.22	0.28
B14236-B14237	2706	354	8	0.022	1.16	0.12	0.24	0.25	0.35	0.13	0.25	0.23	0.34
B14237-B14238	2705	321	10	0.007	1.15	0.12	0.26	0.25	0.42	0.13	0.32	0.23	0.44
B14238-B14239	2704	78	12	0.010	2.29	0.33	0.27	0.91	0.46	0.61	0.37	1.05	0.50
B14239-B14274	2703	296	12	0.009	2.17	0.33	0.24	0.92	0.40	0.61	0.32	1.05	0.43
B14240-B14250	2702	126	8	0.014	0.92	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B14250-B14251	2701	80	8	0.014	0.93	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
B14251-B14252	2700	118	8	0.004	0.49	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
B14252-B14254	2699	217	8	0.025	1.23	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
B14253-B14254	1833	296	8	0.026	1.26	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B14254-B14257	1832	243	8	0.054	1.82	0.01	0.05	0.02	0.08	0.01	0.05	0.01	0.08
B14255-B14256	1831	260	8	0.049	1.73	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B14256-B14257	1830	321	8	0.023	1.19	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
B14257-B14258	1829	64	8	0.042	1.61	0.01	0.06	0.03	0.10	0.01	0.06	0.03	0.09
B14258-B14260	1828	162	8	0.045	1.65	0.01	0.08	0.03	0.12	0.01	0.08	0.03	0.11
B14259-B14260	1827	305	8	0.034	1.44	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.08
B14260-B14261	1826	122	8	0.014	0.94	0.02	0.09	0.04	0.14	0.02	0.09	0.04	0.14
B14261-B14264	1825	105	8	0.014	0.94	0.02	0.10	0.04	0.15	0.02	0.10	0.04	0.14
B14262-B14263	1824	235	8	0.016	0.99	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B14263-B14264	1823	326	8	0.029	1.33	0.00	0.07	0.01	0.10	0.00	0.07	0.01	0.10
B14264-B14267	1822	231	8	0.020	1.10	0.02	0.09	0.05	0.14	0.02	0.09	0.05	0.14
B14265-B14266	1821	69	8	0.037	1.51	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B14266-B14267	1820	230	8	0.040	1.56	0.00	0.05	0.00	0.08	0.00	0.05	0.00	0.07
B14267-B14271	1812	51	8	0.060	1.91	0.02	0.09	0.06	0.14	0.03	0.09	0.06	0.14
B14268-B14269	1811	213	8	0.004	0.50	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B14269-B14270	1810	245	8	0.027	1.29	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
B14270-B14271	1809	213	8	0.033	1.42	0.00	0.07	0.01	0.11	0.00	0.07	0.01	0.11
B14271-B14274	1808	145	8	0.030	1.35	0.03	0.20	0.08	0.32	0.03	0.24	0.07	0.33
B14272.A0-B14272	7273	323	8	0.048	1.72	0.00	0.05	0.00	0.05	0.00	0.02	0.00	0.02
B14272-B14273	7274	351	8	0.060	1.91	0.03	0.10	0.03	0.11	0.00	0.02	0.00	0.05
B14273-B14274	7272	359	8	0.013	0.88	0.03	0.21	0.03	0.31	0.00	0.20	0.01	0.29
B14274-B14275	7271	47	15	0.029	7.13	0.39	0.19	1.04	0.32	0.65	0.25	1.14	0.34
B14275-B14276	7270	44	15	0.006	3.34	0.39	0.23	1.04	0.38	0.65	0.30	1.14	0.40
B14276-B14277	7269	121	15	0.007	3.37	0.39	0.23	1.04	0.38	0.65	0.30	1.14	0.40
B14277-B14278	7268	107	15	0.007	3.37	0.39	0.23	1.04	0.38	0.65	0.30	1.15	0.40
B14278-B14279	7267	96	15	0.007	3.40	0.39	0.23	1.04	0.38	0.65	0.29	1.15	0.40
B14279-B14280	7266	184	15	0.007	3.50	0.42	0.23	1.08	0.38	0.65	0.29	1.15	0.40
B14280-B14281	7265	142	15	0.007	3.50	0.42	0.24	1.08	0.39	0.65	0.30	1.16	0.40
B14281-B14282	7263	169	15	0.007	3.48	0.42	0.21	1.08	0.34	0.71	0.28	1.20	0.36
B14282-B14300	7262	189	15	0.019	5.83	0.42	0.19	1.09	0.30	0.75	0.25	1.24	0.33
B14283-B14284	7261	125	8	0.020	1.11	0.01	0.06	0.01	0.06	0.01	0.08	0.01	0.08
B14284-B14286.A0	7114	253	8	0.014	0.92	0.01	0.08	0.01	0.08	0.02	0.11	0.02	0.11
B14285-B14286	7260	106	8	0.010	0.78	0.00	0.04	-	0.05	0.00	0.07	0.00	0.07
B14286.A0-B14286	935	86	8	0.014	0.92	0.01	0.08	0.02	0.10	0.03	0.13	0.03	0.13
B14286-B14292	7259	212	8	0.010	0.78	0.01	0.13	0.02	0.15	0.03	0.18	0.03	0.19
B14287-B14288	936	95	8	0.058	1.88	0.00	0.06	0.00	0.06	0.01	0.07	0.01	0.07
B14288-B14289	7258	172	8	0.020	1.11	0.02	0.09	0.02	0.10	0.02	0.11	0.02	0.11
B14289-B14290	7257	199	8	0.015	0.96	0.02	0.09	0.02	0.10	0.02	0.10	0.02	0.10
B14290-B14291	7256	163	8	0.054	1.81	0.02	0.08	0.03	0.09	0.03	0.11	0.03	0.11
B14291-B14292	7190	164	8	0.029	1.32	0.02	0.13	0.03	0.15	0.05	0.18	0.05	0.18
B14292-B14293	7187	129	8	0.009	0.73	0.04	0.16	0.06	0.19	0.08	0.22	0.09	0.22
B14293-B14298	7175	303	8	0.012	0.85	0.04	0.25	0.06	0.30	0.08	0.30	0.09	0.31
B14294-B14296	7532	66	8	0.072	2.10	0.00	0.05	0.00	0.05	0.00	0.03	0.00	0.03
B14295-B14296	7527	200	8	0.021	1.14	0.03	0.09	0.03	0.10	0.01	0.06	0.01	0.06
B14296-B14297	7525	277	8	0.071	2.08	0.03	0.08	0.03	0.09	0.01	0.05	0.01	0.06
B14297-B14298	6868	39	8	0.060	1.92	0.03	0.22	0.03	0.25	0.01	0.21	0.02	0.24
B14298-B14299	6864	407	8	0.002	0.36	0.07	0.24	0.10	0.29	0.09	0.26	0.10	0.28
B14299-B14300	6858	265	8	0.065	1.99	0.07	0.24	0.11	0.36	0.09	0.30	0.10	0.40
B14300-B14321	CDT-38	24	16	0.021	7.11	0.50	0.20	1.20	0.33	0.85	0.27	1.36	0.45
B14307-B14091	432	135	6	0.030	0.63	0.00	0.05	0.00	0.08	0.00	0.09	0.01	0.10
B14308-B14307	B14308-B14307	158	8	0.038	1.52	0.00	0.02	0.00	0.04	0.00	0.04	0.00	0.04
B14309-B14308	B14309-B14308	88	8	0.149	3.01	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B14310-B14311	B14310-B14311	227	8	0.010	0.79	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B14311-B14006.CA	B14311-B14006.CA	25	8	0.073	2.10	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B14319-B08154	B14319-B08154	191	16	0.004	3.15	0.50	0.28	1.22	0.48	0.85	0.42	1.36	1.00
B14320-B08156	CDT-40	382	16	0.005	3.50	0.50	0.24	1.21	0.38	0.85	0.32	1.35	0.95
B14321-B14320	CDT-39	53	16	0.008	4.31	0.50	0.24	1.20	0.39	0.85	0.32	1.36	0.75
B15001.A0-B15001	7111	78	8	0.007	0.63	0.04	0.23	0.04	0.23	0.07	0.31	0.07	0.31
B15001.B0-B15001.C0	3640	144	8	0.005	0.55	0.03	0.15	0.03	0.15	0.05	0.19	0.05	0.19
B15001.C0-B15001.D0	8259	116	8	0.021	1.14	0.03	0.14	0.04	0.14	0.05	0.19	0.05	0.19
B15001.D0-B15001	8260	78	8	0.007	0.63	0.03	0.22	0.04	0.23	0.08	0.32	0.08	0.32
B15001-B15002	7520	429	8	0.004	0.49	0.07	0.22	0.08	0.23	0.14	0.31	0.14	0.31
B15002-B15009	7513	355	8	0.035	1.45	0.08	0.16	0.08	0.18	0.14	0.22	0.14	0.22
B15003-B15006	7502	160	8	0.010	0.78	0.00	0.05	0.00	0.06	0.01	0.10	0.01	0.10
B15004-B15005	7498	245	8	0.035	1.46	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B15005-B15006	7491	240	8	0.056	1.84	0.01	0.06	0.01	0.08	0.01	0.08	0.01	0.09
B15006-B15007	7488	147	8	0.010	0.77	0.01	0.06	0.02	0.09	0.02	0.10	0.02	0.11
B15007-B15008	7224	262	8	0.041	1.59	0.01	0.06	0.02	0.08	0.02	0.08	0.02	0.09
B15008-B15009	7219	304	8	0.042	1.61	0.01	0.12	0.03	0.14	0.02	0.15	0.03	0.16
B15009-B15010.C0	3296	221	8	0.040	1.56	0.09	0.15	0.12	0.18	0.17	0.21	0.17	0.21
B15010.A0-B15010.B0	7428	140	8	0.000	0.09	0.00	0.09	0.00	0.09	0.00	0.07	0.00	0.07
B15010.B0-B15010.C0	3295	296	8	0.027	1.28	0.00	0.09	0.00	0.10	0.01	0.11	0.01	0.12
B15010.C0-B15010	3297	147	8	0.078	2.19	0.09	0.15	0.13	0.17	0.17	0.19	0.18	0.20
B15010-B15011	7447	375	8	0.067	2.02	0.11	0.18	0.15	0.21	0.17	0.22	0.18	0.23
B15011-B15072	7031	241	8	0.028	1.31	0.12	0.22	0.16	0.28	0.17	0.26	0.18	0.29
B15012-B15072	7410	86	8	0.010	0.78	0.00	0.13	0.00	0.17	0.00	0.15	0.00	0.18
B15013-B15014	7394	386	8	0.031	1.39	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
B15014-B15017	7384	283	8	0.004	0.48	0.00	0.08	0.01	0.12	0.00	0.07	0.01	0.11
B15015-B15016	7376	57	8	0.033	1.41	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
B15016-B15017	7367	316	8	0.034	1.43	0.00	0.06	0.00	0.09	0.00	0.05	0.00	0.08
B15017-B15018	7362	146	8	0.004	0.50	0.01	0.10	0.02	0.15	0.01	0.09	0.02	0.13
B15018-B15019	7351	158	8	0.004	0.50	0.01	0.10	0.02	0.14	0.01	0.08	0.02	0.13
B15019.A0-B15019	7346	120	8	0.102	2.49	0.00	0.05	0.00	0.07	0.00	0.04	0.00	0.06
B15019-B15022	558	226	8	0.013	0.90	0.01	0.09	0.03	0.13	0.01	0.08	0.02	0.12
B15020-B15021	7327	448	8	0.082	2.23	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15021-B15027	3	197	8	0.065	1.99	0.00	0.06	0.01	0.09	0.00	0.05	0.01	0.08
B15022-B15025	6886	181	8	0.011	0.82	0.01	0.08	0.03	0.13	0.01	0.07	0.03	0.11
B15023-B15024	6879	231	8	0.008	0.70	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15024-B15025	7314	277	8	0.066	2.00	0.00	0.05	0.01	0.07	0.00	0.04	0.00	0.06
B15025-B15026	7173	382	8	0.059	1.90	0.02	0.07	0.05	0.11	0.01	0.06	0.04	0.10
B15026-B15027	7164	160	8	0.079	2.20	0.02	0.08	0.05	0.12	0.02	0.07	0.04	0.11
B15027-B15059	7156	214	8	0.056	1.85	0.03	0.11	0.07	0.17	0.02	0.11	0.05	0.16
B15028-B15029	6604	379	8	0.018	1.04	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B15029-B15030	6596	201	8	0.040	1.56	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.05
B15030-B15031	7145	401	8	0.056	1.85	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.07
B15031-B15039	3077	358	8	0.033	1.41	0.01	0.07	0.02	0.09	0.01	0.07	0.02	0.09
B15032-B15033	3069	275	8	0.027	1.28	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B15033-B15035	3061	319	8	0.027	1.28	0.00	0.05	0.01	0.06	0.01	0.05	0.01	0.06
B15034-B15035	2465	88	8	0.004	0.48	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
B15035-B15038	2457	225	8	0.036	1.47	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
B15036-B15037	2451	207	8	0.037	1.51	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B15037-B15038	7140	99	8	0.042	1.61	0.00	0.05	0.01	0.06	0.01	0.05	0.01	0.06
B15038-B15039	7134	261	8	0.081	2.22	0.01	0.06	0.03	0.09	0.02	0.07	0.03	0.09
B15039-B15042	2116	17	8	0.116	2.66	0.03	0.08	0.06	0.11	0.03	0.08	0.05	0.11
B15040-B15041	7124	171	8	0.049	1.73	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B15041-B15042	7019	312	8	0.018	1.03	0.00	0.06	0.01	0.09	0.01	0.07	0.01	0.09
B15042-B15043	7010	204	8	0.081	2.22	0.03	0.08	0.07	0.12	0.04	0.09	0.07	0.12
B15043-B15056	6108	135	8	0.077	2.16	0.03	0.09	0.07	0.13	0.04	0.10	0.07	0.13
B15044-B15045	6099	278	8	0.020	1.10	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B15045-B15050	177	300	8	0.020	1.10	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.09
B15046-B15047	6092	307	8	0.019	1.08	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B15047-B15049	6085	341	8	0.028	1.31	0.01	0.05	0.01	0.06	0.00	0.05	0.01	0.06
B15048-B15049	6434	145	8	0.014	0.93	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B15049-B15050	2171	265	8	0.060	1.91	0.01	0.07	0.02	0.10	0.01	0.07	0.02	0.09
B15050-B15051	2169	359	8	0.020	1.11	0.02	0.09	0.04	0.12	0.02	0.09	0.03	0.11
B15051-B15052	2492	195	8	0.041	1.59	0.02	0.09	0.04	0.12	0.02	0.09	0.04	0.11
B15052-B15065	6426	233	8	0.041	1.59	0.03	0.08	0.05	0.12	0.03	0.08	0.05	0.11
B15053.A0-B15053	1768	104	8	0.023	1.19	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B15053-B15052	6418	172	8	0.020	1.10	0.00	0.06	0.00	0.09	0.00	0.07	0.00	0.08
B15054-B15055	6411	355	8	0.034	1.44	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B15055-B15056	6403	238	8	0.020	1.09	0.00	0.07	0.01	0.10	0.01	0.08	0.01	0.10
B15056-B15058	6394	174	8	0.061	1.93	0.04	0.10	0.08	0.14	0.05	0.11	0.08	0.14
B15057-B15058	6387	91	8	0.036	1.49	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
B15058-B15059	6997	164	8	0.075	2.14	0.04	0.12	0.09	0.18	0.05	0.12	0.09	0.17
B15059-B15062	6989	197	8	0.044	1.64	0.07	0.19	0.16	0.29	0.07	0.19	0.15	0.28
B15060-B15061	2983	200	8	0.009	0.72	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B15061-B15062	6982	287	8	0.055	1.83	0.00	0.12	0.00	0.20	0.00	0.13	0.00	0.19
B15062-B15063	6973	301	8	0.006	0.61	0.07	0.21	0.17	0.34	0.07	0.22	0.16	0.32
B15063-B15064	6967	311	8	0.012	0.87	0.07	0.20	0.17	0.31	0.07	0.20	0.16	0.30
B15064-B15068	6641	186	8	0.010	0.80	0.07	0.22	0.18	0.35	0.08	0.23	0.16	0.34
B15065-B15067	6330	224	8	0.100	2.47	0.03	0.08	0.06	0.11	0.03	0.08	0.05	0.11
B15066-B15067	6324	322	8	0.023	1.17	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
B15067-B15068	5939	187	8	0.093	2.38	0.03	0.16	0.07	0.25	0.03	0.17	0.06	0.24
B15068-B15069	5933	188	8	0.010	0.78	0.10	0.25	0.25	0.40	0.11	0.27	0.23	0.39
B15069-B15070	5924	127	8	0.010	0.77	0.10	0.22	0.25	0.35	0.12	0.24	0.25	0.34
B15070-B15071	5917	352	8	0.035	1.45	0.10	0.18	0.25	0.28	0.12	0.19	0.25	0.28
B15071-B15072	5910	235	8	0.039	1.53	0.10	0.20	0.26	0.30	0.12	0.23	0.26	0.31
B15072-B15073	6463	302	8	0.055	1.83	0.22	0.31	0.42	0.43	0.29	0.35	0.44	0.44
B15073-B15112	6457	108	12	0.005	1.58	0.22	0.23	0.42	0.32	0.29	0.27	0.45	0.33
B15074-B15075	6057	459	8	0.049	1.73	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15075-B15077	6050	264	8	0.052	1.77	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.08
B15076-B15077	6040	213	8	0.004	0.49	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
B15077-B15078	6033	343	8	0.006	0.58	0.00	0.05	0.01	0.10	0.00	0.05	0.01	0.09
B15078-B15079	6023	99	8	0.048	1.72	0.01	0.05	0.02	0.08	0.01	0.05	0.02	0.08
B15079-B15080	6443	242	8	0.025	1.24	0.01	0.05	0.02	0.09	0.01	0.05	0.02	0.09
B15080-B15081	6436	160	8	0.048	1.70	0.01	0.05	0.02	0.09	0.01	0.05	0.02	0.09
B15081-B15082	6351	197	8	0.025	1.24	0.01	0.05	0.03	0.10	0.01	0.05	0.03	0.09
B15082-B15091	6078	170	8	0.060	1.91	0.01	0.06	0.03	0.11	0.01	0.07	0.03	0.11
B15083-B15084	1047	322	8	0.019	1.07	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.05
B15084-B15085	1038	340	8	0.027	1.27	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
B15085-B15086	1030	58	8	0.068	2.04	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.06
B15086-B15089	6070	70	8	0.072	2.10	0.01	0.05	0.01	0.08	0.01	0.06	0.01	0.08
B15087-B15088	3294	15	8	0.010	0.78	0.00	0.01	-	0.01	0.00	0.03	0.00	0.03
B15088-B15089	3292	115	8	0.010	0.78	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
B15089-B15090	6953	166	8	0.015	0.95	0.01	0.06	0.02	0.09	0.01	0.07	0.02	0.09
B15090-B15091	6944	51	8	0.041	1.58	0.01	0.06	0.02	0.10	0.01	0.08	0.02	0.11
B15091-B15093	6843	162	8	0.036	1.49	0.02	0.08	0.05	0.13	0.02	0.09	0.05	0.13
B15092-B15093	6063	235	8	0.044	1.63	0.00	0.05	0.00	0.08	0.00	0.05	0.00	0.08
B15093-B15095	6059	181	8	0.042	1.60	0.02	0.08	0.06	0.14	0.03	0.09	0.06	0.13

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B15094-B15093	6342	244	8	0.016	0.99	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.08
B15095-B15097	6335	85	8	0.050	1.74	0.02	0.10	0.07	0.17	0.03	0.11	0.07	0.17
B15096-B15097	6584	242	8	0.004	0.49	0.00	0.08	0.00	0.12	0.00	0.09	0.00	0.12
B15097-B15106	6578	151	8	0.010	0.78	0.02	0.13	0.07	0.22	0.03	0.15	0.07	0.22
B15098-B15106	6572	180	8	0.004	0.51	0.00	0.09	0.00	0.14	0.00	0.10	0.00	0.14
B15099-B15101	6237	161	8	0.025	1.24	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B15100-B15101	6319	109	8	0.011	0.83	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B15101-B15102	6314	264	8	0.028	1.31	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
B15102-B15104	6229	150	8	0.102	2.49	0.00	0.06	0.01	0.09	0.01	0.07	0.01	0.09
B15103-B15104	6226	200	8	0.021	1.14	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
B15104-B15105	6218	214	8	0.004	0.49	0.01	0.09	0.02	0.14	0.01	0.10	0.02	0.13
B15105-B15106	6211	144	8	0.004	0.49	0.01	0.12	0.02	0.19	0.01	0.13	0.02	0.19
B15106-B15107	6201	135	8	0.014	0.92	0.04	0.12	0.10	0.20	0.04	0.14	0.10	0.20
B15107-B15108	6196	297	8	0.042	1.60	0.04	0.12	0.10	0.21	0.04	0.14	0.10	0.21
B15108-B15109	6563	307	8	0.011	0.81	0.04	0.15	0.11	0.25	0.04	0.16	0.11	0.25
B15109-B15110	6841	351	8	0.010	0.78	0.04	0.19	0.11	0.29	0.04	0.16	0.11	0.26
B15110-B15111	1128	500	8	0.010	0.78	0.08	0.18	0.15	0.26	0.04	0.16	0.11	0.23
B15111-B15112	588	248	8	0.064	1.97	0.08	0.22	0.16	0.32	0.11	0.26	0.17	0.33
B15112-B15243	6376	117	12	0.018	3.10	0.29	0.23	0.59	0.33	0.40	0.27	0.62	0.34
B15113-B15114	6367	258	8	0.005	0.54	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
B15114-B15127	762	480	8	0.012	0.87	0.01	0.05	0.01	0.08	0.01	0.06	0.01	0.08
B15115-B15117	6310	151	8	0.064	1.97	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B15116-B15117	6303	253	8	0.005	0.54	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
B15117-B15114	6360	186	8	0.007	0.65	0.00	0.06	0.01	0.09	0.01	0.07	0.01	0.09
B15118-B15120	6296	205	8	0.013	0.87	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B15119-B15120	6628	167	8	0.013	0.91	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
B15120-B15121	5880	364	8	0.029	1.32	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
B15121-B15122	6272	151	8	0.032	1.39	0.01	0.05	0.02	0.08	0.01	0.06	0.02	0.08
B15122-B15123	2698	294	8	0.045	1.65	0.01	0.06	0.02	0.08	0.01	0.07	0.02	0.08
B15123-B15126	3260	294	8	0.056	1.85	0.01	0.07	0.03	0.10	0.02	0.08	0.03	0.10
B15124-B15125	3258	407	8	0.056	1.85	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B15125-B15126	3248	135	8	0.056	1.85	0.00	0.06	0.01	0.08	0.01	0.07	0.01	0.08
B15126-B15131	2025	223	8	0.039	1.55	0.02	0.07	0.04	0.11	0.03	0.09	0.04	0.12
B15127-B15128	6836	333	8	0.084	2.27	0.01	0.05	0.02	0.08	0.01	0.06	0.02	0.08
B15128-B15131	753	391	8	0.033	1.42	0.01	0.06	0.03	0.11	0.01	0.08	0.03	0.11
B15129-B15130	2481	214	8	0.019	1.06	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B15130-B15131	5151	351	8	0.055	1.83	0.00	0.05	0.00	0.08	0.00	0.05	0.00	0.08
B15131-B15144	B15131-B15144	196	8	0.125	2.76	0.03	0.09	0.08	0.15	0.04	0.11	0.09	0.15
B15133-B15134	5126	191	8	0.031	1.36	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B15134-B15135	6825	65	8	0.055	1.84	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15135-B15136	1678	141	8	0.084	2.26	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
B15136-B15143	1662	173	8	0.064	1.98	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.07
B15137-B15139	6823	304	8	0.010	0.78	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
B15138-B15139	4570	128	8	0.046	1.68	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
B15139-B15140	4241	141	8	0.010	0.78	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.09
B15140-B15142	6802	192	8	0.010	0.78	0.01	0.08	0.01	0.10	0.01	0.08	0.01	0.10
B15141-B15142	6785	182	8	0.054	1.82	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07
B15142-B15143	6768	238	8	0.011	0.80	0.01	0.08	0.02	0.11	0.01	0.09	0.02	0.11
B15143-B15144	3286	161	8	0.041	1.58	0.02	0.10	0.04	0.15	0.02	0.11	0.03	0.14
B15144-B15158	6751	357	8	0.056	1.85	0.05	0.13	0.14	0.20	0.07	0.14	0.14	0.20
B15145-B15146	6734	153	8	0.015	0.96	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15146-B15147	6015	401	8	0.020	1.10	0.00	0.04	0.01	0.06	0.00	0.04	0.00	0.05
B15147-B15148	2021	276	8	0.032	1.40	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
B15148-B15149	1652	121	8	0.032	1.39	0.01	0.05	0.02	0.08	0.01	0.05	0.01	0.07
B15149.A0-B15149	1635	47	8	0.034	1.44	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B15149-B15150	3466	254	8	0.040	1.55	0.01	0.06	0.02	0.08	0.01	0.06	0.02	0.08
B15150-B15153	3467	380	8	0.031	1.37	0.01	0.06	0.02	0.10	0.01	0.06	0.02	0.09
B15151.A0-B15151.B0	7586	124	8	0.000	0.02	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.06
B15151.B0-B15151	3468	153	8	0.029	1.32	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B15151-B15152	4139	168	8	0.017	1.03	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.06
B15152.A0-B15152	7112	52	6	0.002	0.16	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.08
B15152-B15155	6716	283	8	0.019	1.09	0.01	0.07	0.01	0.10	0.01	0.08	0.01	0.10
B15153-B15156	6699	189	8	0.028	1.30	0.01	0.11	0.03	0.17	0.01	0.11	0.03	0.16
B15154-B15155	3287	84	8	0.004	0.47	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.07
B15155-B15156	6682	85	8	0.005	0.53	0.01	0.12	0.02	0.18	0.01	0.13	0.02	0.17
B15156-B15157	4845	362	8	0.004	0.50	0.02	0.12	0.05	0.19	0.02	0.13	0.05	0.18
B15157-B15158	6282	234	8	0.028	1.31	0.02	0.12	0.06	0.18	0.03	0.13	0.05	0.18
B15158-B15159	6672	98	8	0.057	1.86	0.08	0.21	0.20	0.34	0.10	0.23	0.20	0.33
B15159-B15162	555	95	8	0.004	0.50	0.08	0.26	0.21	0.44	0.10	0.30	0.20	0.43
B15160-B15161	6656	325	8	0.008	0.70	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
B15161-B15162	6149	80	8	0.004	0.50	0.00	0.15	0.01	0.25	0.00	0.17	0.01	0.25
B15162-B15163	554	346	8	0.005	0.58	0.08	0.27	0.21	0.44	0.10	0.30	0.21	0.44
B15163-B15175	786	340	8	0.004	0.49	0.08	0.29	0.22	0.49	0.10	0.33	0.22	0.49
B15164-B15144	553	180	8	0.061	1.92	0.01	0.08	0.01	0.12	0.01	0.09	0.01	0.12
B15165-B15164	552	335	8	0.045	1.66	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
B15166-B15165	551	270	8	0.014	0.92	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B15166-B15167	785	230	8	0.034	1.45	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B15167-B15172	784	335	8	0.073	2.12	0.00	0.06	0.01	0.08	0.01	0.06	0.01	0.08
B15168-B15169	783	176	8	0.005	0.55	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
B15169-B15170	782	269	8	0.005	0.56	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
B15170-B15171	781	314	8	0.019	1.07	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
B15171-B15172	780	140	8	0.045	1.65	0.01	0.07	0.02	0.10	0.01	0.07	0.02	0.09
B15172-B15173	779	177	8	0.027	1.28	0.01	0.06	0.03	0.09	0.02	0.07	0.03	0.09
B15173-B15174	778	50	8	0.384	4.84	0.02	0.05	0.04	0.07	0.02	0.05	0.03	0.07
B15174-B15175	777	39	8	0.095	2.41	0.02	0.18	0.04	0.30	0.02	0.20	0.04	0.30
B15175-B15176	776	104	8	0.004	0.49	0.10	0.31	0.26	0.53	0.12	0.35	0.26	0.52
B15176-B15201	1509	183	8	0.004	0.49	0.10	0.26	0.26	0.43	0.12	0.29	0.26	0.43
B15177-B15179	774	306	8	0.071	2.07	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B15178-B15179	773	225	8	0.040	1.56	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
B15179-B15180	772	197	8	0.092	2.37	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.06
B15180-B15182	771	125	8	0.055	1.83	0.01	0.05	0.01	0.07	0.01	0.05	0.02	0.07
B15181-B15182	2334	7	8	0.002	0.35	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
B15182-B15183	770	212	8	0.048	1.71	0.01	0.06	0.02	0.09	0.01	0.07	0.02	0.09
B15183.A0-B15183	2333	6	8	0.002	0.35	0.00	0.06	0.00	0.09	0.00	0.07	0.00	0.09
B15183-B15185	769	349	8	0.016	0.99	0.01	0.07	0.02	0.10	0.01	0.08	0.02	0.10
B15184-B15185	2332	6	8	0.002	0.35	0.00	0.06	0.00	0.10	0.00	0.07	0.00	0.10
B15185-B15199	3291	350	8	0.022	1.16	0.01	0.09	0.03	0.14	0.02	0.10	0.03	0.14
B15186.A0-B15186	767	99	8	0.030	1.34	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B15186-B15187	768	212	8	0.035	1.46	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
B15187-B15188	766	51	8	0.035	1.47	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
B15188-B15189	765	52	8	0.037	1.49	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
B15189-B15191	764	235	8	0.026	1.25	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.08
B15190-B15191	763	145	8	0.046	1.67	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
B15191-B15193	760	375	8	0.013	0.90	0.01	0.08	0.02	0.12	0.01	0.09	0.02	0.11
B15192-B15193	759	230	8	0.047	1.69	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.08
B15193-B15196	1515	184	8	0.008	0.72	0.01	0.10	0.03	0.15	0.02	0.11	0.03	0.14
B15194-B15195	1517	208	8	0.037	1.50	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B15195-B15196	1516	188	8	0.037	1.49	0.00	0.07	0.01	0.10	0.00	0.08	0.01	0.10
B15196-B15197	1514	101	8	0.013	0.90	0.02	0.08	0.04	0.12	0.02	0.08	0.04	0.11
B15197-B15198	1513	68	8	0.249	3.90	0.02	0.06	0.04	0.09	0.02	0.07	0.04	0.09
B15198-B15199	1512	139	8	0.048	1.71	0.02	0.09	0.04	0.14	0.02	0.10	0.04	0.14
B15199-B15200	1511	349	8	0.022	1.16	0.03	0.14	0.08	0.21	0.04	0.15	0.07	0.21
B15200-B15201	1510	111	8	0.006	0.60	0.03	0.18	0.08	0.29	0.04	0.20	0.08	0.28
B15201-B15202	1508	355	8	0.040	1.56	0.13	0.19	0.35	0.31	0.16	0.21	0.34	0.31
B15202-B15215	841	383	8	0.052	1.77	0.13	0.20	0.35	0.32	0.16	0.22	0.34	0.32
B15203-B15204	5282	115	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
B15204-B15207	1472	265	8	0.010	0.78	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
B15205-B15206	6555	203	8	0.029	1.34	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B15206-B15207	6538	119	8	0.023	1.19	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
B15207-B15208	1471	186	8	0.023	1.18	0.00	0.05	0.01	0.08	0.01	0.06	0.01	0.08
B15208.A0-B15208	3288	101	8	0.034	1.45	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
B15208-B15209	286	258	8	0.023	1.18	0.01	0.07	0.02	0.11	0.01	0.07	0.02	0.10
B15209-B15210	1470	135	8	0.007	0.65	0.01	0.08	0.02	0.13	0.01	0.09	0.02	0.13
B15210-B15213	1467	245	8	0.010	0.78	0.01	0.07	0.03	0.12	0.01	0.08	0.02	0.11
B15211-B15212	1469	385	8	0.025	1.23	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B15212-B15213	1468	135	8	0.016	0.98	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.08
B15213-B15214	843	162	8	0.048	1.72	0.01	0.06	0.04	0.10	0.02	0.07	0.04	0.10
B15214-B15215	842	159	8	0.090	2.35	0.01	0.13	0.04	0.22	0.02	0.15	0.04	0.21
B15215.A0-B15216	839	344	10	0.013	1.63	0.15	0.23	0.40	0.38	0.18	0.25	0.39	0.37
B15215-B15215.A0	840	113	8	0.040	1.56	0.15	0.23	0.40	0.38	0.18	0.26	0.39	0.38
B15216-B15217	838	296	10	0.006	1.09	0.15	0.25	0.40	0.42	0.18	0.28	0.39	0.42
B15217-B15238	1463	147	10	0.006	1.09	0.15	0.27	0.41	0.45	0.18	0.31	0.40	0.45
B15218-B15219	837	159	8	0.100	2.47	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B15219-B15220	836	237	8	0.065	1.98	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B15220-B15221	834	77	8	0.058	1.88	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
B15221-B15222	833	61	8	0.029	1.33	0.00	0.04	0.01	0.06	0.01	0.04	0.01	0.06
B15222-B15223	832	78	8	0.040	1.57	0.00	0.04	0.01	0.06	0.01	0.04	0.01	0.06
B15223-B15224	831	386	8	0.046	1.68	0.01	0.05	0.01	0.08	0.01	0.06	0.01	0.07
B15224-B15235	749	69	8	0.021	1.13	0.01	0.09	0.02	0.12	0.01	0.12	0.02	0.13
B15225-B15226	830	34	8	0.007	0.67	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B15226-B15227	372	154	8	0.008	0.70	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B15227-B15228	371	234	8	0.033	1.42	0.00	0.08	0.00	0.08	0.00	0.10	0.00	0.10
B15228-B15229	370	344	8	0.042	1.61	0.05	0.11	0.05	0.12	0.09	0.15	0.09	0.15
B15229-B15230	369	97	8	0.108	2.57	0.05	0.10	0.06	0.10	0.10	0.13	0.10	0.13
B15230-B15233	367	123	8	0.111	2.60	0.05	0.10	0.06	0.11	0.10	0.14	0.10	0.14
B15231-B15232	368	219	8	0.090	2.35	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
B15232-B15233.A0	3289	244	8	0.161	3.13	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B15233.A0-B15233	3290	57	8	0.039	1.55	0.00	0.07	0.01	0.08	0.00	0.09	0.01	0.09
B15233-B15234	366	75	8	0.073	2.12	0.05	0.12	0.07	0.14	0.10	0.17	0.10	0.17
B15234-B15235	750	122	8	0.028	1.30	0.05	0.13	0.07	0.15	0.10	0.18	0.10	0.18
B15235-B15236	1466	38	8	0.054	1.82	0.06	0.13	0.09	0.16	0.11	0.17	0.12	0.18
B15236-B15237	1465	165	8	0.043	1.62	0.06	0.15	0.09	0.18	0.11	0.20	0.12	0.21
B15237-B15238	1464	129	8	0.019	1.06	0.06	0.27	0.09	0.40	0.11	0.33	0.12	0.41
B15238-B15239	1462	296	10	0.006	1.10	0.21	0.32	0.50	0.50	0.29	0.38	0.52	0.51
B15239-B15240	1461	241	10	0.006	1.10	0.25	0.27	0.54	0.41	0.35	0.32	0.56	0.42
B15240-B15241	1460	105	10	0.045	2.99	0.25	0.21	0.55	0.32	0.35	0.25	0.57	0.32
B15241-B15242	1459	225	10	0.027	2.34	0.25	0.20	0.55	0.30	0.35	0.24	0.57	0.31
B15242-B15243	1458	64	10	0.065	3.62	0.25	0.24	0.55	0.35	0.35	0.28	0.57	0.36
B15243-V33136	2984	119	12	0.031	4.08	0.54	0.29	1.14	0.43	0.76	0.34	1.19	0.44
B15244-B15245	1457	249	8	0.017	1.03	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B15245-B15246	1456	75	8	0.041	1.58	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B15246-B15247	1455	245	8	0.040	1.57	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B15247-B15251	1451	382	8	0.075	2.15	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B15248-B15250	1454	228	8	0.133	2.85	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B15249-B15250	1453	195	8	0.075	2.14	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B15250-B15251	1452	85	8	0.087	2.31	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B15252-B15253	1450	276	8	0.024	1.22	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
B15253-B15254	1449	384	8	0.004	0.49	0.00	0.07	0.01	0.09	0.00	0.06	0.01	0.08
B15254-B15257	1446	95	8	0.010	0.76	0.01	0.07	0.01	0.10	0.00	0.06	0.01	0.09
B15255-B15256	1448	176	8	0.107	2.56	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B15256-B15257	1447	116	8	0.107	2.55	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.06
B15257-B15259	1445	362	8	0.018	1.04	0.01	0.08	0.02	0.11	0.01	0.07	0.02	0.10
B15258-B15259	1444	359	8	0.022	1.15	0.00	0.05	0.00	0.08	0.00	0.05	0.00	0.07
B15259-B15260	1195	197	8	0.013	0.88	0.01	0.10	0.03	0.17	0.01	0.11	0.03	0.18
B15260-B15251	1196	331	8	0.040	1.56	0.00	0.08	0.02	0.15	0.00	0.09	0.02	0.16
B15260-B15263	2114	463	8	0.007	0.65	0.02	0.10	0.06	0.18	0.03	0.12	0.07	0.19
B15261-B15262	1194	157	8	0.034	1.44	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B15262-B15263	1193	80	8	0.062	1.94	0.00	0.05	0.00	0.08	0.00	0.05	0.00	0.09
B15263-B15267	2115	112	8	0.046	1.68	0.02	0.08	0.07	0.14	0.03	0.10	0.08	0.15
B15264-B15265	1192	190	8	0.097	2.43	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
B15265-B15266	1191	193	8	0.112	2.62	0.00	0.01	0.00	0.03	0.01	0.05	0.01	0.05
B15266-B15267	1189	188	8	0.059	1.91	0.00	0.05	0.01	0.09	0.01	0.08	0.01	0.11
B15267-B15270	1185	239	8	0.046	1.67	0.02	0.08	0.08	0.16	0.04	0.11	0.09	0.18
B15268-B15269	1187	226	8	0.037	1.50	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B15269-B15270	1186	96	8	0.122	2.73	0.00	0.06	0.01	0.10	0.00	0.07	0.00	0.11
B15270-B15278	1396	426	8	0.029	1.33	0.02	0.12	0.09	0.22	0.04	0.14	0.10	0.24
B15271-B15272	1184	312	8	0.041	1.57	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
B15272-B15273	1181	129	8	0.072	2.09	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.04
B15273-B15275	1188	165	8	0.071	2.08	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
B15274-B15275	1180	96	8	0.010	0.78	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B15275-B15277	1399	130	8	0.052	1.78	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
B15276.A0-B15276	2986	243	8	0.039	1.55	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B15276-B15277	1400	299	8	0.073	2.11	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
B15277-B15278	1397	241	8	0.044	1.64	0.01	0.10	0.02	0.18	0.01	0.11	0.02	0.18
B15278-B15279	1395	469	8	0.012	0.85	0.03	0.12	0.12	0.22	0.05	0.14	0.13	0.23
B15279-B15280	1394	342	8	0.067	2.03	0.03	0.09	0.12	0.17	0.05	0.11	0.14	0.18
B15280-B15297	180	267	8	0.055	1.84	0.03	0.16	0.13	0.29	0.05	0.17	0.14	0.30
B15282-B15283	1392	159	8	0.013	0.88	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B15283-B15284	1391	55	8	0.022	1.16	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B15284-B15281	1390	158	8	0.084	2.27	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B15284-B15285	1389	153	8	0.044	1.64	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
B15285-B15286	1388	269	8	0.030	1.35	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
B15286-B15287	1387	386	8	0.027	1.28	0.01	0.09	0.02	0.13	0.01	0.09	0.02	0.12
B15287-B15288	1386	396	8	0.005	0.53	0.01	0.09	0.03	0.12	0.01	0.09	0.02	0.11
B15288-B15294	1380	159	8	0.177	3.29	0.02	0.52	0.03	0.54	0.02	0.53	0.03	0.53
B15289-B15290	1385	241	8	0.025	1.23	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.04
B15290-B15293	1382	373	8	0.030	1.35	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
B15291-B15292	1384	200	8	0.020	1.11	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
B15292-B15293	1383	276	8	0.016	0.99	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
B15293-B15294	1381	230	8	0.168	3.20	0.01	0.52	0.02	0.53	0.01	0.52	0.02	0.53
B15294-B15295	1379	144	8	0.139	2.91	0.03	0.55	0.06	0.58	0.03	0.55	0.06	0.57
B15295-B15296	1378	154	8	0.024	1.21	0.03	0.11	0.06	0.16	0.03	0.11	0.06	0.16
B15296-B15297	1377	56	8	0.019	1.09	0.03	0.17	0.07	0.29	0.03	0.18	0.06	0.29
B15297-B15298	1376	362	8	0.007	0.65	0.07	0.19	0.20	0.33	0.07	0.20	0.21	0.34

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B15298-B15299	1375	300	15	0.013	4.81	0.07	0.09	0.20	0.15	0.07	0.09	0.21	0.15
B15299-B15303	1374	296	15	0.010	4.18	0.07	0.08	0.21	0.15	0.07	0.09	0.22	0.15
B15300-B15301	1371	150	8	0.007	0.65	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
B15301-B15302	1372	80	8	0.011	0.81	0.01	0.08	0.02	0.13	0.01	0.08	0.02	0.12
B15302-B15303	1373	258	8	0.008	0.69	0.01	0.12	0.03	0.19	0.01	0.12	0.02	0.19
B15303-B15304	1341	306	15	0.025	6.59	0.08	0.07	0.25	0.13	0.08	0.08	0.25	0.13
B15304-B15329	1340	294	15	0.041	8.43	0.08	0.08	0.25	0.14	0.08	0.08	0.26	0.14
B15305-B15301	1723	235	8	0.021	1.12	0.01	0.07	0.02	0.10	0.01	0.07	0.02	0.10
B15306-B15305	1370	264	8	0.013	0.90	0.01	0.06	0.01	0.09	0.01	0.06	0.01	0.08
B15307-B15306	1369	226	8	0.095	2.41	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
B15308-B15307	1368	281	8	0.075	2.14	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15309-B15308	1367	139	8	0.118	2.68	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B15310.A0-B15312	1360	197	8	0.114	2.64	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
B15310-B15310.A0	1356	210	8	0.000	0.02	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
B15311-B15312	1359	209	8	0.024	1.22	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B15312-B15313	1361	221	8	0.118	2.69	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
B15313-B15318	1366	185	8	0.080	2.21	0.00	0.04	0.01	0.07	0.01	0.05	0.01	0.07
B15314-B15315	1357	338	8	0.032	1.39	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B15315-B15316	1362	201	8	0.061	1.93	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B15316-B15317	1363	274	8	0.029	1.32	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
B15317-B15318	1365	199	8	0.071	2.09	0.01	0.05	0.02	0.07	0.01	0.05	0.01	0.07
B15318-B15329	1339	220	8	0.078	2.18	0.01	0.11	0.03	0.19	0.01	0.12	0.03	0.20
B15319-B15320	1355	299	8	0.090	2.34	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B15320-B15321	1354	293	8	0.050	1.75	0.00	0.03	0.00	0.06	0.00	0.05	0.01	0.07
B15321-B15322	1338	173	8	0.012	0.87	0.00	0.03	0.01	0.06	0.01	0.04	0.01	0.06
B15322-B15326	1769	52	8	0.466	5.33	0.00	0.02	0.01	0.04	0.01	0.03	0.01	0.05
B15323-B15324	1353	305	8	0.020	1.11	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B15324-B15325	1352	437	8	0.020	1.10	0.00	0.02	0.00	0.05	0.00	0.03	0.00	0.05
B15325-B15326	178	270	8	0.084	2.26	0.00	0.02	0.01	0.05	0.00	0.03	0.01	0.05
B15326-B15327	1724	119	8	0.318	4.40	0.00	0.03	0.02	0.06	0.01	0.04	0.03	0.06
B15327-B15328.C0	2997	21	8	0.119	2.70	0.00	0.03	0.03	0.07	0.01	0.04	0.03	0.07
B15328.A0-B15328.B0	2988	269	8	0.051	1.77	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15328.B0-B15328.D0	2998	172	8	0.012	0.86	0.00	0.04	0.01	0.07	0.00	0.04	0.00	0.06
B15328.C0-B15328.D0	2996	33	8	0.007	0.67	0.00	0.05	0.03	0.11	0.01	0.07	0.03	0.11
B15328.D0-B15328.H0	2995	101	8	0.158	3.10	0.01	0.04	0.03	0.09	0.01	0.05	0.04	0.09
B15328.E0-B15328.F0	2989	220	8	0.008	0.71	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B15328.F0-B15328.G0	2991	136	8	0.009	0.75	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
B15328.G0-B15328.H0	2992	70	8	0.013	0.89	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.08
B15328.H0-B15328.I0	2994	95	8	0.074	2.13	0.01	0.05	0.04	0.09	0.01	0.06	0.04	0.09
B15328.I0-B15328	2993	64	8	0.132	2.84	0.01	0.07	0.04	0.15	0.01	0.08	0.04	0.15
B15328-B15329	1337	96	8	0.004	0.49	0.01	0.14	0.05	0.25	0.01	0.15	0.05	0.26
B15329-B15330	1336	498	15	0.024	6.45	0.10	0.08	0.34	0.15	0.11	0.09	0.34	0.15
B15330-V33169	2999	94	15	0.056	9.90	0.10	0.07	0.35	0.13	0.11	0.08	0.35	0.13
Splitted conduit	CDT-22	22	8	0.020	1.11	0.21	0.28	0.55	0.48	0.59	0.50	0.80	0.60
V01001-V01002	2892	348	8	0.025	1.24	0.01	0.08	0.01	0.08	0.01	0.10	0.01	0.10
V01002-V01003	2891	197	8	0.005	0.55	0.01	0.09	0.01	0.11	0.02	0.12	0.02	0.12
V01003.A0-V01004	2889	93	8	0.000	0.03	0.01	0.16	0.02	0.19	0.02	0.19	0.02	0.20
V01003-V01003.A0	2890	133	8	0.009	0.73	0.01	0.15	0.02	0.17	0.02	0.18	0.02	0.19
V01004-V01005	2888	50	8	0.007	0.63	0.02	0.15	0.03	0.17	0.02	0.15	0.03	0.17
V01005-V01006	2887	163	8	0.002	0.36	0.02	0.15	0.03	0.18	0.02	0.16	0.03	0.17
V01006-V01007	2886	190	8	0.007	0.67	0.02	0.13	0.03	0.15	0.02	0.13	0.03	0.15
V01007-V01023	2885	204	8	0.007	0.65	0.02	0.22	0.03	0.28	0.03	0.23	0.03	0.27
V01008-V01010	3371	126	8	0.033	1.42	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V01009-V01010	2058	210	8	0.006	0.60	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V01010-V01011	2057	184	8	0.031	1.38	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.04
V01011-V01014	3369	311	8	0.043	1.62	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
V01012-V01014	3370	217	6	0.011	0.38	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.06
V01013-V01014	3127	367	8	0.002	0.39	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V01014-V01015	2031	372	8	0.039	1.55	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.07
V01015-V01016.K0	2056	221	8	0.065	2.00	0.01	0.12	0.02	0.18	0.01	0.12	0.02	0.17
V01016.A0-V01016.D0	3130	114	8	0.057	1.86	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
V01016.AA-V01016.AB	3124	101	8	0.034	1.45	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V01016.AB-V01016.A0	3128	171	8	0.021	1.14	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V01016.B0-V01016.C0	3126	239	8	0.054	1.81	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V01016.C0-V01016.D0	3125	301	8	0.041	1.58	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V01016.D0-V01016.E0	3129	342	8	0.037	1.50	0.01	0.06	0.01	0.10	0.01	0.06	0.01	0.09
V01016.E0-V01016.G0	3131	44	8	0.005	0.54	0.01	0.08	0.02	0.13	0.01	0.08	0.02	0.12
V01016.F0-V01016.G0	3132	278	8	0.069	2.06	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.07
V01016.G0-V01016.H0	3133	185	8	0.006	0.61	0.01	0.09	0.02	0.14	0.01	0.09	0.02	0.14
V01016.H0-V01016.I0	2030	360	8	0.003	0.42	0.01	0.12	0.02	0.17	0.01	0.11	0.02	0.16
V01016.I0-V01016.J0	3487	354	8	0.005	0.56	0.03	0.16	0.04	0.20	0.02	0.13	0.03	0.17
V01016.J0-V01016.K0	3486	351	8	0.005	0.56	0.03	0.19	0.05	0.25	0.02	0.16	0.04	0.22
V01016.K0-V01016	3359	155	8	0.004	0.49	0.04	0.16	0.08	0.23	0.03	0.14	0.07	0.20
V01016-V01017	2048	327	8	0.034	1.45	0.04	0.12	0.08	0.17	0.03	0.11	0.07	0.16
V01017-V01019	2035	316	8	0.029	1.32	0.04	0.12	0.09	0.17	0.04	0.13	0.08	0.17
V01018-V01019	2045	304	6	0.006	0.27	0.01	0.58	0.01	0.61	0.02	0.59	0.02	0.62
V01019-V01020	2044	237	8	0.040	1.57	0.05	0.12	0.10	0.17	0.06	0.14	0.10	0.17
V01020-V01021.C0	3360	25	8	0.044	1.63	0.05	0.13	0.10	0.18	0.07	0.15	0.11	0.18
V01021.A0-V01021.B0	3374	77	8	0.005	0.57	0.00	0.04	-	0.04	0.00	0.05	0.00	0.05
V01021.B0-V01021.C0	3373	300	8	0.005	0.55	0.01	0.11	0.01	0.14	0.01	0.12	0.01	0.14
V01021.C0-V01021	3375	190	8	0.039	1.55	0.06	0.14	0.12	0.19	0.08	0.17	0.12	0.20
V01021-V01022	3379	282	8	0.038	1.53	0.06	0.13	0.12	0.18	0.10	0.17	0.14	0.19
V01022-V01023	2884	219	8	0.066	2.00	0.07	0.21	0.13	0.28	0.10	0.24	0.14	0.29
V01023-V01024	2883	306	8	0.004	0.51	0.10	0.31	0.17	0.41	0.11	0.32	0.18	0.41
V01024-V01050	2882	327	8	0.004	0.48	0.10	0.35	0.18	0.54	0.11	0.40	0.18	0.56
V01028.A0-V01028	7605	35	8	1.471	9.47	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V01028-V01030	2053	108	8	0.037	1.50	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V01029-V01030	2047	344	8	0.080	2.21	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V01030.A0-V01030.B0	1704	249	8	0.098	2.45	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V01030.B0-V01030.C0	1705	324	8	0.055	1.84	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V01030.C0-V01030.E0	1706	223	8	0.011	0.82	0.01	0.06	0.01	0.08	0.00	0.05	0.01	0.06
V01030.E0-V01030.F0	1707	257	8	0.051	1.76	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.05
V01030.F0-V01030	1708	32	8	0.156	3.08	0.01	0.05	0.02	0.07	0.01	0.05	0.01	0.07
V01030-V01031	2052	192	8	0.031	1.38	0.01	0.07	0.03	0.10	0.01	0.07	0.02	0.09
V01031-V01034	2050	201	8	0.022	1.16	0.01	0.07	0.03	0.11	0.01	0.08	0.02	0.11
V01032-V01033	2046	200	6	0.053	0.84	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V01033-V01034	2049	260	6	0.081	1.03	0.00	0.06	0.00	0.09	0.00	0.08	0.00	0.10
V01034-V01035	2034	187	8	0.027	1.29	0.01	0.08	0.03	0.12	0.02	0.09	0.03	0.12
V01035-V01036	2043	196	8	0.022	1.15	0.02	0.10	0.04	0.14	0.02	0.11	0.04	0.14
V01036-V01037	2042	217	8	0.010	0.80	0.02	0.13	0.04	0.20	0.03	0.16	0.04	0.20
V01037-V01041	2041	66	8	0.003	0.40	0.02	0.15	0.04	0.21	0.03	0.18	0.05	0.22
V01038-V01039	2055	171	8	0.083	2.25	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V01039-V01040	2033	222	8	0.070	2.06	0.02	0.08	0.02	0.09	0.02	0.10	0.02	0.10
V01040-V01041	2040	240	8	0.023	1.18	0.03	0.12	0.03	0.14	0.04	0.15	0.04	0.15
V01041-V01042	3484	295	8	0.021	1.14	0.05	0.15	0.08	0.20	0.07	0.19	0.09	0.21
V01042-V01045	3485	281	8	0.011	0.81	0.05	0.18	0.08	0.23	0.08	0.21	0.09	0.24
V01043-V01044	2039	277	8	0.020	1.11	0.02	0.08	0.02	0.09	0.00	0.05	0.00	0.05

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V01044-V01045	2038	212	8	0.020	1.09	0.02	0.14	0.02	0.17	0.00	0.12	0.01	0.15
V01045-V01046	2037	48	8	0.011	0.82	0.07	0.20	0.10	0.25	0.08	0.22	0.11	0.25
V01046-V01048	2036	227	8	0.008	0.70	0.07	0.23	0.11	0.29	0.08	0.26	0.11	0.29
V01047-V01048.E0	3362	99	8	0.052	1.77	0.01	0.06	0.01	0.06	0.00	0.06	0.00	0.06
V01048.A0-V01048.B0	3367	91	8	0.045	1.66	0.01	0.06	0.01	0.06	0.02	0.07	0.02	0.07
V01048.B0-V01048.C0	3366	81	8	0.078	2.19	0.01	0.05	0.01	0.05	0.02	0.06	0.02	0.06
V01048.C0-V01048.D0	3365	60	8	0.126	2.77	0.01	0.13	0.01	0.14	0.02	0.16	0.02	0.16
V01048.D0-V01048.E0	3364	51	8	0.000	0.03	0.01	0.14	0.01	0.15	0.02	0.18	0.02	0.18
V01048.E0-V01048	3368	45	8	0.063	1.96	0.02	0.16	0.02	0.19	0.03	0.19	0.03	0.20
V01048-V01049	2032	281	8	0.009	0.74	0.09	0.20	0.13	0.24	0.12	0.23	0.14	0.25
V01049-V01050	3378	264	8	0.065	2.00	0.09	0.27	0.14	0.42	0.12	0.33	0.15	0.44
V01052-V01056	2881	174	10	0.010	1.42	0.75	0.43	1.50	0.72	1.05	0.52	1.60	0.73
V01053-V01054	3382	192	8	0.008	0.69	0.00	0.03	-	0.03	0.00	0.04	0.00	0.05
V01054-V01055	3381	203	8	0.008	0.70	0.00	0.04	0.00	0.05	0.00	0.05	0.01	0.06
V01055.A0-V01055	4033	22	8	0.002	0.35	0.00	0.02	-	0.02	0.00	0.05	0.00	0.05
V01055-V01056	3380	111	8	0.058	1.88	0.00	0.21	0.01	0.30	0.01	0.24	0.01	0.31
V01056-V01061	7553	190	10	0.072	3.81	0.76	0.40	1.51	0.57	1.05	0.48	1.61	0.59
V01061-V32153	7335	373	24	0.004	9.00	0.81	0.20	1.64	0.29	1.20	0.25	1.80	0.30
V01062-V32175	7026	313	36	0.012	46.67	6.67	0.31	13.66	0.46	11.80	0.43	16.30	0.52
V02001-V02002	3383	37	8	0.019	1.08	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V02002-V02003	2673	338	8	0.009	0.72	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V02003-V02006	2674	338	8	0.022	1.15	0.01	0.07	0.01	0.10	0.01	0.08	0.01	0.10
V02004-V02005	2681	184	6	0.003	0.20	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V02005-V02006	2660	360	6	0.048	0.79	0.00	0.08	0.00	0.11	0.00	0.10	0.01	0.12
V02006-V02008	2661	180	8	0.006	0.61	0.01	0.07	0.02	0.10	0.01	0.08	0.02	0.10
V02008-V02011	2662	273	8	0.105	2.53	0.01	0.07	0.02	0.11	0.01	0.08	0.02	0.11
V02009-V02010	2668	333	8	0.052	1.79	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V02010-V02011	2670	323	8	0.098	2.45	0.00	0.07	0.01	0.10	0.00	0.07	0.01	0.09
V02011-V02014	2669	259	8	0.033	1.41	0.03	0.20	0.07	0.28	0.03	0.20	0.07	0.27
V02012.A0-V02012.B0	2893	356	8	0.034	1.44	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V02012.B0-V02012.C0	2897	102	8	0.108	2.57	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V02012.C0-V02012.E0	2895	168	8	0.080	2.21	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V02012.D0-V02012.E0	2894	266	8	0.077	2.16	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V02012.E0-V02012.H0	2896	215	8	0.043	1.62	0.01	0.06	0.01	0.09	0.01	0.06	0.01	0.08
V02012.F0-V02012.G0	2899	141	8	0.150	3.02	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V02012.G0-V02012.H0	2900	157	8	0.025	1.22	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.07
V02012.H0-V02012.L0	2898	151	8	0.010	0.78	0.01	0.07	0.02	0.10	0.01	0.07	0.02	0.10
V02012.I0-V02012.J0	2658	134	8	0.065	1.99	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V02012.J0-V02012.K0	2656	308	8	0.062	1.95	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V02012.K0-V02012.L0	2666	80	8	0.122	2.72	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.06
V02012.L0-V02012	V02012.L0-V02012	138	8	0.048	1.71	0.01	0.06	0.03	0.09	0.01	0.06	0.03	0.09
V02012.M0-V02012.N0	2657	187	6	0.045	0.77	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V02012.N0-V02012.O0	2901	300	6	0.062	0.90	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.05
V02012.O0-V02012.P0	2663	206	6	0.027	0.60	0.00	0.05	0.01	0.07	0.00	0.04	0.00	0.07
V02012.P0-V02012	2664	28	6	0.025	0.57	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.07
V02012-V02013	4034	113	8	0.099	2.45	0.02	0.53	0.04	0.54	0.02	0.53	0.04	0.54
V02013-V02011	2672	96	8	0.017	1.02	0.02	0.55	0.04	0.58	0.02	0.55	0.04	0.58
V02014-V02020.G0	V02014-V02020.G0	16	8	0.003	0.44	0.03	0.21	0.08	0.29	0.04	0.22	0.07	0.28
V02015-V02016	3393	195	8	0.007	0.65	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V02016-V02017	3391	350	8	0.050	1.75	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V02017-V02018	3386	257	8	0.093	2.38	0.01	0.03	0.01	0.04	0.01	0.03	0.01	0.04
V02018-V02019	3385	24	8	0.207	3.55	0.01	0.03	0.01	0.05	0.01	0.03	0.01	0.05
V02019-V02020	3387	51	8	0.073	2.11	0.01	0.10	0.01	0.15	0.01	0.10	0.01	0.15
V02020.A0-V02020.B0	2676	117	8	0.064	1.97	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V02020.B0-V02020.D0	2671	267	8	0.086	2.29	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V02020.C0-V02020.D0	2678	124	8	0.038	1.52	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V02020.D0-V02020	2679	274	8	0.088	2.31	0.00	0.09	0.01	0.15	0.00	0.10	0.01	0.14
V02020.E0-V02020.F0	V02020.E0-V02020.F0	286	8	0.100	2.47	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V02020.F0-V02020.G0	V02020.F0-V02020.G0	273	8	0.100	2.47	0.00	0.08	0.01	0.11	0.00	0.08	0.01	0.11
V02020.G0-V02020	V02020.G0-V02020	201	8	0.020	1.12	0.04	0.14	0.09	0.22	0.04	0.15	0.08	0.21
V02020-V02025.C0	3392	177	8	0.012	0.85	0.05	0.15	0.11	0.23	0.05	0.16	0.10	0.22
V02021-V02022	2682	341	6	0.050	0.81	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V02022-V02024	4035	129	8	0.052	1.77	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V02023-V02024	3397	88	6	0.065	0.92	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V02024-V02025.A0	3395	323	6	0.059	0.88	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.09
V02025.A0-V02025.B0	3390	124	6	0.024	0.56	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.09
V02025.B0-V02025.C0	3388	120	6	0.127	1.29	0.01	0.12	0.01	0.18	0.01	0.12	0.01	0.17
V02025.C0-V02025	3389	158	8	0.029	1.34	0.05	0.14	0.13	0.22	0.06	0.15	0.12	0.21
V02025-V02026	3396	183	8	0.022	1.16	0.05	0.16	0.13	0.24	0.06	0.17	0.12	0.24
V02026-V02028	3644	193	8	0.014	0.92	0.05	0.16	0.13	0.25	0.06	0.18	0.13	0.25
V02027-V02028	3641	52	6	0.104	1.17	0.00	0.11	0.00	0.17	0.00	0.14	0.00	0.18
V02028-V02031.D0	V02028-V02031.D0	162	8	0.017	1.03	0.05	0.16	0.13	0.25	0.07	0.18	0.13	0.24
V02029-V02030	3669	257	6	0.096	1.12	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V02030-V02031	3671	245	6	0.108	1.19	0.00	0.11	0.00	0.16	0.00	0.12	0.01	0.16
V02031.A0-V02031.B0	V02031.A0-V02031.B0	10	8	0.092	2.37	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.01
V02031.B0-V02031.C0	V02031.B0-V02031.C0	316	8	0.092	2.37	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V02031.C0-V02031.D0	V02031.C0-V02031.D0	292	8	0.092	2.37	0.00	0.09	0.01	0.14	0.00	0.10	0.01	0.14
V02031.D0-V02031	V02031.D0-V02031	155	8	0.020	1.11	0.06	0.15	0.14	0.23	0.07	0.16	0.14	0.23
V02031-V02032	3674	188	8	0.040	1.56	0.06	0.13	0.15	0.21	0.08	0.15	0.15	0.21
V02032-V02039	3666	192	8	0.039	1.55	0.06	0.15	0.15	0.24	0.08	0.17	0.15	0.23
V02033-V02037	3645	380	6	0.036	0.69	0.00	0.01	-	0.02	0.00	0.03	0.00	0.04
V02034-V02035	3647	24	6	0.021	0.52	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.05
V02035-V02037	8193	215	6	0.068	0.95	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V02037-V02039	3650	210	6	0.135	1.33	0.00	0.12	0.00	0.20	0.00	0.14	0.01	0.20
V02038-V02039	3659	50	6	0.104	1.17	0.00	0.12	0.00	0.18	0.00	0.14	0.00	0.18
V02039-V02040	3660	229	8	0.019	1.08	0.06	0.17	0.16	0.27	0.08	0.19	0.16	0.27
V02040-V02051	3661	226	8	0.015	0.97	0.06	0.21	0.16	0.34	0.09	0.24	0.17	0.34
V02041-V02042	3663	213	6	0.060	0.89	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V02042-V02043	3664	320	6	0.052	0.83	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V02043-V02045	3675	137	8	0.032	1.40	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V02044-V02045	3672	320	6	0.063	0.91	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V02045-V02050	3667	340	8	0.054	1.82	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
V02046-V02048	3670	228	6	0.090	1.09	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V02047-V02048	3658	128	8	0.039	1.54	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V02048-V02049	3673	272	8	0.043	1.62	0.00	0.03	0.00	0.04	0.00	0.04	0.01	0.05
V02049-V02050	3668	191	8	0.060	1.92	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V02050-V02051	3662	123	8	0.143	2.95	0.01	0.14	0.03	0.23	0.02	0.17	0.03	0.23
V02051-V02054	3665	152	8	0.008	0.70	0.08	0.18	0.20	0.29	0.10	0.21	0.20	0.29
V02052-V02053	3676	395	8	0.019	1.07	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V02053-V02054	3688	168	8	0.114	2.64	0.00	0.07	0.01	0.11	0.00	0.08	0.01	0.11
V02054-V02055	3689	21	8	0.120	2.70	0.08	0.25	0.21	0.38	0.11	0.29	0.21	0.39
V02055-V02057	3690	37	8	0.000	0.04	0.08	0.31	0.21	0.48	0.11	0.36	0.21	0.48
V02057-V02063	3692	219	8	0.008	0.70	0.08	0.24	0.21	0.39	0.11	0.28	0.21	0.39
V02058-V02062	8198	217	8	0.015	0.97	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.04
V02059-V02062	3651	321	6	0.073	0.98	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V02060-V02061	3655	241	6	0.074	0.99	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V02061-V02062	3652	136	6	0.078	1.01	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V02062.A0-V02062.C0	3656	271	8	0.030	1.36	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V02062.AA-V02062.AB	7054	145	8	0.034	1.44	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V02062.AB-V02062.AC	7055	159	8	0.013	0.88	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V02062.AC-V02062.AD	7056	133	8	0.059	1.90	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.04
V02062.AD-V02062.AE	7057	107	8	0.028	1.31	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V02062.AE-V02062.A0	7058	49	8	0.033	1.42	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V02062.B0-V02062.C0	3657	102	8	0.021	1.13	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V02062.C0-V02062	3653	262	8	0.067	2.02	0.01	0.05	0.02	0.07	0.01	0.05	0.01	0.07
V02062-V02063	3654	198	8	0.082	2.24	0.01	0.15	0.03	0.24	0.01	0.17	0.03	0.24
V02063-V02065	3683	124	8	0.008	0.71	0.09	0.25	0.24	0.41	0.13	0.29	0.24	0.41
V02064-V02065	3684	248	8	0.098	2.44	0.00	0.14	0.00	0.22	0.01	0.17	0.01	0.22
V02065-V02068	3686	291	8	0.008	0.70	0.10	0.25	0.25	0.40	0.13	0.29	0.25	0.40
V02066.A0-V02066.B0	3693	283	6	0.020	0.51	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V02066.B0-V02066.E0	3694	309	6	0.030	0.63	0.01	0.08	0.01	0.09	0.00	0.05	0.00	0.07
V02066.C0-V02066.D0	3704	279	6	0.020	0.52	0.01	0.08	0.01	0.09	0.00	0.03	0.00	0.04
V02066.D0-V02066.E0	3695	92	6	0.017	0.47	0.01	0.09	0.01	0.10	0.00	0.05	0.00	0.06
V02066.E0-V02066	3679	105	6	0.069	0.95	0.02	0.11	0.02	0.12	0.01	0.07	0.01	0.09
V02066-V02068	3680	179	8	0.017	1.02	0.02	0.17	0.02	0.25	0.01	0.17	0.01	0.23
V02067-V02068	3687	179	8	0.025	1.24	0.01	0.15	0.01	0.22	0.00	0.16	0.00	0.21
V02068-V02069	3682	195	8	0.016	0.98	0.12	0.22	0.28	0.33	0.15	0.24	0.27	0.32
V02069-V02070	3700	70	8	0.052	1.78	0.12	0.28	0.29	0.42	0.15	0.30	0.27	0.41
V02070-V02072	4036	86	8	0.003	0.41	0.12	0.30	0.29	0.46	0.15	0.34	0.27	0.45
V02071-V02072	3699	173	6	0.020	0.51	0.01	0.21	0.01	0.29	0.02	0.24	0.02	0.29
V02072-V02073	3701	183	8	0.023	1.18	0.14	0.24	0.31	0.36	0.18	0.27	0.30	0.35
V02073-V02075	3702	91	8	0.021	1.13	0.16	0.26	0.32	0.37	0.19	0.28	0.31	0.37
V02074-V02075	3703	209	6	0.023	0.55	0.00	0.17	-	0.25	0.00	0.20	0.00	0.25
V02075-V02077	3698	214	8	0.018	1.06	0.16	0.28	0.32	0.40	0.19	0.30	0.31	0.38
V02076-V02077	3705	200	6	0.006	0.27	0.03	0.32	0.03	0.39	0.03	0.32	0.03	0.36
V02077-V02079.A0	V02077-V02079.A0	115	8	0.019	1.09	0.22	0.32	0.39	0.44	0.23	0.34	0.34	0.41
V02078-V02079	3715	193	6	0.019	0.51	0.00	0.20	0.00	0.27	0.01	0.25	0.01	0.29
V02079.A0-V02079	V02079.A0-V02079	146	8	0.015	0.97	0.22	0.30	0.39	0.41	0.26	0.33	0.37	0.40
V02079-V02080	3716	281	8	0.031	1.37	0.22	0.31	0.39	0.42	0.27	0.34	0.38	0.41
V02086.A0-V02086	7812	143	8	0.050	1.74	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V02086-V02087.D0	3677	264	8	0.019	1.08	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V02087.A0-V02087.B0	3696	85	6	0.009	0.35	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V02087.B0-V02087.C0	3697	154	6	0.025	0.58	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V02087.C0-V02087.D0	3685	277	6	0.031	0.64	0.00	0.07	0.01	0.08	0.00	0.06	0.00	0.08
V02087.D0-V02087	3678	85	8	0.020	1.11	0.01	0.06	0.01	0.08	0.01	0.05	0.01	0.07
V02087-V02090	3681	321	8	0.020	1.11	0.01	0.06	0.01	0.08	0.01	0.08	0.01	0.10
V02088-V02089	3714	102	6	0.064	0.92	0.00	0.02	0.00	0.02	0.00	0.06	0.00	0.06
V02089-V02090	3713	350	6	0.058	0.88	0.00	0.05	0.00	0.07	0.01	0.11	0.01	0.11
V02090-V02091	3707	225	8	0.029	1.34	0.01	0.06	0.02	0.10	0.04	0.13	0.04	0.14
V02091-V02092	3708	346	8	0.019	1.07	0.01	0.06	0.02	0.10	0.05	0.13	0.05	0.14
V02092-V02106	3717	45	8	0.042	1.59	0.01	0.07	0.03	0.11	0.05	0.16	0.05	0.17
V02093-V02096	3720	336	8	0.014	0.94	0.02	0.13	0.04	0.18	0.07	0.22	0.08	0.24
V02094-V02095	3727	79	8	0.009	0.76	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.05
V02095-V02096	3725	349	8	0.011	0.80	0.00	0.08	0.00	0.12	0.00	0.15	0.01	0.16
V02106-V02093	3719	214	8	0.009	0.73	0.01	0.10	0.03	0.14	0.06	0.20	0.07	0.20
V03001-V03002	3929	244	8	0.007	0.64	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V03002-V03003	3927	349	8	0.007	0.65	0.00	0.13	0.00	0.17	0.00	0.13	0.00	0.16
V03003-V03009.AA	9	309	8	0.000	0.01	0.01	0.13	0.01	0.17	0.00	0.12	0.01	0.16
V03006-V03007.B0	8	252	8	0.074	2.12	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V03007.A0-V03008.A0	7699	189	8	0.020	1.10	0.00	0.05	0.01	0.08	0.01	0.07	0.01	0.08
V03007.AA-V03007.A0	7555	323	8	0.061	1.93	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V03007.B0-V03007.A0	7556	45	8	0.084	2.26	0.00	0.52	0.01	0.53	0.00	0.53	0.01	0.53
V03008.A0-V03009.A0	7700	172	8	0.007	0.65	0.00	0.07	0.01	0.11	0.01	0.09	0.01	0.11
V03009.A0-V03011.A0	7701	76	8	0.008	0.72	0.01	0.10	0.03	0.15	0.01	0.13	0.03	0.16
V03009.AA-V03009.A0	3903	42	8	0.105	2.53	0.01	0.06	0.01	0.09	0.01	0.07	0.01	0.09
V03011.A0-V03017.A0	7704	105	8	0.005	0.57	0.01	0.09	0.03	0.13	0.03	0.13	0.04	0.15
V03011.AA-V03011.A0	7703	98	8	0.036	1.48	0.00	0.07	0.00	0.11	0.01	0.12	0.01	0.13
V03011.AB-V03011.AA	7702	292	8	0.030	1.36	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
V03015-V03017	3905	325	6	0.050	0.81	0.00	0.10	0.00	0.15	0.00	0.13	0.00	0.15
V03016-V03017	3906	173	8	0.002	0.38	0.00	0.08	0.00	0.12	0.00	0.10	0.00	0.12
V03017.A0-V03017	7705	220	8	0.055	1.83	0.01	0.09	0.03	0.14	0.03	0.13	0.04	0.16
V03017-V03019	3907	320	8	0.005	0.55	0.02	0.13	0.04	0.21	0.03	0.18	0.05	0.22
V03018-V03019	3897	172	8	0.004	0.48	0.00	0.09	0.00	0.13	0.00	0.11	0.00	0.13
V03019-V03020	3861	344	8	0.004	0.49	0.02	0.14	0.05	0.22	0.04	0.18	0.06	0.23
V03020-V03049	3862	301	8	0.005	0.57	0.02	0.15	0.06	0.23	0.04	0.17	0.06	0.22
V03023.A0-V03023.B0	3935	247	8	0.008	0.69	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.04
V03023.B0-V03023.D0	3936	128	8	0.009	0.76	0.00	0.10	0.01	0.14	0.00	0.11	0.00	0.14
V03023.D0-V03023.G0	3921	195	8	0.004	0.48	0.02	0.16	0.05	0.24	0.03	0.16	0.05	0.22
V03023.E0-V03023.F0	3919	296	8	0.010	0.78	0.02	0.09	0.02	0.09	0.00	0.03	0.00	0.03
V03023.F0-V03023.G0	3920	60	8	0.192	3.42	0.02	0.12	0.02	0.15	0.00	0.09	0.00	0.12
V03023.G0-V03023.J0	3922	93	8	0.006	0.60	0.04	0.20	0.08	0.27	0.03	0.17	0.06	0.24
V03023.H0-V03023.I0	3923	50	8	0.012	0.84	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V03023.I0-V03023.J0	3924	111	8	0.138	2.90	0.00	0.12	0.00	0.16	0.00	0.11	0.00	0.14
V03023.J0-V03023	3925	148	8	0.003	0.45	0.04	0.21	0.08	0.29	0.03	0.18	0.06	0.25
V03023.K0-V03023.L0	3930	301	8	0.008	0.71	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V03023.L0-V03023	3931	58	8	0.240	3.82	0.00	0.11	0.01	0.15	0.00	0.10	0.00	0.13
V03023-V03041.D0	3918	242	8	0.005	0.56	0.05	0.20	0.09	0.27	0.04	0.17	0.07	0.23
V03025-V03026	3928	80	8	0.009	0.73	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
V03026-V03041.D0	3912	60	8	0.129	2.80	0.00	0.10	0.00	0.14	0.00	0.09	0.00	0.12
V03027-V03041.D0	3911	187	8	0.036	1.48	0.00	0.11	0.00	0.14	0.00	0.09	0.00	0.12
V03032.A0-V03032.B0	5951	137	8	0.031	1.38	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V03032.B0-V03032.C0	5953	96	8	0.083	2.25	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03032.C0-V03032	5952	335	8	0.029	1.33	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
V03032.D0-V03032	3926	102	6	0.067	0.94	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.06
V03032.DA-V03032.D0	962	62	8	0.060	1.91	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V03032-V03041.C0	7709	232	8	0.054	1.82	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.08
V03038-V03039	3859	172	6	0.043	0.75	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V03039-V03041	3855	236	6	0.010	0.36	0.00	0.16	0.00	0.22	0.00	0.14	0.00	0.20
V03040-V03041	3856	173	6	0.068	0.95	0.00	0.14	0.00	0.20	0.00	0.13	0.00	0.18
V03041.A0-V03041.B0	7710	330	8	0.040	1.55	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V03041.B0-V03041.C0	7711	283	8	0.021	1.13	0.00	0.05	0.01	0.08	0.00	0.06	0.00	0.07
V03041.C0-V03041.F0	7713	315	8	0.020	1.10	0.01	0.14	0.02	0.20	0.01	0.13	0.02	0.18
V03041.D0-V03041.E0	7714	77	8	0.007	0.67	0.05	0.19	0.10	0.26	0.04	0.16	0.08	0.23
V03041.E0-V03041.F0	7716	103	8	0.007	0.64	0.05	0.20	0.10	0.29	0.04	0.18	0.08	0.25
V03041.F0-V03041.H0	7715	88	8	0.007	0.65	0.06	0.21	0.13	0.30	0.05	0.19	0.10	0.26
V03041.G0-V03041.H0	7712	173	8	0.027	1.29	0.00	0.11	0.00	0.15	0.00	0.11	0.00	0.14
V03041.H0-V03041.I0	7717	60	8	0.011	0.80	0.07	0.16	0.13	0.23	0.05	0.15	0.11	0.21
V03041.I0-V03041	3858	267	8	0.069	2.05	0.07	0.16	0.13	0.22	0.05	0.14	0.11	0.20
V03041-V03048	3857	320	8	0.012	0.86	0.07	0.23	0.14	0.33	0.06	0.21	0.12	0.30
V03042-V03043	3854	223	8	0.082	2.24	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V03043-V03046	3851	249	8	0.102	2.50	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03044-V03045	3848	147	8	0.145	2.97	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
V03045-V03046	3849	350	8	0.073	2.11	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03046-V03047	3852	59	8	0.101	2.48	0.01	0.06	0.01	0.09	0.01	0.07	0.01	0.09

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V03047-V03048	3853	350	8	0.004	0.49	0.01	0.18	0.02	0.26	0.01	0.17	0.02	0.24
V03048-V03049	3863	47	8	0.004	0.48	0.08	0.22	0.17	0.31	0.07	0.21	0.14	0.29
V03049-V03054	3843	351	8	0.056	1.85	0.10	0.18	0.23	0.27	0.11	0.19	0.20	0.26
V03050-V03051	3847	110	8	0.062	1.95	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V03051-V03052	3842	185	8	0.046	1.67	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03052-V03053	3844	317	8	0.048	1.71	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.04
V03053-V03054	3845	29	8	0.488	5.46	0.00	0.11	0.01	0.17	0.00	0.12	0.01	0.16
V03054-V03055	3846	272	8	0.022	1.16	0.11	0.24	0.24	0.36	0.11	0.24	0.22	0.34
V03055-V03060	3836	173	8	0.010	0.77	0.11	0.23	0.25	0.34	0.11	0.23	0.22	0.33
V03056-V03058	3838	94	8	0.004	0.48	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03057-V03058	3833	88	8	0.004	0.49	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03058-V03059	3834	210	8	0.181	3.32	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03059-V03060	3837	153	8	0.065	1.99	0.00	0.11	0.01	0.16	0.00	0.11	0.01	0.15
V03060-V03061	3828	223	8	0.036	1.49	0.12	0.41	0.26	0.61	0.12	0.42	0.23	0.57
V03061-V03064	3829	162	8	0.000	0.02	0.12	0.46	0.26	0.69	0.12	0.47	0.23	0.65
V03062-V03063	3825	256	8	0.119	2.70	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V03063-V03064	3827	265	8	0.157	3.09	0.00	0.15	0.00	0.24	0.00	0.16	0.00	0.22
V03064-V03065	3830	211	8	0.007	0.66	0.12	0.33	0.27	0.50	0.12	0.33	0.24	0.47
V03065-V03072	3165	226	8	0.004	0.49	0.12	0.28	0.27	0.42	0.12	0.28	0.24	0.40
V03066-V03070	3172	260	8	0.004	0.47	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V03067-V03068	3826	231	8	0.119	2.70	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V03068-V03069	3832	176	8	0.011	0.82	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V03069-V03070	3173	265	8	0.010	0.78	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V03070-V03071.A0	3164	109	8	0.288	4.19	0.01	0.11	0.01	0.14	0.01	0.11	0.01	0.14
V03071.A0-V03071	5947	71	8	0.000	0.03	0.01	0.12	0.02	0.16	0.01	0.13	0.02	0.16
V03071-V03072	5954	101	8	0.027	1.29	0.01	0.13	0.02	0.19	0.01	0.13	0.02	0.18
V03072-V03073	3167	125	8	0.042	1.60	0.13	0.19	0.29	0.29	0.13	0.20	0.26	0.28
V03073-V03080	3170	124	8	0.041	1.58	0.13	0.60	0.29	0.65	0.14	0.60	0.26	0.64
V03074-V03076	3839	289	8	0.068	2.03	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03075-V03076	3841	211	8	0.023	1.19	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03076-V03077	3840	280	8	0.114	2.64	0.00	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V03077-V03080	3166	351	8	0.050	1.75	0.01	0.52	0.01	0.53	0.01	0.52	0.01	0.53
V03078-V03079	3162	254	8	0.004	0.49	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.04
V03079-V03080	3163	350	8	0.025	1.24	0.00	0.52	0.00	0.52	0.00	0.52	0.00	0.52
V03080-V03111	3171	160	8	0.011	0.83	0.14	0.62	0.32	0.68	0.15	0.62	0.29	0.67
V03081-V03082	3908	236	8	0.029	1.34	0.00	0.22	0.00	0.23	0.00	0.22	0.00	0.23
V03082-V03083	3899	298	8	0.001	0.23	0.00	0.23	0.00	0.24	0.00	0.23	0.00	0.24
V03083-V03086.B0	V03083-V03086.B0	300	8	0.057	1.86	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
V03085.A0-V03085	3904	185	8	0.031	1.37	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V03085-V03086	3894	311	8	0.059	1.90	0.00	0.05	0.01	0.06	0.00	0.05	0.01	0.06
V03086.A0-V03086.B0	V03086.A0-V03086.B0	99	8	0.015	0.95	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.06
V03086.B0-V03086.C0	V03086.B0-V03086.C0	65	8	0.007	0.66	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.08
V03086.C0-V03086	V03086.C0-V03086	300	8	0.066	2.01	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
V03086-V03088	3895	247	8	0.041	1.58	0.01	0.06	0.03	0.09	0.01	0.06	0.02	0.09
V03087-V03088	3896	36	6	0.002	0.16	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.08
V03088-V03096	3872	336	8	0.050	1.75	0.01	0.10	0.03	0.15	0.01	0.10	0.03	0.15
V03089.A0-V03089	3892	238	8	0.043	1.63	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V03089.AA-V03089.A0	V03089.AA-V03089.A0	2	8	0.037	1.50	0.00	0.01	-	0.01	0.00	0.02	0.00	0.02
V03089-V03090	4040	244	8	0.059	1.90	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03090-V03095	3873	184	8	0.048	1.71	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V03091-V03092	3866	102	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V03092-V03093	3864	293	8	0.075	2.14	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V03093-V03094	3868	183	8	0.011	0.84	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V03094-V03095.D0	3869	20	8	0.636	6.23	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.04
V03095.A0-V03095.B0	3865	351	8	0.085	2.28	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V03095.B0-V03095.C0	3880	120	8	0.004	0.50	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V03095.C0-V03095.D0	3871	59	8	0.005	0.56	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
V03095.D0-V03095	3870	164	8	0.074	2.12	0.01	0.06	0.02	0.09	0.01	0.06	0.02	0.08
V03095-V03096	3876	126	8	0.020	1.10	0.01	0.11	0.03	0.16	0.01	0.11	0.03	0.15
V03096-V03099	3877	281	8	0.011	0.83	0.03	0.10	0.07	0.15	0.03	0.10	0.06	0.14
V03097-V03098	3879	341	8	0.048	1.72	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03098-V03099	3874	232	8	0.076	2.16	0.00	0.04	0.01	0.06	0.00	0.05	0.01	0.06
V03099-V03100	3878	9	8	0.394	4.90	0.03	0.10	0.08	0.15	0.03	0.10	0.07	0.14
V03100-V03104	3875	299	8	0.012	0.86	0.03	0.14	0.08	0.21	0.03	0.14	0.07	0.20
V03101-V03102	3881	99	8	0.000	0.02	0.01	0.12	0.01	0.12	0.00	0.02	0.00	0.02
V03102-V03103	3882	318	8	0.086	2.29	0.01	0.06	0.01	0.07	0.00	0.03	0.00	0.04
V03103-V03104	3883	270	8	0.014	0.92	0.01	0.11	0.01	0.15	0.00	0.09	0.01	0.13
V03104-V03108	3884	287	8	0.013	0.89	0.05	0.18	0.10	0.26	0.04	0.17	0.08	0.24
V03105-V03106	3887	180	8	0.018	1.06	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03106-V03107	3891	61	8	0.130	2.82	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V03107-V03108	3890	291	8	0.013	0.89	0.00	0.12	0.00	0.17	0.00	0.12	0.01	0.16
V03108-V03109	3178	54	8	0.006	0.60	0.05	0.17	0.11	0.25	0.04	0.17	0.09	0.24
V03109-V03110	3176	180	8	0.019	1.06	0.05	0.15	0.11	0.22	0.05	0.14	0.09	0.20
V03110-V03111	3177	80	8	0.019	1.07	0.05	0.19	0.11	0.29	0.05	0.19	0.10	0.27
V03111-V03112	4039	70	8	0.040	1.56	0.19	0.26	0.43	0.39	0.19	0.26	0.39	0.37
V03112-V03113	3174	190	8	0.023	1.18	0.19	0.28	0.44	0.43	0.19	0.28	0.39	0.40
V03113-V03114	3175	179	8	0.020	1.09	0.19	0.31	0.44	0.48	0.19	0.31	0.39	0.45
V03114-V03115	3824	136	8	0.011	0.81	0.19	0.34	0.44	0.53	0.20	0.34	0.39	0.50
V03115-V03128	3154	217	8	0.010	0.78	0.19	0.38	0.44	0.64	0.20	0.40	0.40	0.59
V03116-V03117	3888	256	8	0.038	1.53	0.00	0.02	-	0.02	0.01	0.06	0.01	0.06
V03117.A0-V03117.B0	3886	184	8	0.036	1.48	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V03117.B0-V03117	3889	192	8	0.053	1.80	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V03117-V03118	3160	349	8	0.082	2.24	0.00	0.04	0.01	0.06	0.02	0.07	0.02	0.08
V03118.A0-V03118	7053	308	8	0.012	0.85	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.07
V03118-V03129	3159	215	8	0.037	1.51	0.01	0.25	0.02	0.42	0.02	0.28	0.03	0.42
V03121.A0-V03121	7669	239	8	0.045	1.65	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V03121.B0-V03121	3168	299	8	0.067	2.02	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.04
V03121-V03124	1965	279	8	0.064	1.98	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V03122-V03123	1964	223	8	0.066	2.01	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V03123-V03124	1966	221	8	0.079	2.19	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.06
V03124-V03125	1967	47	8	0.067	2.02	0.01	0.04	0.02	0.07	0.02	0.06	0.02	0.07
V03125-V03126	1962	150	8	0.064	1.97	0.01	0.06	0.02	0.09	0.02	0.09	0.02	0.11
V03126-V03127	3156	276	8	0.007	0.64	0.01	0.07	0.02	0.12	0.02	0.11	0.03	0.14
V03127-V03128	3157	69	8	0.007	0.63	0.01	0.25	0.02	0.43	0.02	0.28	0.03	0.41
V03128-V03129	3155	266	8	0.004	0.52	0.20	0.44	0.46	0.75	0.22	0.47	0.42	0.71
V03129-V03130	1945	347	8	0.005	0.58	0.21	0.34	0.49	0.57	0.24	0.37	0.46	0.55
V03130-V03131	1946	209	8	0.047	1.69	0.21	0.39	0.49	0.61	0.24	0.41	0.47	0.59
V03131-V03149	1947	61	8	0.000	0.03	0.21	0.39	0.49	0.60	0.24	0.42	0.47	0.59
V03138-V03137	1960	53	8	0.017	1.02	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V03138-V03139	1961	62	8	0.047	1.69	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
V03139-V03145	1948	157	8	0.079	2.19	0.00	0.07	0.00	0.09	0.01	0.10	0.01	0.10
V03140-V03141	3153	154	8	0.025	1.23	0.00	0.00	-	0.01	0.00	0.00	0.00	0.01
V03141-V03143	3158	37	8	0.028	1.32	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.03
V03142-V03143	7517	77	8	0.025	1.22	0.00	0.00	-	0.02	0.00	0.02	0.00	0.03
V03143-V03144	1963	130	8	0.008	0.70	0.00	0.04	0.00	0.07	0.00	0.02	0.00	0.04
V03144-V03145	1955	227	8	0.037	1.50	0.02	0.10	0.03	0.12	0.00	0.09	0.00	0.10
V03145-V03148	1956	173	8	0.010	0.78	0.03	0.34	0.03	0.40	0.04	0.37	0.04	0.41

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V03146-V03147	1943	270	8	0.044	1.65	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
V03147-V03148	1944	265	8	0.028	1.31	0.00	0.28	0.00	0.35	0.00	0.30	0.00	0.35
V03148-V03149	1906	75	8	0.003	0.40	0.03	0.39	0.04	0.51	0.04	0.42	0.05	0.51
V03149-V03150	1905	175	8	0.062	1.95	0.24	0.25	0.53	0.38	0.28	0.28	0.51	0.38
V03150-V03154.A0	1951	90	12	0.021	3.31	0.24	0.18	0.54	0.27	0.30	0.20	0.53	0.27
V03151-V03152	1957	129	8	0.017	1.02	0.00	0.02	0.00	0.02	0.01	0.05	0.01	0.05
V03152-V03153.C0	1958	136	8	0.127	2.78	0.00	0.10	0.00	0.13	0.01	0.14	0.01	0.15
V03153.A0-V03153.C0	1949	249	8	0.154	3.06	0.00	0.10	0.00	0.13	0.00	0.13	0.00	0.14
V03153.B0-V03153.C0	1959	141	8	0.136	2.88	0.00	0.09	0.00	0.12	0.00	0.13	0.00	0.14
V03153.C0-V03153	1950	217	8	0.000	0.09	0.00	0.11	0.01	0.16	0.01	0.17	0.01	0.19
V03153-V03154	1952	55	12	0.016	2.94	0.01	0.12	0.01	0.17	0.03	0.15	0.03	0.19
V03154.A0-V03154.B0	1953	99	12	0.020	3.29	0.24	0.18	0.54	0.27	0.30	0.20	0.53	0.27
V03154.B0-V03154	1954	30	12	0.023	3.48	0.24	0.19	0.54	0.28	0.30	0.21	0.53	0.28
V03154-V03155	3501	334	12	0.015	2.83	0.25	0.20	0.56	0.30	0.33	0.23	0.56	0.30
V03155-V03156	3496	76	12	0.016	2.90	0.25	0.20	0.57	0.30	0.33	0.23	0.57	0.30
V03156-V03157	3489	277	12	0.015	2.85	0.25	0.20	0.57	0.30	0.35	0.24	0.58	0.31
V03157-V03158	3490	236	12	0.015	2.84	0.26	0.21	0.58	0.31	0.36	0.24	0.59	0.31
V03158-V03161	3491	127	12	0.015	2.77	0.26	0.22	0.58	0.33	0.36	0.25	0.60	0.33
V03159-V03160	3141	182	8	0.018	1.06	0.00	0.00	-	0.02	0.00	0.01	0.00	0.02
V03160-V03161	3492	203	8	0.011	0.80	0.00	0.17	0.00	0.27	0.00	0.20	0.00	0.27
V03161-V03166.A0	3151	190	12	0.011	2.36	0.26	0.24	0.59	0.37	0.36	0.28	0.60	0.37
V03162.A0-V03162	3152	239	8	0.004	0.52	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03162-V03163	1942	362	8	0.016	0.98	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03163-V03164	3495	350	8	0.061	1.93	0.00	0.02	0.01	0.05	0.00	0.04	0.01	0.05
V03164-V03165	3488	351	8	0.065	1.99	0.00	0.02	0.01	0.05	0.01	0.05	0.02	0.06
V03165-V03166.A0	3493	146	8	0.084	2.26	0.00	0.20	0.01	0.32	0.01	0.25	0.02	0.33
V03166.A0-V03166	3150	160	12	0.006	1.84	0.26	0.26	0.60	0.42	0.37	0.32	0.62	0.43
V03166.B0-V03166	3149	413	8	0.006	0.59	0.00	0.22	0.00	0.35	0.01	0.28	0.01	0.39
V03166-V03167	3147	396	8	0.010	0.79	0.26	0.39	0.61	0.64	0.38	0.48	0.64	0.66
V03167-V03191	3148	322	8	0.013	0.88	0.26	0.38	0.62	0.62	0.38	0.46	0.65	0.64
V03168.A0-V03168.B0	V03168.A0-V03168.B0	149	8	0.088	2.32	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V03168.B0-V03168.C0	V03168.B0-V03168.C0	64	8	0.033	1.42	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V03168.C0-V03168	V03168.C0-V03168	53	8	0.009	0.74	0.00	0.02	0.00	0.04	0.00	0.04	0.00	0.05
V03168-V03172	3730	314	8	0.007	0.64	0.00	0.04	0.00	0.07	0.00	0.06	0.00	0.09
V03169.A0-V03169	3831	4	6	7.622	10.01	0.00	0.51	0.00	0.51	0.00	0.52	0.00	0.52
V03169-V03170	3734	241	6	0.118	1.25	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V03170-V03171	3731	31	6	0.095	1.12	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V03171-V03172	3732	146	6	0.169	1.49	0.00	0.05	0.00	0.08	0.01	0.08	0.01	0.10
V03172-V03173	3733	332	8	0.004	0.51	0.00	0.05	0.01	0.11	0.01	0.09	0.01	0.13
V03173-V03175	3737	95	8	0.003	0.43	0.00	0.07	0.01	0.13	0.01	0.10	0.02	0.15
V03174.A0-V03174.B0	3134	178	8	0.007	0.64	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03174.B0-V03174.C0	3749	122	8	0.059	1.89	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V03174.C0-V03174.D0	3739	67	8	0.108	2.56	0.00	0.02	0.01	0.03	0.00	0.03	0.01	0.03
V03174.D0-V03174	3735	103	8	0.137	2.89	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V03174-V03175	3736	257	8	0.065	1.99	0.00	0.05	0.01	0.09	0.01	0.07	0.01	0.11
V03175-V03176	3738	267	8	0.006	0.59	0.01	0.06	0.02	0.12	0.01	0.09	0.03	0.14
V03176-V03182	3740	250	8	0.026	1.27	0.01	0.06	0.03	0.11	0.01	0.09	0.03	0.12
V03177-V03180	3744	182	8	0.071	2.08	0.00	0.02	0.00	0.03	0.01	0.05	0.01	0.05
V03178.A0-V03178.B0	3135	96	8	0.154	3.06	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V03178.B0-V03178.C0	3747	204	8	0.002	0.35	0.00	0.07	0.00	0.09	0.00	0.09	0.00	0.10
V03178.C0-V03178	3748	102	8	0.002	0.36	0.00	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V03178-V03179	3746	20	8	0.079	2.20	0.00	0.03	0.01	0.05	0.01	0.04	0.01	0.05
V03179-V03180	3745	339	8	0.039	1.55	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.06
V03180-V03181	3743	349	8	0.082	2.24	0.01	0.05	0.01	0.06	0.02	0.07	0.02	0.08
V03181-V03182	3741	312	8	0.086	2.29	0.02	0.07	0.03	0.10	0.04	0.10	0.04	0.11
V03182-V03183	3742	243	8	0.064	1.98	0.02	0.11	0.06	0.17	0.05	0.16	0.08	0.20
V03183-V03184	3136	361	8	0.005	0.55	0.02	0.14	0.06	0.22	0.05	0.19	0.08	0.25
V03184-V03187	3138	106	8	0.007	0.65	0.02	0.15	0.06	0.24	0.05	0.21	0.08	0.27
V03185.A0-V03185.B0	3504	269	8	0.103	2.51	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V03185.B0-V03185.D0	3494	294	8	0.083	2.24	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.06
V03185.C0-V03185.D0	4038	3	8	0.002	0.35	0.00	0.05	0.00	0.07	0.00	0.07	0.00	0.07
V03185.D0-V03185.F0	3502	119	8	0.017	1.02	0.01	0.05	0.01	0.07	0.01	0.09	0.01	0.09
V03185.E0-V03185.F0	3503	165	8	0.098	2.45	0.00	0.04	0.00	0.05	0.02	0.08	0.02	0.08
V03185.F0-V03185.G0	3143	225	8	0.020	1.12	0.01	0.07	0.01	0.09	0.03	0.10	0.03	0.11
V03185.G0-V03185	3142	310	8	0.033	1.43	0.02	0.07	0.03	0.09	0.03	0.09	0.03	0.10
V03185-V03186	3137	300	8	0.057	1.86	0.02	0.08	0.03	0.10	0.03	0.10	0.04	0.11
V03186-V03187	3139	125	8	0.022	1.17	0.02	0.13	0.03	0.19	0.03	0.17	0.04	0.21
V03187-V03188	3140	195	8	0.007	0.63	0.04	0.18	0.10	0.27	0.08	0.24	0.12	0.31
V03188-V03189	3144	167	8	0.005	0.56	0.04	0.19	0.10	0.29	0.08	0.25	0.13	0.33
V03189-V03190	3145	145	8	0.005	0.56	0.04	0.17	0.10	0.27	0.08	0.24	0.13	0.30
V03190-V03191	3146	290	8	0.010	0.79	0.04	0.16	0.10	0.24	0.08	0.21	0.13	0.27
V03192-V03194	V03192-V03194	35	8	0.061	1.93	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V03193-V03194	V03193-V03194	213	8	0.013	0.91	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V03194-V03195	V03194-V03195	96	8	0.060	1.91	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V03195-V03198	V03195-V03198	119	8	0.067	2.01	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03196-V03197	V03196-V03197	118	8	0.023	1.18	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V03197-V03198	V03197-V03198	89	8	0.027	1.29	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03198-V03199	V03198-V03199	54	8	0.067	2.03	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V03199-V03200	V03199-V03200	185	8	0.037	1.50	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
V03200-V03202	V03200-V03202	329	8	0.011	0.84	0.01	0.06	0.01	0.09	0.01	0.07	0.01	0.09
V03201-V03202	V03201-V03202	29	8	0.059	1.89	0.00	0.04	0.00	0.06	0.01	0.06	0.01	0.07
V03202-V03203	V03202-V03203	144	8	0.016	0.98	0.01	0.13	0.02	0.19	0.01	0.16	0.02	0.19
V03203-V03207	V03203-V03207	81	8	0.000	0.03	0.01	0.13	0.02	0.19	0.01	0.15	0.02	0.19
V03204-V03205	V03204-V03205	96	8	0.102	2.49	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V03205-V03206	V03205-V03206	86	8	0.097	2.44	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V03206-V03207	V03206-V03207	99	8	0.027	1.27	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
V03207-V03208	V03207-V03208	48	8	0.028	1.31	0.01	0.07	0.03	0.11	0.02	0.09	0.03	0.11
V03208-V03210	V03208-V03210	310	8	0.013	0.90	0.01	0.08	0.03	0.13	0.02	0.10	0.03	0.13
V03209-V03210	V03209-V03210	216	8	0.044	1.64	0.00	0.05	0.00	0.08	0.00	0.07	0.00	0.08
V03210-V03211	V03210-V03211	142	8	0.011	0.82	0.01	0.09	0.03	0.14	0.02	0.11	0.04	0.14
V03211-V03212	V03211-V03212	122	8	0.011	0.83	0.01	0.09	0.04	0.14	0.02	0.12	0.04	0.15
V03212-V03213	V03212-V03213	139	8	0.011	0.82	0.02	0.09	0.04	0.14	0.02	0.11	0.04	0.15
V03213-V03215	V03213-V03215	87	8	0.017	1.01	0.02	0.08	0.04	0.13	0.02	0.10	0.04	0.13
V03214-V03215	V03214-V03215	235	8	0.149	3.01	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.07
V03215-V03216.A0	V03215-V03216.A0	55	8	0.040	1.57	0.02	0.09	0.04	0.14	0.03	0.11	0.05	0.14
V03216.A0-V03216	V03216.A0-V03216	163	8	0.014	0.91	0.02	0.08	0.04	0.13	0.03	0.10	0.05	0.13
V03216-V03023.D0	V03216-V03023.D0	91	8	0.077	2.16	0.02	0.10	0.05	0.16	0.03	0.13	0.05	0.17
V04001-V04002	173	159	8	0.107	2.56	0.00	0.01	0.00	0.02	0.00	0.05	0.00	0.05
V04002-V04004	3751	231	8	0.106	2.55	0.00	0.04	0.00	0.04	0.03	0.08	0.03	0.08
V04003-V04004	3752	259	6	0.032	0.64	0.00	0.06	0.00	0.06	0.00	0.07	0.00	0.07
V04004-V04005	172	69	8	0.107	2.55	0.02	0.06	0.02	0.07	0.03	0.08	0.03	0.08
V04005-V04006	170	264	8	0.077	2.17	0.02	0.07	0.02	0.08	0.03	0.09	0.03	0.10
V04006-V04007	3754	271	8	0.038	1.52	0.02	0.08	0.03	0.09	0.04	0.11	0.04	0.11
V04007-V04011	3756	258	8	0.042	1.60	0.02	0.10	0.03	0.13	0.04	0.14	0.04	0.15
V04008-V04009.Q0	V04008-V04009.Q0	136	8	0.051	1.76	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V04009.Q0-V04009	V04009.Q0-V04009	115	8	0.061	1.94	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V04009-V04010	7519	303	8	0.082	2.24	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.05

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V04010-V04011	3750	129	8	0.068	2.04	0.00	0.08	0.01	0.10	0.01	0.11	0.01	0.12
V04011-V04018	169	11	8	0.009	0.74	0.02	0.11	0.04	0.15	0.05	0.16	0.05	0.17
V04012-V04014.A0	4042	81	8	0.005	0.54	0.00	0.31	0.00	0.31	0.01	0.34	0.01	0.34
V04013-V04014	4006	240	8	0.123	2.74	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V04014.A0-V04014	7429	36	8	0.043	1.63	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
V04014-V04015	4043	355	8	0.021	1.14	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.08
V04015-V04016	3753	352	8	0.017	1.00	0.00	0.04	0.01	0.07	0.01	0.07	0.02	0.08
V04016-V04017	171	354	8	0.053	1.81	0.01	0.04	0.01	0.06	0.01	0.06	0.02	0.07
V04017-V04018	3755	291	8	0.117	2.67	0.01	0.07	0.02	0.10	0.02	0.10	0.02	0.12
V04018-V04019	3184	345	8	0.032	1.40	0.03	0.11	0.06	0.16	0.06	0.16	0.08	0.18
V04019-V04023	3180	350	8	0.020	1.11	0.03	0.14	0.07	0.21	0.07	0.21	0.09	0.24
V04020-V04021	3185	139	8	0.072	2.09	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V04021-V04022	3183	294	8	0.140	2.92	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V04022-V04023	3181	66	8	0.060	1.91	0.00	0.10	0.01	0.14	0.00	0.14	0.01	0.16
V04023-V04024	3182	293	8	0.005	0.57	0.04	0.17	0.08	0.25	0.08	0.25	0.10	0.29
V04024-V04025	4045	308	8	0.005	0.55	0.04	0.18	0.08	0.28	0.08	0.27	0.11	0.32
V04025-V04026	4046	121	8	0.004	0.46	0.04	0.19	0.08	0.28	0.08	0.27	0.11	0.33
V04026-V04031	4047	98	8	0.005	0.54	0.04	0.17	0.08	0.26	0.08	0.24	0.11	0.30
V04028.B0-V04028.C0	454	85	8	0.106	2.54	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01
V04028.C0-V04028.D0	7078	106	8	0.114	2.64	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V04028.D0-V04030.C0	7674	332	8	0.083	2.25	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V04029-V04030	4048	193	8	0.008	0.71	0.00	0.03	0.00	0.06	0.00	0.06	0.00	0.07
V04030.A0-V04030.B0	3169	166	6	0.126	1.29	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V04030.B0-V04030.C0	7676	146	6	0.043	0.75	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
V04030.C0-V04030	4044	312	8	0.075	2.14	0.00	0.04	0.01	0.08	0.01	0.07	0.01	0.09
V04030-V04031	3179	140	8	0.006	0.58	0.00	0.10	0.01	0.17	0.01	0.15	0.02	0.20
V04031-V32158	7392	197	8	0.010	0.78	0.04	0.15	0.10	0.24	0.09	0.22	0.13	0.28
V04033-V04034	4031	171	8	0.053	1.80	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.06
V04034-V04035	4020	257	8	0.008	0.69	0.00	0.04	0.00	0.06	0.01	0.07	0.01	0.07
V04035-V04038	4024	107	8	0.014	0.93	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.07
V04036-V04037	4030	178	8	0.023	1.17	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V04037-V04038	4021	172	8	0.017	1.00	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.06
V04038-V04039	4025	206	8	0.046	1.68	0.01	0.05	0.01	0.07	0.01	0.07	0.02	0.08
V04039-V04040	4007	271	8	0.021	1.14	0.01	0.07	0.02	0.10	0.01	0.09	0.02	0.10
V04040-V04041	4014	273	8	0.010	0.79	0.01	0.07	0.02	0.11	0.01	0.09	0.02	0.11
V04041-V04042	4015	353	8	0.027	1.28	0.01	0.06	0.03	0.09	0.02	0.08	0.03	0.10
V04042-V04043	4010	243	8	0.062	1.95	0.01	0.08	0.03	0.12	0.02	0.10	0.03	0.12
V04043-V04044	4012	206	8	0.010	0.78	0.02	0.09	0.03	0.13	0.02	0.10	0.04	0.13
V04044-V04060	3940	350	8	0.047	1.69	0.02	0.12	0.04	0.18	0.03	0.14	0.04	0.18
V04045-V04046	4022	342	8	0.023	1.18	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V04046-V04047	4026	308	8	0.020	1.10	0.00	0.04	0.01	0.06	0.00	0.05	0.01	0.06
V04047-V04048	4027	299	8	0.020	1.11	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.08
V04048-V04049	4008	300	8	0.014	0.91	0.01	0.08	0.02	0.11	0.01	0.09	0.01	0.11
V04049-V04050	4016	205	8	0.004	0.49	0.01	0.10	0.02	0.14	0.01	0.11	0.02	0.14
V04050-V04055	4017	318	8	0.004	0.50	0.01	0.12	0.02	0.18	0.01	0.13	0.02	0.17
V04051-V04052	4023	269	8	0.004	0.49	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V04052-V04054	4028	252	8	0.004	0.49	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
V04053-V04054	4029	60	8	0.004	0.49	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V04054-V04055	4009	264	8	0.073	2.10	0.01	0.09	0.01	0.13	0.01	0.10	0.01	0.13
V04055-V04056	4018	348	8	0.004	0.50	0.02	0.11	0.04	0.16	0.02	0.12	0.04	0.16
V04056-V04057	4019	235	8	0.040	1.56	0.02	0.09	0.04	0.13	0.02	0.10	0.04	0.13
V04057-V04058	4011	311	8	0.023	1.19	0.02	0.09	0.05	0.13	0.03	0.10	0.05	0.13
V04058-V04059	4013	165	8	0.050	1.75	0.02	0.08	0.05	0.12	0.03	0.09	0.05	0.12
V04059-V04060	3987	318	8	0.048	1.70	0.03	0.13	0.06	0.19	0.03	0.15	0.05	0.19
V04060-V04061	4004	322	8	0.011	0.81	0.04	0.14	0.10	0.21	0.06	0.16	0.10	0.21
V04061-V04062	4000	220	8	0.052	1.78	0.05	0.11	0.11	0.16	0.06	0.13	0.11	0.16
V04062-V04063	3991	328	8	0.063	1.95	0.05	0.11	0.11	0.16	0.06	0.12	0.11	0.16
V04063-V04064	3995	151	8	0.086	2.29	0.05	0.09	0.11	0.13	0.07	0.10	0.11	0.13
V04064-V04078	3997	51	8	0.516	5.61	0.05	0.53	0.11	0.55	0.07	0.54	0.12	0.55
V04065-V04066	3988	238	8	0.073	2.11	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V04066-V04068	4005	157	8	0.013	0.88	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V04067-V04068	3989	189	8	0.048	1.72	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V04068-V04069	4001	145	8	0.115	2.65	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V04069-V04071	4002	226	8	0.015	0.96	0.01	0.07	0.01	0.10	0.01	0.09	0.01	0.11
V04070-V04071	3992	107	8	0.002	0.35	0.00	0.06	0.00	0.08	0.00	0.08	0.00	0.09
V04071-V04072	4003	375	8	0.005	0.54	0.01	0.07	0.02	0.10	0.01	0.08	0.02	0.10
V04072-V04076	3993	218	8	0.069	2.05	0.01	0.06	0.02	0.09	0.01	0.07	0.02	0.09
V04073-V04074	3990	159	8	0.070	2.07	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V04074-V04075	3994	283	8	0.102	2.49	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V04075-V04076	3999	163	8	0.076	2.15	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
V04076-V04077	3996	188	8	0.044	1.65	0.01	0.06	0.03	0.09	0.02	0.07	0.03	0.09
V04077-V04078	3998	169	8	0.141	2.94	0.01	0.53	0.04	0.54	0.02	0.53	0.04	0.54
V04078-V04079	3937	223	8	0.007	0.67	0.06	0.56	0.15	0.60	0.09	0.57	0.15	0.60
V04079-V04080	3938	61	8	0.057	1.87	0.06	0.17	0.15	0.26	0.09	0.19	0.16	0.26
V04080-V04081	3939	226	8	0.009	0.76	0.06	0.18	0.15	0.28	0.09	0.21	0.16	0.28
V04081-V32162	7399	290	8	0.023	1.19	0.06	0.43	0.16	0.62	0.09	0.57	0.16	0.62
V04087-V04028.B0	V04087-V04028.B0	65	8	5.533	18.37	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
V05001-V05006	4072	368	12	0.005	1.69	0.31	0.30	0.54	0.40	0.32	0.30	0.53	0.39
V05002-V05004	3186	379	8	0.012	0.86	0.00	0.06	-	0.08	0.00	0.06	0.00	0.08
V05004.A0-V05004.B0	1743	293	8	0.093	2.38	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V05004.B0-V05004.C0	3194	30	8	0.034	1.43	0.00	0.04	0.01	0.05	0.00	0.03	0.00	0.04
V05004.C0-V05004.D0	3195	177	8	0.073	2.11	0.01	0.05	0.01	0.06	0.00	0.04	0.01	0.05
V05004.D0-V05004.M0	4052	203	8	0.023	1.19	0.01	0.11	0.01	0.13	0.01	0.09	0.01	0.11
V05004.E0-V05004.G0	1745	207	8	0.018	1.05	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V05004.F0-V05004.G0	1197	102	8	0.010	0.78	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V05004.G0-V05004.I0	1744	229	8	0.065	1.99	0.01	0.06	0.01	0.07	0.01	0.05	0.01	0.06
V05004.GA-V05004.G0	1198	133	8	0.065	1.99	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V05004.I0-V05004.J0	4053	139	8	0.060	1.92	0.02	0.09	0.03	0.10	0.01	0.07	0.02	0.09
V05004.IB-V05004.IC	V05004.IB-V05004.IC	137	8	0.109	2.58	0.00	0.01	-	0.02	0.00	0.00	0.00	0.01
V05004.IC-V05004.ID	V05004.IC-V05004.ID	72	8	0.109	2.58	0.00	0.03	0.01	0.03	0.00	0.01	0.00	0.02
V05004.ID-V05004.IE	V05004.ID-V05004.IE	37	8	0.109	2.58	0.00	0.03	0.01	0.04	0.00	0.01	0.00	0.02
V05004.IE-V05004.IF	V05004.IE-V05004.IF	65	8	0.100	2.47	0.00	0.04	0.01	0.05	0.00	0.03	0.00	0.04
V05004.IF-V05004.I0	3196	110	8	0.010	0.78	0.00	0.06	0.01	0.08	0.00	0.05	0.01	0.06
V05004.J0-V05004.K0	3188	45	8	0.014	0.91	0.02	0.10	0.03	0.12	0.01	0.08	0.02	0.10
V05004.K0-V05004.L0	3189	33	8	0.019	1.07	0.02	0.09	0.03	0.11	0.01	0.07	0.02	0.09
V05004.L0-V05004.M0	3190	39	8	0.037	1.50	0.02	0.12	0.03	0.15	0.01	0.10	0.02	0.12
V05004.M0-V05004.N0	3191	99	8	0.006	0.58	0.03	0.15	0.05	0.19	0.02	0.13	0.03	0.16
V05004.N0-V05004.O0	3192	25	8	0.006	0.60	0.03	0.15	0.05	0.19	0.02	0.14	0.03	0.17
V05004.O0-V05004	3193	33	8	0.007	0.66	0.03	0.14	0.05	0.17	0.03	0.14	0.04	0.16
V05004-V05005	3187	237	8	0.014	0.92	0.03	0.13	0.05	0.16	0.03	0.13	0.05	0.15
V05005-V05006	3197	175	8	0.023	1.19	0.04	0.29	0.07	0.38	0.04	0.29	0.06	0.37
V05006-V05007	4058	384	12	0.006	1.81	0.35	0.29	0.62	0.39	0.36	0.29	0.59	0.38
V05007-V05012	4061	382	12	0.008	2.03	0.35	0.29	0.62	0.39	0.36	0.29	0.60	0.38
V05008-V05011	1738	225	8	0.057	1.87	0.02	0.11	0.02	0.11	0.01	0.10	0.01	0.10
V05009-V05010	3198	265	8	0.008	0.71	0.00	0.06	-	0.06	0.02	0.12	0.02	0.12
V05010-V05011	4059	273	8	0.008	0.70	0.02	0.13	0.02	0.13	0.03	0.14	0.03	0.14
V05011-V05012	4062	183	8	0.016	1.00	0.04	0.29	0.05	0.37	0.05	0.30	0.05	0.36

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V05012-V05013	1731	345	12	0.008	2.03	0.39	0.30	0.68	0.40	0.41	0.30	0.65	0.39
V05013-V05024	3769	345	12	0.008	2.04	0.39	0.33	0.68	0.44	0.41	0.33	0.65	0.42
V05014-V05015	1737	247	8	0.041	1.57	0.00	0.03	-	0.03	0.01	0.05	0.01	0.05
V05015-V05016	1739	81	8	0.030	1.34	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.05
V05016-V05017	1740	73	8	0.075	2.14	0.01	0.07	0.01	0.08	0.01	0.06	0.01	0.07
V05017-V05018	1741	88	8	0.008	0.71	0.01	0.10	0.02	0.11	0.01	0.09	0.01	0.09
V05018-V05019	1742	208	8	0.008	0.70	0.01	0.10	0.02	0.11	0.01	0.10	0.01	0.10
V05019-V05020	1734	210	8	0.008	0.70	0.01	0.13	0.02	0.14	0.01	0.11	0.02	0.12
V05020-V05021	1735	214	8	0.010	0.77	0.04	0.12	0.04	0.14	0.02	0.10	0.02	0.10
V05021-V05022	1728	262	8	0.114	2.63	0.04	0.42	0.05	0.44	0.03	0.40	0.03	0.41
V05022-V05023	3767	53	8	0.008	0.70	0.04	0.43	0.05	0.44	0.03	0.40	0.03	0.41
V05023-V05024	3770	84	8	0.100	2.47	0.04	0.31	0.06	0.41	0.03	0.30	0.03	0.38
V05024-V05025	3765	322	12	0.005	1.64	0.44	0.36	0.74	0.48	0.44	0.36	0.69	0.46
V05025-V05036	3758	325	12	0.005	1.69	0.44	0.31	0.75	0.41	0.44	0.31	0.70	0.40
V05026.A0-V05026	1726	128	8	0.022	1.15	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V05026-V05027	2064	168	8	0.010	0.79	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V05027-V05028	1725	89	8	0.011	0.83	0.00	0.05	0.01	0.06	0.01	0.06	0.01	0.07
V05028-V05030	2063	95	8	0.012	0.86	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V05029-V05030	2062	81	8	0.023	1.19	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V05030-V05031.B0	2059	249	8	0.093	2.38	0.00	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V05031.A0-V05031.B0	2060	137	6	0.026	0.59	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V05031.B0-V05031	3783	129	8	0.091	2.35	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V05031-V05032	4049	190	8	0.083	2.25	0.01	0.05	0.02	0.07	0.01	0.06	0.02	0.07
V05032-V05033	4050	98	8	0.038	1.52	0.01	0.06	0.02	0.08	0.01	0.07	0.02	0.08
V05033-V05034	3766	330	8	0.057	1.87	0.01	0.06	0.02	0.08	0.02	0.07	0.02	0.09
V05035-V05036	3760	65	8	0.006	0.60	0.02	0.25	0.03	0.33	0.02	0.25	0.04	0.33
V05036-V05037	3761	342	12	0.019	3.13	0.45	0.34	0.78	0.46	0.46	0.34	0.74	0.45
V05037-V05041.A0	1429	122	12	0.003	1.22	0.45	0.39	0.79	0.52	0.46	0.39	0.74	0.50
V05038-V05039	1437	48	8	0.188	3.39	0.00	0.02	-	0.02	0.01	0.05	0.01	0.05
V05039-V05040	1432	312	8	0.025	1.24	0.00	0.51	0.00	0.52	0.01	0.51	0.01	0.53
V05040-V05041	1433	28	8	0.013	0.88	0.03	0.72	0.06	0.81	0.03	0.72	0.03	0.80
V05041.A0-V05041.B0	1430	192	14	0.005	2.39	0.45	0.35	0.79	0.46	0.46	0.35	0.74	0.45
V05041.B0-V05041	1434	132	14	0.001	1.32	0.45	0.33	0.79	0.44	0.46	0.33	0.75	0.43
V05041-V05046	1425	241	12	0.010	2.26	0.46	0.35	0.80	0.47	0.46	0.35	0.76	0.46
V05042-V05043	1436	32	8	0.003	0.44	0.01	0.08	0.01	0.08	0.00	0.05	0.00	0.05
V05043-V05044	1438	305	8	0.005	0.55	0.01	0.06	0.01	0.07	0.01	0.07	0.01	0.07
V05044-V05103	1426	300	8	0.037	1.50	0.01	0.21	0.01	0.27	0.01	0.23	0.01	0.29
V05046-V05047	175	222	12	0.004	1.46	0.46	0.38	0.80	0.52	0.46	0.38	0.77	0.57
V05047-V05048	FM13	113	12	0.005	1.56	0.46	0.37	0.81	0.49	0.46	0.36	0.77	0.82
V05048-V05091.A0	7378	152	12	0.006	1.82	0.46	0.27	0.81	0.67	0.46	0.53	0.77	1.00
V05051-V05052	4076	166	8	0.030	1.36	0.09	0.59	0.17	0.62	0.09	0.59	0.16	0.62
V05052-V05057	4055	252	8	0.010	0.78	0.09	0.62	0.18	0.67	0.09	0.64	0.17	0.68
V05057-V05058	4060	267	8	0.010	0.76	0.09	0.25	0.19	0.35	0.13	0.29	0.22	0.37
V05058-V05059.A0	4056	276	8	0.010	0.78	0.11	0.22	0.20	0.30	0.13	0.25	0.22	0.32
V05059.A0-V05059	4057	25	8	0.041	1.58	0.11	0.20	0.20	0.28	0.14	0.23	0.22	0.29
V05059-V05060	1727	117	8	0.015	0.96	0.11	0.26	0.20	0.36	0.14	0.28	0.22	0.37
V05060-V05068	1732	179	8	0.007	0.65	0.12	0.29	0.22	0.39	0.14	0.32	0.22	0.40
V05061.A0-V05061.B0	7076	24	8	0.014	0.94	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V05061.B0-V05061	7077	244	8	0.012	0.85	0.00	0.04	0.00	0.04	0.01	0.06	0.01	0.06
V05061-V05062	4068	191	8	0.026	1.25	0.00	0.06	0.01	0.07	0.01	0.07	0.01	0.07
V05062-V05063	4065	347	8	0.021	1.13	0.02	0.11	0.02	0.12	0.01	0.11	0.01	0.11
V05063-V05064	4066	180	8	0.015	0.97	0.05	0.19	0.05	0.21	0.05	0.20	0.05	0.20
V05064-V05066	4067	241	8	0.004	0.49	0.05	0.17	0.06	0.19	0.06	0.19	0.06	0.19
V05065.A0-V05065	4069	139	8	2.007	11.06	0.00	0.00	0.01	0.50	0.04	0.54	0.04	0.54
V05065-V05066	4064	283	8	0.126	2.78	0.00	0.05	0.00	0.06	0.04	0.12	0.04	0.12
V05066-V05067	1729	355	8	0.067	2.03	0.05	0.12	0.06	0.14	0.09	0.17	0.09	0.17
V05067-V05068	1730	350	8	0.025	1.23	0.05	0.22	0.07	0.27	0.10	0.26	0.10	0.29
V05068-V05069	1733	82	8	0.014	0.93	0.18	0.32	0.29	0.42	0.23	0.37	0.32	0.44
V05069-V05075	3771	334	8	0.008	0.68	0.18	0.37	0.29	0.49	0.23	0.43	0.32	0.51
V05070-V05071	3782	116	8	0.048	1.70	0.00	0.00	-	0.01	0.01	0.05	0.01	0.05
V05071-V05072	3777	170	8	0.075	2.14	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.05
V05072.A0-V05072.B0	7670	113	8	0.031	1.37	0.00	0.04	-	0.04	0.00	0.00	0.00	0.01
V05072.B0-V05072	7671	218	8	0.017	1.03	0.01	0.07	0.01	0.08	0.00	0.02	0.00	0.04
V05072-V05073	3779	84	8	0.041	1.59	0.01	0.07	0.02	0.08	0.01	0.07	0.01	0.08
V05073.A0-V05073.B0	3781	63	8	0.068	2.03	0.00	0.02	-	0.02	0.02	0.07	0.02	0.07
V05073.B0-V05073.C0	3778	100	8	0.064	1.97	0.00	0.04	0.00	0.05	0.02	0.08	0.02	0.08
V05073.C0-V05073	3780	111	8	0.051	1.76	0.01	0.07	0.01	0.08	0.03	0.09	0.03	0.09
V05073-V05074.B0	3774	185	6	0.064	0.92	0.02	0.11	0.03	0.13	0.03	0.14	0.04	0.14
V05074.A0-V05074	3775	21	6	0.051	0.82	0.00	0.07	-	0.08	0.00	0.09	0.00	0.09
V05074.B0-V05074	3776	120	8	0.061	1.93	0.03	0.10	0.05	0.11	0.05	0.12	0.05	0.13
V05074.BA-V05074.BB	7672	97	8	0.083	2.25	0.01	0.06	0.01	0.06	0.02	0.08	0.02	0.08
V05074.BB-V05074.B0	7673	259	8	0.021	1.14	0.01	0.08	0.01	0.09	0.02	0.10	0.02	0.10
V05074-V05075	3768	299	8	0.034	1.44	0.03	0.25	0.05	0.32	0.05	0.30	0.06	0.34
V05075-V05076	3772	199	8	0.007	0.66	0.21	0.38	0.34	0.50	0.29	0.45	0.38	0.54
V05076-V05077	3764	139	8	0.008	0.71	0.21	0.40	0.35	0.53	0.29	0.47	0.38	0.57
V05077-V05078	3757	330	8	0.005	0.56	0.21	0.50	0.35	0.66	0.29	0.59	0.39	0.71
V05078-V05079	3762	29	8	0.000	0.05	0.21	0.50	0.35	0.66	0.29	0.59	0.39	0.71
V05079-V05080	1439	392	8	0.006	0.60	0.21	0.37	0.35	0.50	0.29	0.44	0.39	0.53
V05080-V05102	1435	363	8	0.015	0.96	0.21	0.52	0.35	0.71	0.29	0.63	0.39	0.72
V05081-V05083	1172	131	8	0.031	1.37	0.01	0.07	0.01	0.07	0.01	0.06	0.01	0.06
V05082-V05083	1174	53	8	0.020	1.09	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.05
V05083-V05084	1175	95	8	0.019	1.07	0.01	0.08	0.02	0.09	0.01	0.07	0.01	0.07
V05084-V05087	1176	38	8	0.017	1.03	0.01	0.08	0.02	0.09	0.01	0.07	0.01	0.08
V05085-V05086	1177	137	8	0.006	0.59	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V05086-V05087	1178	109	8	0.006	0.61	0.00	0.07	0.01	0.08	0.01	0.07	0.01	0.07
V05087-V05088	1179	41	8	0.029	1.33	0.02	0.08	0.02	0.09	0.01	0.07	0.02	0.07
V05088-V05092	1162	152	8	0.076	2.16	0.02	0.07	0.02	0.08	0.01	0.06	0.02	0.06
V05089-V05091	1170	85	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V05090-V05091	1171	60	8	0.010	0.77	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V05091.A0-V30072	7379	12	12	0.075	6.32	0.46	0.59	1.24	0.94	1.05	0.87	1.14	1.00
V05091-V05092	1163	141	8	0.010	0.79	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V05092-V05093	1164	57	8	0.103	2.50	0.02	0.07	0.03	0.08	0.02	0.06	0.02	0.07
V05093-V05097	1165	106	8	0.068	2.04	0.02	0.07	0.03	0.08	0.02	0.07	0.02	0.07
V05094-V05096	1173	91	8	0.007	0.65	0.00	0.05	0.00	0.05	0.00	0.03	0.00	0.04
V05095-V05096	1441	60	8	0.010	0.77	0.00	0.06	0.00	0.06	0.00	0.03	0.00	0.04
V05096-V05097	1169	102	8	0.007	0.66	0.00	0.06	0.01	0.07	0.00	0.05	0.00	0.06
V05097-V05098	1442	36	8	0.231	3.76	0.03	0.07	0.04	0.08	0.03	0.08	0.04	0.09
V05098-V05099	1443	255	8	0.079	2.20	0.03	0.12	0.04	0.15	0.05	0.16	0.05	0.16
V05099-V05100	1161	370	8	0.004	0.50	0.03	0.16	0.04	0.21	0.05	0.22	0.05	0.24
V05100-V05101	1440	388	8	0.004	0.49	0.03	0.15	0.05	0.20	0.05	0.21	0.06	0.23
V05101-V05102	1431	88	8	0.001	0.20	0.03	0.25	0.05	0.31	0.05	0.32	0.07	0.35
V05102-V05103	1427	112	8	0.001	0.23	0.24	0.54	0.41	0.75	0.34	0.66	0.46	0.76
V05103-V05104	FM4	123	8	0.012	0.87	0.25	0.37	0.42	0.50	0.34	0.45	0.48	0.54
V05104-V05105	1424	263	10	0.007	1.21	0.25	0.38	0.42	0.50	0.34	0.45	0.48	0.72
V05105-V05106	7380	201	10	0.002	0.59	0.25	0.30	0.43	0.40	0.34	0.36	0.49	1.00
V05106-V30073	7381	13	10	0.121	4.93	0.25	0.58	0.43	0.60	0.34	0.59	0.77	1.00
V05114-V05035	3759	325	8	0.048	1.70	0.02	0.09	0.03	0.12	0.02	0.10	0.03	0.13

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V06001-V06002	593	210	8	0.122	2.73	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
V06002-V06003	594	185	8	0.081	2.22	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V06003.A0-V06003	1002	20	8	0.002	0.35	0.00	0.05	0.00	0.06	0.01	0.09	0.01	0.09
V06003-V06004.A0	7073	292	8	0.043	1.63	0.02	0.07	0.02	0.08	0.01	0.07	0.02	0.07
V06004.A0-V06004	7074	25	8	0.053	1.80	0.02	0.09	0.02	0.11	0.02	0.09	0.02	0.10
V06004-V06005	4081	116	8	0.006	0.60	0.02	0.12	0.02	0.13	0.02	0.11	0.02	0.12
V06005-V06008	4082	130	8	0.008	0.72	0.02	0.17	0.03	0.20	0.02	0.17	0.02	0.20
V06006-V06007	4078	22	8	0.012	0.87	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V06007-V06008	4079	231	8	0.090	2.34	0.00	0.13	0.00	0.15	0.00	0.13	0.00	0.15
V06008-V06009	4080	245	8	0.001	0.30	0.02	0.18	0.03	0.21	0.02	0.18	0.03	0.20
V06009-V06017	4086	94	8	0.010	0.78	0.02	0.21	0.04	0.27	0.02	0.21	0.03	0.25
V06010-V06011	4084	225	6	0.003	0.20	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.07
V06011-V06014	4090	351	6	0.005	0.25	0.00	0.12	0.01	0.15	0.00	0.11	0.00	0.13
V06012-V06013	4091	254	8	0.016	0.99	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V06013-V06014	4092	199	8	0.072	2.10	0.00	0.08	0.01	0.10	0.00	0.07	0.01	0.09
V06014-V06015	4085	306	6	0.003	0.21	0.01	0.17	0.02	0.21	0.01	0.15	0.01	0.19
V06015-V06016	4087	98	6	0.004	0.23	0.01	0.13	0.02	0.17	0.01	0.12	0.02	0.15
V06016-V06017	4088	299	6	0.061	0.90	0.01	0.25	0.02	0.32	0.01	0.24	0.02	0.29
V06017-V06024	4089	279	6	0.002	0.16	0.04	0.33	0.06	0.43	0.04	0.33	0.06	0.40
V06018-V06019	7534	238	8	0.006	0.62	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V06019-V06096.A0	7726	363	8	0.067	2.02	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V06024-V06040	4164	168	8	0.004	0.50	0.04	0.20	0.07	0.26	0.04	0.20	0.06	0.24
V06025-V06027	2384	207	8	0.010	0.77	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V06026-V06027	2386	235	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V06027-V06028	2382	293	8	0.048	1.70	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V06028-V06029	2383	216	8	0.027	1.27	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.07
V06029-V06030	2376	201	8	0.025	1.23	0.01	0.06	0.02	0.08	0.01	0.06	0.01	0.08
V06030-V06031	2369	337	8	0.027	1.29	0.01	0.07	0.02	0.10	0.01	0.07	0.02	0.09
V06031-V06038	4168	381	8	0.020	1.12	0.01	0.09	0.03	0.13	0.01	0.09	0.02	0.12
V06032-V06033	2367	185	8	0.021	1.14	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V06033-V06034	2365	316	8	0.018	1.06	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V06034-V06037	4171	225	8	0.067	2.03	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V06035-V06036	1907	268	8	0.075	2.14	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V06036-V06037	1908	192	8	0.015	0.96	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V06037-V06038	4169	274	8	0.080	2.21	0.01	0.08	0.02	0.11	0.01	0.07	0.02	0.10
V06038-V06039.A0	4170	246	8	0.019	1.09	0.03	0.11	0.06	0.15	0.02	0.10	0.05	0.14
V06039.A0-V06039.AA	7728	313	8	0.028	1.32	0.03	0.11	0.06	0.15	0.03	0.10	0.05	0.14
V06039.AA-V06096.G0	7729	42	8	0.027	1.29	0.03	0.11	0.06	0.15	0.03	0.10	0.05	0.14
V06040-V06096.H0	V06040-V06096.H0	321	8	0.004	0.48	0.04	0.18	0.07	0.24	0.04	0.18	0.06	0.23
V06042-V06045	1909	200	8	0.004	0.52	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.07
V06043-V06045	1910	365	8	0.004	0.48	0.00	0.05	0.00	0.05	0.00	0.06	0.00	0.07
V06044-V06045	2284	341	8	0.004	0.48	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V06045-V06046	2282	284	8	0.059	1.90	0.01	0.06	0.01	0.08	0.01	0.08	0.02	0.10
V06046-V06047.A0	2283	194	8	0.012	0.86	0.01	0.17	0.02	0.22	0.02	0.20	0.03	0.25
V06047.A0-V06047	2280	185	8	0.000	0.06	0.01	0.17	0.02	0.23	0.02	0.20	0.03	0.25
V06047-V06049	2279	168	8	0.016	1.00	0.01	0.08	0.03	0.12	0.02	0.10	0.03	0.13
V06049-V06056	2276	213	8	0.016	0.98	0.02	0.09	0.03	0.13	0.02	0.10	0.04	0.14
V06050-V06051	1916	141	8	0.007	0.63	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V06051.A0-V06051.B0	1911	157	8	0.004	0.52	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V06051.B0-V06051.C0	1912	169	8	0.004	0.52	0.00	0.06	0.00	0.07	0.00	0.05	0.00	0.06
V06051.C0-V06051	1917	134	8	0.004	0.50	0.00	0.06	0.01	0.09	0.00	0.05	0.00	0.08
V06051-V06054	2271	132	8	0.005	0.53	0.00	0.08	0.01	0.11	0.00	0.07	0.01	0.09
V06052-V06053	1918	95	8	0.005	0.56	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V06053-V06054	2272	127	8	0.004	0.50	0.00	0.07	0.00	0.09	0.00	0.06	0.00	0.08
V06054-V06055	2277	357	8	0.005	0.52	0.01	0.09	0.02	0.12	0.01	0.07	0.01	0.10
V06055-V06056	2337	49	8	0.008	0.71	0.01	0.09	0.02	0.13	0.01	0.08	0.02	0.12
V06056-V06058	2273	265	8	0.030	1.36	0.03	0.10	0.06	0.14	0.03	0.11	0.06	0.15
V06057-V06058	2274	287	8	0.075	2.14	0.00	0.06	0.00	0.09	0.00	0.06	0.00	0.08
V06058-V06059	2269	83	8	0.030	1.34	0.03	0.10	0.06	0.14	0.03	0.11	0.06	0.15
V06059-V06067	2264	269	8	0.040	1.55	0.03	0.10	0.06	0.15	0.03	0.11	0.07	0.15
V06060-V06061	2387	337	8	0.011	0.82	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.05
V06061-V06063	2388	247	8	0.050	1.75	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.04
V06062-V06063	2262	69	8	0.007	0.66	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V06063-V06064	2385	339	8	0.333	4.50	0.01	0.52	0.01	0.52	0.01	0.51	0.01	0.52
V06064-V06066	2270	200	8	0.572	5.91	0.01	0.53	0.02	0.54	0.01	0.53	0.02	0.54
V06065-V06066	2263	241	8	0.050	1.75	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V06066-V06067	2265	229	8	0.056	1.85	0.01	0.08	0.03	0.12	0.01	0.09	0.02	0.12
V06067-V06068	2266	265	8	0.054	1.81	0.04	0.15	0.09	0.22	0.05	0.16	0.09	0.22
V06068-V06069	2267	183	8	0.005	0.53	0.05	0.23	0.10	0.33	0.05	0.24	0.10	0.33
V06069-V06070	2268	248	8	0.002	0.39	0.05	0.23	0.10	0.34	0.06	0.25	0.10	0.34
V06070-V06071	4177	252	8	0.005	0.56	0.05	0.20	0.11	0.29	0.06	0.22	0.11	0.29
V06071-V06072	4172	271	8	0.009	0.73	0.06	0.16	0.11	0.23	0.06	0.17	0.11	0.23
V06072-V06074	4175	50	8	0.055	1.83	0.06	0.12	0.12	0.17	0.06	0.13	0.11	0.17
V06073-V06074	4176	184	6	0.006	0.28	0.00	0.11	0.00	0.14	0.00	0.11	0.00	0.14
V06074-V06075	4173	188	8	0.056	1.85	0.06	0.12	0.12	0.17	0.07	0.13	0.12	0.17
V06075-V06089	4174	175	8	0.056	1.84	0.06	0.14	0.12	0.19	0.07	0.14	0.12	0.19
V06076-V06077	2377	93	6	0.049	0.80	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V06077-V06080	2380	26	6	0.061	0.90	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V06078-V06079	2379	179	8	0.035	1.46	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V06079-V06080	2381	99	8	0.008	0.69	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V06080-V06081	2378	322	6	0.063	0.91	0.01	0.06	0.01	0.08	0.00	0.06	0.01	0.07
V06081-V06083	2375	231	6	0.043	0.75	0.01	0.11	0.01	0.13	0.01	0.10	0.01	0.12
V06082-V06083	2374	141	6	0.005	0.26	0.00	0.09	0.00	0.11	0.00	0.09	0.00	0.10
V06083-V06084	2372	194	8	0.004	0.50	0.01	0.11	0.02	0.14	0.01	0.09	0.01	0.12
V06084-V06086	2373	175	8	0.006	0.59	0.01	0.09	0.02	0.11	0.01	0.08	0.02	0.10
V06085-V06086	2368	91	6	0.055	0.85	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.06
V06086-V06088	2371	223	8	0.041	1.58	0.01	0.09	0.02	0.12	0.01	0.08	0.02	0.11
V06087-V06088	2370	159	6	0.070	0.96	0.00	0.10	0.00	0.12	0.00	0.08	0.00	0.10
V06088-V06089	4179	190	8	0.006	0.61	0.02	0.13	0.03	0.18	0.01	0.13	0.02	0.17
V06089-V06090	4181	74	8	0.049	1.73	0.08	0.14	0.16	0.20	0.08	0.15	0.15	0.20
V06090-V06091	4180	253	8	0.060	1.91	0.08	0.18	0.16	0.26	0.08	0.19	0.15	0.25
V06091-V06094	4182	41	8	0.008	0.70	0.08	0.26	0.16	0.37	0.09	0.26	0.15	0.35
V06092-V06093	4183	120	6	0.033	0.66	0.01	0.13	0.01	0.14	0.00	0.05	0.00	0.05
V06093-V06094	4184	120	6	0.004	0.23	0.01	0.28	0.02	0.36	0.00	0.22	0.00	0.29
V06094-V06095	591	159	8	0.004	0.52	0.09	0.34	0.18	0.48	0.09	0.33	0.16	0.45
V06095-V06096	592	251	8	0.002	0.37	0.10	0.31	0.18	0.44	0.09	0.31	0.16	0.41
V06096.A0-V06096.B0	7725	350	8	0.057	1.87	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.07
V06096.B0-V06096.C0	7724	335	8	0.022	1.16	0.00	0.04	0.01	0.07	0.01	0.06	0.01	0.08
V06096.C0-V06096.E0	7723	347	8	0.047	1.70	0.01	0.05	0.02	0.08	0.01	0.06	0.02	0.08
V06096.E0-V06096.F0	7719	156	8	0.042	1.61	0.01	0.05	0.02	0.08	0.01	0.06	0.02	0.09
V06096.F0-V06096.G0	7718	43	8	0.032	1.39	0.01	0.08	0.02	0.13	0.01	0.09	0.02	0.12
V06096.G0-V06096.H0	7727	284	8	0.039	1.54	0.04	0.13	0.09	0.19	0.04	0.13	0.08	0.18
V06096.H0-V06096	7720	224	8	0.046	1.67	0.09	0.20	0.17	0.27	0.08	0.19	0.15	0.25
V06096-V06097	4185	207	10	0.027	2.35	0.19	0.25	0.35	0.35	0.18	0.24	0.32	0.32
V06097-V06098	4186	312	10	0.004	0.94	0.19	0.31	0.36	0.44	0.18	0.31	0.32	0.42
V06098-V06099	597	311	10	0.005	0.96	0.19	0.25	0.36	0.35	0.19	0.25	0.33	0.34
V06099-V06100	598	300	10	0.032	2.53	0.19	0.22	0.37	0.31	0.19	0.22	0.34	0.30

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V06100-V06101	596	301	10	0.009	1.34	0.19	0.42	0.37	0.57	0.19	0.42	0.34	0.55
V06101-V06102.A0	7797	148	10	0.000	0.04	0.19	0.40	0.37	0.54	0.19	0.40	0.35	0.52
V06102.A0-V06102	7798	100	10	0.021	2.05	0.19	0.19	0.37	0.27	0.19	0.19	0.35	0.26
V06102-V05051	V06102-V05051	295	8	0.014	0.92	0.09	0.19	0.17	0.27	0.09	0.20	0.16	0.26
V06102-V07064	NEWPIPE-DWG-3961	53	10	0.013	1.60	0.10	0.20	0.21	0.27	0.11	0.20	0.19	0.26
V06117-V07080	V06117-V07080	329	8	0.058	1.88	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
V06118-V06049	2278	198	8	0.004	0.51	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.08
V07001-V07002	3015	90	8	0.036	1.47	0.00	0.01	-	0.01	0.00	0.03	0.00	0.03
V07002-V07003	3009	234	8	0.030	1.36	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V07003-V07005	3010	264	8	0.040	1.57	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V07004-V07005	3012	320	8	0.043	1.62	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V07006-V07007.E0	7047	129	8	0.029	1.33	0.03	0.10	0.04	0.13	0.02	0.09	0.04	0.12
V07007.A0-V07007.B0	7051	122	8	0.085	2.28	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V07007.B0-V07007.C0	7052	210	8	0.049	1.72	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V07007.C0-V07007.D0	7050	165	8	0.044	1.63	0.00	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V07007.D0-V07007.E0	7662	79	8	0.010	0.77	0.01	0.08	0.01	0.11	0.01	0.07	0.01	0.10
V07007.E0-V07007	7413	72	8	0.037	1.50	0.03	0.11	0.06	0.13	0.02	0.09	0.05	0.12
V07007-V07009	3949	372	8	0.033	1.42	0.03	0.11	0.06	0.14	0.03	0.10	0.05	0.13
V07008-V07009	3950	226	8	0.032	1.39	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.09
V07009-V07011	3952	269	8	0.034	1.44	0.04	0.11	0.07	0.15	0.03	0.10	0.06	0.14
V07010-V07011	4219	226	8	0.016	0.97	0.00	0.08	0.00	0.09	0.00	0.07	0.00	0.09
V07011-V07015	4194	285	8	0.040	1.56	0.04	0.12	0.07	0.16	0.03	0.11	0.07	0.15
V07012-V07013	3944	182	8	0.083	2.26	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V07013-V07014	4191	175	8	0.044	1.64	0.00	0.05	0.01	0.05	0.00	0.04	0.00	0.05
V07014-V07015	4195	321	8	0.024	1.21	0.01	0.09	0.01	0.12	0.01	0.08	0.01	0.11
V07015-V07028	4215	155	8	0.034	1.43	0.05	0.20	0.09	0.26	0.04	0.18	0.08	0.25
V07016-V07018	4220	83	6	0.010	0.36	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.08
V07017-V07018	3951	344	6	0.032	0.65	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.05
V07018-V07019	3008	163	8	0.043	1.62	0.01	0.06	0.01	0.07	0.01	0.05	0.01	0.06
V07019-V07026.I0	3945	301	8	0.024	1.21	0.01	0.09	0.01	0.11	0.01	0.08	0.01	0.10
V07022-V07026.J0	4192	185	8	0.013	0.89	0.00	0.52	0.00	0.52	0.00	0.52	0.00	0.52
V07024-V07025	3946	264	6	0.034	0.67	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V07025-V07026	3948	162	6	0.053	0.84	0.00	0.13	0.01	0.16	0.01	0.13	0.01	0.16
V07026.A0-V07026.C0	8211	233	8	0.007	0.66	0.00	0.05	-	0.05	0.00	0.01	0.00	0.03
V07026.B0-V07026.C0	8210	157	8	0.008	0.68	0.00	0.05	-	0.05	0.00	0.01	0.00	0.03
V07026.C0-V07026.E0	8212	219	8	0.007	0.66	0.01	0.09	0.01	0.11	0.00	0.01	0.00	0.06
V07026.D0-V07026.E0	8209	153	8	0.007	0.65	0.00	0.05	-	0.06	0.00	0.01	0.00	0.04
V07026.E0-V07026.F0	8213	121	8	0.007	0.67	0.01	0.09	0.02	0.11	0.00	0.06	0.01	0.09
V07026.F0-V07026.G0	8214	110	8	0.008	0.68	0.01	0.09	0.02	0.12	0.01	0.10	0.02	0.12
V07026.G0-V07026.H0	8215	157	8	0.008	0.68	0.01	0.09	0.02	0.12	0.02	0.11	0.02	0.12
V07026.H0-V07026.I0	8216	50	8	0.007	0.67	0.01	0.10	0.02	0.13	0.02	0.11	0.02	0.13
V07026.I0-V07026.J0	8217	161	8	0.020	1.12	0.03	0.55	0.04	0.57	0.03	0.55	0.04	0.56
V07026.J0-V07026	3947	79	8	0.012	0.85	0.03	0.58	0.05	0.60	0.03	0.58	0.05	0.60
V07026-V07027	4216	154	8	0.007	0.66	0.03	0.16	0.06	0.20	0.04	0.16	0.05	0.20
V07027-V07028	4217	219	8	0.006	0.62	0.03	0.21	0.06	0.28	0.04	0.21	0.06	0.27
V07028-V07032	4218	125	8	0.006	0.60	0.09	0.23	0.15	0.30	0.08	0.21	0.14	0.29
V07029-V07030	3942	126	8	0.011	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V07030-V07031	4196	236	8	0.054	1.81	0.00	0.04	0.01	0.05	0.00	0.05	0.00	0.05
V07031-V07032	3941	241	8	0.025	1.23	0.01	0.12	0.01	0.16	0.01	0.12	0.01	0.15
V07032-V07036	4200	287	8	0.024	1.21	0.09	0.20	0.17	0.26	0.08	0.19	0.15	0.25
V07033-V07034	4197	350	6	0.067	0.94	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.05
V07034-V07036	4201	300	6	0.017	0.47	0.01	0.17	0.01	0.23	0.00	0.16	0.01	0.21
V07035-V07036	4204	275	6	0.009	0.34	0.00	0.17	0.00	0.21	0.00	0.16	0.00	0.20
V07036-V07046	4205	252	8	0.022	1.15	0.10	0.45	0.18	0.58	0.09	0.43	0.16	0.55
V07037-V07038	4202	309	6	0.021	0.52	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.08
V07038-V07039	4206	234	6	0.007	0.30	0.01	0.10	0.01	0.12	0.01	0.11	0.01	0.11
V07039-V07040	4207	200	6	0.007	0.30	0.01	0.11	0.01	0.13	0.01	0.12	0.01	0.13
V07040-V07041	4208	95	6	0.007	0.30	0.01	0.12	0.01	0.15	0.01	0.13	0.01	0.14
V07041-V07046	4209	320	6	0.008	0.32	0.01	0.53	0.02	0.58	0.01	0.51	0.02	0.57
V07042-V07043	3943	141	8	0.008	0.68	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V07043-V07044	4198	300	6	0.062	0.90	0.00	0.06	0.01	0.07	0.01	0.06	0.01	0.07
V07044-V07045	4203	210	6	0.046	0.78	0.01	0.08	0.01	0.09	0.01	0.08	0.01	0.09
V07045-V07046	4210	295	8	0.016	0.99	0.01	0.38	0.01	0.48	0.01	0.37	0.01	0.46
V07046-V07047	4211	117	8	0.000	0.16	0.13	0.42	0.22	0.54	0.12	0.41	0.20	0.52
V07047-V07049.D0	V07047-V07049.D0	31	8	0.101	2.48	0.13	0.22	0.22	0.30	0.12	0.22	0.20	0.28
V07049.B0-V07049.C0	V07049.B0-V07049.C0	216	8	0.023	1.18	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V07049.C0-V07049.D0	V07049.C0-V07049.D0	60	8	0.022	1.16	0.00	0.17	0.01	0.22	0.01	0.16	0.01	0.21
V07049.D0-V07049	V07049.D0-V07049	19	8	0.007	0.67	0.13	0.29	0.23	0.39	0.12	0.28	0.21	0.37
V07049-V07052	4213	137	8	0.011	0.80	0.13	0.25	0.23	0.34	0.12	0.25	0.21	0.32
V07050-V07051	4193	102	8	0.005	0.57	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V07051-V07052	4214	133	8	0.005	0.55	0.00	0.14	0.00	0.18	0.00	0.14	0.00	0.17
V07052-V07053	4199	124	8	0.023	1.19	0.13	0.23	0.24	0.31	0.13	0.23	0.21	0.30
V07053-V07054	603	302	8	0.020	1.11	0.13	0.26	0.24	0.35	0.13	0.25	0.22	0.33
V07054-V07064	604	290	8	0.012	0.87	0.16	0.28	0.27	0.37	0.13	0.27	0.23	0.36
V07055.A0-V07055	1004	80	8	0.002	0.35	0.00	0.06	0.00	0.06	0.01	0.12	0.01	0.12
V07055-V07056	600	207	8	0.007	0.67	0.00	0.06	0.01	0.07	0.01	0.09	0.01	0.10
V07056-V07059	607	300	8	0.036	1.47	0.01	0.10	0.01	0.11	0.03	0.15	0.03	0.15
V07057-V07058	599	299	8	0.032	1.41	0.00	0.04	0.00	0.05	0.01	0.07	0.01	0.07
V07058-V07059	606	361	8	0.043	1.63	0.01	0.10	0.01	0.11	0.03	0.14	0.03	0.15
V07059-V07060	608	328	8	0.007	0.65	0.03	0.14	0.04	0.17	0.06	0.20	0.06	0.22
V07060-V07063	609	325	8	0.007	0.65	0.03	0.15	0.04	0.17	0.06	0.20	0.07	0.21
V07061.A0-V07061	1003	55	6	0.009	0.34	0.02	0.16	0.02	0.16	0.01	0.15	0.01	0.15
V07061-V07062	601	328	6	0.005	0.26	0.02	0.17	0.02	0.18	0.01	0.16	0.01	0.16
V07062-V07063	4188	98	6	0.004	0.23	0.02	0.19	0.02	0.21	0.01	0.20	0.02	0.22
V07063-V07064	602	325	8	0.020	1.10	0.05	0.21	0.07	0.27	0.08	0.23	0.10	0.28
V07064-V05001	4074	205	12	0.033	4.17	0.31	0.24	0.54	0.32	0.32	0.24	0.53	0.31
V07078-V07006	3011	93	8	0.099	2.46	0.01	0.08	0.02	0.09	0.01	0.07	0.02	0.09
V07078-V07006	CDT-50	154	8	0.039	1.54	0.01	0.08	0.01	0.10	0.01	0.06	0.01	0.09
V07079-V07078	V07079-V07078	244	8	0.030	1.35	0.00	0.04	0.01	0.06	0.01	0.04	0.01	0.06
V07080-V07079	V07080-V07079	42	8	0.011	0.82	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V08001-V08002	5656	182	6	0.089	1.08	0.00	0.07	0.00	0.07	0.00	0.08	0.00	0.08
V08002-V08004	5408	235	6	0.003	0.20	0.00	0.09	0.00	0.10	0.00	0.10	0.00	0.10
V08004.A0-V08004	7248	261	6	0.093	1.10	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V08004-V08007	5407	214	6	0.064	0.92	0.01	0.08	0.01	0.10	0.01	0.10	0.01	0.11
V08007-V08166	V08007-V08166	116	8	0.028	1.30	0.01	0.07	0.02	0.09	0.02	0.11	0.03	0.11
V08010-V08017.C0	5369	240	6	0.001	0.13	0.00	0.05	0.00	0.05	0.00	0.13	0.00	0.13
V08011-V08017.C0	7283	25	8	0.021	1.13	0.00	0.03	0.00	0.04	0.01	0.08	0.01	0.08
V08016-V08017	5360	245	6	0.032	0.65	0.00	0.37	-	0.45	0.01	0.54	0.01	0.54
V08017.A0-V08017.D0	7082	170	8	0.011	0.82	0.00	0.05	0.00	0.06	0.01	0.10	0.01	0.10
V08017.B0-V08017.D0	7690	320	8	0.077	2.17	0.00	0.05	0.00	0.06	0.02	0.10	0.02	0.10
V08017.C0-V08017.D0	7284	129	8	0.006	0.62	0.00	0.05	0.00	0.07	0.01	0.12	0.01	0.12
V08017.D0-V08017.E0	7081	287	8	0.018	1.04	0.01	0.06	0.01	0.09	0.04	0.14	0.04	0.14
V08017.E0-V08017.I0	7281	93	8	0.014	0.92	0.01	0.07	0.02	0.10	0.04	0.15	0.04	0.15
V08017.F0-V08017.G0	7233	351	8	0.011	0.82	0.00	0.04	0.00	0.05	0.00	0.07	0.00	0.07
V08017.G0-V08017.I0	7285	131	8	0.017	1.02	0.01	0.06	0.01	0.08	0.02	0.12	0.02	0.12
V08017.H0-V08017.I0	7083	110	8	0.067	2.02	0.00	0.04	-	0.05	0.02	0.11	0.02	0.11
V08017.I0-V08017	7282	190	8	0.035	1.45	0.01	0.31	0.03	0.38	0.07	0.51	0.08	0.52

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V08017.J0-V08017	5362	46	8	0.045	1.65	0.01	0.31	0.02	0.38	0.04	0.48	0.04	0.49
V08017-V08023	1026	186	8	0.001	0.29	0.03	0.31	0.06	0.39	0.12	0.51	0.13	0.52
V08023-V08072.A0	5370	90	8	0.071	2.08	0.03	0.09	0.06	0.13	0.12	0.19	0.13	0.20
V08032-V08033	1022	397	6	0.002	0.15	0.00	0.11	0.00	0.12	0.03	0.31	0.03	0.31
V08033-V08037	1021	87	10	0.002	0.64	0.01	0.10	0.01	0.10	0.04	0.16	0.04	0.16
V08034-V08035	5357	37	6	0.410	2.32	0.04	0.57	0.04	0.57	0.01	0.55	0.01	0.55
V08035-V08036	5358	202	6	0.072	0.97	0.05	0.17	0.05	0.17	0.02	0.13	0.02	0.13
V08036-V08037	1020	39	6	0.030	0.63	0.05	0.19	0.05	0.20	0.03	0.19	0.03	0.19
V08037-V08134	1019	290	6	0.033	0.66	0.06	0.20	0.06	0.21	0.08	0.25	0.08	0.25
V08038-V08039	1120	184	6	0.057	0.86	0.00	0.05	-	0.05	0.03	0.11	0.03	0.11
V08039-V08040	4771	210	6	0.110	1.20	0.03	0.11	0.03	0.11	0.03	0.11	0.03	0.11
V08040-V08042	4815	221	6	0.095	1.12	0.03	0.13	0.03	0.13	0.03	0.13	0.03	0.13
V08041-V08042	4814	228	6	0.070	0.96	0.01	0.10	0.01	0.11	0.01	0.11	0.01	0.11
V08042-V08043	5655	91	6	0.066	0.93	0.04	0.12	0.04	0.12	0.04	0.12	0.04	0.12
V08043-V08044	1264	315	6	0.417	2.34	0.04	0.54	0.04	0.55	0.05	0.55	0.05	0.55
V08044-V08045	1018	54	6	1.785	4.85	0.04	0.56	0.05	0.56	0.05	0.57	0.05	0.57
V08045-V08049	1017	262	6	0.006	0.28	0.01	0.11	0.01	0.12	0.01	0.15	0.01	0.15
V08045-V08137	7358	162	8	0.065	1.99	0.03	0.18	0.04	0.20	0.04	0.24	0.04	0.24
V08046-V08047	5404	179	6	0.039	0.72	0.00	0.04	0.00	0.04	0.00	0.08	0.00	0.08
V08047-V08048	5403	202	6	0.060	0.89	0.00	0.05	0.01	0.06	0.02	0.12	0.02	0.12
V08048-V08049	1263	248	6	0.054	0.84	0.01	0.08	0.01	0.09	0.03	0.15	0.03	0.15
V08049-V08136	7796	155	8	0.046	1.68	0.02	0.15	0.02	0.17	0.05	0.22	0.05	0.22
V08060-V08061	5350	48	6	0.129	1.30	0.00	0.05	0.00	0.06	0.01	0.07	0.01	0.07
V08061-V08138	7805	144	6	0.129	1.30	0.01	0.08	0.01	0.08	0.02	0.09	0.02	0.09
V08072.A0-V08072.B0	5371	77	8	0.025	1.23	0.03	0.10	0.06	0.15	0.13	0.21	0.13	0.22
V08072.B0-V08072.C0	5372	86	8	0.030	1.34	0.03	0.10	0.06	0.14	0.13	0.21	0.13	0.21
V08072.C0-V08074.A0	7721	224	18	0.011	7.00	1.68	0.35	2.89	0.47	2.77	0.46	3.44	0.52
V08072.CA-V08072.CB	7744	99	8	0.023	1.19	0.00	0.49	-	0.50	0.00	0.50	0.00	0.50
V08072.CB-V08072.CD	7747	273	18	0.004	4.19	1.65	0.45	2.82	0.61	2.63	0.59	3.27	0.68
V08072.CD-V08072.CE	7749	185	18	0.003	3.70	1.65	0.40	2.83	0.56	2.64	0.53	3.29	0.62
V08072.CE-V08072.CF	7750	19	18	0.012	7.46	1.65	0.38	2.83	0.52	2.64	0.50	3.29	0.57
V08072.CF-V08072.C0	7751	149	18	0.005	4.61	1.65	0.37	2.83	0.50	2.65	0.48	3.30	0.55
V08074.A0-V08129	7730	54	24	0.006	11.30	1.68	0.30	2.90	0.40	2.77	0.39	3.44	0.44
V08077.B0-V08118.A0	7786	63	8	0.006	0.58	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
V08077.C0-V08077.B0	7788	111	8	0.009	0.76	0.00	0.00	-	0.02	0.00	0.00	0.00	0.02
V08081-V08084	4813	465	6	0.058	0.87	0.00	0.05	0.00	0.06	0.01	0.07	0.01	0.07
V08082-V08083	6261	97	6	0.067	0.94	0.00	0.05	0.00	0.05	0.01	0.06	0.01	0.06
V08083-V08084	4812	226	6	0.060	0.89	0.01	0.06	0.01	0.07	0.01	0.08	0.01	0.08
V08084-V08085	4827	47	8	0.079	2.20	0.01	0.06	0.02	0.07	0.02	0.08	0.02	0.08
V08085-V08089	5654	378	6	0.043	0.76	0.01	0.12	0.02	0.14	0.03	0.17	0.03	0.17
V08086-V08087	4810	305	6	0.073	0.98	0.01	0.06	0.01	0.06	0.01	0.08	0.01	0.08
V08087-V08088	5653	208	6	0.089	1.08	0.01	0.08	0.01	0.09	0.02	0.11	0.02	0.11
V08088-V08089	5402	339	6	0.020	0.51	0.01	0.12	0.01	0.14	0.02	0.17	0.02	0.17
V08089-V08090	1261	327	6	0.046	0.77	0.03	0.14	0.04	0.16	0.07	0.21	0.07	0.21
V08090-V08112	7695	74	8	0.037	1.50	0.03	0.10	0.05	0.12	0.08	0.16	0.09	0.16
V08091-V08092	4770	137	8	0.087	2.31	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V08092-V08093	5607	268	8	0.034	1.44	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V08093-V08094	5608	147	8	0.014	0.91	0.01	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V08094-V08095	4809	38	8	0.011	0.82	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
V08095-V08103	5652	234	8	0.095	2.40	0.01	0.06	0.01	0.08	0.01	0.07	0.02	0.08
V08096-V08103	5401	321	6	0.004	0.23	0.00	0.09	0.00	0.11	0.00	0.11	0.00	0.12
V08097-V08098	5400	154	8	0.004	0.51	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V08098-V08099	5399	132	8	0.004	0.48	0.00	0.07	0.01	0.08	0.00	0.07	0.00	0.08
V08099-V08100	5398	196	8	0.004	0.50	0.01	0.09	0.01	0.10	0.01	0.08	0.01	0.09
V08100-V08102	5397	85	8	0.005	0.54	0.01	0.10	0.01	0.11	0.01	0.09	0.01	0.11
V08101-V08102	5651	103	8	0.070	2.07	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07
V08102-V08103	5396	91	8	0.006	0.62	0.01	0.09	0.02	0.11	0.02	0.10	0.02	0.12
V08103-V08104	1260	211	8	0.050	1.75	0.02	0.08	0.04	0.10	0.03	0.10	0.04	0.11
V08104-V08105	1009	238	8	0.052	1.78	0.02	0.12	0.04	0.15	0.04	0.14	0.05	0.16
V08105-V08109	1276	321	6	0.006	0.28	0.03	0.21	0.05	0.28	0.04	0.30	0.05	0.33
V08106-V08107	5348	182	6	0.033	0.66	0.00	0.05	0.00	0.06	0.00	0.10	0.00	0.10
V08107-V08108	5346	97	6	0.006	0.28	0.00	0.05	0.00	0.07	0.01	0.14	0.01	0.14
V08108-V08109	1275	236	6	0.050	0.81	0.00	0.13	0.00	0.17	0.03	0.25	0.03	0.26
V08109-V08110	5347	140	6	0.006	0.29	0.03	0.23	0.05	0.31	0.08	0.37	0.09	0.40
V08110-V08111	5349	129	6	0.006	0.29	0.03	0.16	0.05	0.22	0.08	0.26	0.09	0.28
V08111-V08113	7554	46	8	0.284	4.17	0.03	0.10	0.06	0.12	0.10	0.16	0.11	0.17
V08112-V08113	7696	389	8	0.037	1.49	0.03	0.12	0.05	0.14	0.08	0.19	0.09	0.19
V08113-V08147	7697	87	8	0.054	1.81	0.07	0.48	0.11	0.58	0.18	0.61	0.19	0.61
V08114-V08115.A0	7886	159	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.06	0.00	0.06
V08115.A0-V08115	7887	38	8	0.014	0.94	0.00	0.03	0.00	0.05	0.03	0.13	0.03	0.13
V08115-V08116	7885	240	8	0.011	0.81	0.00	0.04	0.00	0.05	0.03	0.13	0.03	0.13
V08116-V08117	7884	136	8	0.011	0.83	0.00	0.04	0.01	0.06	0.03	0.13	0.03	0.13
V08117-V08119.A0	7883	73	8	0.010	0.78	0.00	0.04	0.01	0.07	0.03	0.13	0.03	0.13
V08118.A0-V08118	7785	100	8	0.014	0.91	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.04
V08118-V08119	7784	106	8	0.002	0.35	0.00	0.02	0.00	0.07	0.00	0.07	0.00	0.10
V08119.A0-V08119	7781	90	8	0.012	0.87	0.00	0.04	0.01	0.08	0.03	0.13	0.03	0.14
V08119-V08123	7783	105	8	0.008	0.70	0.00	0.04	0.01	0.09	0.03	0.14	0.03	0.15
V08123.A0-V08123	7780	41	8	0.008	0.69	0.00	0.02	-	0.05	0.00	0.08	0.00	0.08
V08123-V08124	7782	93	8	0.008	0.68	0.00	0.04	0.01	0.09	0.03	0.13	0.03	0.14
V08124-V08161	7779	96	8	0.022	1.16	0.00	0.52	0.01	0.54	0.03	0.56	0.04	0.56
V08126-V08157	7772	99	8	0.050	1.75	0.00	0.50	-	0.50	0.01	0.53	0.01	0.53
V08127-V08128	7731	101	8	0.011	0.84	0.00	0.00	-	0.01	0.00	0.01	0.00	0.01
V08128-V08129	7732	25	8	0.336	4.52	0.00	0.34	0.00	0.50	0.00	0.49	0.00	0.51
V08129-V08130	7753	319	24	0.003	7.63	1.68	0.30	2.90	0.40	2.78	0.39	3.44	0.44
V08130-V08132.B0	7754	151	24	0.005	9.96	1.68	0.31	2.91	0.42	2.78	0.41	3.45	0.46
V08132.B0-V08132	7802	97	24	0.002	5.75	1.68	0.33	2.91	0.44	2.88	0.43	3.54	0.48
V08132-V08133	7803	214	24	0.003	8.36	1.68	0.31	2.92	0.42	2.88	0.41	3.54	0.47
V08133.A0-V08133	7757	16	6	0.021	0.53	0.00	0.00	-	0.00	0.01	0.09	0.01	0.09
V08133-V08142	7801	270	24	0.003	7.76	1.68	0.32	2.92	0.43	2.89	0.44	3.56	0.49
V08134-V08135	8319	72	6	0.025	0.57	0.06	0.24	0.06	0.25	0.09	0.30	0.09	0.30
V08135-V08136	7357	342	8	0.007	0.65	0.06	0.21	0.06	0.23	0.09	0.28	0.09	0.28
V08136-V08137	1273	261	8	0.007	0.64	0.07	0.25	0.09	0.28	0.14	0.35	0.14	0.35
V08137-V08140	1272	213	8	0.007	0.64	0.10	0.28	0.13	0.32	0.19	0.38	0.19	0.38
V08138-V08140	7804	81	8	0.041	1.57	0.01	0.18	0.01	0.20	0.02	0.23	0.02	0.23
V08139-V08140	7808	395	8	0.010	0.80	0.00	0.16	0.00	0.18	0.00	0.22	0.00	0.22
V08140-V08141	7809	196	8	0.011	0.81	0.12	0.21	0.15	0.23	0.21	0.28	0.21	0.28
V08141-V08142	7807	27	8	0.236	3.80	0.12	0.56	0.16	0.57	0.23	0.58	0.23	0.58
V08142-V08143.A0	7795	53	24	0.003	8.00	1.80	0.34	3.08	0.45	3.12	0.46	3.79	0.51
V08143.A0-V08143.B0	7794	74	24	0.002	6.35	1.80	0.33	3.08	0.44	3.12	0.45	3.79	0.50
V08143.B0-V08143	7793	140	24	0.003	8.30	1.80	0.35	3.09	0.46	3.12	0.47	3.79	0.52
V08143-V08144	7792	103	24	0.001	4.33	1.80	0.34	3.09	0.45	3.12	0.45	3.79	0.50
V08144.A0-V08144	7756	20	8	0.840	7.16	0.00	0.45	-	0.50	0.00	0.50	0.00	0.50
V08144-V08146	7255	233	24	0.004	9.19	1.80	0.31	3.09	0.41	3.13	0.41	3.81	0.46
V08145-V08146	7755	98	8	0.010	0.76	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00
V08146-V08147	7254	386	24	0.003	8.58	1.80	0.30	3.10	0.39	3.14	0.40	3.83	0.44
V08147-V08153	7698	50	24	0.006	11.31	1.86	0.28	3.22	0.37	3.33	0.38	4.03	0.42
V08153-V29147	12	32	24	0.005	10.66	1.86	0.28	3.22	0.38	3.33	0.38	4.03	0.43

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V08154-V29142	7768	247	27	0.004	12.08	3.30	0.35	6.86	0.54	6.20	0.50	8.48	0.61
V08155-V08154	7769	243	27	0.004	12.03	3.30	0.36	6.85	0.54	6.17	0.51	8.45	0.62
V08156-V08155	7770	161	27	0.004	12.72	3.30	0.35	6.85	0.53	6.17	0.50	8.45	0.61
V08157-V08156	7771	82	27	0.005	14.47	3.30	0.34	6.84	0.51	6.17	0.48	8.45	0.58
V08158-V08157	7774	148	27	0.004	12.84	3.30	0.34	6.84	0.51	6.16	0.48	8.43	0.58
V08159-V08158	7776	243	27	0.004	12.25	3.30	0.35	6.83	0.52	6.16	0.49	8.42	0.60
V08160-V08159	7778	83	27	0.005	14.42	3.30	0.34	6.83	0.52	6.15	0.49	8.42	0.59
V08161-V08160	7777	35	27	0.008	18.22	3.30	0.32	6.83	0.48	6.15	0.45	8.42	0.55
V08162-V08161	7791	40	27	0.008	17.90	3.29	0.30	6.81	0.45	6.12	0.42	8.38	0.52
V08163-V08162	FM2	390	27	0.008	17.82	3.29	0.29	6.80	0.44	6.12	0.41	8.37	0.49
V08166-V08017.J0	V08166-V08017.J0	232	8	0.022	1.16	0.01	0.07	0.02	0.09	0.04	0.11	0.04	0.12
V08168-V08007	V08168-V08007	274	8	0.008	0.68	0.00	0.06	0.00	0.07	0.01	0.09	0.01	0.09
V09002-V09003.A0	632	125	6	0.008	0.32	0.00	0.18	0.01	0.20	0.01	0.24	0.01	0.24
V09003.A0-V09003	629	127	6	0.000	0.03	0.01	0.22	0.01	0.24	0.02	0.29	0.02	0.29
V09003-V09004	626	337	8	0.005	0.57	0.01	0.09	0.02	0.10	0.02	0.13	0.02	0.13
V09004-V09007	627	28	8	0.043	1.62	0.01	0.18	0.02	0.20	0.03	0.25	0.03	0.25
V09005-V09006	255	30	6	0.014	0.43	0.00	0.06	0.00	0.06	0.00	0.07	0.00	0.07
V09006-V09007	625	300	6	0.008	0.32	0.01	0.09	0.01	0.09	0.01	0.10	0.01	0.10
V09007-V09008	628	322	8	0.001	0.24	0.02	0.20	0.03	0.23	0.05	0.27	0.05	0.27
V09008-V09010	634	254	8	0.028	1.31	0.04	0.17	0.05	0.18	0.07	0.16	0.07	0.17
V09009-V09010	633	316	8	0.005	0.55	0.08	0.24	0.08	0.25	0.01	0.14	0.01	0.14
V09010-V09011	619	267	8	0.026	1.26	0.13	0.21	0.14	0.22	0.08	0.17	0.09	0.18
V09011-V09012	620	267	10	0.027	2.34	0.13	0.16	0.15	0.17	0.09	0.13	0.10	0.14
V09012-V09013	618	247	10	0.036	2.69	0.14	0.16	0.16	0.17	0.09	0.13	0.10	0.14
V09013-V09027	613	301	10	0.034	2.59	0.14	0.18	0.17	0.20	0.10	0.16	0.11	0.17
V09014-V09015	624	141	6	0.066	0.93	0.00	0.05	0.00	0.06	0.01	0.07	0.01	0.07
V09015-V09016	258	242	6	0.074	0.99	0.01	0.07	0.01	0.08	0.01	0.09	0.01	0.09
V09016.A0-V09016	818	41	8	0.002	0.35	0.00	0.05	0.00	0.05	0.01	0.08	0.01	0.08
V09016-V09017	259	121	8	0.077	2.16	0.02	0.53	0.02	0.53	0.02	0.53	0.02	0.53
V09017-V09018	256	109	8	0.020	1.11	0.02	0.57	0.02	0.58	0.03	0.59	0.03	0.59
V09018.A0-V09018	253	422	6	0.068	0.95	0.00	0.11	0.00	0.13	0.01	0.14	0.01	0.14
V09018-V09020	252	217	8	0.008	0.69	0.02	0.10	0.03	0.11	0.04	0.12	0.04	0.13
V09019-V09020	249	231	8	0.051	1.77	0.01	0.05	0.01	0.05	0.01	0.06	0.01	0.06
V09020-V09021	250	44	8	0.331	4.50	0.03	0.53	0.04	0.53	0.05	0.54	0.05	0.54
V09021-V09023	251	154	8	0.051	1.76	0.03	0.57	0.04	0.58	0.05	0.59	0.05	0.59
V09022-V09023	248	423	6	0.036	0.69	0.00	0.12	0.00	0.14	0.01	0.16	0.01	0.16
V09023-V09025	622	218	6	0.017	0.47	0.04	0.19	0.05	0.23	0.06	0.25	0.06	0.26
V09024.A0-V09024	621	184	8	0.051	1.76	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V09024-V09025	247	279	8	0.017	1.03	0.01	0.10	0.01	0.12	0.01	0.13	0.01	0.13
V09025-V09026	614	346	8	0.017	1.02	0.05	0.14	0.07	0.17	0.08	0.18	0.09	0.19
V09026-V09027	615	42	8	0.029	1.34	0.05	0.19	0.07	0.22	0.08	0.21	0.10	0.22
V09027-V09029	616	121	12	0.019	3.18	0.19	0.16	0.24	0.18	0.18	0.16	0.21	0.17
V09028.A0-V09028	5353	44	8	0.001	0.24	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V09028-V09029	611	428	6	0.051	0.82	0.00	0.18	0.00	0.20	0.00	0.18	0.00	0.19
V09029-V09032.A0	1154	100	12	0.023	3.50	0.20	0.17	0.25	0.19	0.19	0.16	0.22	0.18
V09030.A0-V09030	5354	86	8	0.001	0.21	0.00	0.06	0.00	0.06	0.00	0.04	0.00	0.04
V09030-V09031	3045	148	6	0.086	1.06	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.05
V09031-V09032	3044	280	6	0.040	0.73	0.01	0.23	0.01	0.26	0.01	0.22	0.01	0.23
V09032.A0-V09032	1156	120	12	0.017	2.96	0.20	0.18	0.25	0.21	0.19	0.18	0.22	0.19
V09032-V09035	1155	121	12	0.013	2.60	0.20	0.18	0.26	0.21	0.20	0.18	0.23	0.20
V09033.A0-V09033	7533	25	8	0.002	0.35	0.00	0.03	0.00	0.03	0.00	0.06	0.00	0.06
V09033-V09034	3046	250	8	0.011	0.82	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V09034-V09035	1157	256	8	0.033	1.42	0.00	0.15	0.01	0.17	0.01	0.16	0.01	0.17
V09035-V09046	3040	290	12	0.018	3.11	0.21	0.23	0.28	0.27	0.21	0.23	0.24	0.25
V09040-V09042	617	119	8	0.004	0.51	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V09041.A0-V09041	5945	23	8	0.005	0.53	0.00	0.04	0.00	0.04	0.01	0.08	0.01	0.08
V09041-V09042	5946	223	6	0.005	0.25	0.00	0.07	0.00	0.08	0.01	0.12	0.01	0.12
V09042-V09045.A0	3041	108	8	0.006	0.61	0.00	0.06	0.01	0.08	0.01	0.09	0.01	0.10
V09043.A0-V09043	7427	43	8	0.002	0.34	0.00	0.02	-	0.02	0.00	0.02	0.00	0.02
V09043-V09045	3038	232	6	0.019	0.50	0.00	0.10	0.00	0.12	0.00	0.12	0.00	0.13
V09044.A0-V09044	5957	24	8	0.004	0.46	0.00	0.02	-	0.02	0.01	0.08	0.01	0.08
V09044-V09045	7624	224	6	0.006	0.27	0.00	0.10	0.00	0.12	0.01	0.15	0.01	0.16
V09045.A0-V09045	3043	112	8	0.006	0.60	0.01	0.08	0.01	0.11	0.01	0.12	0.01	0.13
V09045-V09046	3042	120	8	0.005	0.53	0.01	0.27	0.02	0.32	0.02	0.29	0.03	0.32
V09046-V09049.H0	V09046-V09049.H0	151	12	0.003	1.24	0.22	0.29	0.30	0.33	0.23	0.29	0.27	0.32
V09049.B0-V09049.D0	V09049.B0-V09049.D0	48	8	0.012	0.86	0.00	0.01	-	0.02	0.00	0.00	0.00	0.01
V09049.C0-V09049.D0	V09049.C0-V09049.D0	69	8	0.012	0.84	0.00	0.01	-	0.02	0.00	0.00	0.00	0.02
V09049.D0-V09049.E0	V09049.D0-V09049.E0	178	8	0.011	0.80	0.00	0.06	0.00	0.07	0.00	0.00	0.00	0.03
V09049.E0-V09049.G0	V09049.E0-V09049.G0	178	8	0.011	0.80	0.02	0.10	0.02	0.11	0.00	0.05	0.00	0.07
V09049.F0-V09049.G0	V09049.F0-V09049.G0	219	8	0.010	0.80	0.00	0.05	-	0.06	0.00	0.05	0.00	0.05
V09049.G0-V09049.H0	V09049.G0-V09049.H0	115	8	0.010	0.80	0.02	0.27	0.02	0.31	0.01	0.26	0.02	0.29
V09049.H0-V09049	V09049.H0-V09049	140	12	0.004	1.38	0.24	0.28	0.33	0.32	0.24	0.28	0.29	0.31
V09049-V09050.A0	3034	224	15	0.003	2.41	0.24	0.22	0.33	0.25	0.24	0.22	0.29	0.24
V09050.A0-V09050	3030	231	15	0.003	2.40	0.24	0.19	0.33	0.22	0.25	0.19	0.30	0.21
V09050-V09054	3022	284	15	0.014	4.90	0.25	0.41	0.36	0.47	0.28	0.44	0.33	0.47
V09051-V09052	3036	460	8	0.006	0.58	0.01	0.08	0.01	0.09	0.00	0.07	0.00	0.07
V09052-V09053	3031	455	8	0.011	0.83	0.01	0.54	0.01	0.55	0.01	0.54	0.01	0.55
V09053-V09050	3029	182	8	0.006	0.58	0.02	0.65	0.04	0.67	0.02	0.65	0.03	0.67
V09054-V09061	7742	236	18	0.002	2.93	0.25	0.39	0.36	0.46	0.29	0.44	0.35	0.48
V09056-V09057	3033	318	18	0.002	3.16	1.38	0.51	2.39	0.71	2.28	0.69	2.84	0.83
V09057-V09058	3027	449	18	0.001	2.62	1.38	0.44	2.40	0.61	2.29	0.59	2.85	0.69
V09058.A0-V09058.C0	3032	389	8	0.006	0.61	0.00	0.03	0.00	0.05	0.01	0.11	0.01	0.11
V09058.B0-V09058.C0	4322	30	8	0.044	1.65	0.00	0.03	0.00	0.04	0.01	0.09	0.01	0.09
V09058.C0-V09058.E0	3026	340	8	0.006	0.61	0.00	0.04	0.00	0.06	0.02	0.09	0.02	0.09
V09058.D0-V09058.E0	3025	21	8	0.024	1.20	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V09058.E0-V09058	3024	11	8	0.300	4.27	0.01	0.39	0.02	0.52	0.02	0.51	0.03	0.53
V09058-V09059.B0	3023	120	18	0.008	6.00	1.39	0.42	2.43	0.56	2.32	0.55	2.89	0.62
V09059.B0-V09059	3020	330	18	0.001	2.36	1.39	0.36	2.43	0.49	2.32	0.47	2.89	0.54
V09059-V09061	7743	132	18	0.036	12.92	1.40	0.22	2.45	0.30	2.33	0.29	2.91	0.32
V09061-V09062	7745	65	18	0.047	14.71	1.65	0.26	2.82	0.34	2.62	0.33	3.26	0.37
V09062-V08072.CB	7746	87	18	0.018	9.12	1.65	0.36	2.82	0.49	2.62	0.47	3.26	0.54
V09067-V09002	V09067-V09002	157	8	0.011	0.83	0.00	0.05	0.00	0.06	0.01	0.07	0.01	0.07
V1	V1	470	36	0.004	28.73	7.51	0.32	16.00	0.49	13.05	0.43	18.86	0.54
V10001.A0-V10001	4323	48	8	0.002	0.35	0.00	0.06	0.00	0.06	0.01	0.11	0.01	0.11
V10001.B0-V10001	4324	42	8	0.002	0.35	0.01	0.10	0.01	0.10	0.01	0.13	0.01	0.13
V10001-V10002	915	140	8	0.005	0.54	0.01	0.11	0.01	0.11	0.02	0.13	0.02	0.13
V10002-V10003	914	351	8	0.004	0.49	0.02	0.15	0.02	0.16	0.02	0.15	0.02	0.16
V10003-V10006	4395	345	8	0.004	0.50	0.03	0.14	0.03	0.15	0.03	0.14	0.03	0.15
V10004-V10006	4093	110	8	0.183	3.34	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V10005-V10006	4394	196	8	0.003	0.45	0.00	0.06	0.00	0.07	0.00	0.08	0.00	0.08
V10006-V10007	4393	250	8	0.048	1.71	0.03	0.09	0.04	0.10	0.03	0.09	0.04	0.11
V10007-V10008	4392	268	8	0.061	1.93	0.03	0.09	0.04	0.10	0.03	0.09	0.05	0.11
V10008-V10017	4391	224	8	0.063	1.97	0.03	0.10	0.05	0.12	0.04	0.11	0.05	0.13
V10009-V10010	4099	217	8	0.027	1.29	0.00	0.03	0.00	0.03	0.02	0.08	0.02	0.08
V10010-V10011	4098	268	8	0.071	2.09	0.00	0.04	0.01	0.05	0.02	0.08	0.02	0.08
V10011-V10012	4096	247	8	0.033	1.41	0.01	0.05	0.01	0.06	0.02	0.09	0.02	0.09
V10012-V10014	4095	350	8	0.036	1.48	0.01	0.06	0.01	0.08	0.03	0.10	0.03	0.11

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V10014-V10015	4390	348	8	0.016	1.00	0.01	0.08	0.02	0.10	0.03	0.12	0.03	0.13
V10015-V10016	4389	350	8	0.016	1.00	0.01	0.07	0.02	0.10	0.03	0.11	0.04	0.12
V10016-V10017	4094	137	8	0.037	1.49	0.01	0.09	0.03	0.12	0.03	0.11	0.04	0.13
V10017-V10018	376	187	8	0.055	1.84	0.05	0.11	0.08	0.14	0.06	0.13	0.10	0.16
V10018-V10019	375	185	8	0.051	1.76	0.05	0.12	0.08	0.15	0.06	0.14	0.10	0.17
V10019-V10079	912	275	8	0.039	1.54	0.05	0.19	0.09	0.26	0.07	0.25	0.10	0.30
V10020.A0-V10020	4233	128	8	0.051	1.76	0.00	0.02	0.00	0.02	0.00	0.08	0.00	0.08
V10020-V10021	4425	176	8	0.040	1.57	0.00	0.03	0.00	0.04	0.08	0.16	0.08	0.16
V10021-V10023	639	318	8	0.046	1.68	0.00	0.05	0.01	0.06	0.12	0.20	0.12	0.20
V10022-V10023	4424	171	8	0.059	1.89	0.00	0.04	0.00	0.05	0.00	0.13	0.00	0.13
V10023-V10025	4421	254	8	0.020	1.10	0.01	0.07	0.01	0.10	0.12	0.25	0.12	0.25
V10024-V10025	4387	181	8	0.061	1.93	0.00	0.05	0.00	0.07	0.00	0.15	0.00	0.15
V10025-V10026	4388	145	8	0.014	0.92	0.01	0.06	0.02	0.09	0.12	0.20	0.12	0.20
V10026-V10027	4131	38	8	0.159	3.12	0.01	0.05	0.02	0.07	0.13	0.16	0.13	0.16
V10027-V10029	4396	127	8	0.055	1.84	0.01	0.08	0.02	0.11	0.13	0.24	0.13	0.24
V10028-V10029	4397	89	8	0.108	2.56	0.00	0.06	0.00	0.08	0.00	0.16	0.00	0.16
V10029-V10031	4129	89	8	0.007	0.64	0.01	0.10	0.03	0.13	0.13	0.28	0.13	0.28
V10030-V10031	4130	195	8	0.004	0.49	0.00	0.07	0.00	0.09	0.00	0.15	0.00	0.15
V10031-V10038	4128	213	8	0.017	1.01	0.02	0.10	0.03	0.14	0.13	0.24	0.13	0.24
V10032-V10033	1080	242	8	0.045	1.65	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V10033-V10035	1079	204	8	0.014	0.92	0.00	0.06	0.01	0.07	0.01	0.07	0.01	0.08
V10034-V10035	1076	216	8	0.020	1.09	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V10035-V10036	1078	164	8	0.010	0.78	0.01	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V10036-V10037	4399	30	8	0.030	1.35	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.07
V10037-V10038	4400	121	8	0.030	1.35	0.01	0.08	0.02	0.11	0.01	0.15	0.02	0.16
V10038-V10049	1074	104	8	0.021	1.12	0.03	0.14	0.05	0.19	0.14	0.28	0.15	0.29
V10039-V10041	4423	351	8	0.009	0.76	0.00	0.05	0.00	0.06	0.01	0.09	0.01	0.09
V10040-V10041	4422	349	8	0.047	1.70	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.07
V10041-V10044	4386	264	8	0.011	0.81	0.00	0.06	0.01	0.08	0.02	0.09	0.02	0.10
V10042-V10043	1082	301	8	0.090	2.34	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V10043-V10044	1081	101	8	0.063	1.96	0.01	0.05	0.01	0.06	0.01	0.06	0.01	0.07
V10044-V10047	1083	300	8	0.049	1.72	0.01	0.07	0.02	0.10	0.02	0.10	0.03	0.11
V10045-V10046	1085	64	8	0.128	2.80	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V10046-V10047	1084	308	8	0.081	2.22	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V10047-V10048	1075	173	8	0.022	1.15	0.02	0.09	0.03	0.12	0.03	0.12	0.04	0.13
V10048-V10049	817	190	8	0.019	1.08	0.02	0.13	0.04	0.18	0.03	0.22	0.04	0.24
V10049-V10051	4127	248	8	0.013	0.88	0.05	0.14	0.09	0.20	0.18	0.27	0.19	0.28
V10050-V10051	4126	167	8	0.033	1.42	0.00	0.07	0.00	0.09	0.00	0.12	0.00	0.13
V10051-V10053	4125	180	8	0.047	1.70	0.05	0.12	0.10	0.17	0.18	0.23	0.20	0.24
V10052-V10053	4124	316	8	0.032	1.39	0.00	0.08	0.00	0.11	0.00	0.13	0.00	0.14
V10053-V10054	4123	167	8	0.040	1.56	0.05	0.16	0.11	0.22	0.18	0.29	0.20	0.31
V10054-V10056	4122	84	8	0.009	0.75	0.06	0.17	0.11	0.24	0.19	0.31	0.21	0.33
V10055-V10056	4115	307	8	0.044	1.64	0.00	0.09	0.00	0.12	0.00	0.15	0.00	0.16
V10056-V10058	4121	270	8	0.024	1.20	0.06	0.15	0.12	0.21	0.19	0.27	0.21	0.28
V10057-V10058	4116	255	8	0.202	3.51	0.01	0.58	0.03	0.61	0.03	0.63	0.03	0.64
V10058-V10060	4120	60	8	0.028	1.30	0.06	0.17	0.13	0.23	0.19	0.29	0.22	0.31
V10059-V10060	4119	131	8	0.042	1.60	0.00	0.10	0.00	0.14	0.00	0.17	0.00	0.18
V10060-V10061	4118	273	8	0.014	0.91	0.07	0.19	0.13	0.27	0.20	0.33	0.22	0.35
V10061-V10078	4114	206	8	0.011	0.81	0.07	0.20	0.14	0.29	0.20	0.33	0.23	0.36
V10062-V10063	4101	188	8	0.037	1.51	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V10063-V10065	4100	336	8	0.045	1.65	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V10064.A0-V10064.B0	4107	172	8	0.076	2.15	0.00	0.10	0.00	0.11	0.00	0.10	0.00	0.10
V10064.B0-V10064	4106	165	8	0.000	0.02	0.00	0.11	0.01	0.13	0.00	0.11	0.01	0.12
V10064-V10065	4105	234	8	0.019	1.08	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.07
V10065-V10066	4104	164	8	0.022	1.16	0.01	0.09	0.02	0.12	0.01	0.09	0.02	0.11
V10066-V10068	4108	231	8	0.004	0.51	0.01	0.11	0.02	0.15	0.01	0.11	0.02	0.14
V10067-V10068	4111	141	8	0.063	1.97	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.08
V10068-V10069	4110	107	8	0.006	0.58	0.01	0.10	0.03	0.14	0.02	0.11	0.03	0.13
V10069-V10070	4109	277	8	0.015	0.97	0.02	0.09	0.03	0.12	0.02	0.09	0.03	0.11
V10070-V10075	4112	127	8	0.034	1.44	0.02	0.08	0.04	0.11	0.02	0.09	0.03	0.11
V10071-V10072	919	166	8	0.052	1.78	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
V10072-V10073	918	229	8	0.054	1.81	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
V10073.A0-V10073	1006	56	8	0.002	0.35	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V10073-V10074	917	61	8	0.190	3.40	0.00	0.10	0.01	0.12	0.01	0.12	0.01	0.13
V10074-V10075	1008	135	8	0.000	0.02	0.01	0.12	0.01	0.16	0.01	0.15	0.01	0.17
V10075-V10077	1007	61	8	0.056	1.85	0.02	0.08	0.05	0.11	0.03	0.09	0.05	0.11
V10076-V10077	4113	227	6	0.019	0.49	0.00	0.07	0.00	0.09	0.00	0.08	0.00	0.09
V10077-V10078	916	137	8	0.082	2.24	0.03	0.14	0.05	0.20	0.03	0.21	0.05	0.23
V10078-V10079	4381	322	8	0.017	1.00	0.10	0.24	0.19	0.33	0.23	0.35	0.28	0.39
V10079-V10082	911	253	10	0.012	1.54	0.15	0.21	0.29	0.29	0.29	0.30	0.38	0.34
V10081-V10082	373	197	6	0.048	0.80	0.00	0.20	0.00	0.27	0.00	0.27	0.00	0.30
V10082-V10097.A0	374	135	10	0.012	1.53	0.15	0.24	0.29	0.33	0.30	0.33	0.39	0.39
V10083-V10084	4403	216	8	0.004	0.49	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V10084-V10086	4402	300	8	0.008	0.72	0.00	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V10085-V10086	4401	160	8	0.050	1.75	0.00	0.52	0.01	0.52	0.00	0.52	0.01	0.52
V10086-V10087	1096	323	8	0.031	1.37	0.00	0.07	0.01	0.09	0.00	0.08	0.01	0.09
V10087-V10090.B0	1089	254	8	0.002	0.35	0.01	0.10	0.01	0.13	0.01	0.11	0.01	0.13
V10090.A0-V10090.B0	4383	238	8	0.014	0.93	0.01	0.08	0.01	0.09	0.01	0.10	0.01	0.10
V10090.B0-V10090	1090	74	8	0.013	0.90	0.01	0.09	0.02	0.12	0.03	0.12	0.03	0.13
V10090-V10091	1091	196	8	0.011	0.82	0.02	0.09	0.03	0.11	0.03	0.11	0.03	0.12
V10091-V10092	1092	172	8	0.030	1.36	0.02	0.08	0.03	0.11	0.03	0.11	0.03	0.11
V10092-V10097.B0	1095	124	8	0.025	1.24	0.02	0.22	0.03	0.29	0.03	0.29	0.04	0.33
V10093-V10094	4408	295	8	0.031	1.36	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V10094-V10095	4407	158	8	0.047	1.69	0.00	0.04	0.01	0.04	0.01	0.04	0.01	0.05
V10095-V10096	4406	241	8	0.081	2.22	0.01	0.04	0.01	0.05	0.01	0.05	0.01	0.06
V10096-V10097	4413	135	8	0.063	1.96	0.01	0.15	0.01	0.20	0.01	0.20	0.02	0.22
V10097.A0-V10097.B0	1093	160	10	0.005	1.01	0.16	0.27	0.30	0.38	0.30	0.38	0.39	0.43
V10097.B0-V10097	1088	70	10	0.006	1.07	0.18	0.24	0.33	0.33	0.33	0.32	0.43	0.37
V10097-V10100	1087	194	12	0.018	3.13	0.18	0.18	0.35	0.25	0.34	0.25	0.45	0.28
V10098-V10099	4405	115	8	0.017	1.00	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V10099-V10100	4404	89	8	0.057	1.86	0.00	0.16	0.00	0.22	0.00	0.22	0.00	0.25
V10100-V10101	1086	299	12	0.009	2.22	0.19	0.20	0.36	0.27	0.35	0.27	0.45	0.30
V10101-V10104.A0	4385	176	12	0.010	2.35	0.19	0.21	0.36	0.28	0.35	0.27	0.46	0.30
V10102.B0-V10102	333	114	8	0.021	1.13	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V10102-V10103	332	186	8	0.024	1.22	0.00	0.04	0.00	0.05	0.01	0.10	0.01	0.10
V10103-V10104	330	53	8	0.014	0.93	0.00	0.19	0.01	0.25	0.05	0.29	0.05	0.31
V10104.A0-V10104.B0	4384	71	12	0.010	2.28	0.23	0.22	0.41	0.29	0.36	0.28	0.47	0.32
V10104.B0-V10104	326	105	12	0.008	2.10	0.24	0.22	0.41	0.29	0.37	0.28	0.47	0.32
V10104-V10105	329	251	12	0.010	2.32	0.24	0.22	0.42	0.29	0.41	0.29	0.51	0.33
V10105-V10106	328	174	12	0.009	2.21	0.25	0.22	0.43	0.29	0.43	0.30	0.53	0.33
V10106-V10108	327	133	12	0.010	2.33	0.25	0.23	0.43	0.30	0.44	0.30	0.54	0.34
V10107-V10108	4453	252	8	0.006	0.60	0.01	0.23	0.01	0.28	0.01	0.28	0.01	0.30
V10108-V10109	4452	240	12	0.009	2.18	0.26	0.22	0.45	0.29	0.45	0.28	0.55	0.32
V10109-V10110	4445	230	12	0.020	3.25	0.26	0.19	0.45	0.25	0.45	0.25	0.56	0.28
V10110-V10132	4446	85	12	0.024	3.57	0.26	0.19	0.46	0.25	0.46	0.25	0.56	0.28
V10111-V10113.A0	4232	200	8	0.135	2.87	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V10112-V10113	4230	333	8	0.015	0.95	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V10113.A0-V10113	4231	86	8	0.069	2.05	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V10113-V10115	4228	65	8	0.069	2.04	0.01	0.04	0.01	0.06	0.01	0.06	0.02	0.07
V10114-V10115	4227	225	6	0.012	0.39	0.00	0.07	0.00	0.08	0.00	0.08	0.00	0.08
V10115-V10116	4226	197	8	0.069	2.05	0.01	0.06	0.02	0.08	0.02	0.08	0.02	0.09
V10116.A0-V10116	4418	256	8	0.020	1.12	0.00	0.06	0.00	0.07	0.00	0.07	0.00	0.07
V10116-V10118	4417	260	8	0.032	1.39	0.02	0.08	0.03	0.10	0.03	0.10	0.03	0.11
V10117-V10118	4420	322	8	0.041	1.59	0.00	0.06	0.00	0.07	0.01	0.08	0.01	0.08
V10118-V10119	4416	141	8	0.031	1.38	0.02	0.10	0.04	0.13	0.04	0.12	0.04	0.14
V10119-V10121	4437	61	8	0.014	0.91	0.02	0.11	0.04	0.14	0.04	0.14	0.05	0.16
V10120-V10121	4438	248	8	0.010	0.80	0.00	0.08	0.00	0.10	0.00	0.09	0.00	0.10
V10121-V10123	4439	103	8	0.015	0.97	0.03	0.12	0.04	0.15	0.04	0.16	0.05	0.17
V10122-V10123	4436	223	8	0.055	1.84	0.00	0.07	0.00	0.09	0.01	0.12	0.01	0.12
V10123-V10124	4432	237	8	0.013	0.90	0.03	0.15	0.05	0.20	0.06	0.22	0.07	0.23
V10124-V10125	4433	117	8	0.004	0.50	0.04	0.17	0.06	0.22	0.07	0.25	0.08	0.27
V10125-V10126	4434	76	8	0.006	0.63	0.04	0.16	0.06	0.20	0.08	0.23	0.09	0.24
V10126-V10127	4427	203	8	0.009	0.76	0.04	0.16	0.06	0.20	0.08	0.23	0.09	0.25
V10127-V10130	4426	215	8	0.007	0.65	0.04	0.16	0.06	0.21	0.09	0.25	0.10	0.26
V10128-V10129	4430	1	6	327.195	65.60	0.00	0.55	0.00	0.55	0.01	0.56	0.01	0.56
V10129-V10130	4431	257	6	0.008	0.32	0.01	0.16	0.01	0.19	0.01	0.23	0.01	0.23
V10130-V10131	4429	362	8	0.011	0.82	0.04	0.16	0.08	0.21	0.10	0.25	0.11	0.26
V10131-V10132	4448	71	8	0.011	0.82	0.05	0.23	0.08	0.30	0.11	0.33	0.12	0.35
V10132-V10141.D0	4447	43	12	0.024	3.59	0.31	0.30	0.54	0.40	0.57	0.41	0.69	0.46
V10133-V10139	4454	60	8	0.036	1.49	0.00	0.06	0.00	0.09	0.00	0.07	0.00	0.08
V10135-V10136	4455	58	8	0.011	0.83	0.00	0.03	-	0.03	0.00	0.07	0.00	0.07
V10136-V10137	4456	178	8	0.009	0.74	0.01	0.07	0.01	0.08	0.01	0.08	0.01	0.08
V10137-V10138	4325	94	6	0.060	0.89	0.02	0.13	0.02	0.13	0.02	0.13	0.02	0.13
V10138-V10139	4457	240	8	0.012	0.86	0.02	0.12	0.03	0.13	0.03	0.13	0.03	0.13
V10139-V10140	4458	100	8	0.010	0.80	0.02	0.11	0.03	0.12	0.03	0.12	0.03	0.12
V10140-V10141	4261	43	8	0.024	1.21	0.02	0.48	0.03	0.56	0.03	0.55	0.03	0.56
V10141.A0-V10141.B0	4440	403	15	0.004	2.63	0.69	0.34	1.21	0.46	1.23	0.46	1.51	0.52
V10141.B0-V10141.CA	4441	403	15	0.005	3.08	0.69	0.60	1.22	0.72	1.23	0.72	1.52	0.75
V10141.C0-V10141.D0	4444	213	15	0.008	3.62	0.73	0.31	1.29	0.43	1.30	0.43	1.60	0.48
V10141.CA-V10141.C0	4442	69	15	0.009	3.96	0.69	0.60	1.23	0.71	1.23	0.71	1.52	0.73
V10141.D0-V10141.E0	4449	132	15	0.012	4.59	1.04	0.45	1.83	0.65	1.87	0.64	2.29	0.75
V10141.E0-V10141	4460	409	15	0.003	2.12	1.24	0.52	2.15	0.75	2.10	0.74	2.60	0.86
V10141-V10142.A0	4260	311	18	0.003	3.94	1.26	0.42	2.19	0.58	2.13	0.57	2.64	0.64
V10142.A0-V10142	4262	123	18	0.002	2.70	1.28	0.40	2.23	0.55	2.17	0.54	2.68	0.61
V10142-V10143.A0	4265	35	18	0.006	5.08	1.28	0.36	2.23	0.49	2.16	0.48	2.69	0.55
V10143.A0-V10143	4266	416	18	0.004	4.55	1.31	0.44	2.27	0.61	2.21	0.60	2.74	0.70
V10143-V09056	4267	132	18	0.001	2.21	1.31	0.49	2.28	0.69	2.21	0.67	2.74	0.80
V10148-V10133	4451	346	8	0.006	0.63	0.00	0.00	-	0.02	0.00	0.00	0.00	0.02
V11001-V11002	3787	219	6	0.052	0.83	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V11002-V11004	3786	302	6	0.014	0.43	0.00	0.08	0.00	0.09	0.00	0.09	0.00	0.10
V11004-V11005	3788	304	8	0.006	0.59	0.01	0.08	0.01	0.10	0.01	0.09	0.01	0.10
V11005-V11010	4615	333	8	0.005	0.53	0.01	0.08	0.01	0.11	0.01	0.10	0.01	0.11
V11006-V11007	4614	325	6	0.080	1.03	0.00	0.15	0.00	0.17	0.00	0.15	0.00	0.16
V11007-V11011	4618	254	6	0.000	0.01	0.01	0.20	0.01	0.24	0.01	0.21	0.01	0.23
V11008-V11009	4619	225	8	0.006	0.63	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.06
V11009-V11010	1398	107	8	0.003	0.45	0.00	0.07	0.00	0.10	0.00	0.09	0.00	0.11
V11010-V11011	4616	36	8	0.006	0.58	0.01	0.09	0.02	0.13	0.02	0.11	0.02	0.13
V11011-V11013	4613	406	8	0.015	0.94	0.02	0.09	0.03	0.13	0.02	0.11	0.03	0.13
V11012-V11013	7531	138	6	0.063	0.91	0.00	0.07	0.00	0.09	0.00	0.09	0.00	0.10
V11013-V11014	4601	401	8	0.022	1.17	0.02	0.09	0.04	0.12	0.03	0.10	0.04	0.13
V11014-V11015	4588	290	8	0.037	1.49	0.02	0.10	0.05	0.14	0.03	0.12	0.05	0.14
V11015-V11048	4587	181	8	0.012	0.85	0.02	0.23	0.05	0.30	0.03	0.25	0.05	0.29
V11016-V11017	4704	294	8	0.032	1.39	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V11017-V11018	3784	237	8	0.010	0.78	0.00	0.05	0.01	0.06	0.00	0.05	0.01	0.06
V11018-V11019	4701	280	8	0.022	1.16	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
V11019-V11023	4692	353	8	0.026	1.25	0.01	0.08	0.02	0.11	0.01	0.08	0.01	0.11
V11020-V11022	4702	122	8	0.031	1.37	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11021-V11022	4703	145	8	0.010	0.79	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11022-V11023	4693	144	8	0.005	0.55	0.00	0.08	0.01	0.11	0.00	0.09	0.01	0.11
V11023-V11024	4695	258	8	0.005	0.55	0.01	0.11	0.03	0.16	0.01	0.12	0.02	0.15
V11024-V11029	4696	254	8	0.005	0.55	0.02	0.11	0.03	0.15	0.02	0.11	0.03	0.14
V11025-V11026	4699	173	8	0.021	1.13	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V11026-V11028	4691	352	8	0.042	1.60	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
V11027-V11028	4697	127	8	0.019	1.08	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V11028-V11029	4698	247	8	0.048	1.70	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.09
V11029-V11031	4611	164	8	0.036	1.48	0.02	0.09	0.05	0.13	0.02	0.09	0.04	0.12
V11030-V11031	4612	140	8	0.012	0.85	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.07
V11031-V11033	4689	148	8	0.040	1.57	0.03	0.09	0.05	0.13	0.03	0.09	0.05	0.12
V11032-V11033	4690	165	8	0.014	0.92	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V11033-V11034	4681	309	8	0.040	1.57	0.03	0.11	0.06	0.16	0.03	0.11	0.05	0.15
V11034-V11036	4683	261	8	0.014	0.92	0.03	0.12	0.06	0.17	0.03	0.12	0.06	0.16
V11035-V11036	4684	184	8	0.012	0.86	0.00	0.08	0.00	0.10	0.00	0.08	0.00	0.09
V11036-V11037	4620	368	8	0.026	1.26	0.04	0.13	0.07	0.18	0.04	0.13	0.06	0.17
V11037-V11038	4621	266	8	0.012	0.85	0.04	0.15	0.08	0.20	0.04	0.14	0.07	0.18
V11038-V11045	4626	348	8	0.022	1.16	0.06	0.19	0.10	0.24	0.04	0.17	0.07	0.21
V11039-V11040	4623	161	8	0.008	0.70	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V11040-V11043	4685	325	8	0.014	0.92	0.00	0.09	0.00	0.09	0.00	0.09	0.00	0.09
V11041-V11043	4686	199	8	0.040	1.56	0.00	0.08	0.00	0.08	0.00	0.08	0.00	0.08
V11043-V11044	4688	301	8	0.025	1.23	0.04	0.14	0.05	0.15	0.05	0.15	0.05	0.15
V11044-V11045	4625	320	8	0.025	1.24	0.06	0.19	0.07	0.22	0.07	0.19	0.07	0.20
V11045-V11046	8172	242	8	0.020	1.10	0.12	0.49	0.18	0.58	0.11	0.47	0.14	0.52
V11046-V11047	8173	187	8	0.000	0.02	0.14	0.46	0.19	0.55	0.13	0.45	0.16	0.49
V11047-V11048.A0	4589	47	8	0.080	2.21	0.14	0.15	0.20	0.18	0.14	0.15	0.17	0.17
V11048.A0-V11048	4591	22	8	0.255	3.95	0.14	0.24	0.20	0.29	0.14	0.24	0.17	0.28
V11048-V11051	4590	262	8	0.008	0.69	0.16	0.29	0.25	0.36	0.18	0.31	0.22	0.35
V11051-V11052	4593	44	6	0.045	0.77	0.16	0.39	0.25	0.50	0.20	0.44	0.24	0.50
V11052-V11054	4592	168	6	0.012	0.39	0.16	0.41	0.25	0.52	0.21	0.47	0.25	0.52
V11053.A0-V11054	4596	449	6	0.009	0.34	0.00	0.21	0.00	0.25	0.02	0.28	0.02	0.29
V11054-V11055	4604	167	8	0.023	1.20	0.17	0.31	0.26	0.39	0.24	0.38	0.28	0.42
V11055-V11089	2328	229	8	0.006	0.58	0.17	0.38	0.26	0.50	0.25	0.48	0.29	0.53
V11056-V11057	4609	322	8	0.027	1.29	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V11057-V11059	4605	350	8	0.032	1.39	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V11058-V11059	4606	56	8	0.007	0.66	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11059-V11060	4602	190	8	0.057	1.87	0.01	0.07	0.02	0.09	0.01	0.07	0.01	0.08
V11060-V11062	4579	239	8	0.010	0.76	0.01	0.08	0.02	0.10	0.01	0.08	0.02	0.09
V11061-V11062	2232	65	8	0.058	1.88	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V11062-V11063	2231	145	8	0.032	1.39	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.10
V11063-V11064	2230	200	8	0.011	0.80	0.01	0.11	0.03	0.15	0.02	0.11	0.02	0.14
V11064-V11065	4599	315	8	0.004	0.49	0.02	0.13	0.03	0.17	0.02	0.13	0.03	0.16
V11065-V11075.A0	4600	156	8	0.004	0.50	0.02	0.13	0.03	0.18	0.02	0.15	0.03	0.18
V11066-V11067	4608	150	8	0.007	0.64	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11067-V11068	4607	350	8	0.010	0.78	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11068-V11069	4586	350	8	0.056	1.84	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V11069-V11070	4583	128	8	0.050	1.75	0.01	0.06	0.01	0.08	0.01	0.08	0.01	0.09

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V11070-V11072	4582	145	8	0.010	0.78	0.01	0.07	0.02	0.10	0.02	0.10	0.02	0.11
V11071-V11072	4584	125	8	0.013	0.88	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.06
V11072-V11073	4581	151	8	0.018	1.04	0.01	0.07	0.02	0.09	0.02	0.09	0.02	0.10
V11073-V11074	4580	347	8	0.029	1.34	0.01	0.08	0.02	0.11	0.02	0.09	0.03	0.11
V11074-V11075	4492	173	8	0.016	0.98	0.01	0.13	0.03	0.19	0.02	0.17	0.03	0.20
V11075.A0-V11075	2330	133	8	0.004	0.50	0.02	0.16	0.04	0.22	0.03	0.20	0.04	0.23
V11075-V11089	2329	205	8	0.004	0.49	0.04	0.29	0.07	0.39	0.06	0.36	0.08	0.41
V11076-V11078	4499	198	8	0.010	0.77	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V11077-V11078	4500	141	8	0.005	0.55	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V11078-V11079	4501	158	8	0.007	0.64	0.00	0.07	0.01	0.08	0.00	0.06	0.01	0.07
V11079-V11081	4497	161	8	0.007	0.64	0.01	0.08	0.01	0.10	0.00	0.10	0.01	0.11
V11080-V11081	4496	239	8	0.018	1.05	0.00	0.06	0.00	0.07	0.02	0.13	0.02	0.13
V11081-V11082	4495	171	8	0.007	0.65	0.01	0.14	0.02	0.16	0.03	0.17	0.03	0.17
V11082-V11083	2326	241	8	0.005	0.53	0.04	0.14	0.04	0.15	0.03	0.13	0.03	0.13
V11083-V11084	2321	78	8	0.173	3.25	0.04	0.09	0.05	0.10	0.03	0.08	0.04	0.09
V11084.A0-V11084	2322	318	8	0.021	1.12	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.06
V11084-V11085	2320	300	8	0.060	1.92	0.04	0.09	0.05	0.11	0.03	0.09	0.04	0.10
V11085-V11087	2319	301	8	0.077	2.17	0.04	0.26	0.05	0.30	0.03	0.25	0.04	0.27
V11086-V11087	4494	151	6	0.005	0.27	0.00	0.28	-	0.33	0.00	0.28	0.00	0.31
V11087-V11088.A0	4493	49	8	0.003	0.40	0.04	0.26	0.06	0.31	0.03	0.26	0.05	0.28
V11088.A0-V11088	2327	301	8	0.050	1.75	0.04	0.11	0.06	0.14	0.04	0.12	0.05	0.13
V11088-V11089	4274	349	8	0.029	1.32	0.04	0.26	0.06	0.34	0.05	0.31	0.06	0.35
V11089-V11090	4275	348	8	0.009	0.74	0.25	0.41	0.40	0.54	0.36	0.51	0.44	0.58
V11090-V11091	4276	299	8	0.008	0.68	0.25	0.45	0.41	0.61	0.38	0.59	0.46	0.68
V11091-V11092	939	310	8	0.005	0.57	0.25	0.41	0.41	0.55	0.41	0.56	0.49	0.63
V11092-V11121	940	368	10	0.011	1.52	0.25	0.27	0.41	0.36	0.43	0.37	0.51	0.40
V11093-V11095	2323	99	8	0.010	0.79	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11094-V11095	2318	330	8	0.082	2.23	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11095-V11098	2315	325	8	0.022	1.16	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.07
V11096-V11097	2313	189	8	0.045	1.65	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V11097-V11098	2316	343	8	0.027	1.29	0.01	0.05	0.01	0.06	0.01	0.06	0.01	0.06
V11098-V11099	2314	157	8	0.079	2.20	0.01	0.07	0.02	0.08	0.02	0.07	0.02	0.08
V11099-V11100	2312	91	8	0.047	1.69	0.02	0.07	0.03	0.09	0.02	0.07	0.03	0.09
V11100-V11101	2311	91	8	0.058	1.87	0.02	0.08	0.03	0.10	0.02	0.08	0.03	0.10
V11101-V11105	961	237	8	0.035	1.45	0.02	0.09	0.03	0.12	0.02	0.10	0.03	0.12
V11102-V11103	2310	291	8	0.025	1.24	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V11103-V11104	2309	324	8	0.043	1.62	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.06
V11104-V11105	960	351	8	0.021	1.14	0.01	0.09	0.02	0.11	0.01	0.09	0.01	0.10
V11105-V11109	955	350	8	0.038	1.52	0.03	0.11	0.06	0.15	0.04	0.12	0.06	0.15
V11106-V11107	4272	376	8	0.003	0.46	0.00	0.53	0.00	0.53	0.00	0.53	0.00	0.53
V11107-V11108	4271	346	8	0.004	0.47	0.01	0.52	0.01	0.53	0.01	0.53	0.01	0.53
V11108-V11109	957	349	8	0.089	2.33	0.01	0.09	0.02	0.11	0.02	0.10	0.02	0.12
V11109-V11111	952	243	8	0.030	1.36	0.05	0.13	0.08	0.17	0.06	0.14	0.08	0.17
V11110.A0-V11110	7561	35	8	0.002	0.35	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V11110-V11111	951	471	8	0.036	1.49	0.00	0.08	0.00	0.11	0.00	0.09	0.00	0.10
V11111-V11116	948	106	8	0.030	1.36	0.05	0.15	0.09	0.19	0.06	0.16	0.09	0.19
V11112-V11113	954	356	8	0.015	0.95	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V11113-V11114	947	368	8	0.014	0.92	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.08
V11114-V11115	946	130	8	0.007	0.65	0.01	0.09	0.01	0.12	0.01	0.10	0.01	0.11
V11115-V11116	945	359	8	0.005	0.55	0.01	0.13	0.02	0.17	0.01	0.14	0.02	0.16
V11116-V11119	950	121	8	0.024	1.21	0.06	0.16	0.12	0.22	0.08	0.18	0.11	0.22
V11117-V11118	958	227	8	0.018	1.04	0.00	0.04	0.00	0.05	0.01	0.07	0.01	0.07
V11118-V11119	949	347	8	0.034	1.45	0.01	0.11	0.01	0.14	0.02	0.14	0.02	0.16
V11119-V11120	941	230	8	0.024	1.21	0.07	0.16	0.13	0.22	0.10	0.19	0.14	0.23
V11120-V11121.A0	942	136	8	0.032	1.40	0.08	0.18	0.14	0.25	0.11	0.23	0.15	0.26
V11121.A0-V11121	943	80	8	0.010	0.79	0.08	0.33	0.14	0.45	0.13	0.44	0.16	0.50
V11121.B0-V11121	5172	75	8	0.033	1.41	0.02	0.73	0.04	0.81	0.03	0.81	0.03	0.85
V11121-V11122	4270	387	10	0.007	1.15	0.33	0.36	0.56	0.49	0.57	0.49	0.68	0.55
V11122-V11123	4268	345	12	0.006	1.72	0.34	0.26	0.58	0.34	0.66	0.37	0.77	0.40
V11123-V10141.A0	3790	308	15	0.021	6.01	0.35	0.26	0.59	0.35	0.67	0.36	0.79	0.40
V12001-V12003	6605	195	8	0.006	0.61	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V12002-V12003	6606	72	8	0.188	3.38	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V12003-V12004	218	158	8	0.046	1.68	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V12004-V12005	6607	295	8	0.007	0.66	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.06
V12005-V12007	7153	135	8	0.085	2.27	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.05
V12006-V12007	6608	167	6	0.171	1.50	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V12007-V12008	7154	127	8	0.103	2.50	0.01	0.05	0.02	0.06	0.01	0.05	0.01	0.06
V12008-V12013	6280	266	8	0.098	2.45	0.01	0.06	0.02	0.08	0.01	0.06	0.02	0.07
V12009-V12011	7155	125	6	0.159	1.45	0.00	0.06	0.00	0.06	0.00	0.04	0.00	0.04
V12010-V12011	6756	85	6	0.003	0.20	0.00	0.07	0.00	0.07	0.00	0.04	0.00	0.04
V12011-V12012	2019	298	6	0.022	0.54	0.01	0.07	0.01	0.07	0.00	0.05	0.00	0.05
V12012-V12013	6279	179	6	0.137	1.34	0.01	0.07	0.01	0.09	0.00	0.06	0.01	0.08
V12013-V12015	6684	235	8	0.076	2.16	0.02	0.07	0.04	0.09	0.02	0.07	0.03	0.08
V12014-V12015	7157	148	6	0.196	1.61	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.07
V12015-V12018	3973	181	8	0.074	2.13	0.02	0.08	0.04	0.10	0.02	0.07	0.03	0.09
V12016-V12017	7158	163	8	0.117	2.68	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V12017-V12018	3971	161	8	0.053	1.80	0.00	0.06	0.01	0.07	0.00	0.05	0.00	0.06
V12018-V12020	1565	96	8	0.075	2.14	0.03	0.08	0.05	0.11	0.02	0.07	0.04	0.10
V12019-V12020	3970	246	8	0.171	3.23	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V12020-V12021	5263	182	8	0.076	2.15	0.03	0.09	0.05	0.12	0.03	0.08	0.04	0.11
V12021-V12022	1119	420	8	0.043	1.62	0.03	0.12	0.06	0.17	0.03	0.11	0.05	0.15
V12022.B0-V12022	5894	399	8	0.011	0.83	0.01	0.10	0.01	0.13	0.00	0.09	0.00	0.11
V12022-V12023	4768	254	8	0.011	0.81	0.04	0.15	0.07	0.20	0.03	0.13	0.06	0.18
V12023-V12038	6258	295	8	0.012	0.84	0.04	0.14	0.08	0.20	0.03	0.13	0.06	0.18
V12024-V12025	7160	321	6	0.058	0.87	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V12025-V12026	7161	274	8	0.097	2.43	0.00	0.03	0.00	0.04	0.01	0.04	0.01	0.04
V12026-V12027	6683	33	8	0.106	2.54	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.04
V12027-V12028	6681	175	8	0.122	2.73	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.06
V12028-V12029	3969	78	8	0.033	1.42	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V12029-V12034	6189	139	8	0.079	2.20	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
V12030-V12031	7159	149	6	0.217	1.69	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V12031-V12032	6278	120	6	0.199	1.62	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V12032-V12034	4970	255	6	0.088	1.08	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V12033-V12034	7162	218	8	0.092	2.36	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V12034-V12037	1118	265	8	0.076	2.16	0.01	0.07	0.03	0.09	0.02	0.08	0.03	0.09
V12035-V12037	1117	371	8	0.032	1.40	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07
V12036-V12037	7163	161	8	0.049	1.72	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.07
V12037-V12038	4767	373	8	0.051	1.76	0.02	0.11	0.04	0.15	0.03	0.11	0.04	0.14
V12038-V21195	7166	35	8	0.039	1.55	0.06	0.38	0.12	0.54	0.06	0.43	0.11	0.55
V12039-V12040	7167	433	8	0.007	0.65	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.06
V12040.A0-V12040	7165	230	8	0.003	0.43	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V12040-V12041	6257	96	8	0.014	0.92	0.00	0.05	0.01	0.08	0.01	0.06	0.01	0.08
V12041-V12057	7168	298	8	0.006	0.62	0.00	0.11	0.01	0.15	0.01	0.12	0.01	0.15
V12042-V12043	7309	227	8	0.167	3.19	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V12043-V12044	4969	172	8	0.053	1.80	0.00	0.04	0.01	0.04	0.00	0.03	0.00	0.04
V12044-V12045.B0	5262	78	8	0.094	2.40	0.01	0.05	0.01	0.06	0.00	0.05	0.01	0.05
V12045.A0-V12045.B0	6137	219	8	0.063	1.96	0.01	0.06	0.01	0.06	0.01	0.06	0.01	0.06

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V12045.B0-V12045	1116	258	8	0.096	2.42	0.02	0.07	0.02	0.08	0.02	0.07	0.02	0.08
V12045-V12048	4489	247	8	0.050	1.74	0.02	0.08	0.03	0.10	0.02	0.09	0.03	0.10
V12046-V12047	7310	365	8	0.018	1.04	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V12047-V12048	7311	310	8	0.043	1.62	0.00	0.07	0.01	0.08	0.01	0.07	0.01	0.08
V12048-V12055	4766	205	8	0.031	1.37	0.02	0.09	0.04	0.12	0.03	0.10	0.04	0.12
V12049-V12050	7312	180	8	0.102	2.50	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V12050-V12051	6136	61	8	0.098	2.45	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V12051-V12053	6172	251	8	0.041	1.58	0.01	0.04	0.01	0.05	0.01	0.05	0.01	0.05
V12052-V12053	7313	111	6	0.161	1.45	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V12053-V12054	1115	49	6	0.127	1.29	0.01	0.06	0.01	0.07	0.01	0.07	0.01	0.07
V12054-V12055	4765	141	6	0.109	1.20	0.01	0.09	0.01	0.12	0.01	0.10	0.01	0.12
V12055-V12057	7169	222	8	0.053	1.80	0.03	0.13	0.06	0.17	0.04	0.14	0.06	0.17
V12057-V12059	7170	143	10	0.007	1.17	0.04	0.13	0.08	0.17	0.05	0.14	0.08	0.17
V12058-V12059	7316	133	8	0.122	2.73	0.00	0.09	0.00	0.12	0.00	0.09	0.00	0.11
V12059-V12060	7171	196	10	0.009	1.31	0.04	0.13	0.08	0.17	0.05	0.13	0.08	0.17
V12060-V12066	7172	159	10	0.008	1.28	0.05	0.14	0.09	0.18	0.05	0.15	0.08	0.18
V12061-V12062	7174	205	6	0.030	0.63	0.01	0.07	0.01	0.07	0.01	0.08	0.01	0.08
V12062-V12063	4968	179	6	0.091	1.09	0.01	0.11	0.01	0.12	0.01	0.11	0.01	0.11
V12063-V12064	6187	162	6	0.006	0.28	0.01	0.12	0.01	0.13	0.01	0.12	0.01	0.12
V12064-V12065	6135	147	6	0.113	1.22	0.02	0.09	0.02	0.10	0.02	0.09	0.02	0.10
V12065-V12066	1114	351	6	0.116	1.24	0.03	0.18	0.03	0.22	0.03	0.18	0.03	0.21
V12066-V12067	4808	304	10	0.014	1.68	0.08	0.13	0.12	0.17	0.08	0.13	0.11	0.16
V12067-V12068	5650	396	10	0.044	2.98	0.08	0.13	0.13	0.17	0.08	0.14	0.12	0.17
V12068-V12112.D0	7688	142	10	0.010	1.41	0.08	0.16	0.13	0.20	0.09	0.17	0.13	0.20
V12069.A0-V12069.B0	4967	81	6	0.009	0.35	0.00	0.08	0.00	0.08	0.00	0.07	0.00	0.07
V12069.B0-V12070	V12069.B0-V12070	259	6	0.030	0.63	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.06
V12070-V12071	1113	358	6	0.100	1.15	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.05
V12071-V12072.A0	7317	18	8	0.459	5.29	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.05
V12072.A0-V12072	7318	241	8	0.031	1.37	0.01	0.09	0.02	0.10	0.01	0.08	0.01	0.09
V12072-V12073	6256	36	8	0.006	0.58	0.01	0.09	0.02	0.11	0.01	0.08	0.02	0.09
V12073-V12074	4807	174	6	0.075	1.00	0.02	0.11	0.03	0.12	0.01	0.09	0.02	0.11
V12074-V12081	4826	42	6	0.041	0.73	0.02	0.12	0.03	0.14	0.02	0.11	0.02	0.12
V12075-V12076	6878	63	8	0.028	1.31	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V12076-V12078	4488	150	8	0.084	2.27	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V12077-V12078	7319	241	6	0.106	1.18	0.01	0.06	0.01	0.07	0.00	0.05	0.00	0.05
V12078-V12080	4764	199	8	0.086	2.29	0.01	0.06	0.01	0.07	0.01	0.05	0.01	0.06
V12079-V12080	6850	118	8	0.047	1.69	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V12080-V12081	4806	116	8	0.040	1.57	0.01	0.08	0.02	0.10	0.01	0.07	0.01	0.08
V12081-V12112.A0	7286	25	8	0.054	1.82	0.04	0.11	0.05	0.13	0.03	0.10	0.04	0.11
V12087-V12088	7323	116	6	0.026	0.58	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V12088-V12089	7324	308	6	0.057	0.87	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.06
V12089-V12090	7325	194	6	0.039	0.71	0.01	0.08	0.01	0.10	0.01	0.08	0.01	0.09
V12090-V12091	7326	180	6	0.014	0.43	0.01	0.10	0.01	0.12	0.01	0.09	0.01	0.10
V12091-V12097	4487	214	6	0.031	0.63	0.01	0.10	0.02	0.12	0.01	0.09	0.01	0.10
V12092-V12093	6888	129	6	0.058	0.87	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V12093-V12095	7320	21	6	0.026	0.59	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V12094-V12095	7322	85	6	0.089	1.08	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V12095-V12096	7321	132	6	0.076	1.00	0.00	0.05	0.01	0.06	0.00	0.05	0.01	0.05
V12096-V12097	1112	182	6	0.111	1.21	0.01	0.08	0.01	0.10	0.01	0.08	0.01	0.08
V12097-V12098	5770	237	6	0.057	0.87	0.02	0.11	0.03	0.13	0.02	0.10	0.02	0.11
V12098-V12112.K0	7236	180	8	0.075	2.14	0.03	0.09	0.04	0.10	0.02	0.09	0.03	0.10
V12099-V12100	6883	126	8	0.005	0.57	0.00	0.06	0.00	0.07	0.00	0.03	0.00	0.03
V12100-V12101	6884	90	8	0.008	0.70	0.01	0.10	0.01	0.11	0.00	0.08	0.00	0.09
V12101.A0-V12101.B0	5958	119	6	0.110	1.20	0.01	0.05	0.01	0.05	0.00	0.05	0.00	0.05
V12101.B0-V12101.C0	6881	91	8	0.094	2.39	0.01	0.04	0.01	0.04	0.01	0.05	0.01	0.05
V12101.C0-V12101	6882	152	8	0.058	1.87	0.01	0.08	0.01	0.09	0.01	0.10	0.01	0.10
V12101-V12112.O0	6885	185	8	0.008	0.69	0.02	0.09	0.02	0.10	0.02	0.10	0.02	0.10
V12105-V12106	6887	166	6	0.030	0.63	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V12106-V12108	4824	302	6	0.031	0.64	0.00	0.06	0.01	0.07	0.00	0.05	0.00	0.05
V12108-V12112.U0	7708	28	8	0.014	0.93	0.01	0.07	0.01	0.08	0.01	0.05	0.01	0.06
V12112.A0-V12112.B0	7287	23	8	0.025	1.24	0.04	0.11	0.05	0.13	0.03	0.10	0.04	0.11
V12112.B0-V12112.C0	7292	300	8	0.064	1.98	0.04	0.11	0.05	0.13	0.03	0.10	0.04	0.12
V12112.C0-V12112.F0	7235	135	8	0.021	1.14	0.04	0.22	0.06	0.28	0.04	0.22	0.05	0.27
V12112.D0-V12112.E0	7280	30	8	0.016	0.98	0.08	0.19	0.14	0.25	0.09	0.21	0.13	0.25
V12112.E0-V12112.F0	7288	195	8	0.015	0.95	0.08	0.25	0.14	0.33	0.09	0.27	0.13	0.32
V12112.F0-V12112.G0	7289	350	8	0.005	0.56	0.12	0.31	0.20	0.41	0.13	0.34	0.18	0.40
V12112.G0-V12112.H0	7290	298	8	0.005	0.57	0.12	0.31	0.20	0.41	0.15	0.35	0.20	0.41
V12112.H0-V12112.I0	V12112.H0-V12112.I0	99	8	0.006	0.60	0.12	0.30	0.20	0.39	0.16	0.35	0.21	0.41
V12112.I0-V12112.J0	V12112.I0-V12112.J0	55	8	0.007	0.63	0.12	0.30	0.20	0.40	0.16	0.36	0.22	0.42
V12112.J0-V12112.R0	V12112.J0-V12112.R0	212	8	0.005	0.56	0.12	0.32	0.20	0.42	0.16	0.38	0.22	0.44
V12112.K0-V12112.L0	7237	73	8	0.041	1.58	0.03	0.09	0.04	0.11	0.03	0.09	0.04	0.10
V12112.L0-V12112.M0	7238	67	8	0.075	2.13	0.03	0.09	0.04	0.11	0.03	0.10	0.04	0.11
V12112.M0-V12112.N0	7239	125	8	0.040	1.56	0.03	0.09	0.04	0.11	0.04	0.10	0.04	0.11
V12112.N0-V12112.P0	7240	86	8	0.105	2.53	0.03	0.09	0.04	0.11	0.04	0.10	0.05	0.11
V12112.O0-V12112.P0	7241	158	8	0.159	3.11	0.02	0.08	0.03	0.09	0.03	0.09	0.03	0.09
V12112.P0-V12112.Q0	7706	90	8	0.102	2.49	0.05	0.15	0.07	0.18	0.07	0.17	0.08	0.18
V12112.Q0-V12112.R0	7242	161	8	0.006	0.58	0.05	0.28	0.08	0.36	0.07	0.34	0.08	0.38
V12112.R0-V12112.S0	V12112.R0-V12112.S0	157	8	0.005	0.53	0.12	0.35	0.20	0.46	0.17	0.41	0.22	0.48
V12112.S0-V12112.X0	7243	182	8	0.006	0.61	0.17	0.35	0.28	0.46	0.24	0.41	0.30	0.48
V12112.T0-V12112.U0	7249	336	8	0.021	1.12	0.00	0.06	0.00	0.06	0.00	0.04	0.00	0.04
V12112.U0-V12112.V0	7244	293	8	0.044	1.63	0.02	0.08	0.02	0.09	0.01	0.07	0.01	0.08
V12112.V0-V12112.W0	7245	346	8	0.031	1.37	0.02	0.07	0.03	0.08	0.02	0.07	0.02	0.08
V12112.W0-V12112.X0	7692	14	8	0.205	3.54	0.02	0.19	0.03	0.25	0.02	0.22	0.03	0.25
V12112.X0-V12112	7246	169	8	0.011	0.82	0.19	0.32	0.31	0.42	0.26	0.38	0.33	0.44
V12112-V12113	968	530	8	0.013	0.90	0.19	0.37	0.32	0.50	0.27	0.46	0.34	0.53
V12113-V12115	967	209	8	0.004	0.51	0.19	0.40	0.32	0.54	0.28	0.51	0.35	0.59
V12114-V12115	966	174	6	0.033	0.66	0.00	0.26	0.00	0.34	0.02	0.37	0.02	0.41
V12115-V12119	965	215	8	0.009	0.74	0.19	0.31	0.33	0.41	0.30	0.39	0.38	0.45
V12116-V12117	7146	257	18	0.015	8.24	0.00	0.51	0.00	0.52	0.01	0.52	0.01	0.52
V12117-V12118	964	297	18	0.003	3.82	0.00	0.02	0.01	0.04	0.01	0.04	0.01	0.04
V12118-V12119	963	182	18	0.003	3.90	0.00	0.07	0.01	0.10	0.01	0.09	0.02	0.10
V12119-V12120	5620	294	18	0.017	8.84	0.20	0.09	0.35	0.11	0.31	0.11	0.40	0.12
V12125-V12057	7315	220	8	0.140	2.92	0.00	0.09	0.00	0.12	0.00	0.10	0.00	0.12
V12127-V24112	V12127-V24112	15	18	0.183	29.06	0.20	0.23	0.35	0.34	0.32	0.29	0.41	0.36
V13001-V13002	4709	3	8	0.448	5.23	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V13002.A0-V13002	7530	27	8	0.103	2.50	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V13002-V13005	4710	192	8	0.195	3.45	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V13003-V13004	3806	110	8	0.169	3.21	0.00	0.14	0.00	0.15	0.00	0.15	0.00	0.15
V13004-V13005	4711	106	8	0.002	0.30	0.00	0.15	0.00	0.16	0.00	0.16	0.00	0.16
V13005-V13006	3809	168	8	0.178	3.29	0.00	0.03	0.01	0.04	0.01	0.03	0.01	0.04
V13006-V13007	3807	195	8	0.089	2.32	0.00	0.05	0.01	0.08	0.01	0.06	0.01	0.08
V13007-V13009	3813	117	8	0.005	0.53	0.01	0.08	0.01	0.12	0.01	0.11	0.01	0.13
V13008-V13009	3810	254	8	0.118	2.69	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V13009-V13010	3812	162	8	0.003	0.43	0.01	0.09	0.02	0.13	0.01	0.11	0.02	0.14
V13010-V13014	3811	160	8	0.006	0.61	0.01	0.10	0.02	0.15	0.01	0.12	0.02	0.15
V13011-V13013	3815	204	6	0.006	0.27	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V13012-V13013	3814	131	8	0.051	1.76	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V13013-V13014	3803	281	8	0.174	3.26	0.00	0.07	0.01	0.10	0.00	0.08	0.01	0.10
V13014-V13015	4708	179	8	0.005	0.56	0.01	0.09	0.03	0.13	0.02	0.10	0.03	0.13
V13015-V13030	3819	357	8	0.087	2.30	0.02	0.09	0.03	0.13	0.02	0.10	0.03	0.13
V13016-V13017	4136	126	8	0.008	0.70	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V13017-V13018	4250	180	8	0.009	0.76	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V13018-V13021	4255	130	8	0.011	0.83	0.00	0.05	0.01	0.07	0.00	0.05	0.00	0.06
V13019-V13020	4135	196	8	0.107	2.56	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V13020-V13021	4256	160	8	0.164	3.16	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V13021-V13022	4257	141	8	0.020	1.10	0.01	0.09	0.01	0.11	0.01	0.09	0.01	0.10
V13022-V13023	3820	272	8	0.003	0.40	0.01	0.12	0.02	0.16	0.01	0.12	0.02	0.14
V13023-V13028	3822	22	8	0.003	0.40	0.01	0.11	0.02	0.14	0.01	0.11	0.02	0.13
V13024-V13025	3817	137	8	0.150	3.03	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V13025-V13026	3805	110	8	0.060	1.92	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V13026-V13027	4707	109	8	0.146	2.99	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V13027-V13028	3821	328	8	0.054	1.82	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V13028-V13029	3823	75	8	0.016	1.00	0.02	0.09	0.03	0.12	0.02	0.09	0.03	0.12
V13029-V13030	4705	188	8	0.020	1.09	0.02	0.10	0.03	0.15	0.02	0.11	0.03	0.14
V13030-V13033	4706	260	8	0.021	1.14	0.04	0.16	0.08	0.23	0.04	0.18	0.07	0.23
V13031-V13032	7528	92	8	0.107	2.55	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V13032-V13033	7529	214	8	0.089	2.33	0.00	0.12	0.01	0.16	0.01	0.13	0.01	0.16
V13033-V13034	4251	198	8	0.004	0.50	0.04	0.20	0.09	0.29	0.05	0.22	0.08	0.28
V13034-V13035	4868	163	8	0.005	0.56	0.05	0.17	0.09	0.24	0.05	0.18	0.09	0.23
V13035-V13036	5142	100	8	0.025	1.24	0.05	0.13	0.09	0.18	0.05	0.14	0.09	0.18
V13036-V13037	4994	158	8	0.031	1.37	0.05	0.13	0.10	0.18	0.06	0.14	0.09	0.17
V13037-V13038	5006	299	8	0.035	1.47	0.05	0.16	0.10	0.22	0.06	0.17	0.09	0.21
V13038-V13056	5022	301	8	0.008	0.68	0.05	0.19	0.10	0.26	0.06	0.20	0.10	0.25
V13039.A0-V13039.B0	4999	69	6	0.009	0.35	0.00	0.04	0.00	0.04	0.02	0.13	0.02	0.13
V13039.B0-V13039	5001	36	8	0.137	2.89	0.00	0.02	0.00	0.03	0.02	0.06	0.02	0.06
V13039-V13040	4996	319	8	0.108	2.56	0.00	0.04	0.00	0.05	0.02	0.09	0.02	0.09
V13040-V13041	4998	332	8	0.014	0.92	0.01	0.06	0.01	0.08	0.02	0.11	0.02	0.11
V13041-V13045	4627	331	8	0.024	1.20	0.01	0.12	0.02	0.14	0.03	0.14	0.03	0.15
V13042-V13043	4995	141	6	0.041	0.73	0.00	0.10	0.00	0.10	0.00	0.07	0.00	0.07
V13043-V13044	4997	302	6	0.023	0.56	0.02	0.13	0.03	0.14	0.01	0.08	0.01	0.08
V13044-V13045	4633	241	6	0.071	0.97	0.03	0.18	0.03	0.19	0.01	0.16	0.01	0.16
V13045-V13052	4634	192	8	0.009	0.75	0.04	0.15	0.06	0.17	0.05	0.15	0.05	0.16
V13046-V13047	4628	162	6	0.127	1.29	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V13047-V13049	4637	80	6	0.008	0.32	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V13048-V13049	4636	110	8	0.074	2.12	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V13049-V13051	4632	181	8	0.131	2.82	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V13050-V13051	4629	308	6	0.007	0.29	0.00	0.08	0.00	0.09	0.00	0.08	0.00	0.08
V13051-V13052	4635	164	8	0.028	1.31	0.01	0.09	0.02	0.11	0.01	0.10	0.02	0.11
V13052-V13055	4631	297	8	0.049	1.74	0.06	0.13	0.08	0.15	0.06	0.13	0.07	0.15
V13053-V13054	4641	164	6	0.023	0.56	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V13054-V13055	4644	250	6	0.038	0.71	0.01	0.12	0.01	0.14	0.01	0.13	0.01	0.13
V13055-V13056	5023	121	8	0.043	1.62	0.06	0.17	0.09	0.21	0.07	0.17	0.08	0.20
V13056-V13057	5024	115	8	0.034	1.45	0.12	0.19	0.20	0.25	0.13	0.21	0.19	0.24
V13057.A0-V13057	5002	381	6	0.006	0.28	0.00	0.17	0.00	0.21	0.01	0.19	0.01	0.21
V13057-V13058	5010	83	8	0.038	1.51	0.13	0.21	0.21	0.27	0.14	0.22	0.19	0.26
V13058-V13065	5012	135	8	0.026	1.25	0.13	0.22	0.21	0.29	0.14	0.23	0.20	0.27
V13059-V13060	4134	131	6	0.072	0.97	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V13060-V13061	4133	331	6	0.040	0.73	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.07
V13061-V13063	4862	223	6	0.018	0.48	0.01	0.09	0.01	0.11	0.01	0.09	0.01	0.10
V13062-V13063	4863	145	8	0.031	1.38	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V13063-V13064	4864	126	6	0.018	0.49	0.01	0.12	0.01	0.14	0.01	0.12	0.01	0.14
V13064-V13065	5011	219	6	0.007	0.30	0.01	0.22	0.02	0.28	0.01	0.23	0.02	0.27
V13065-V13082	5013	215	8	0.026	1.27	0.14	0.28	0.24	0.36	0.16	0.29	0.22	0.35
V13066-V13067	4243	20	6	0.002	0.16	0.01	0.20	0.01	0.20	0.01	0.18	0.01	0.18
V13067-V13068	4245	58	6	0.002	0.16	0.01	0.21	0.01	0.21	0.01	0.18	0.01	0.18
V13068-V13074	4247	146	8	0.002	0.35	0.01	0.13	0.02	0.14	0.01	0.12	0.01	0.12
V13069-V13070	4252	153	6	0.084	1.05	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V13070-V13072	4254	144	8	0.030	1.35	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V13071-V13072	4137	145	8	0.107	2.55	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V13072-V13073	4246	179	8	0.066	2.01	0.00	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V13073-V13074	4248	151	8	0.011	0.83	0.01	0.08	0.01	0.09	0.01	0.08	0.01	0.09
V13074-V13079	4249	251	8	0.028	1.30	0.02	0.11	0.03	0.12	0.02	0.10	0.02	0.11
V13075-V13076	4258	22	8	0.127	2.78	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V13076-V13077	4138	293	8	0.103	2.51	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V13077-V13078	4865	90	8	0.062	1.94	0.01	0.05	0.01	0.06	0.00	0.04	0.01	0.05
V13078-V13079	4866	150	8	0.025	1.23	0.01	0.09	0.01	0.10	0.01	0.08	0.01	0.09
V13079-V13080	4867	183	8	0.017	1.03	0.03	0.12	0.04	0.14	0.03	0.11	0.04	0.13
V13080-V13081	4861	225	8	0.020	1.09	0.03	0.12	0.05	0.14	0.03	0.11	0.04	0.13
V13081-V13082	5014	216	8	0.018	1.05	0.03	0.22	0.05	0.29	0.03	0.23	0.04	0.27
V13082-V13085	5015	180	8	0.009	0.76	0.18	0.32	0.29	0.42	0.19	0.34	0.26	0.40
V13083-V13084	5016	126	8	0.006	0.61	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V13084-V13085	5017	125	8	0.008	0.68	0.01	0.19	0.01	0.24	0.01	0.20	0.01	0.23
V13085-V13086	5019	52	10	0.009	1.35	0.19	0.23	0.31	0.29	0.20	0.24	0.28	0.28
V13086-V13087.A0	5020	143	10	0.023	2.15	0.19	0.21	0.31	0.27	0.20	0.22	0.28	0.26
V13087.A0-V13087	5021	208	10	0.016	1.78	0.20	0.23	0.32	0.29	0.21	0.24	0.28	0.28
V13087-V13099	5007	236	10	0.020	2.02	0.20	0.19	0.32	0.24	0.23	0.20	0.31	0.23
V13089-V13090	3791	138	8	0.042	1.61	0.01	0.06	0.01	0.06	0.00	0.04	0.00	0.04
V13090-V13091	3800	262	8	0.034	1.44	0.01	0.08	0.01	0.09	0.01	0.06	0.01	0.07
V13091.A0-V13091.B0	3802	275	8	0.008	0.71	0.01	0.07	0.01	0.07	0.01	0.07	0.01	0.07
V13091.B0-V13091.C0	3795	268	8	0.027	1.29	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.06
V13091.C0-V13091	3801	288	8	0.062	1.94	0.02	0.08	0.02	0.09	0.01	0.07	0.01	0.07
V13091-V13092	3798	291	8	0.064	1.97	0.03	0.12	0.04	0.14	0.02	0.12	0.03	0.13
V13092-V13094	3799	316	8	0.005	0.57	0.03	0.18	0.04	0.22	0.03	0.19	0.04	0.21
V13094-V13097	3796	350	8	0.003	0.46	0.03	0.14	0.05	0.16	0.04	0.15	0.05	0.17
V13096-V13097	3797	278	8	0.029	1.33	0.01	0.06	0.01	0.06	0.02	0.08	0.02	0.08
V13097-V10141.C0	3792	11	8	0.382	4.82	0.04	0.32	0.06	0.42	0.06	0.43	0.07	0.48
V13099-V10141.E0	5003	58	10	0.097	4.41	0.20	0.50	0.33	0.59	0.23	0.58	0.31	0.59
V13100.A0-V13100	5008	272	8	0.009	0.74	0.00	0.03	0.00	0.04	0.01	0.09	0.01	0.09
V13100-V13104	5009	238	8	0.009	0.74	0.00	0.09	0.01	0.10	0.02	0.12	0.02	0.13
V13101-V13102	4651	250	6	0.064	0.92	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V13102-V13103	4646	245	6	0.073	0.98	0.01	0.10	0.01	0.11	0.01	0.09	0.01	0.10
V13103-V13104	4648	178	8	0.013	0.88	0.02	0.10	0.02	0.12	0.02	0.12	0.02	0.12
V13104-V13140	4649	185	8	0.009	0.74	0.02	0.50	0.03	0.57	0.03	0.57	0.03	0.57
V13105-V13106	4640	111	6	0.036	0.69	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.02
V13106-V13108	4653	100	6	0.078	1.01	0.00	0.07	0.00	0.07	0.00	0.06	0.00	0.06
V13107-V13108	4638	215	6	0.022	0.54	0.01	0.10	0.01	0.11	0.01	0.09	0.01	0.09
V13108-V13109	4645	328	6	0.047	0.79	0.02	0.11	0.02	0.12	0.02	0.12	0.02	0.12
V13109-V13110.A0	4652	248	6	0.057	0.86	0.02	0.11	0.03	0.12	0.03	0.13	0.03	0.13
V13110.A0-V13110	4647	252	8	0.064	1.98	0.03	0.31	0.03	0.46	0.03	0.46	0.04	0.53
V13110-V10143.A0	5948	14	8	0.014	0.92	0.03	0.68	0.04	0.92	0.05	0.91	0.05	0.99
V13111-V13112	4659	222	6	0.027	0.60	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V13112-V13115	4657	199	6	0.093	1.11	0.00	0.06	0.01	0.07	0.01	0.07	0.01	0.07
V13113-V13115	4658	255	6	0.050	0.81	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V13114-V13115	4656	204	8	0.004	0.52	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V13115-V13116	4655	163	8	0.047	1.69	0.01	0.06	0.01	0.07	0.01	0.06	0.02	0.07
V13116-V13118	4654	144	8	0.052	1.78	0.01	0.07	0.02	0.08	0.01	0.07	0.02	0.08
V13117-V13118	4660	139	6	0.097	1.13	0.01	0.08	0.01	0.09	0.00	0.06	0.00	0.07
V13118-V13121	5025	222	8	0.039	1.54	0.02	0.10	0.03	0.12	0.02	0.09	0.02	0.10
V13119-V13120	5034	240	6	0.002	0.16	0.00	0.11	0.00	0.12	0.00	0.11	0.00	0.11
V13120-V13121	5030	222	6	0.002	0.16	0.01	0.14	0.01	0.17	0.01	0.14	0.01	0.15
V13121-V13123	5026	195	6	0.026	0.59	0.03	0.16	0.04	0.20	0.03	0.16	0.03	0.18
V13122-V13123	5027	385	6	0.012	0.40	0.01	0.14	0.01	0.15	0.01	0.13	0.01	0.14
V13123-V13135	5028	170	6	0.025	0.58	0.04	0.20	0.06	0.25	0.04	0.19	0.05	0.22
V13124-V13125	5043	161	6	0.030	0.63	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V13125-V13126	4149	249	6	0.084	1.05	0.00	0.06	0.00	0.07	0.00	0.05	0.00	0.06
V13126-V13134.H0	8218	99	6	0.010	0.36	0.01	0.11	0.01	0.14	0.00	0.09	0.01	0.11
V13134.A0-V13134.B0	8219	19	8	0.060	1.91	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V13134.B0-V13134.C0	8220	109	8	0.047	1.69	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V13134.C0-V13134.E0	8223	71	8	0.032	1.39	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V13134.D0-V13134.E0	8227	70	8	0.084	2.26	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V13134.E0-V13134.G0	8224	91	8	0.045	1.66	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V13134.F0-V13134.G0	8226	44	8	0.036	1.48	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V13134.G0-V13134.H0	8225	157	8	0.026	1.26	0.01	0.08	0.01	0.10	0.01	0.07	0.01	0.08
V13134.H0-V13134	5033	185	6	0.010	0.36	0.01	0.14	0.02	0.17	0.01	0.11	0.02	0.14
V13134-V13135	5029	458	6	0.010	0.36	0.02	0.19	0.02	0.23	0.01	0.16	0.02	0.19
V13135-V13138	4666	210	6	0.028	0.61	0.07	0.20	0.10	0.25	0.05	0.19	0.07	0.22
V13136-V13137	5031	250	6	0.008	0.32	0.00	0.08	0.00	0.08	0.00	0.08	0.00	0.08
V13137-V13138	4667	461	6	0.005	0.26	0.01	0.14	0.01	0.16	0.01	0.14	0.01	0.15
V13138-V13139	4665	171	8	0.068	2.04	0.07	0.12	0.11	0.15	0.07	0.12	0.09	0.14
V13139.A0-V13110	4642	216	8	0.020	1.10	0.00	0.28	0.00	0.43	0.01	0.44	0.01	0.51
V13139-V09056	4663	34	8	0.109	2.58	0.07	0.56	0.11	0.57	0.07	0.56	0.10	0.57
V13139-V13139.A0	4662	299	8	0.009	0.76	0.00	0.06	0.00	0.09	0.00	0.08	0.00	0.09
V13140-V10142.A0	4264	12	8	0.008	0.71	0.02	0.94	0.04	1.00	0.07	1.00	0.07	1.00
V14001-V14002	4869	110	8	0.010	0.79	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V14002-V14003	5075	70	8	0.611	6.11	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V14003-V14006	4716	142	8	0.005	0.56	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V14004-V14005	4873	53	8	0.297	4.26	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V14005-V14006	4872	119	8	0.022	1.17	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
V14006-V14007	4871	85	8	0.004	0.52	0.01	0.08	0.01	0.10	0.01	0.09	0.01	0.10
V14007-V14009	4870	312	8	0.004	0.49	0.01	0.09	0.01	0.12	0.01	0.10	0.01	0.12
V14008-V14009	4874	48	8	0.010	0.80	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V14009-V14010	3219	215	8	0.004	0.49	0.01	0.10	0.02	0.14	0.01	0.12	0.02	0.14
V14010-V14019	4876	276	8	0.004	0.50	0.01	0.14	0.02	0.18	0.02	0.16	0.02	0.19
V14011-V14012	4882	133	8	0.118	2.68	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V14012-V14019	4886	254	8	0.013	0.89	0.00	0.10	0.00	0.14	0.01	0.12	0.01	0.14
V14013-V14014	4881	168	8	0.004	0.51	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.05
V14014-V14015	4880	246	8	0.006	0.61	0.00	0.05	0.00	0.07	0.00	0.07	0.00	0.08
V14015-V14016	4879	147	8	0.006	0.60	0.00	0.05	0.01	0.07	0.01	0.06	0.01	0.07
V14016-V14018	4878	188	8	0.089	2.33	0.01	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V14017-V14018	3220	390	8	0.010	0.79	0.00	0.06	0.00	0.08	0.01	0.08	0.01	0.08
V14018-V14019	4877	223	8	0.012	0.87	0.01	0.12	0.02	0.17	0.02	0.14	0.02	0.17
V14019-V14020	4885	231	8	0.004	0.49	0.03	0.16	0.05	0.23	0.04	0.19	0.06	0.23
V14020-V14021	4884	353	8	0.004	0.49	0.03	0.17	0.06	0.23	0.04	0.20	0.06	0.24
V14021-V14022	3221	336	8	0.004	0.50	0.03	0.17	0.06	0.24	0.04	0.20	0.06	0.24
V14022-V14023	3222	266	8	0.004	0.50	0.03	0.17	0.07	0.25	0.04	0.20	0.07	0.25
V14023-V14024	3223	162	8	0.004	0.49	0.03	0.17	0.07	0.25	0.04	0.20	0.07	0.26
V14024-V14051	3094	14	8	0.004	0.50	0.03	0.18	0.07	0.26	0.04	0.21	0.07	0.27
V14025-V14027	4714	229	6	0.110	1.20	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V14026-V14027	4713	68	6	0.009	0.34	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V14027-V14028	4712	332	8	0.066	2.01	0.00	0.06	0.01	0.07	0.01	0.08	0.01	0.08
V14028-V14030	4157	355	8	0.004	0.49	0.01	0.10	0.01	0.13	0.01	0.13	0.01	0.14
V14029-V14030	V14029-V14030	275	6	0.179	1.53	0.00	0.09	0.00	0.12	0.00	0.12	0.00	0.13
V14030-V14031	4155	350	8	0.004	0.49	0.01	0.09	0.02	0.12	0.02	0.12	0.03	0.13
V14031-V14033	4154	165	8	0.048	1.72	0.02	0.07	0.03	0.09	0.02	0.09	0.03	0.10
V14032.A0-V14032	7560	31	8	0.002	0.35	0.00	0.01	-	0.01	0.00	0.04	0.00	0.04
V14032-V14033	3207	221	8	0.035	1.46	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
V14033-V14034	2067	291	8	0.053	1.80	0.02	0.08	0.03	0.10	0.03	0.09	0.04	0.11
V14034-V14039	4888	295	8	0.039	1.54	0.02	0.12	0.04	0.17	0.03	0.15	0.04	0.17
V14035-V14036	2072	167	6	0.050	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V14036-V14038	3208	275	8	0.056	1.85	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
V14037-V14038	2068	233	6	0.030	0.63	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V14038-V14039	3975	262	8	0.040	1.57	0.01	0.11	0.01	0.14	0.01	0.12	0.01	0.15
V14039-V14041	4887	268	8	0.005	0.56	0.03	0.15	0.06	0.20	0.04	0.17	0.06	0.20
V14040-V14041	3976	226	8	0.041	1.57	0.00	0.07	0.00	0.10	0.00	0.08	0.00	0.10
V14041-V14043	3977	257	8	0.016	0.99	0.03	0.13	0.07	0.18	0.04	0.16	0.07	0.19
V14042-V14043	3979	162	6	0.041	0.73	0.00	0.09	0.00	0.13	0.03	0.18	0.03	0.21
V14043-V14044	3978	96	8	0.017	1.00	0.04	0.16	0.07	0.22	0.07	0.22	0.10	0.27
V14044-V14048	1819	154	8	0.004	0.49	0.04	0.17	0.07	0.23	0.07	0.22	0.10	0.27
V14045-V14046	3213	169	6	0.040	0.73	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V14046-V14047	3224	201	6	0.040	0.72	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V14047-V14048	3225	192	6	0.040	0.73	0.01	0.13	0.01	0.17	0.01	0.15	0.01	0.19
V14048-V14050	4503	259	8	0.016	0.98	0.04	0.39	0.08	0.46	0.07	0.43	0.11	0.50
V14049-V14050	4504	42	6	0.228	1.73	0.00	0.43	0.00	0.50	0.00	0.46	0.00	0.51
V14050-V14051	3095	36	8	0.007	0.67	0.04	0.41	0.09	0.50	0.07	0.45	0.12	0.53
V14051.A0-V14051	2484	40	8	0.268	4.05	0.02	0.12	0.02	0.16	0.00	0.12	0.00	0.14
V14051-V14052	3104	298	8	0.020	1.10	0.09	0.24	0.17	0.33	0.11	0.26	0.19	0.34
V14052-V14053	3105	301	8	0.005	0.58	0.10	0.29	0.18	0.40	0.12	0.32	0.19	0.41
V14053-V14087	3106	229	8	0.005	0.53	0.10	0.34	0.19	0.49	0.12	0.39	0.20	0.51
V14054-V14059	2069	174	8	0.025	1.24	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V14055-V14056	2401	149	8	0.005	0.53	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V14056-V14057	2400	116	8	0.005	0.56	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V14057-V14058	2399	186	8	0.100	2.46	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.03
V14058-V14059	2071	149	8	0.158	3.11	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V14059-V14072	3209	192	8	0.063	1.95	0.01	0.07	0.01	0.11	0.01	0.08	0.01	0.10
V14060.A0-V14060	1605	180	6	0.125	1.28	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V14060-V14063	1598	138	8	0.082	2.23	0.00	0.05	0.00	0.06	0.01	0.05	0.01	0.07
V14061.A0-V14061.B0	358	165	8	0.035	1.46	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V14061.B0-V14061.D0	4506	215	8	0.011	0.83	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V14061.C0-V14061.D0	4507	187	8	0.010	0.77	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V14061.D0-V14061.E0	2074	324	8	0.021	1.12	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
V14061.E0-V14061.F0	354	149	8	0.030	1.36	0.01	0.06	0.02	0.08	0.01	0.05	0.01	0.07
V14061.F0-V14061.G0	352	352	8	0.037	1.50	0.01	0.06	0.02	0.08	0.01	0.06	0.02	0.07
V14061.G0-V14061.H0	1599	326	8	0.069	2.05	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.10
V14061.H0-V14061.L0	2412	54	8	0.007	0.66	0.01	0.11	0.03	0.15	0.01	0.11	0.02	0.14
V14061.I0-V14061.J0	1771	155	8	0.109	2.58	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V14061.J0-V14061.K0	353	144	8	0.042	1.59	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V14061.K0-V14061.L0	2411	221	8	0.103	2.50	0.00	0.07	0.01	0.10	0.00	0.07	0.00	0.09
V14061.L0-V14061	2410	161	8	0.006	0.59	0.02	0.13	0.04	0.18	0.02	0.12	0.03	0.17
V14061-V14062	1603	349	8	0.003	0.46	0.02	0.15	0.04	0.22	0.02	0.14	0.03	0.20
V14062-V14063	1604	351	8	0.003	0.45	0.02	0.12	0.04	0.17	0.02	0.11	0.04	0.16
V14063-V14064	2409	22	8	0.106	2.54	0.02	0.07	0.05	0.10	0.03	0.07	0.05	0.10

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V14064-V14067	2407	142	8	0.106	2.54	0.03	0.32	0.05	0.40	0.03	0.33	0.05	0.39
V14065-V14066	2406	156	6	0.007	0.30	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V14066-V14067	2405	69	6	0.022	0.53	0.00	0.40	0.00	0.49	0.00	0.41	0.00	0.47
V14067-V14068	2404	69	6	0.004	0.22	0.03	0.50	0.06	0.63	0.03	0.50	0.05	0.61
V14068-V14070	2403	273	6	0.007	0.31	0.03	0.16	0.06	0.24	0.03	0.17	0.05	0.23
V14069-V14070	2402	183	6	0.063	0.91	0.00	0.06	0.00	0.09	0.00	0.07	0.00	0.08
V14070-V14071	4150	317	8	0.101	2.49	0.03	0.09	0.06	0.13	0.03	0.09	0.06	0.12
V14071-V14072	3210	135	8	0.037	1.50	0.03	0.10	0.07	0.15	0.03	0.11	0.06	0.14
V14072-V14079	2397	280	8	0.042	1.59	0.04	0.12	0.08	0.18	0.04	0.13	0.08	0.18
V14073-V14074	1601	188	8	0.068	2.04	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V14074-V14075	4151	284	8	0.057	1.86	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.05
V14075-V14076	2394	151	8	0.029	1.32	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V14076.A0-V14076	4153	126	8	0.022	1.16	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V14076-V14077	2392	190	8	0.049	1.73	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.08
V14077.A0-V14077.B0	2390	213	8	0.034	1.44	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V14077.B0-V14077.C0	2389	319	8	0.005	0.57	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
V14077.C0-V14077.D0	2490	83	8	0.011	0.82	0.00	0.06	0.01	0.08	0.01	0.08	0.01	0.09
V14077.D0-V14077	2489	179	8	0.011	0.81	0.01	0.06	0.01	0.08	0.01	0.08	0.02	0.10
V14077-V14078	2391	324	8	0.069	2.05	0.01	0.07	0.03	0.11	0.02	0.10	0.04	0.12
V14078-V14079	2398	297	8	0.010	0.78	0.01	0.11	0.03	0.17	0.03	0.14	0.04	0.18
V14079-V14080	2396	106	8	0.033	1.42	0.05	0.13	0.12	0.19	0.07	0.15	0.13	0.20
V14080-V14084	2395	335	8	0.039	1.55	0.05	0.14	0.12	0.20	0.07	0.15	0.13	0.21
V14081-V14083	4505	230	6	0.018	0.49	0.00	0.06	0.00	0.07	0.00	0.07	0.00	0.07
V14082-V14083	3214	278	6	0.087	1.07	0.00	0.06	0.00	0.06	0.00	0.07	0.00	0.07
V14083-V14084	1200	347	8	0.018	1.04	0.01	0.10	0.01	0.14	0.01	0.12	0.01	0.14
V14084-V14085	3096	340	8	0.031	1.38	0.06	0.15	0.14	0.22	0.08	0.18	0.14	0.23
V14085-V14086	3107	301	8	0.023	1.19	0.06	0.20	0.14	0.30	0.09	0.24	0.16	0.31
V14086-V14087	3199	166	10	0.003	0.77	0.06	0.25	0.15	0.38	0.09	0.30	0.16	0.39
V14087-V14088	3201	226	10	0.003	0.78	0.16	0.33	0.34	0.47	0.21	0.36	0.36	0.48
V14088-V14089.B0	3098	378	10	0.003	0.78	0.20	0.36	0.38	0.51	0.23	0.42	0.37	0.53
V14089.A0-V14089.B0	3099	78	8	0.027	1.28	0.02	0.28	0.02	0.38	0.09	0.38	0.09	0.44
V14089.AA-V14089.AB	2487	382	8	0.006	0.63	0.02	0.20	0.02	0.21	0.05	0.36	0.05	0.36
V14089.AB-V14089.AC	2486	211	8	0.000	0.15	0.02	0.18	0.02	0.20	0.07	0.35	0.07	0.35
V14089.AC-V14089.A0	2485	73	8	0.026	1.26	0.02	0.08	0.02	0.09	0.09	0.18	0.09	0.18
V14089.B0-V14089.C0	3100	197	10	0.003	0.78	0.22	0.34	0.40	0.47	0.31	0.41	0.45	0.50
V14089.C0-V14089	3203	67	12	0.005	1.66	0.22	0.28	0.41	0.39	0.31	0.34	0.45	0.42
V14089-V14090	3202	125	8	0.004	0.52	0.22	0.44	0.41	0.63	0.32	0.54	0.45	0.67
V14090-V14091	3204	343	12	0.003	1.33	0.22	0.30	0.41	0.42	0.32	0.36	0.45	0.45
V14091-V14109	3205	228	8	0.005	0.53	0.23	0.40	0.42	0.59	0.32	0.49	0.46	0.62
V14092-V14093	5158	190	8	0.024	1.21	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V14093-V14095	5157	185	8	0.032	1.39	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
V14094-V14095	5163	125	8	0.056	1.85	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V14095-V14097	5159	270	8	0.060	1.91	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.09
V14096-V14097	5164	35	8	0.004	0.48	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.07
V14097-V14098	5156	321	8	0.004	0.50	0.01	0.10	0.02	0.13	0.01	0.11	0.01	0.13
V14098-V14108	5155	319	8	0.004	0.50	0.01	0.11	0.02	0.15	0.01	0.12	0.02	0.14
V14099-V14100	5161	202	8	0.070	2.07	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V14100-V14108	5160	155	8	0.071	2.08	0.00	0.07	0.01	0.09	0.00	0.07	0.01	0.09
V14101-V14102	678	188	8	0.018	1.05	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V14102-V14105	3215	66	8	0.025	1.23	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.08
V14103.A0-V14103.C0	1772	184	8	0.046	1.67	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V14103.B0-V14103.C0	355	312	8	0.020	1.10	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V14103.C0-V14103.D0	356	320	8	0.011	0.81	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.08
V14103.D0-V14103	357	342	8	0.018	1.04	0.01	0.06	0.02	0.08	0.01	0.06	0.01	0.08
V14103-V14104.A0	1600	298	8	0.101	2.48	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.06
V14104.A0-V14104	4152	302	8	0.159	3.11	0.02	0.06	0.03	0.07	0.02	0.06	0.02	0.07
V14104-V14105	3211	274	8	0.096	2.42	0.02	0.07	0.03	0.10	0.02	0.08	0.03	0.09
V14105-V14106	1201	296	8	0.027	1.28	0.02	0.10	0.04	0.13	0.02	0.10	0.04	0.13
V14106.A0-V14106.B0	3212	165	8	0.092	2.37	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V14106.B0-V14106	3217	270	8	0.094	2.39	0.00	0.07	0.01	0.09	0.00	0.07	0.00	0.08
V14106-V14107	1202	249	8	0.025	1.23	0.03	0.09	0.05	0.13	0.03	0.10	0.05	0.12
V14107-V14108	5153	102	8	0.060	1.91	0.03	0.10	0.05	0.13	0.03	0.10	0.05	0.13
V14108-V14109	5154	258	8	0.056	1.84	0.05	0.22	0.09	0.31	0.05	0.25	0.08	0.32
V14109-V14116	3101	231	8	0.021	1.13	0.27	0.41	0.51	0.58	0.37	0.49	0.55	0.61
V14110.A0-V14110.D0	7416	102	8	0.024	1.21	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V14110.B0-V14110.C0	3014	111	8	0.008	0.70	0.00	0.06	0.00	0.06	0.00	0.03	0.00	0.03
V14110.C0-V14110.D0	3013	109	8	0.008	0.70	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V14110.D0-V14110.E0	7417	269	8	0.054	1.82	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V14110.E0-V14110.F0	7418	94	8	0.030	1.35	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
V14110.F0-V14110.H0	7419	114	8	0.037	1.51	0.00	0.07	0.01	0.09	0.00	0.05	0.01	0.07
V14110.G0-V14110.H0	7424	195	8	0.044	1.64	0.01	0.08	0.01	0.09	0.00	0.03	0.00	0.05
V14110.H0-V14110.I0	7420	52	8	0.010	0.78	0.01	0.07	0.02	0.09	0.00	0.05	0.01	0.07
V14110.I0-V14110.J0	7421	98	8	0.165	3.17	0.01	0.06	0.02	0.08	0.01	0.05	0.02	0.07
V14110.J0-V14110	7422	97	8	0.023	1.18	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.10
V14110-V14113	7423	120	8	0.010	0.78	0.01	0.11	0.02	0.13	0.01	0.09	0.02	0.11
V14111-V14112	2065	97	8	0.082	2.23	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V14112-V14113	3097	222	8	0.040	1.55	0.00	0.08	0.01	0.10	0.00	0.07	0.00	0.08
V14113-V14114	3206	343	8	0.016	0.98	0.03	0.13	0.05	0.16	0.02	0.10	0.03	0.12
V14114-V14115	5167	216	8	0.014	0.92	0.04	0.14	0.05	0.17	0.02	0.11	0.03	0.13
V14115-V14116	5166	204	8	0.017	1.02	0.04	0.31	0.06	0.43	0.02	0.34	0.04	0.43
V14116-V14117	5526	73	8	0.008	0.70	0.32	0.44	0.58	0.63	0.44	0.54	0.62	0.66
V14117-V14118	5165	430	10	0.009	1.37	0.32	0.32	0.58	0.45	0.45	0.39	0.63	0.47
V14119-V14118	3102	296	10	0.010	1.44	0.32	0.32	0.58	0.44	0.47	0.40	0.65	0.47
V14120-V10141.A0	4508	195	10	0.010	1.43	0.34	0.43	0.61	0.59	0.55	0.58	0.72	0.66
V14120-V14119	3103	275	10	0.011	1.45	0.32	0.33	0.59	0.45	0.48	0.41	0.66	0.49
V14121-V14122.B0	1657	370	8	0.004	0.49	0.00	0.06	0.00	0.07	0.02	0.16	0.02	0.16
V14122.A0-V11122	5169	20	8	0.034	1.44	0.02	0.28	0.02	0.36	0.05	0.40	0.05	0.43
V14122.B0-V14122.A0	5168	325	8	0.004	0.48	0.00	0.07	0.01	0.09	0.03	0.15	0.03	0.15
V15013-V15014	5204	115	8	0.029	1.32	0.00	0.01	-	0.01	0.00	0.00	0.00	0.01
V15014-V15015	4277	133	8	0.050	1.75	0.00	0.12	0.00	0.13	0.00	0.13	0.00	0.14
V15015.B0-V15015.C0	5211	210	8	0.018	1.05	0.03	0.10	0.03	0.10	0.03	0.11	0.03	0.11
V15015.C0-V15015.D0	5210	68	8	0.092	2.37	0.03	0.10	0.03	0.10	0.03	0.12	0.03	0.12
V15015.D0-V15015.F0	5209	82	8	0.014	0.91	0.03	0.11	0.03	0.12	0.05	0.14	0.05	0.14
V15015.E0-V15015.F0	4897	78	8	0.023	1.20	0.00	0.05	-	0.06	0.00	0.07	0.00	0.07
V15015.F0-V15015.H0	5214	179	8	0.023	1.19	0.03	0.10	0.03	0.11	0.05	0.15	0.05	0.15
V15015.G0-V15015.H0	4893	80	8	0.009	0.75	0.00	0.06	0.00	0.06	0.01	0.12	0.01	0.12
V15015.H0-V15015.I0	4895	141	8	0.027	1.29	0.03	0.13	0.03	0.14	0.08	0.21	0.08	0.21
V15015.I0-V15015.P0	4282	113	8	0.005	0.55	0.03	0.18	0.04	0.20	0.08	0.25	0.08	0.25
V15015.J0-V15015.K0	4898	149	8	0.047	1.70	0.00	0.00	-	0.01	0.00	0.01	0.00	0.01
V15015.K0-V15015.L0	5215	210	8	0.030	1.35	0.00	0.08	0.00	0.09	0.00	0.01	0.00	0.04
V15015.L0-V15015.O0	4896	64	8	0.005	0.55	0.03	0.14	0.03	0.15	0.00	0.02	0.00	0.06
V15015.M0-V15015.N0	4899	35	8	0.032	1.41	0.00	0.00	-	0.01	0.00	0.01	0.00	0.01
V15015.N0-V15015.O0	5216	238	8	0.045	1.66	0.00	0.06	0.00	0.07	0.00	0.03	0.00	0.04
V15015.O0-V15015.P0	4283	207	8	0.012	0.84	0.03	0.16	0.03	0.18	0.00	0.14	0.01	0.16
V15015.P0-V15015	4285	82	8	0.006	0.58	0.05	0.21	0.07	0.24	0.08	0.25	0.08	0.26
V15015-V15017	4281	259	8	0.005	0.57	0.06	0.24	0.07	0.27	0.08	0.27	0.09	0.28
V15016-V15017	4286	122	8	0.000	0.02	0.01	0.27	0.01	0.31	0.00	0.29	0.00	0.30

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V15017-V15020	4287	210	8	0.003	0.44	0.07	0.27	0.09	0.31	0.08	0.31	0.09	0.32
V15018-V15019	5205	114	8	0.010	0.78	0.00	0.00	-	0.01	0.00	0.03	0.00	0.03
V15019-V15020	4278	136	8	0.097	2.43	0.00	0.14	0.00	0.17	0.01	0.19	0.01	0.19
V15020-V15021	4288	92	8	0.003	0.45	0.07	0.24	0.10	0.28	0.10	0.28	0.10	0.29
V15021-V15028	4289	27	8	0.010	0.80	0.07	0.24	0.10	0.28	0.10	0.27	0.10	0.28
V15022-V15023	5206	350	8	0.047	1.69	0.03	0.12	0.03	0.13	0.02	0.10	0.02	0.10
V15023-V15024	4279	158	8	0.007	0.65	0.03	0.15	0.04	0.16	0.02	0.12	0.02	0.13
V15024-V15028	4290	188	8	0.018	1.04	0.03	0.20	0.04	0.22	0.04	0.22	0.04	0.23
V15025-V15026	5192	360	8	0.060	1.91	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V15026-V15027	5194	224	8	0.040	1.57	0.00	0.07	0.01	0.09	0.00	0.06	0.01	0.08
V15027-V15028	5195	347	8	0.002	0.32	0.01	0.18	0.01	0.22	0.01	0.20	0.01	0.22
V15028-V15029	5196	244	8	0.008	0.69	0.11	0.30	0.15	0.35	0.14	0.34	0.16	0.36
V15029-V15030	5197	299	8	0.004	0.49	0.11	0.33	0.16	0.39	0.14	0.37	0.16	0.40
V15030-V15050	2226	330	8	0.004	0.49	0.12	0.51	0.16	0.61	0.15	0.58	0.17	0.62
V15031-V15032	5189	169	8	0.021	1.14	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V15032-V15033	5188	299	8	0.030	1.36	0.00	0.04	0.00	0.05	0.01	0.05	0.01	0.06
V15033-V15036	5187	260	8	0.029	1.32	0.01	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V15034.A0-V15034	5208	305	8	0.042	1.60	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V15034-V15035	5193	297	8	0.059	1.89	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V15035-V15036	5207	60	8	0.026	1.27	0.01	0.06	0.01	0.08	0.00	0.06	0.01	0.07
V15036-V15037	5184	74	8	0.034	1.43	0.02	0.08	0.03	0.10	0.02	0.08	0.02	0.09
V15037-V15040	2225	284	8	0.023	1.17	0.02	0.10	0.03	0.13	0.02	0.10	0.02	0.12
V15038-V15039	4280	236	8	0.010	0.78	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V15039-V15040	5182	349	8	0.011	0.82	0.01	0.09	0.01	0.11	0.01	0.09	0.01	0.11
V15040-V15043	5183	239	8	0.016	0.99	0.03	0.14	0.05	0.18	0.03	0.14	0.04	0.17
V15041-V15042	5198	224	6	0.007	0.31	0.00	0.09	0.00	0.09	0.00	0.08	0.00	0.08
V15042-V15043	2227	300	8	0.009	0.74	0.01	0.12	0.01	0.15	0.01	0.12	0.01	0.13
V15043-V15049	2228	231	8	0.008	0.70	0.04	0.16	0.06	0.20	0.04	0.16	0.06	0.19
V15044-V15045	5202	351	6	0.020	0.51	0.00	0.08	0.00	0.09	0.00	0.09	0.00	0.09
V15045-V15047	5199	119	8	0.005	0.58	0.01	0.09	0.01	0.11	0.01	0.10	0.01	0.10
V15046-V15047	5200	161	6	0.012	0.39	0.00	0.10	0.00	0.11	0.00	0.10	0.00	0.10
V15047-V15048	5201	330	8	0.004	0.51	0.01	0.12	0.02	0.14	0.01	0.12	0.01	0.13
V15048-V15049	2229	299	8	0.004	0.51	0.02	0.14	0.03	0.17	0.02	0.14	0.02	0.16
V15049-V15050	5181	234	8	0.024	1.22	0.06	0.42	0.10	0.50	0.06	0.47	0.08	0.51
V15050-V15076	3081	114	12	0.001	0.57	0.18	0.38	0.27	0.45	0.23	0.44	0.27	0.48
V15051-V15053	4521	111	6	0.007	0.30	0.00	0.05	0.00	0.05	0.00	0.06	0.00	0.06
V15052-V15053	4520	117	6	0.021	0.52	0.00	0.03	0.00	0.04	0.01	0.10	0.01	0.10
V15053-V15054	4519	97	8	0.060	1.91	0.00	0.04	0.00	0.05	0.02	0.08	0.02	0.08
V15054-V15055	4518	24	8	0.008	0.69	0.00	0.05	0.01	0.07	0.02	0.10	0.02	0.10
V15055-V15057	4517	81	8	0.007	0.66	0.00	0.06	0.01	0.08	0.02	0.11	0.02	0.11
V15056-V15057	4515	52	8	0.004	0.49	0.00	0.06	0.00	0.07	0.00	0.07	0.00	0.07
V15057-V15058	4516	159	8	0.007	0.67	0.01	0.06	0.01	0.08	0.02	0.10	0.02	0.10
V15058-V15059	4514	221	8	0.028	1.30	0.01	0.06	0.01	0.07	0.02	0.08	0.02	0.09
V15059-V15060	3093	159	8	0.060	1.92	0.01	0.06	0.02	0.08	0.03	0.09	0.03	0.10
V15060-V15065	2220	352	8	0.027	1.29	0.01	0.10	0.02	0.13	0.03	0.14	0.03	0.16
V15061-V15062	4513	339	8	0.018	1.05	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V15062-V15064	4512	188	8	0.043	1.62	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.04
V15063-V15064	4511	177	8	0.056	1.85	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
V15064-V15065	4510	61	8	0.111	2.60	0.00	0.08	0.01	0.11	0.00	0.10	0.01	0.12
V15065-V15066	2221	393	8	0.004	0.52	0.02	0.12	0.03	0.17	0.03	0.16	0.04	0.19
V15066-V15069	4528	173	8	0.010	0.79	0.02	0.15	0.04	0.20	0.03	0.16	0.05	0.19
V15067-V15068	4527	245	8	0.037	1.50	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V15068-V15069	4526	301	8	0.005	0.55	0.00	0.13	0.01	0.16	0.00	0.11	0.00	0.14
V15069-V15072	4525	260	8	0.005	0.56	0.04	0.20	0.07	0.25	0.04	0.18	0.06	0.22
V15070-V15071	2222	184	8	0.010	0.79	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V15071-V15072	4524	344	8	0.032	1.39	0.00	0.12	0.01	0.16	0.00	0.11	0.00	0.14
V15072-V15073	4523	71	8	0.005	0.56	0.05	0.19	0.08	0.24	0.04	0.17	0.06	0.21
V15073-V15074	4532	371	8	0.012	0.85	0.05	0.16	0.09	0.20	0.04	0.15	0.07	0.18
V15074-V15075	4531	328	8	0.030	1.36	0.05	0.19	0.09	0.25	0.07	0.23	0.09	0.26
V15075-V15076	4530	287	8	0.003	0.40	0.06	0.34	0.09	0.44	0.08	0.42	0.10	0.46
V15076-V15077	4535	249	12	0.004	1.38	0.24	0.26	0.37	0.33	0.37	0.33	0.43	0.35
V15077-V15078	4534	246	12	0.008	2.00	0.25	0.25	0.38	0.31	0.37	0.31	0.43	0.33
V15078-V15079	4533	332	12	0.006	1.73	0.25	0.26	0.38	0.32	0.38	0.31	0.44	0.34
V15079-V15080	3091	330	12	0.007	1.98	0.31	0.27	0.45	0.33	0.39	0.30	0.45	0.33
V15080-V15081	3092	329	12	0.007	1.99	0.32	0.27	0.46	0.33	0.40	0.30	0.46	0.33
V15081-V15105	4902	331	12	0.007	1.98	0.32	0.26	0.47	0.32	0.40	0.29	0.47	0.32
V15082-V15084	5221	142	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.03
V15083-V15084	5220	210	8	0.010	0.78	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V15084-V15085	5219	206	8	0.033	1.43	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V15086-V15087	5217	180	8	0.024	1.21	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V15087-V15085	5218	397	8	0.063	1.97	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V15087-V15088	4992	39	8	0.051	1.76	0.01	0.06	0.02	0.08	0.01	0.06	0.02	0.07
V15088-V15089	4991	139	8	0.040	1.57	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.10
V15089-V15092.A0	4911	415	8	0.007	0.68	0.02	0.09	0.03	0.12	0.01	0.08	0.02	0.11
V15090-V15091	4910	309	8	0.043	1.62	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V15091-V15092.A0	4909	59	8	0.066	2.01	0.00	0.05	0.01	0.07	0.01	0.05	0.01	0.07
V15092.A0-V15092	4908	251	8	0.058	1.88	0.02	0.08	0.04	0.10	0.02	0.07	0.03	0.09
V15092-V15093	4987	94	8	0.049	1.73	0.02	0.08	0.04	0.11	0.02	0.08	0.03	0.10
V15093-V15094	4986	326	8	0.048	1.71	0.02	0.08	0.04	0.12	0.02	0.08	0.04	0.11
V15094-V15104	4903	60	8	0.035	1.46	0.02	0.13	0.05	0.17	0.02	0.14	0.04	0.16
V15095-V15096	3086	21	8	0.219	3.65	0.00	0.01	-	0.01	0.00	0.01	0.00	0.01
V15096-V15097	3085	330	8	0.021	1.14	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.04
V15097-V15098	3083	262	8	0.005	0.56	0.00	0.06	0.01	0.07	0.00	0.04	0.00	0.06
V15098-V15102	3082	231	8	0.044	1.63	0.01	0.07	0.02	0.09	0.01	0.07	0.01	0.08
V15099-V15100	3089	175	8	0.007	0.67	0.00	0.06	0.00	0.06	0.00	0.04	0.00	0.04
V15100-V15101	3088	308	8	0.007	0.65	0.01	0.06	0.01	0.06	0.00	0.04	0.00	0.04
V15101-V15102	3087	238	8	0.093	2.38	0.01	0.07	0.01	0.08	0.00	0.06	0.01	0.07
V15102-V15103	2218	273	8	0.036	1.48	0.03	0.11	0.04	0.13	0.02	0.11	0.03	0.12
V15103-V15104	4904	271	8	0.039	1.55	0.06	0.16	0.07	0.18	0.07	0.16	0.07	0.17
V15104-V15105	4901	341	8	0.027	1.29	0.09	0.28	0.13	0.34	0.10	0.30	0.12	0.33
V15105-V15106	4900	294	12	0.016	2.89	0.41	0.26	0.60	0.31	0.49	0.28	0.59	0.31
V15106-V15109	4989	288	12	0.015	2.84	0.42	0.29	0.61	0.35	0.50	0.31	0.60	0.35
V15107-V15108	5223	205	8	0.160	3.13	0.01	0.04	0.01	0.04	0.01	0.05	0.01	0.05
V15108-V15109	5528	67	8	0.097	2.43	0.01	0.26	0.01	0.32	0.02	0.29	0.02	0.32
V15109-V15110	5226	327	12	0.007	1.98	0.43	0.32	0.63	0.39	0.51	0.36	0.62	0.39
V15111-V15112	4331	413	12	0.023	3.50	0.46	0.26	0.67	0.32	0.55	0.29	0.65	0.32
V15112-V16050	4330	464	12	0.013	2.65	0.46	0.28	0.67	0.34	0.56	0.31	0.67	0.34
V15113.A0-V15113	7559	2	8	0.050	1.75	0.00	0.04	-	0.04	0.00	0.05	0.00	0.05
V15113-V15114	4906	298	8	0.010	0.80	0.01	0.12	0.01	0.12	0.01	0.08	0.01	0.09
V15114-V15115	4907	286	8	0.010	0.78	0.03	0.12	0.03	0.13	0.01	0.07	0.01	0.08
V15115-V15116	5527	142	8	0.042	1.60	0.03	0.11	0.04	0.12	0.01	0.08	0.01	0.09
V15116-V15117	4990	398	8	0.012	0.87	0.03	0.14	0.04	0.15	0.02	0.11	0.02	0.12
V15117-V15118	5227	361	8	0.010	0.78	0.03	0.14	0.04	0.16	0.02	0.12	0.03	0.14
V15118-V15119	5229	329	8	0.010	0.78	0.03	0.16	0.04	0.18	0.03	0.13	0.03	0.15
V15119-V15120	4334	305	8	0.010	0.78	0.05	0.16	0.06	0.19	0.03	0.13	0.04	0.15
V15120-V15121	4332	95	8	0.018	1.06	0.05	0.17	0.07	0.20	0.03	0.13	0.04	0.15
V15121-V16048	4329	397	8	0.007	0.66	0.05	0.19	0.07	0.22	0.03	0.15	0.04	0.17

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V15134-V15111	5224	345	12	0.008	2.02	0.43	0.28	0.64	0.35	0.55	0.32	0.65	0.35
V16001-V16002	4342	63	6	0.061	0.90	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V16002-V16003	4341	73	6	0.048	0.79	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.05
V16003-V16004	4340	54	6	0.052	0.82	0.00	0.05	0.00	0.05	0.00	0.06	0.00	0.06
V16004-V16005	4338	95	6	0.025	0.57	0.00	0.06	0.00	0.07	0.01	0.07	0.01	0.08
V16005-V16006	4347	379	8	0.023	1.19	0.01	0.07	0.01	0.08	0.01	0.08	0.01	0.09
V16006-V16007	4349	268	8	0.006	0.62	0.01	0.07	0.01	0.09	0.01	0.08	0.01	0.09
V16007-V16015	4345	278	8	0.082	2.23	0.01	0.07	0.02	0.08	0.01	0.07	0.02	0.08
V16008-V16009	4344	289	8	0.006	0.62	0.00	0.51	0.00	0.52	0.00	0.52	0.00	0.52
V16009-V16011	4350	128	8	0.243	3.85	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.05
V16010-V16011	4351	84	8	0.101	2.48	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V16011-V16012	4348	252	8	0.070	2.06	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V16012-V16014	4346	162	8	0.070	2.06	0.01	0.05	0.01	0.06	0.01	0.06	0.01	0.07
V16013-V16014	4354	292	8	0.129	2.80	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V16014-V16015	868	61	8	0.072	2.09	0.01	0.06	0.02	0.09	0.01	0.07	0.02	0.09
V16015-V16016	610	310	8	0.065	1.99	0.02	0.08	0.04	0.11	0.03	0.09	0.04	0.10
V16016-V16019	4355	179	8	0.065	1.99	0.03	0.08	0.05	0.11	0.03	0.09	0.05	0.11
V16017-V16018	210	89	8	0.012	0.85	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V16018-V16019	4352	163	8	0.101	2.48	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07
V16019-V16020	866	24	8	0.063	1.96	0.03	0.09	0.06	0.12	0.04	0.10	0.05	0.12
V16020-V16021	861	309	8	0.070	2.06	0.04	0.11	0.06	0.15	0.04	0.12	0.06	0.14
V16021-V16022	863	303	8	0.019	1.07	0.04	0.13	0.07	0.17	0.04	0.14	0.06	0.17
V16022-V16023	4364	189	8	0.018	1.05	0.04	0.14	0.07	0.18	0.04	0.14	0.07	0.17
V16023-V16035	4370	55	8	0.016	0.99	0.04	0.19	0.07	0.24	0.04	0.20	0.07	0.23
V16024.A0-V16024.B0	211	54	8	0.017	1.01	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V16024.B0-V16024.C0	213	85	8	0.014	0.92	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V16024.C0-V16024.D0	214	204	8	0.014	0.91	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V16024.D0-V16024.E0	215	309	8	0.010	0.79	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.07
V16024.E0-V16024	4356	216	8	0.027	1.29	0.01	0.09	0.01	0.10	0.01	0.06	0.01	0.07
V16024-V16025	216	283	8	0.017	1.02	0.03	0.13	0.04	0.15	0.01	0.10	0.01	0.11
V16025-V16026	4358	356	8	0.011	0.81	0.03	0.13	0.04	0.14	0.03	0.12	0.03	0.13
V16026-V16027	4359	304	8	0.115	2.65	0.06	0.15	0.07	0.16	0.06	0.14	0.06	0.14
V16027-V16034.A0	4360	135	8	0.013	0.88	0.07	0.19	0.08	0.21	0.06	0.19	0.07	0.19
V16028-V16029	4367	131	6	0.308	2.01	0.00	0.08	0.00	0.09	0.02	0.23	0.02	0.23
V16029-V16031	208	150	6	0.001	0.12	0.00	0.10	0.00	0.11	0.02	0.25	0.02	0.25
V16030-V16031	209	130	8	0.062	1.95	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V16031-V16032	869	118	8	0.050	1.75	0.00	0.05	0.01	0.06	0.02	0.09	0.02	0.09
V16032-V16033	4366	231	8	0.022	1.15	0.01	0.05	0.01	0.06	0.03	0.09	0.03	0.09
V16033-V16034	4361	250	8	0.086	2.28	0.01	0.11	0.01	0.13	0.03	0.13	0.03	0.13
V16034.A0-V16034	4362	135	8	0.011	0.80	0.07	0.19	0.08	0.21	0.06	0.19	0.07	0.19
V16034-V16035	4365	273	8	0.026	1.25	0.08	0.21	0.10	0.25	0.09	0.22	0.10	0.24
V16035-V16039	4369	326	8	0.017	1.01	0.12	0.21	0.18	0.26	0.14	0.23	0.17	0.26
V16036-V16037	4377	121	8	0.011	0.80	0.00	0.02	-	0.02	0.00	0.08	0.00	0.08
V16037-V16038	4376	349	8	0.010	0.78	0.00	0.04	0.00	0.06	0.02	0.12	0.02	0.13
V16038-V16039	4373	357	8	0.007	0.64	0.00	0.11	0.01	0.15	0.02	0.16	0.03	0.18
V16039-V16050	4372	53	15	0.027	6.84	0.12	0.22	0.19	0.29	0.16	0.26	0.20	0.30
V16041.A0-V16041	4337	61	15	0.055	9.82	0.74	0.21	1.49	0.31	1.20	0.27	1.71	0.33
V16041-V16042	4336	220	15	0.019	5.77	0.74	0.24	1.49	0.34	1.20	0.30	1.71	0.37
V16042-V16043	FM10	422	15	0.022	6.17	0.74	0.25	1.49	0.36	1.20	0.32	1.72	0.39
V16043-V16044	862	254	15	0.013	4.73	0.74	0.27	1.50	0.39	1.20	0.34	1.72	0.42
V16044-V16045	864	357	15	0.014	4.87	0.74	0.26	1.50	0.37	1.20	0.33	1.73	0.40
V16045-V16046	865	217	15	0.017	5.42	0.74	0.25	1.51	0.36	1.20	0.32	1.73	0.39
V16046-V16047	857	501	15	0.019	5.75	0.74	0.24	1.51	0.34	1.20	0.30	1.74	0.37
V16047-V16048	4368	342	15	0.024	6.41	0.74	0.24	1.52	0.35	1.20	0.31	1.75	0.38
V16048-V16049	4374	27	15	0.016	5.34	0.79	0.26	1.60	0.37	1.21	0.32	1.79	0.40
V16049-V16050	4375	66	15	0.017	5.47	0.79	0.30	1.60	0.42	1.21	0.36	1.79	0.44
V16050-V21192	3255	585	18	0.013	7.74	1.37	0.33	2.47	0.47	1.92	0.39	2.65	0.49
V17001-V17002	3400	162	6	0.009	0.34	0.00	0.08	0.00	0.13	0.01	0.16	0.01	0.19
V17002.A0-V17002.B0	4751	203	8	0.011	0.80	0.00	0.03	0.00	0.03	0.01	0.07	0.01	0.07
V17002.B0-V17002.C0	3408	121	8	0.042	1.59	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V17002.C0-V17002.D0	4749	149	8	0.064	1.97	0.00	0.03	0.01	0.04	0.01	0.06	0.01	0.06
V17002.D0-V17002.F0	4746	302	8	0.046	1.67	0.00	0.04	0.01	0.07	0.01	0.07	0.01	0.08
V17002.E0-V17002.F0	3954	186	8	0.012	0.87	0.00	0.04	0.01	0.08	0.01	0.07	0.01	0.09
V17002.EA-V17002.EB	3399	96	8	0.052	1.79	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V17002.EB-V17002.EE	3398	196	8	0.038	1.51	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.06
V17002.EC-V17002.ED	8277	10	8	0.037	1.51	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
V17002.ED-V17002.EE	8332	357	8	0.038	1.51	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V17002.EE-V17002.E0	8366	14	8	0.031	1.37	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.07
V17002.F0-V17002.G0	4748	178	8	0.043	1.61	0.01	0.06	0.02	0.10	0.02	0.10	0.03	0.12
V17002.G0-V17002.M0	651	293	8	0.010	0.79	0.01	0.08	0.02	0.13	0.02	0.13	0.03	0.16
V17002.H0-V17002.I0	4752	115	8	0.046	1.68	0.00	0.03	0.00	0.03	0.01	0.08	0.01	0.08
V17002.I0-V17002.K0	3953	211	8	0.006	0.61	0.00	0.03	0.00	0.04	0.01	0.08	0.01	0.08
V17002.K0-V17002.L0	654	260	8	0.095	2.40	0.00	0.03	0.01	0.04	0.02	0.06	0.02	0.06
V17002.L0-V17002.M0	652	300	8	0.099	2.46	0.00	0.06	0.01	0.10	0.02	0.11	0.02	0.12
V17002.M0-V17002	650	254	8	0.010	0.78	0.01	0.10	0.04	0.17	0.04	0.17	0.06	0.21
V17002-V17004	4739	374	8	0.006	0.60	0.01	0.09	0.04	0.17	0.04	0.17	0.06	0.21
V17004-V17010	4740	271	10	0.012	1.55	0.01	0.07	0.05	0.11	0.05	0.11	0.07	0.14
V17005-V17006	1297	347	8	0.004	0.49	0.00	0.02	-	0.03	0.00	0.06	0.00	0.06
V17006-V17007	1298	156	8	0.004	0.49	0.00	0.04	0.00	0.07	0.00	0.08	0.01	0.09
V17007-V17008	4741	109	8	0.004	0.50	0.00	0.08	0.01	0.11	0.01	0.13	0.01	0.13
V17008-V17009	4742	254	8	0.004	0.52	0.01	0.10	0.02	0.11	0.02	0.12	0.02	0.12
V17009-V17010	4743	56	8	0.045	1.65	0.01	0.08	0.02	0.11	0.02	0.11	0.02	0.12
V17010-V17011	1304	241	10	0.043	2.93	0.03	0.08	0.07	0.13	0.07	0.13	0.10	0.15
V17011.A0-V17011.B0	7592	217	8	0.011	0.82	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V17011.B0-V17011.C0	7593	122	8	0.017	1.02	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V17011.C0-V17011.D0	7595	175	8	0.016	1.00	0.00	0.02	0.00	0.05	0.00	0.05	0.00	0.06
V17011.D0-V17011	7594	313	8	0.016	1.00	0.00	0.07	0.01	0.12	0.01	0.13	0.01	0.15
V17011-V17012	5048	310	10	0.015	1.71	0.03	0.11	0.08	0.18	0.08	0.18	0.12	0.22
V17012-V17013	5049	299	10	0.004	0.90	0.03	0.14	0.08	0.23	0.08	0.23	0.13	0.28
V17013-V17014.I0	5050	35	10	0.002	0.63	0.03	0.16	0.09	0.26	0.09	0.25	0.13	0.31
V17014.A0-V17014.C0	4744	298	8	0.020	1.10	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V17014.B0-V17014.C0	5530	4	8	0.002	0.35	0.00	0.03	0.00	0.04	0.01	0.07	0.01	0.07
V17014.C0-V17014.F0	4745	198	8	0.032	1.41	0.00	0.04	0.00	0.07	0.01	0.08	0.01	0.09
V17014.D0-V17014.F0	5531	4	8	0.002	0.35	0.00	0.05	0.00	0.08	0.00	0.10	0.00	0.11
V17014.E0-V17014.F0	5532	3	8	0.002	0.35	0.00	0.05	0.00	0.08	0.00	0.10	0.00	0.11
V17014.F0-V17014.G0	1305	289	8	0.029	1.34	0.01	0.09	0.02	0.12	0.03	0.12	0.04	0.14
V17014.FA-V17014.FB	7505	146	8	0.011	0.83	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V17014.FB-V17014.FC	7501	251	8	0.009	0.72	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.07
V17014.FC-V17014.FE	7500	241	8	0.008	0.72	0.00	0.05	0.01	0.07	0.01	0.08	0.01	0.08
V17014.FD-V17014.FE	7499	231	8	0.035	1.46	0.00	0.04	0.00	0.05	0.01	0.07	0.01	0.08
V17014.FE-V17014.FG	7598	121	8	0.030	1.36	0.01	0.04	0.01	0.06	0.02	0.07	0.02	0.08
V17014.FG-V17014.F0	7597	118	8	0.124	2.75	0.01	0.04	0.01	0.07	0.02	0.08	0.02	0.09
V17014.G0-V17014.H0	5051	278	8	0.014	0.92	0.03	0.12	0.04	0.15	0.04	0.14	0.05	0.16
V17014.H0-V17014.I0	5052	115	8	0.013	0.88	0.03	0.17	0.05	0.24	0.04	0.23	0.05	0.28
V17014.I0-V17014	5053	263	10	0.004	0.93	0.06	0.18	0.14	0.28	0.13	0.27	0.19	0.32
V17014-V17015	649	383	10	0.004	0.89	0.06	0.15	0.14	0.22	0.13	0.22	0.19	0.26
V17015-V17016	648	269	10	0.036	2.67	0.06	0.11	0.15	0.16	0.14	0.15	0.20	0.19

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V17016-V17018	1294	127	10	0.039	2.79	0.06	0.10	0.15	0.16	0.14	0.15	0.21	0.19
V17017-V17018	1295	300	8	0.032	1.39	0.00	0.07	0.00	0.11	0.01	0.12	0.01	0.14
V17018-V17019	1287	346	10	0.039	2.78	0.06	0.11	0.16	0.17	0.15	0.16	0.22	0.20
V17019-V17036	3956	476	10	0.030	2.43	0.07	0.16	0.16	0.26	0.15	0.25	0.23	0.31
V17020.A0-V17020	5533	3	8	0.002	0.35	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V17020.B0-V17020	5534	17	8	0.002	0.35	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V17020-V17021	1299	287	8	0.043	1.62	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V17021-V17022	1300	217	8	0.006	0.60	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V17022-V17025	1301	104	8	0.006	0.59	0.00	0.07	0.01	0.10	0.01	0.08	0.01	0.11
V17023-V17024	4750	193	8	0.020	1.09	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V17024-V17025	1302	349	8	0.054	1.82	0.00	0.06	0.00	0.08	0.00	0.07	0.01	0.08
V17025-V17026	646	305	8	0.005	0.56	0.01	0.08	0.02	0.13	0.01	0.11	0.02	0.14
V17026.A0-V17026.B0	7510	218	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V17026.B0-V17026.E0	7509	230	8	0.018	1.04	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V17026.CA-V17026.CB	7508	144	8	0.022	1.15	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
V17026.CB-V17026.D0	V17026.CB-V17026.D0	237	8	0.021	1.12	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V17026.D0-V17026.E0	7504	205	8	0.042	1.60	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V17026.E0-V17026	7511	286	8	0.035	1.46	0.01	0.06	0.01	0.10	0.01	0.09	0.02	0.11
V17026.F0-V17026.H0	6863	24	8	0.031	1.38	0.00	0.01	-	0.02	0.01	0.07	0.01	0.07
V17026.H0-V17026.J0	7492	271	8	0.029	1.33	0.00	0.02	0.00	0.04	0.03	0.10	0.03	0.10
V17026.I0-V17026.J0	7494	150	8	0.031	1.37	0.00	0.02	0.00	0.04	0.00	0.06	0.00	0.06
V17026.J0-V17026.K0	7493	85	8	0.030	1.36	0.00	0.03	0.01	0.05	0.03	0.10	0.03	0.10
V17026.K0-V17026	7495	285	8	0.041	1.58	0.00	0.05	0.01	0.09	0.03	0.11	0.03	0.13
V17026-V17027.A0	7496	55	8	0.029	1.32	0.02	0.08	0.05	0.13	0.05	0.13	0.07	0.16
V17027.A0-V17027	7497	115	8	0.029	1.33	0.02	0.08	0.05	0.14	0.05	0.14	0.07	0.17
V17027-V17028	1306	320	8	0.021	1.14	0.02	0.08	0.05	0.13	0.06	0.15	0.08	0.17
V17028-V17030	5054	172	8	0.048	1.72	0.02	0.07	0.05	0.13	0.07	0.14	0.09	0.16
V17029-V17030	1307	283	8	0.054	1.82	0.00	0.04	-	0.06	0.00	0.08	0.00	0.10
V17030-V17031	5055	161	8	0.048	1.70	0.02	0.08	0.06	0.13	0.07	0.14	0.10	0.17
V17031-V17032	3409	294	8	0.044	1.64	0.02	0.09	0.06	0.16	0.07	0.17	0.10	0.20
V17032-V17034	643	312	8	0.014	0.93	0.02	0.10	0.07	0.17	0.08	0.18	0.11	0.21
V17033-V17034	645	111	8	0.031	1.36	0.00	0.06	0.00	0.09	0.01	0.10	0.01	0.12
V17034-V17035	644	245	8	0.039	1.53	0.02	0.09	0.07	0.15	0.08	0.15	0.12	0.19
V17035-V17036	3957	288	8	0.044	1.64	0.03	0.17	0.08	0.28	0.08	0.28	0.12	0.35
V17036-V17037	819	336	10	0.005	1.00	0.09	0.33	0.24	0.49	0.23	0.47	0.36	0.58
V17037-V17049	641	118	10	0.000	0.18	0.12	0.36	0.27	0.51	0.23	0.47	0.36	0.57
V17038.A0-V17038.B0	1308	393	8	0.045	1.66	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V17038.AA-V17038.A0	5047	35	8	0.001	0.20	0.00	0.01	-	0.01	0.00	0.07	0.00	0.07
V17038.B0-V17038	3955	167	8	0.024	1.20	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
V17038.C0-V17038.D0	5046	14	6	0.004	0.22	0.01	0.11	0.01	0.11	0.00	0.04	0.00	0.04
V17038.D0-V17038.E0	5045	34	6	0.023	0.55	0.01	0.10	0.01	0.10	0.00	0.06	0.00	0.06
V17038.E0-V17038.F0	5044	304	6	0.010	0.36	0.01	0.12	0.01	0.13	0.01	0.11	0.01	0.11
V17038.F0-V17038	5233	137	8	0.005	0.55	0.01	0.09	0.01	0.10	0.01	0.09	0.01	0.09
V17038-V17039	1296	363	8	0.035	1.47	0.02	0.09	0.02	0.11	0.02	0.10	0.03	0.11
V17039-V17040	5231	350	8	0.020	1.11	0.03	0.10	0.04	0.11	0.03	0.10	0.04	0.11
V17040-V17041	5230	76	8	0.075	2.14	0.03	0.10	0.04	0.12	0.03	0.11	0.04	0.12
V17041-V17042	1290	13	8	0.013	0.88	0.03	0.12	0.04	0.15	0.04	0.14	0.04	0.15
V17042-V17043	1291	325	8	0.018	1.05	0.03	0.14	0.04	0.16	0.05	0.16	0.06	0.17
V17043-V17048	3958	320	8	0.011	0.82	0.04	0.15	0.06	0.18	0.05	0.16	0.06	0.17
V17044-V17045	1288	416	8	0.032	1.40	0.01	0.08	0.01	0.08	0.00	0.05	0.00	0.05
V17045-V17046	4380	353	8	0.022	1.15	0.02	0.10	0.02	0.11	0.01	0.07	0.01	0.08
V17046-V17047	4379	318	8	0.010	0.79	0.02	0.10	0.03	0.12	0.01	0.09	0.01	0.10
V17047-V17048	3968	87	8	0.021	1.12	0.02	0.12	0.03	0.14	0.02	0.12	0.03	0.13
V17048-V17049	655	164	8	0.050	1.75	0.08	0.24	0.11	0.32	0.07	0.28	0.09	0.33
V17049-V17054	657	202	10	0.008	1.29	0.20	0.29	0.38	0.41	0.31	0.36	0.45	0.44
V17050-V17051	7512	325	8	0.030	1.36	0.00	0.05	-	0.05	0.03	0.12	0.03	0.12
V17051-V17052	1292	328	8	0.030	1.36	0.03	0.11	0.03	0.11	0.06	0.15	0.06	0.15
V17052-V17053	3959	327	8	0.031	1.37	0.04	0.12	0.04	0.13	0.07	0.16	0.07	0.16
V17053-V17054	658	328	8	0.022	1.15	0.05	0.27	0.05	0.35	0.07	0.33	0.07	0.37
V17054-V17055	659	345	10	0.007	1.16	0.26	0.32	0.46	0.44	0.38	0.39	0.51	0.46
V17055-V17056	660	300	10	0.007	1.18	0.26	0.33	0.47	0.44	0.38	0.39	0.52	0.47
V17056-V17057	661	213	10	0.007	1.19	0.26	0.29	0.47	0.40	0.38	0.36	0.53	0.43
V17057-V17058	3962	389	10	0.016	1.79	0.26	0.27	0.47	0.37	0.38	0.33	0.53	0.40
V17058-V17068	3964	41	10	0.011	1.49	0.26	0.33	0.48	0.45	0.38	0.40	0.53	0.48
V17059.A0-V17059	5529	32	8	0.002	0.35	0.06	0.26	0.06	0.26	0.03	0.18	0.03	0.18
V17059-V17060	1293	101	8	0.006	0.58	0.06	0.18	0.06	0.18	0.03	0.14	0.03	0.14
V17060-V17062	3960	284	8	0.046	1.68	0.06	0.20	0.06	0.21	0.05	0.19	0.05	0.19
V17061.A0-V17061	821	5	8	0.002	0.35	0.01	0.07	0.01	0.07	0.01	0.08	0.01	0.08
V17061-V17062	3961	190	8	0.041	1.59	0.01	0.17	0.01	0.18	0.01	0.16	0.01	0.16
V17062.A0-V17062.B0	V17062.A0-V17062.B0	120	8	0.012	0.84	0.00	0.00	-	0.01	0.00	0.00	0.00	0.01
V17062.B0-V17062.C0	V17062.B0-V17062.C0	33	8	0.016	0.99	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
V17062.C0-V17062.D0	V17062.C0-V17062.D0	120	8	0.015	0.96	0.00	0.05	0.00	0.07	0.00	0.00	0.00	0.04
V17062.D0-V17062.E0	V17062.D0-V17062.E0	179	8	0.009	0.73	0.01	0.10	0.02	0.11	0.00	0.00	0.00	0.05
V17062.E0-V17062.H0	V17062.E0-V17062.H0	180	8	0.006	0.61	0.01	0.10	0.02	0.12	0.00	0.05	0.00	0.09
V17062.F0-V17062.G0	V17062.F0-V17062.G0	124	8	0.030	1.36	0.00	0.00	-	0.01	0.00	0.05	0.00	0.05
V17062.G0-V17062.H0	V17062.G0-V17062.H0	200	8	0.011	0.81	0.00	0.05	0.00	0.08	0.02	0.10	0.02	0.10
V17062.H0-V17062	V17062.H0-V17062	91	8	0.007	0.66	0.01	0.19	0.02	0.21	0.02	0.18	0.02	0.19
V17062-V17063	662	271	8	0.005	0.55	0.09	0.25	0.10	0.27	0.08	0.24	0.08	0.24
V17063-V17064	1284	284	8	0.010	0.78	0.09	0.21	0.10	0.23	0.08	0.19	0.08	0.20
V17064-V17065	1285	83	8	0.027	1.27	0.11	0.22	0.12	0.24	0.08	0.20	0.08	0.21
V17065-V17066	1286	183	8	0.017	1.02	0.14	0.24	0.16	0.26	0.13	0.25	0.13	0.25
V17066-V17067	3963	273	8	0.021	1.14	0.14	0.25	0.16	0.26	0.17	0.28	0.17	0.28
V17067-V17068	3965	348	8	0.014	0.94	0.14	0.37	0.16	0.45	0.18	0.44	0.18	0.48
V17068-V17069	3966	239	10	0.008	1.29	0.40	0.38	0.64	0.50	0.56	0.46	0.71	0.53
V17069-V17070	3967	299	10	0.009	1.33	0.42	0.40	0.66	0.52	0.56	0.47	0.72	0.55
V17070-V17071	4754	318	10	0.009	1.33	0.42	0.32	0.67	0.41	0.56	0.37	0.72	0.43
V17071-V16041.A0	4335	35	15	0.051	9.42	0.42	0.16	0.67	0.22	0.56	0.20	0.72	0.23
V17076-V17002.EA	956	90	8	0.010	0.78	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V17077-V17014.FA	7506	19	8	0.015	0.97	0.00	0.01	-	0.01	0.00	0.04	0.00	0.04
V17079-V17080	V17079-V17080	100	8	0.161	3.14	0.00	0.00	-	0.01	0.02	0.06	0.02	0.06
V17079-V17080	V17080-V17026.H0	171	8	0.125	2.76	0.00	0.01	0.00	0.03	0.02	0.08	0.02	0.08
V18001-V18002	5291	13	8	0.064	1.97	0.00	0.02	0.00	0.02	0.01	0.08	0.01	0.08
V18002-V18003	4757	154	8	0.008	0.72	0.00	0.02	0.00	0.03	0.01	0.09	0.01	0.09
V18003-V18004	4758	53	8	0.011	0.82	0.00	0.02	0.00	0.04	0.01	0.08	0.01	0.08
V18004-V18005	4759	156	8	0.027	1.28	0.00	0.02	0.00	0.04	0.01	0.08	0.01	0.08
V18005-V18009	380	55	8	0.014	0.94	0.00	0.04	0.00	0.07	0.02	0.11	0.02	0.12
V18006.A0-V18006	5290	89	8	0.008	0.70	0.00	0.03	0.00	0.03	0.02	0.10	0.02	0.10
V18006-V18007	5289	184	8	0.050	1.75	0.00	0.02	0.00	0.03	0.02	0.07	0.02	0.07
V18007-V18008	5057	111	8	0.139	2.92	0.00	0.02	0.00	0.03	0.02	0.05	0.02	0.05
V18008-V18009	5234	70	8	0.326	4.46	0.00	0.03	0.01	0.05	0.02	0.09	0.02	0.09
V18009-V18010	381	102	8	0.011	0.83	0.00	0.05	0.01	0.09	0.03	0.15	0.04	0.15
V18010-V18011	5056	92	8	0.011	0.83	0.00	0.04	0.01	0.07	0.04	0.11	0.04	0.12
V18011-V18012	4756	142	8	0.185	3.36	0.00	0.04	0.01	0.07	0.04	0.11	0.04	0.12
V18012-V18013	391	40	8	0.008	0.70	0.00	0.06	0.01	0.10	0.04	0.15	0.04	0.16
V18013-V18014	397	83	8	0.010	0.77	0.00	0.06	0.02	0.10	0.04	0.15	0.04	0.16
V18014-V18015	398	102	8	0.009	0.76	0.00	0.05	0.02	0.09	0.04	0.14	0.04	0.14
V18015-V18016	399	137	8	0.032	1.41	0.01	0.04	0.02	0.08	0.04	0.11	0.04	0.12

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V18016-V18017	400	164	8	0.032	1.39	0.01	0.05	0.02	0.08	0.04	0.12	0.04	0.12
V18017.A0-V18017	7660	70	8	0.060	1.91	0.00	0.03	0.00	0.05	0.00	0.07	0.00	0.07
V18017-V18019	392	96	8	0.032	1.40	0.01	0.05	0.02	0.09	0.04	0.13	0.05	0.14
V18018-V18019	377	158	8	0.008	0.70	0.00	0.04	0.00	0.06	0.01	0.09	0.01	0.11
V18019-V18020	394	345	8	0.019	1.06	0.01	0.05	0.02	0.10	0.04	0.14	0.05	0.16
V18020-V18021	382	325	8	0.025	1.22	0.01	0.05	0.03	0.10	0.05	0.13	0.06	0.15
V18021-V18022	390	330	8	0.040	1.56	0.01	0.06	0.03	0.12	0.05	0.16	0.07	0.18
V18022-V18023.F0	1687	181	8	0.012	0.87	0.01	0.09	0.03	0.17	0.08	0.23	0.09	0.25
V18023.A0-V18023.B0	7603	202	8	0.005	0.55	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V18023.B0-V18023.D0	7604	277	8	0.013	0.87	0.00	0.05	0.00	0.06	0.00	0.06	0.01	0.07
V18023.C0-V18023.D0	1681	61	8	0.162	3.14	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V18023.D0-V18023.E0	7601	350	8	0.010	0.78	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
V18023.E0-V18023.F0	7602	183	8	0.045	1.66	0.01	0.08	0.01	0.13	0.01	0.15	0.01	0.17
V18023.F0-V18023	1688	149	8	0.006	0.61	0.02	0.12	0.05	0.20	0.09	0.24	0.10	0.27
V18023-V18024.F0	1689	141	8	0.013	0.89	0.04	0.15	0.07	0.22	0.11	0.26	0.12	0.29
V18024.A0-V18024.B0	1682	128	8	0.015	0.95	0.00	0.03	0.00	0.03	0.01	0.06	0.01	0.06
V18024.B0-V18024.D0	1683	169	8	0.016	0.98	0.00	0.04	0.00	0.05	0.01	0.06	0.01	0.06
V18024.C0-V18024.D0	1684	83	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V18024.D0-V18024.E0	1685	350	8	0.033	1.43	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.06
V18024.E0-V18024.F0	1686	184	8	0.078	2.18	0.01	0.11	0.01	0.15	0.01	0.17	0.01	0.19
V18024.F0-V18024	1690	186	8	0.007	0.65	0.04	0.17	0.09	0.25	0.12	0.28	0.14	0.31
V18024-V18025	386	332	8	0.009	0.76	0.05	0.21	0.10	0.28	0.13	0.32	0.15	0.34
V18025-V18026	387	325	10	0.004	0.86	0.06	0.17	0.11	0.23	0.14	0.25	0.16	0.27
V18026.A0-V18026.C0	395	64	8	0.080	2.21	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V18026.B0-V18026.C0	383	96	8	0.011	0.84	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V18026.C0-V18026.D0	396	227	8	0.010	0.80	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.05
V18026.D0-V18026.E0	384	330	8	0.028	1.30	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V18026.E0-V18026	385	331	8	0.046	1.68	0.01	0.12	0.01	0.16	0.01	0.16	0.01	0.18
V18026-V18027	389	304	10	0.011	1.47	0.07	0.17	0.13	0.23	0.15	0.24	0.18	0.26
V18027-V18028	5292	360	10	0.007	1.21	0.10	0.21	0.16	0.27	0.18	0.28	0.21	0.31
V18028-V18029	5293	311	10	0.004	0.91	0.10	0.22	0.17	0.28	0.18	0.29	0.22	0.32
V18029-V18030	5295	208	10	0.007	1.15	0.10	0.28	0.17	0.43	0.18	0.39	0.22	0.48
V18030-V18031	5296	485	12	0.006	1.81	0.31	0.24	0.80	0.39	0.60	0.33	0.95	0.43
V18031-V18034.A0	V18031-V18034.A0	235	12	0.047	5.00	0.31	0.17	0.81	0.27	0.61	0.24	0.96	0.30
V18034.A0-V18034	V18034.A0-V18034	16	12	0.047	4.97	0.31	0.18	0.81	0.29	0.61	0.25	0.97	0.32
V18034-V18035	5300	330	12	0.031	4.06	0.31	0.21	0.81	0.34	0.61	0.29	0.97	0.37
V18035-V18036	5299	330	12	0.015	2.82	0.31	0.22	0.82	0.37	0.61	0.32	0.97	0.41
V18036-V16041.A0	7526	120	12	0.016	2.90	0.31	0.23	0.82	0.35	0.61	0.30	0.97	0.38
V19001-V19002	5327	57	8	0.070	2.07	0.00	0.01	0.00	0.01	0.02	0.06	0.02	0.06
V19002-V19003	5326	121	8	0.167	3.20	0.00	0.01	0.00	0.02	0.02	0.05	0.02	0.05
V19003-V19004	5321	208	8	0.163	3.16	0.00	0.01	0.00	0.02	0.02	0.06	0.02	0.06
V19004-V19006	5324	258	8	0.114	2.64	0.00	0.02	0.00	0.04	0.02	0.07	0.02	0.07
V19005-V19006	5325	288	8	0.147	3.00	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
V19006-V19007	5322	247	8	0.072	2.10	0.00	0.02	0.01	0.05	0.03	0.07	0.03	0.08
V19007-V19008	5323	268	8	0.147	2.99	0.00	0.02	0.01	0.05	0.03	0.07	0.03	0.07
V19008-V19009	4674	291	8	0.169	3.21	0.00	0.03	0.02	0.06	0.03	0.07	0.03	0.08
V19009-V19013	5319	209	8	0.106	2.54	0.00	0.03	0.02	0.07	0.03	0.07	0.04	0.09
V19010-V19011	4670	128	8	0.297	4.26	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.01
V19011-V19012	4669	170	8	0.046	1.68	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
V19012-V19013	4668	250	8	0.220	3.66	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.06
V19013-V19014	5320	148	8	0.101	2.49	0.01	0.04	0.03	0.08	0.03	0.07	0.04	0.09
V19014-V19018	5308	347	8	0.103	2.51	0.01	0.05	0.03	0.09	0.03	0.08	0.04	0.10
V19015-V19016	5309	343	8	0.119	2.70	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V19016-V19017	5316	293	8	0.042	1.61	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V19017-V19018	5318	351	8	0.010	0.78	0.01	0.06	0.01	0.09	0.00	0.07	0.01	0.09
V19018-V19019	5311	217	8	0.090	2.34	0.01	0.06	0.05	0.11	0.03	0.09	0.06	0.12
V19019-V19020	5304	197	8	0.053	1.80	0.01	0.08	0.05	0.15	0.03	0.12	0.06	0.16
V19020-V19021	5303	304	8	0.008	0.71	0.02	0.10	0.05	0.19	0.03	0.15	0.06	0.20
V19021-V19025	5315	305	8	0.009	0.75	0.02	0.10	0.06	0.18	0.04	0.14	0.07	0.19
V19022-V19023	5317	198	8	0.070	2.07	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V19023-V19024	5313	343	8	0.065	1.99	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.04
V19024-V19025	5314	402	8	0.048	1.71	0.01	0.07	0.01	0.11	0.00	0.08	0.01	0.11
V19025-V19026	5536	205	8	0.026	1.25	0.02	0.09	0.07	0.15	0.04	0.12	0.08	0.16
V19026-V19027	4675	307	8	0.069	2.04	0.02	0.09	0.08	0.15	0.04	0.12	0.08	0.16
V19027-V19028	4678	177	8	0.023	1.17	0.03	0.11	0.08	0.19	0.04	0.14	0.09	0.20
V19028-V19029	4679	258	8	0.011	0.83	0.03	0.13	0.08	0.22	0.04	0.16	0.09	0.22
V19029-V19030	4680	258	8	0.011	0.84	0.03	0.13	0.09	0.23	0.05	0.17	0.09	0.24
V19030-V19035	5306	63	8	0.008	0.70	0.03	0.14	0.09	0.24	0.05	0.17	0.09	0.25
V19031-V19032	5332	185	8	0.132	2.84	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V19032-V19033	4676	102	8	0.005	0.55	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V19033-V19034	4677	229	8	0.013	0.89	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
V19034-V19035	5307	203	8	0.064	1.97	0.00	0.09	0.01	0.14	0.00	0.10	0.01	0.14
V19035-V19036	5341	329	8	0.012	0.85	0.03	0.13	0.10	0.22	0.05	0.16	0.10	0.22
V19036-V19037	5335	301	8	0.023	1.19	0.03	0.12	0.10	0.20	0.05	0.14	0.11	0.21
V19037.B0-V19037	5337	293	8	0.027	1.29	0.00	0.07	0.00	0.12	0.00	0.09	0.01	0.13
V19037.BA-V19037.B0	V19037.BA-V19037.B0	328	8	0.041	1.59	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V19037-V19038	5338	345	8	0.025	1.24	0.04	0.14	0.11	0.24	0.06	0.17	0.12	0.24
V19038-V19040	5339	256	8	0.010	0.77	0.04	0.14	0.12	0.24	0.06	0.17	0.12	0.25
V19039.A0-V19039	7558	5	8	0.002	0.35	0.00	0.01	0.00	0.01	0.00	0.04	0.00	0.04
V19039-V19040	5439	343	8	0.021	1.14	0.00	0.07	0.00	0.12	0.00	0.09	0.00	0.12
V19040-V19041	5440	112	8	0.026	1.27	0.04	0.14	0.12	0.25	0.06	0.17	0.13	0.25
V19041-V19098	5436	382	8	0.009	0.74	0.04	0.21	0.13	0.37	0.06	0.31	0.13	0.41
V19042-V19043	4892	84	8	0.219	3.65	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.03
V19043-V19045	5344	389	8	0.068	2.04	0.00	0.03	0.00	0.05	0.00	0.11	0.00	0.11
V19044.A0-V19044.B0	4761	199	8	0.088	2.32	0.00	0.03	0.00	0.05	0.02	0.11	0.02	0.11
V19044.AA-V19044.AB	1219	191	8	0.096	2.42	0.00	0.01	0.00	0.02	0.02	0.07	0.02	0.07
V19044.AB-V19044.A0	1220	24	8	0.032	1.39	0.00	0.02	0.00	0.03	0.02	0.07	0.02	0.07
V19044.B0-V19044	4762	105	8	0.101	2.48	0.01	0.04	0.02	0.07	0.12	0.16	0.12	0.16
V19044.BA-V19044.BB	1691	40	8	0.072	2.10	0.00	0.02	0.00	0.02	0.09	0.14	0.09	0.14
V19044.BB-V19044.BC	1692	178	8	0.100	2.48	0.00	0.02	0.00	0.02	0.09	0.13	0.09	0.13
V19044.BC-V19044.BD	1693	125	8	0.113	2.62	0.00	0.02	0.00	0.03	0.09	0.13	0.09	0.13
V19044.BD-V19044.BE	1694	124	8	0.142	2.94	0.00	0.02	0.00	0.03	0.09	0.13	0.09	0.13
V19044.BE-V19044.BF	1695	176	8	0.111	2.60	0.00	0.03	0.01	0.04	0.09	0.14	0.09	0.14
V19044.BF-V19044.BG	1696	94	8	0.084	2.27	0.00	0.03	0.01	0.05	0.10	0.14	0.10	0.14
V19044.BG-V19044.BH	1697	111	8	0.068	2.04	0.00	0.03	0.01	0.06	0.10	0.16	0.10	0.16
V19044.BH-V19044.BI	1701	147	8	0.039	1.55	0.00	0.03	0.01	0.06	0.10	0.15	0.10	0.15
V19044.BI-V19044.BJ	1702	225	8	0.117	2.67	0.00	0.04	0.01	0.07	0.10	0.18	0.10	0.18
V19044.BJ-V19044.B0	1703	94	8	0.017	1.02	0.00	0.04	0.01	0.08	0.10	0.18	0.10	0.18
V19044-V19045	5345	115	8	0.051	1.76	0.01	0.04	0.02	0.08	0.12	0.18	0.12	0.18
V19045-V19046	4889	152	8	0.050	1.75	0.01	0.05	0.03	0.09	0.12	0.18	0.12	0.18
V19046-V19051	3981	351	8	0.052	1.77	0.01	0.05	0.03	0.10	0.12	0.18	0.12	0.18
V19047-V19048	4891	52	8	0.097	2.43	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V19048-V19049	3980	195	8	0.069	2.06	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V19049-V19050	4890	181	8	0.055	1.84	0.00	0.02	0.00	0.04	0.00	0.04	0.01	0.04
V19050-V19051	3982	224	8	0.061	1.93	0.00	0.04	0.01	0.07	0.00	0.11	0.01	0.11
V19051-V19053	3986	325	8	0.057	1.87	0.01	0.06	0.04	0.11	0.13	0.18	0.14	0.18
V19052.A0-V19052.B0	4763	29	8	0.036	1.48	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V19052.B0-V19052.C0	1698	265	8	0.069	2.05	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V19052.C0-V19052.D0	1699	151	8	0.053	1.81	0.00	0.05	0.01	0.06	0.00	0.06	0.01	0.07
V19052.D0-V19052	1700	61	8	0.005	0.55	0.00	0.05	0.01	0.07	0.01	0.06	0.01	0.07
V19052-V19053	5329	320	8	0.056	1.85	0.00	0.05	0.01	0.08	0.01	0.11	0.01	0.12
V19053-V19054	3984	240	8	0.070	2.07	0.02	0.10	0.06	0.17	0.14	0.27	0.15	0.28
V19054-V19055	5078	390	8	0.004	0.50	0.02	0.16	0.06	0.28	0.14	0.41	0.16	0.43
V19055-V19062	5105	40	8	0.001	0.28	0.02	0.16	0.06	0.27	0.14	0.39	0.16	0.41
V19056-V19057	5092	86	6	0.019	0.50	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V19057-V19059	5104	201	6	0.064	0.91	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V19058-V19059	5107	3	6	0.018	0.48	0.00	0.11	0.00	0.12	0.00	0.13	0.00	0.13
V19059-V19060	5108	128	6	0.032	0.65	0.00	0.07	0.00	0.09	0.01	0.09	0.01	0.10
V19060-V19061	5095	196	6	0.007	0.30	0.00	0.07	0.01	0.09	0.01	0.09	0.01	0.10
V19061-V19062	5094	303	6	0.075	0.99	0.01	0.12	0.01	0.19	0.01	0.25	0.01	0.26
V19062-V19063	5106	83	8	0.009	0.73	0.03	0.12	0.08	0.19	0.15	0.27	0.17	0.29
V19063-V19078	5097	341	8	0.036	1.48	0.03	0.10	0.08	0.16	0.15	0.21	0.17	0.23
V19064-V19065	5083	112	8	0.128	2.79	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V19065-V19068	5080	161	8	0.025	1.24	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V19066-V19067	5082	333	8	0.068	2.03	0.00	0.03	0.00	0.03	0.02	0.06	0.02	0.06
V19067-V19068	5081	39	8	0.086	2.29	0.00	0.03	0.01	0.04	0.02	0.07	0.02	0.07
V19068-V19069	5079	203	8	0.058	1.88	0.00	0.06	0.01	0.08	0.02	0.11	0.02	0.11
V19069-V19070	5087	334	8	0.004	0.52	0.01	0.07	0.01	0.10	0.02	0.12	0.02	0.13
V19070-V19077	5100	223	8	0.019	1.09	0.01	0.07	0.02	0.11	0.02	0.12	0.03	0.13
V19071-V19072	5090	19	8	0.237	3.80	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V19072-V19073	5091	150	8	0.017	1.03	0.00	0.03	0.00	0.03	0.01	0.05	0.01	0.05
V19073-V19075	5089	331	8	0.073	2.11	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V19074-V19075	5085	184	8	0.008	0.71	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V19075-V19076	5088	264	8	0.060	1.92	0.01	0.04	0.01	0.06	0.01	0.06	0.01	0.07
V19076-V19077	5101	185	8	0.042	1.60	0.01	0.07	0.02	0.10	0.01	0.10	0.02	0.12
V19077-V19078	5102	295	8	0.014	0.93	0.02	0.10	0.04	0.15	0.04	0.17	0.05	0.19
V19078-V19088	5103	155	8	0.062	1.95	0.04	0.15	0.12	0.24	0.19	0.28	0.23	0.32
V19079-V19080	5310	289	6	0.132	1.32	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V19080-V19081	3983	259	8	0.093	2.38	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.05
V19081-V19082	3985	303	8	0.013	0.90	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
V19082-V19085	5333	303	8	0.081	2.22	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.08
V19084.B0-V19084.C0	V19084.B0-V19084.C0	239	8	0.080	2.21	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V19084.C0-V19084	V19084.C0-V19084	149	8	0.052	1.78	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V19084-V19085	5334	344	8	0.065	1.99	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
V19085-V19086	5343	381	8	0.013	0.90	0.01	0.08	0.02	0.13	0.01	0.09	0.02	0.13
V19086-V19087	5340	210	8	0.004	0.50	0.01	0.09	0.03	0.16	0.01	0.10	0.03	0.16
V19087-V19088	5077	352	8	0.005	0.57	0.01	0.14	0.03	0.23	0.01	0.23	0.03	0.28
V19088-V19089	5099	300	12	0.006	1.77	0.06	0.11	0.16	0.19	0.20	0.21	0.26	0.24
V19089-V19092	5441	256	12	0.017	2.99	0.06	0.09	0.16	0.15	0.21	0.16	0.27	0.19
V19090-V19091	5443	127	8	0.004	0.49	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V19091-V19092	5444	143	8	0.008	0.72	0.00	0.08	0.00	0.12	0.00	0.14	0.00	0.15
V19092-V19097	5427	103	12	0.042	4.72	0.06	0.08	0.17	0.13	0.21	0.15	0.27	0.17
V19094-V19095	5433	227	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V19095-V19096	5432	136	8	0.004	0.49	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V19096-V19097	5431	120	8	0.026	1.26	0.00	0.08	0.01	0.13	0.00	0.13	0.00	0.15
V19097-V19098.A0	5429	180	12	0.037	4.44	0.06	0.08	0.18	0.13	0.21	0.14	0.28	0.17
V19098.A0-V19098	5428	225	12	0.052	5.26	0.06	0.08	0.18	0.13	0.21	0.14	0.28	0.16
V19098-V19101	5437	236	12	0.005	1.57	0.10	0.18	0.32	0.31	0.28	0.29	0.42	0.36
V19101-V19105	5438	321	12	0.005	1.57	0.11	0.15	0.32	0.27	0.28	0.25	0.42	0.31
V19102.A0-V19102	5538	5	8	1.102	8.20	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V19102-V19103	5522	240	8	0.024	1.20	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V19103-V19104	5445	306	8	0.068	2.03	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V19104-V19105	5519	121	8	0.084	2.27	0.00	0.10	0.01	0.18	0.00	0.16	0.01	0.20
V19105-V19106	5520	222	12	0.023	3.47	0.11	0.13	0.33	0.23	0.28	0.21	0.44	0.26
V19106-V19107	5523	296	12	0.013	2.59	0.11	0.14	0.34	0.24	0.28	0.21	0.44	0.27
V19107-V19109	3411	404	12	0.050	5.14	0.20	0.19	0.58	0.32	0.39	0.26	0.68	0.35
V19108-V19109	5235	350	6	0.013	0.42	0.00	0.26	0.00	0.44	0.00	0.37	0.00	0.48
V19109-V19110	3412	255	12	0.005	1.64	0.20	0.23	0.59	0.41	0.40	0.33	0.69	0.45
V19110-V19111	3413	393	12	0.006	1.76	0.20	0.22	0.60	0.40	0.40	0.32	0.70	0.43
V19111-V18030	3417	287	12	0.007	1.92	0.20	0.22	0.61	0.39	0.41	0.31	0.71	0.42
V19113-V19116	3419	324	8	0.004	0.52	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V19114-V19115	3414	237	6	0.125	1.28	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V19115-V19116	3418	300	6	0.086	1.07	0.00	0.05	0.00	0.06	0.01	0.07	0.01	0.07
V19116-V18030	3416	164	8	0.067	2.03	0.01	0.25	0.01	0.40	0.01	0.35	0.02	0.45
V20001-V20002	5606	211	8	0.004	0.50	0.00	0.03	0.00	0.03	0.01	0.06	0.01	0.06
V20002-V20004	5585	127	8	0.065	1.99	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V20003-V20004	5584	247	6	0.061	0.90	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V20004-V20005	5605	141	8	0.032	1.40	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.07
V20005-V20007	5603	318	8	0.043	1.61	0.01	0.04	0.01	0.06	0.01	0.06	0.01	0.07
V20006-V20007	5524	57	8	0.002	0.35	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V20007-V20013	5553	344	8	0.066	2.00	0.01	0.08	0.02	0.13	0.01	0.11	0.02	0.14
V20008.A0-V20008	5604	138	8	0.011	0.84	0.00	0.06	0.00	0.09	0.00	0.08	0.00	0.10
V20008.B0-V20008.D0	7521	189	8	0.071	2.08	0.01	0.04	0.01	0.06	0.02	0.07	0.02	0.08
V20008.BB-V20008.BC	V20008.BB-V20008.BC	200	8	0.028	1.31	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V20008.BC-V20008.BD	V20008.BC-V20008.BD	150	8	0.030	1.35	0.00	0.03	0.00	0.04	0.00	0.05	0.01	0.05
V20008.BD-V20008.BE	V20008.BD-V20008.BE	170	8	0.030	1.35	0.00	0.03	0.01	0.05	0.01	0.06	0.01	0.07
V20008.BE-V20008.BG	V20008.BE-V20008.BG	216	8	0.048	1.70	0.00	0.05	0.01	0.07	0.02	0.09	0.02	0.10
V20008.BG-V20008.BH	V20008.BG-V20008.BH	87	8	0.008	0.68	0.00	0.11	0.01	0.15	0.02	0.18	0.02	0.19
V20008.BH-V20008.B0	V20008.BH-V20008.B0	15	8	0.004	0.50	0.01	0.10	0.01	0.13	0.02	0.16	0.02	0.17
V20008.C0-V20008.D0	7522	256	8	0.047	1.69	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.05
V20008.D0-V20008.F0	7524	346	8	0.060	1.91	0.01	0.06	0.02	0.09	0.02	0.09	0.03	0.10
V20008.E0-V20008.F0	7523	336	8	0.008	0.72	0.00	0.05	0.00	0.07	0.00	0.07	0.00	0.08
V20008.F0-V20008.G0	4102	152	8	0.020	1.09	0.01	0.22	0.03	0.28	0.02	0.27	0.03	0.30
V20008.G0-V20008	4103	49	8	0.003	0.46	0.01	0.24	0.03	0.31	0.02	0.30	0.04	0.33
V20008-V20009.A0	7425	17	8	0.003	0.46	0.01	0.08	0.03	0.13	0.03	0.12	0.04	0.14
V20009.A0-V20009	7426	260	8	0.045	1.66	0.01	0.06	0.03	0.10	0.03	0.09	0.04	0.11
V20009-V20010	5588	300	8	0.042	1.59	0.01	0.09	0.03	0.15	0.03	0.13	0.04	0.17
V20010-V20012	5602	385	8	0.004	0.49	0.01	0.10	0.04	0.16	0.03	0.14	0.05	0.18
V20011-V20012	5590	350	8	0.051	1.77	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.08
V20012-V20013	5552	65	8	0.034	1.44	0.02	0.10	0.05	0.16	0.03	0.13	0.05	0.17
V20013-V20014	5551	164	8	0.013	0.90	0.02	0.10	0.07	0.16	0.04	0.13	0.08	0.17
V20014-V20015	5593	248	8	0.053	1.80	0.02	0.12	0.07	0.20	0.04	0.16	0.08	0.21
V20015-V20016	5587	109	8	0.004	0.50	0.03	0.14	0.07	0.22	0.05	0.18	0.08	0.23
V20016-V20022	5586	154	8	0.018	1.05	0.03	0.14	0.07	0.23	0.05	0.18	0.08	0.24
V20017-V20018	5543	56	8	0.063	1.96	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V20018-V20019	5544	292	8	0.012	0.86	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V20019-V20021	5260	195	8	0.023	1.18	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.07
V20020-V20021	5875	12	8	0.002	0.35	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.07
V20021-V20022	5599	327	8	0.004	0.51	0.00	0.12	0.01	0.19	0.00	0.14	0.01	0.19
V20022-V20025	5598	232	8	0.005	0.56	0.03	0.14	0.09	0.22	0.05	0.17	0.09	0.23
V20023-V20024	5592	379	8	0.029	1.34	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V20024-V20025	5595	157	8	0.057	1.86	0.00	0.07	0.01	0.10	0.00	0.08	0.01	0.10
V20025-V20026	5597	33	8	0.046	1.68	0.04	0.10	0.10	0.17	0.05	0.12	0.10	0.17
V20026-V20037	5550	157	8	0.044	1.64	0.04	0.14	0.10	0.24	0.06	0.17	0.10	0.24

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V20027-V20028	5247	154	8	0.034	1.45	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V20028-V20031	5248	250	8	0.038	1.52	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.06
V20029-V20031	5541	49	8	0.002	0.35	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V20030-V20031	5249	239	8	0.005	0.56	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
V20031-V20032	5250	203	8	0.010	0.78	0.00	0.04	0.01	0.07	0.00	0.05	0.01	0.07
V20032-V20033	5258	306	8	0.026	1.25	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.07
V20033-V20035	5259	75	8	0.045	1.66	0.00	0.04	0.01	0.07	0.01	0.05	0.02	0.07
V20034-V20035	5596	307	8	0.008	0.70	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V20035-V20036	5549	70	8	0.041	1.58	0.00	0.05	0.02	0.09	0.01	0.06	0.02	0.09
V20036-V20037	5583	126	8	0.010	0.78	0.01	0.12	0.02	0.21	0.01	0.15	0.02	0.21
V20037-V20040	5582	243	8	0.007	0.67	0.04	0.15	0.12	0.25	0.06	0.18	0.13	0.26
V20038-V20039	5253	109	8	0.009	0.73	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V20039-V20040	5581	231	8	0.004	0.49	0.00	0.09	0.00	0.13	0.00	0.10	0.00	0.13
V20040-V20041	5251	220	8	0.036	1.47	0.05	0.12	0.13	0.21	0.07	0.15	0.13	0.21
V20041-V20053	5243	262	8	0.030	1.35	0.05	0.18	0.13	0.30	0.07	0.21	0.14	0.30
V20042-V20043	5254	44	8	0.044	1.64	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V20043-V20044	7775	359	8	0.008	0.69	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V20044-V20052	5580	166	8	0.005	0.57	0.00	0.06	0.01	0.09	0.00	0.06	0.01	0.08
V20045-V20046	5601	117	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.02	0.00	0.02
V20046-V20047	5591	241	8	0.040	1.57	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
V20047-V20049	5594	114	8	0.110	2.59	0.00	0.03	0.01	0.05	0.00	0.02	0.00	0.04
V20048-V20049	5548	133	8	0.006	0.63	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V20049-V20051	5547	211	8	0.022	1.17	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.06
V20050-V20051	5244	84	8	0.017	1.03	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V20051-V20052	5579	182	8	0.029	1.33	0.01	0.05	0.01	0.08	0.00	0.05	0.01	0.08
V20052-V20053	5568	195	8	0.027	1.27	0.01	0.15	0.02	0.24	0.01	0.16	0.02	0.24
V20053-V20056	5574	96	8	0.004	0.51	0.06	0.27	0.16	0.45	0.08	0.31	0.16	0.45
V20054-V20055	5578	265	8	0.041	1.59	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V20054-V20071	5567	269	8	0.074	2.13	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V20055-V20056	5566	184	8	0.023	1.19	0.00	0.17	0.00	0.28	0.00	0.19	0.00	0.28
V20056-V20059	5572	67	8	0.001	0.30	0.06	0.27	0.17	0.44	0.08	0.30	0.17	0.44
V20057-V20058	5255	150	8	0.067	2.02	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V20058-V20059	5565	295	8	0.015	0.95	0.00	0.12	0.00	0.20	0.00	0.14	0.00	0.20
V20059-V20060	5571	81	8	0.007	0.64	0.06	0.19	0.17	0.31	0.08	0.21	0.17	0.31
V20060-V20061	5245	198	8	0.023	1.19	0.06	0.21	0.18	0.35	0.08	0.24	0.17	0.35
V20061-V20068	3422	287	8	0.004	0.50	0.06	0.20	0.18	0.34	0.08	0.23	0.18	0.34
V20062-V20064	5545	274	8	0.086	2.29	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V20063-V20064	5577	104	8	0.002	0.31	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.06
V20064-V20065	5576	191	8	0.044	1.65	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V20065-V20066	5575	189	8	0.021	1.12	0.00	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V20066-V20068	5564	161	8	0.049	1.72	0.01	0.09	0.01	0.15	0.01	0.10	0.01	0.15
V20067-V20068	5540	52	8	0.002	0.35	0.00	0.09	0.00	0.16	0.00	0.09	0.00	0.15
V20068-V20069	5569	214	8	0.044	1.63	0.07	0.16	0.20	0.26	0.09	0.18	0.19	0.26
V20069-V20070	5570	321	8	0.022	1.16	0.07	0.18	0.20	0.31	0.09	0.21	0.20	0.30
V20070-V20072	5557	132	8	0.012	0.86	0.07	0.20	0.20	0.34	0.09	0.23	0.20	0.34
V20071-V20072.A0	5237	297	8	0.014	0.92	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V20072.A0-V20072.B0	5238	53	8	0.295	4.24	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.05
V20072.B0-V20072	5562	103	8	0.006	0.61	0.00	0.13	0.01	0.22	0.00	0.14	0.01	0.21
V20072-V20073	5563	202	8	0.012	0.85	0.08	0.19	0.21	0.31	0.10	0.21	0.21	0.31
V20073-V20077	5561	205	8	0.030	1.35	0.08	0.16	0.22	0.27	0.10	0.18	0.21	0.27
V20074.A0-V20074	5239	55	8	0.011	0.83	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V20074-V20075	5241	253	8	0.156	3.08	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V20075-V20076	5556	331	8	0.079	2.19	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.06
V20076-V20077	5560	50	8	0.005	0.57	0.00	0.11	0.01	0.18	0.00	0.12	0.01	0.18
V20077-V20078	5559	309	8	0.032	1.39	0.08	0.18	0.23	0.30	0.11	0.20	0.22	0.29
V20078-V20079	5554	322	8	0.018	1.04	0.08	0.23	0.23	0.40	0.11	0.27	0.23	0.40
V20079-V20080	5555	250	8	0.004	0.52	0.08	0.27	0.23	0.47	0.11	0.30	0.23	0.46
V20080-V19107	3421	419	8	0.006	0.60	0.09	0.23	0.24	0.40	0.11	0.29	0.23	0.41
V21001-V21002	3253	13	8	0.012	0.87	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V21002-V21003	3252	347	8	0.087	2.30	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V21003-V21004	3245	350	8	0.065	2.00	0.00	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V21004-V21009	3247	346	8	0.060	1.92	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.07
V21005-V21006	6602	332	8	0.089	2.33	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
V21006-V21008	3246	376	8	0.070	2.07	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.07
V21007.A0-V21008	6603	117	8	0.006	0.59	0.00	0.04	0.00	0.06	0.00	0.07	0.00	0.08
V21008-V21009	3251	229	8	0.012	0.84	0.01	0.05	0.01	0.08	0.01	0.08	0.02	0.09
V21009-V21012	3250	74	8	0.129	2.81	0.01	0.07	0.03	0.11	0.02	0.09	0.03	0.12
V21010.A0-V21010.B0	V21010.A0-V21010.B0	33	8	0.083	2.26	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.05
V21010.AB-V21010.AC	V21010.AB-V21010.AC	102	8	0.239	3.82	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21010.AC-V21010.A0	V21010.AC-V21010.A0	108	8	0.155	3.07	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V21010.B0-V21010.D0	V21010.B0-V21010.D0	168	8	0.082	2.24	0.01	0.04	0.02	0.07	0.01	0.05	0.02	0.07
V21010.BA-V21010.BB	V21010.BA-V21010.BB	18	8	0.031	1.38	0.00	0.00	-	0.00	0.00	0.01	0.00	0.01
V21010.BB-V21010.BC	V21010.BB-V21010.BC	298	8	0.106	2.54	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02
V21010.BC-V21010.BD	V21010.BC-V21010.BD	132	8	0.141	2.93	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.03
V21010.BD-V21010.BE	V21010.BD-V21010.BE	132	8	0.166	3.18	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.03
V21010.BE-V21010.BF	V21010.BE-V21010.BF	132	8	0.181	3.33	0.00	0.01	0.01	0.04	0.00	0.02	0.01	0.04
V21010.BF-V21010.BG	V21010.BF-V21010.BG	107	8	0.111	2.61	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.04
V21010.BG-V21010.BH	V21010.BG-V21010.BH	73	8	0.230	3.75	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.04
V21010.BH-V21010.BI	V21010.BH-V21010.BI	109	8	0.178	3.29	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.06
V21010.BI-V21010.B0	V21010.BI-V21010.B0	158	8	0.024	1.21	0.00	0.03	0.01	0.06	0.01	0.04	0.01	0.07
V21010.C0-V21010.D0	V21010.C0-V21010.D0	270	8	0.011	0.81	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
V21010.D0-V21010.E0	V21010.D0-V21010.E0	208	8	0.046	1.67	0.01	0.06	0.02	0.10	0.01	0.07	0.02	0.10
V21010.E0-V21010.F0	V21010.E0-V21010.F0	72	8	0.018	1.04	0.01	0.07	0.03	0.12	0.01	0.08	0.03	0.12
V21010.F0-V21010	V21010.F0-V21010	169	8	0.018	1.04	0.01	0.54	0.03	0.56	0.02	0.55	0.04	0.56
V21010.FA-V21010.FB	V21010.FA-V21010.FB	36	8	0.278	4.12	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21010.FB-V21010.FC	V21010.FB-V21010.FC	255	8	0.101	2.48	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V21010.FC-V21010.FD	V21010.FC-V21010.FD	145	8	0.105	2.53	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V21010.FD-V21010.F0	V21010.FD-V21010.F0	105	8	0.015	0.96	0.00	0.06	0.01	0.09	0.00	0.07	0.01	0.09
V21010-V21011	6601	29	8	0.086	2.29	0.01	0.55	0.04	0.58	0.02	0.56	0.04	0.58
V21011-V21012	6600	283	8	0.006	0.62	0.01	0.09	0.04	0.16	0.02	0.12	0.04	0.16
V21012-V21013	3249	219	8	0.037	1.50	0.02	0.09	0.07	0.14	0.04	0.11	0.07	0.15
V21013-V21014	6523	198	8	0.059	1.89	0.03	0.08	0.07	0.13	0.04	0.10	0.08	0.14
V21014-V21017	2304	380	8	0.070	2.06	0.03	0.10	0.07	0.16	0.04	0.12	0.08	0.17
V21016.A0-V21016.B0	V21016.A0-V21016.B0	245	8	0.228	3.73	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V21016.B0-V21016.C0	V21016.B0-V21016.C0	200	8	0.165	3.17	0.00	0.02	0.00	0.03	0.00	0.03	0.01	0.04
V21016.C0-V21016.D0	V21016.C0-V21016.D0	170	8	0.094	2.40	0.00	0.51	0.01	0.52	0.01	0.52	0.01	0.52
V21016.D0-V21016	V21016.D0-V21016	89	8	0.012	0.87	0.01	0.52	0.01	0.53	0.01	0.53	0.01	0.54
V21016-V21017	2307	282	8	0.021	1.12	0.00	0.07	0.01	0.13	0.01	0.10	0.01	0.14
V21017-V21018.J0	2306	173	8	0.020	1.12	0.03	0.12	0.09	0.21	0.05	0.16	0.10	0.22
V21018.A0-V21018.B0	6876	50	8	0.005	0.55	0.00	0.05	0.01	0.08	0.01	0.11	0.01	0.11
V21018.AA-V21018.AB	7616	168	8	0.033	1.43	0.00	0.02	0.00	0.02	0.01	0.07	0.01	0.07
V21018.AB-V21018.AC	7617	40	8	0.017	1.03	0.00	0.03	0.00	0.04	0.01	0.08	0.01	0.08
V21018.AC-V21018.A0	7618	301	8	0.008	0.68	0.00	0.04	0.00	0.07	0.01	0.10	0.01	0.10
V21018.B0-V21018.C0	6877	306	8	0.005	0.55	0.00	0.05	0.01	0.08	0.01	0.10	0.02	0.10
V21018.C0-V21018.DB	7612	35	8	0.022	1.16	0.00	0.04	0.01	0.07	0.01	0.09	0.02	0.10
V21018.D0-V21018.E0	7613	241	8	0.020	1.12	0.00	0.05	0.01	0.09	0.02	0.10	0.03	0.11
V21018.DA-V21018.DB	7615	238	8	0.028	1.30	0.00	0.02	-	0.04	0.01	0.07	0.01	0.08

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V21018.DB-V21018.D0	7090	29	8	0.018	1.05	0.00	0.05	0.01	0.08	0.02	0.10	0.03	0.11
V21018.E0-V21018.G0	6875	297	8	0.018	1.03	0.01	0.06	0.02	0.10	0.02	0.10	0.03	0.12
V21018.F0-V21018.G0	7614	263	8	0.074	2.12	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
V21018.G0-V21018.H0	6874	88	8	0.024	1.21	0.01	0.06	0.03	0.09	0.02	0.09	0.04	0.11
V21018.H0-V21018.I0	6873	220	8	0.052	1.78	0.01	0.06	0.03	0.10	0.03	0.10	0.04	0.11
V21018.I0-V21018.J0	6872	87	8	0.019	1.09	0.01	0.10	0.03	0.17	0.03	0.14	0.04	0.18
V21018.J0-V21018	8324	110	8	0.021	1.14	0.04	0.15	0.12	0.26	0.08	0.21	0.14	0.28
V21018-V21019	2305	301	8	0.008	0.69	0.04	0.14	0.12	0.25	0.08	0.20	0.14	0.27
V21019-V21020	2022	107	8	0.040	1.57	0.04	0.11	0.12	0.19	0.08	0.15	0.14	0.21
V21020-V21021	2303	188	8	0.040	1.56	0.04	0.12	0.13	0.20	0.08	0.16	0.15	0.22
V21021-V21022	2026	268	8	0.033	1.41	0.04	0.11	0.13	0.19	0.08	0.15	0.15	0.20
V21022-V21024.C0	V21022-V21024.C0	88	8	0.077	2.17	0.04	0.11	0.13	0.19	0.08	0.15	0.15	0.20
V21023.A0-V21023.B0	7177	122	8	0.042	1.61	0.00	0.02	0.00	0.03	0.01	0.05	0.01	0.05
V21023.B0-V21023.C0	7178	64	8	0.017	1.02	0.00	0.03	0.00	0.04	0.01	0.06	0.01	0.06
V21023.C0-V21023.D0	7179	129	8	0.011	0.82	0.00	0.03	0.00	0.05	0.01	0.07	0.01	0.07
V21023.D0-V21023.E0	7180	207	8	0.016	0.98	0.00	0.03	0.00	0.05	0.01	0.07	0.01	0.07
V21023.E0-V21023.F0	7181	32	8	0.020	1.10	0.00	0.03	0.01	0.06	0.01	0.07	0.01	0.08
V21023.F0-V21023.G0	7182	231	8	0.013	0.90	0.00	0.04	0.01	0.07	0.01	0.08	0.01	0.09
V21023.G0-V21023	7183	163	8	0.010	0.80	0.00	0.11	0.01	0.18	0.01	0.18	0.02	0.21
V21023-V21024	7184	180	8	0.000	0.12	0.00	0.15	0.01	0.24	0.01	0.22	0.02	0.27
V21024.A0-V21024.B0	V21024.A0-V21024.B0	219	8	0.013	0.90	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V21024.B0-V21024.C0	V21024.B0-V21024.C0	215	8	0.013	0.89	0.00	0.08	0.00	0.13	0.00	0.11	0.01	0.14
V21024.C0-V21024	V21024.C0-V21024	344	8	0.036	1.49	0.04	0.11	0.14	0.20	0.09	0.16	0.16	0.22
V21024-V21025	584	67	10	0.042	2.89	0.05	0.10	0.15	0.17	0.10	0.14	0.18	0.19
V21025-V21026	6599	222	10	0.021	2.06	0.05	0.10	0.15	0.17	0.10	0.14	0.18	0.19
V21026-V21036.B0	7185	94	10	0.050	3.16	0.05	0.09	0.16	0.16	0.10	0.13	0.19	0.18
V21027-V21030	2338	4	8	0.002	0.35	0.00	0.00	-	0.01	0.00	0.05	0.00	0.05
V21028-V21030	5525	5	8	0.002	0.35	0.00	0.00	-	0.01	0.00	0.06	0.00	0.06
V21029-V21030	2335	4	8	0.002	0.35	0.00	0.00	-	0.01	0.00	0.05	0.00	0.05
V21030-V21031	5150	230	8	0.006	0.59	0.00	0.01	0.00	0.02	0.00	0.05	0.00	0.05
V21031-V21032	583	223	8	0.016	0.97	0.00	0.02	0.00	0.04	0.00	0.06	0.01	0.06
V21032-V21037.A0	8255	29	8	0.012	0.85	0.00	0.02	0.00	0.06	0.01	0.10	0.01	0.11
V21036.A0-V21036.B0	7189	290	8	0.045	1.66	0.00	0.07	0.00	0.12	0.00	0.10	0.00	0.13
V21036.AA-V21036.A0	7188	5	8	0.000	0.11	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V21036.B0-V21036	7186	111	10	0.027	2.33	0.05	0.10	0.16	0.18	0.10	0.15	0.19	0.20
V21036-V21037	1121	210	10	0.022	2.10	0.05	0.21	0.16	0.36	0.10	0.29	0.19	0.39
V21037.A0-V21037.B0	8256	281	8	0.006	0.62	0.00	0.05	0.00	0.09	0.03	0.14	0.03	0.15
V21037.B0-V21037.C0	8254	118	8	0.007	0.66	0.01	0.08	0.02	0.11	0.03	0.14	0.03	0.15
V21037.C0-V21037.D0	8253	55	8	0.009	0.74	0.01	0.08	0.02	0.11	0.03	0.14	0.03	0.15
V21037.D0-V21037.E0	8252	122	8	0.007	0.66	0.01	0.09	0.02	0.11	0.03	0.14	0.04	0.16
V21037.E0-V21037.F0	8251	78	8	0.008	0.69	0.01	0.08	0.02	0.11	0.03	0.14	0.04	0.16
V21037.F0-V21037.G0	8250	86	8	0.008	0.69	0.01	0.09	0.02	0.12	0.03	0.14	0.04	0.16
V21037.G0-V21037.H0	8249	120	8	0.007	0.66	0.01	0.09	0.02	0.12	0.03	0.14	0.04	0.16
V21037.H0-V21037.I0	8234	146	8	0.007	0.65	0.01	0.09	0.02	0.13	0.03	0.14	0.04	0.17
V21037.I0-V21037	8233	252	8	0.006	0.59	0.01	0.24	0.02	0.39	0.03	0.33	0.04	0.45
V21037-V21038	343	240	10	0.001	0.44	0.06	0.22	0.19	0.39	0.12	0.31	0.24	0.43
V21038-V21039	342	362	10	0.010	1.45	0.06	0.14	0.19	0.25	0.12	0.20	0.24	0.28
V21039-V21040	341	189	10	0.011	1.47	0.06	0.14	0.20	0.24	0.13	0.20	0.25	0.27
V21040-V21041	340	199	10	0.015	1.73	0.06	0.11	0.20	0.20	0.13	0.16	0.25	0.23
V21041-V21042	2471	362	10	0.053	3.25	0.06	0.11	0.20	0.19	0.13	0.15	0.25	0.22
V21042-V21043	754	371	10	0.025	2.23	0.06	0.10	0.20	0.18	0.13	0.14	0.25	0.20
V21043-V21044.D0	752	21	10	0.157	5.60	0.06	0.10	0.21	0.18	0.13	0.14	0.26	0.20
V21044.A0-V21044.B0	339	19	8	0.033	1.41	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02
V21044.B0-V21044.C0	2470	247	8	0.152	3.05	0.00	0.01	0.00	0.02	0.00	0.04	0.00	0.04
V21044.C0-V21044.D0	751	64	8	0.014	0.92	0.00	0.08	0.00	0.16	0.01	0.15	0.01	0.19
V21044.D0-V21044	405	248	10	0.019	1.97	0.06	0.11	0.21	0.21	0.13	0.17	0.27	0.24
V21044-V21045	6541	298	10	0.038	2.75	0.06	0.10	0.22	0.18	0.14	0.14	0.27	0.20
V21045-V21058	5122	350	10	0.064	3.57	0.06	0.09	0.22	0.17	0.14	0.14	0.27	0.19
V21046-V21047	586	319	8	0.091	2.35	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V21047-V21052	2029	72	8	0.089	2.33	0.00	0.02	0.00	0.04	0.00	0.03	0.01	0.04
V21048-V21049	2339	7	8	0.002	0.35	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21049-V21050	585	234	8	0.060	1.92	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V21050-V21051	2024	119	8	0.114	2.63	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V21051-V21052	2028	31	8	0.020	1.10	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V21052-V21053	6597	67	8	0.092	2.37	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.05
V21053-V21054	6598	389	8	0.091	2.36	0.00	0.03	0.01	0.07	0.00	0.05	0.01	0.07
V21054-V21055	2469	267	8	0.011	0.81	0.00	0.05	0.01	0.10	0.01	0.07	0.02	0.10
V21055-V21056	758	110	8	0.013	0.89	0.00	0.04	0.02	0.08	0.01	0.06	0.02	0.08
V21056-V21057	6540	359	8	0.126	2.77	0.00	0.03	0.02	0.07	0.01	0.05	0.02	0.08
V21057-V21058	5121	314	8	0.030	1.36	0.00	0.08	0.02	0.15	0.01	0.12	0.02	0.17
V21058-V21060	4562	220	10	0.067	3.67	0.07	0.12	0.25	0.22	0.15	0.17	0.31	0.24
V21059-V21060	5145	25	8	0.002	0.35	0.00	0.13	0.00	0.29	0.00	0.21	0.00	0.33
V21060-V21062	5114	251	10	0.014	1.68	0.07	0.17	0.25	0.30	0.15	0.24	0.31	0.33
V21061-V21062	5144	24	8	0.008	0.71	0.00	0.12	0.00	0.28	0.00	0.19	0.00	0.32
V21062-V21066	6827	17	10	0.001	0.34	0.07	0.15	0.25	0.28	0.15	0.22	0.31	0.31
V21063-V21064	404	61	8	0.277	4.11	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V21064-V21065	6539	193	8	0.198	3.47	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V21065-V21066	6145	122	8	0.014	0.92	0.00	0.08	0.00	0.16	0.00	0.12	0.00	0.17
V21066-V21067	6822	304	10	0.032	2.55	0.07	0.11	0.26	0.22	0.15	0.16	0.32	0.24
V21067-V21078	1671	228	10	0.033	2.59	0.07	0.11	0.26	0.22	0.15	0.16	0.32	0.24
V21068-V21069	2023	137	8	0.115	2.65	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21069-V21070	2027	166	8	0.050	1.75	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V21070-V21071	5149	234	8	0.038	1.53	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V21071-V21072	335	134	8	0.097	2.44	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V21072-V21073	2468	127	8	0.132	2.83	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V21073-V21074	2479	89	8	0.138	2.90	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V21074-V21075	6537	152	8	0.252	3.92	0.01	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V21075-V21076	4561	106	8	0.231	3.76	0.01	0.03	0.01	0.05	0.01	0.03	0.01	0.05
V21076-V21077	6821	124	8	0.141	2.94	0.01	0.04	0.02	0.06	0.01	0.04	0.01	0.05
V21077-V21078	1670	43	8	0.077	2.17	0.01	0.09	0.02	0.17	0.01	0.12	0.02	0.18
V21078-V21081	6144	293	10	0.034	2.62	0.08	0.12	0.28	0.22	0.16	0.17	0.34	0.24
V21079-V21080	5881	196	8	0.052	1.77	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21080-V21081	6143	209	8	0.079	2.19	0.00	0.08	0.00	0.16	0.00	0.12	0.00	0.17
V21081-V21082	6803	220	10	0.034	2.61	0.08	0.12	0.29	0.23	0.16	0.17	0.35	0.25
V21082-V21083	2018	213	10	0.035	2.65	0.08	0.12	0.29	0.22	0.16	0.16	0.35	0.24
V21083-V21108	6755	243	10	0.038	2.76	0.08	0.14	0.30	0.27	0.16	0.19	0.35	0.29
V21084-V21085	7619	327	8	0.035	1.46	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V21085-V21087	6536	316	8	0.115	2.65	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.04
V21086-V21087	6535	269	8	0.028	1.31	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V21088-V21087	5120	240	8	0.076	2.16	0.01	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V21088-V21091	4560	227	8	0.086	2.29	0.01	0.04	0.02	0.07	0.01	0.04	0.01	0.06
V21089-V21090	4559	169	8	0.013	0.91	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V21090-V21091	6826	288	8	0.035	1.47	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V21091-V21093	6820	128	8	0.078	2.18	0.01	0.05	0.03	0.09	0.01	0.05	0.02	0.08
V21092-V21093	6819	340	8	0.020	1.09	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
V21093-V21094	5877	135	8	0.039	1.55	0.01	0.06	0.03	0.10	0.01	0.06	0.03	0.10
V21094-V21095	5878	224	8	0.025	1.24	0.01	0.07	0.03	0.11	0.01	0.06	0.03	0.10

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V21095-V21097	5879	341	8	0.038	1.53	0.01	0.07	0.03	0.11	0.01	0.06	0.03	0.10
V21096-V21097	6801	109	8	0.002	0.35	0.00	0.06	0.00	0.08	0.00	0.05	0.00	0.07
V21097-V21105	2017	228	8	0.028	1.31	0.01	0.09	0.04	0.16	0.01	0.08	0.03	0.15
V21098-V21099	5148	113	8	0.012	0.84	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V21099-V21100	5147	180	8	0.039	1.54	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V21100-V21101	5119	194	8	0.036	1.48	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.03
V21101-V21102	4558	79	8	0.249	3.89	0.00	0.02	0.01	0.04	0.00	0.02	0.01	0.04
V21102-V21103	6824	106	8	0.078	2.18	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V21103-V21104	6142	285	8	0.077	2.16	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
V21104-V21105	2016	251	8	0.068	2.04	0.00	0.07	0.01	0.13	0.00	0.06	0.01	0.12
V21105-V21106	6754	186	8	0.010	0.79	0.02	0.09	0.06	0.15	0.01	0.08	0.05	0.14
V21106-V21107	6753	64	8	0.078	2.19	0.02	0.09	0.06	0.16	0.01	0.08	0.05	0.15
V21107-V21108	6752	72	8	0.006	0.62	0.02	0.16	0.06	0.30	0.01	0.19	0.05	0.30
V21108-V21109	6750	349	12	0.011	2.44	0.10	0.13	0.36	0.26	0.17	0.18	0.41	0.27
V21109-V21110	6277	343	12	0.013	2.60	0.10	0.13	0.36	0.26	0.17	0.18	0.41	0.27
V21110-V21118	1632	344	12	0.012	2.49	0.10	0.15	0.37	0.29	0.17	0.20	0.41	0.31
V21111-V21112	239	133	8	0.114	2.64	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V21112-V21117	6141	240	8	0.175	3.26	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.03
V21113-V21114	6140	75	8	0.011	0.81	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V21114-V21115	6465	349	8	0.008	0.70	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V21115-V21116	6466	286	8	0.033	1.42	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.07
V21116-V21117	6467	58	8	0.004	0.49	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.07
V21117-V21118	6276	212	8	0.139	2.91	0.01	0.14	0.01	0.26	0.01	0.18	0.01	0.28
V21118-V21119	1631	401	12	0.008	2.08	0.10	0.13	0.39	0.25	0.18	0.17	0.43	0.26
V21119-V21163	2008	214	12	0.057	5.51	0.10	0.12	0.39	0.23	0.18	0.15	0.44	0.24
V21120-V21121	4557	319	8	0.037	1.51	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V21121-V21125	238	84	8	0.131	2.83	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.05
V21122-V21123	5134	4	8	0.790	6.94	0.00	0.01	-	0.01	0.00	0.01	0.00	0.01
V21123-V21124	4556	270	8	0.082	2.24	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.03
V21124-V21125	6818	257	8	0.004	0.49	0.00	0.04	0.00	0.07	0.00	0.04	0.00	0.06
V21125-V21126	6817	148	8	0.020	1.11	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
V21126-V21127	1669	114	8	0.040	1.56	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.06
V21127-V21128	6139	210	8	0.064	1.97	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.06
V21128-V21131	2015	212	8	0.072	2.10	0.01	0.05	0.02	0.08	0.00	0.04	0.02	0.07
V21129-V21130	6800	94	8	0.028	1.30	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V21130-V21131	2014	245	8	0.026	1.26	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
V21131-V21132	6749	208	8	0.038	1.52	0.01	0.06	0.03	0.10	0.01	0.05	0.02	0.09
V21132-V21134	6275	358	8	0.028	1.32	0.01	0.09	0.03	0.14	0.01	0.08	0.02	0.12
V21133-V21134	6294	100	8	0.052	1.78	0.00	0.07	0.00	0.10	0.00	0.06	0.00	0.09
V21134-V21135	2007	262	8	0.006	0.60	0.02	0.11	0.04	0.17	0.01	0.10	0.03	0.16
V21135-V21136	2006	162	8	0.006	0.61	0.02	0.12	0.04	0.18	0.01	0.10	0.03	0.16
V21136-V21137	2005	166	8	0.007	0.63	0.02	0.11	0.04	0.17	0.01	0.10	0.04	0.15
V21137-V21142	4147	27	8	0.014	0.91	0.02	0.12	0.05	0.18	0.01	0.10	0.04	0.17
V21138-V21140	6799	59	8	0.028	1.32	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V21139-V21140	5884	119	8	0.082	2.23	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V21140-V21141	2013	176	8	0.029	1.34	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V21141-V21142	6680	390	8	0.059	1.89	0.00	0.09	0.01	0.13	0.00	0.08	0.01	0.12
V21142-V21143	6679	165	8	0.006	0.61	0.02	0.13	0.06	0.19	0.02	0.11	0.05	0.17
V21143-V21144	5882	268	8	0.017	1.00	0.03	0.13	0.06	0.19	0.02	0.11	0.05	0.17
V21144-V21145	5883	337	8	0.006	0.60	0.03	0.14	0.06	0.22	0.02	0.12	0.05	0.20
V21145-V21146	4146	352	8	0.006	0.60	0.03	0.15	0.07	0.23	0.02	0.13	0.05	0.21
V21146-V21149	4145	104	8	0.006	0.60	0.03	0.13	0.07	0.20	0.02	0.11	0.06	0.18
V21147-V21148	6678	51	8	0.694	6.51	0.00	0.00	-	0.01	0.00	0.00	0.00	0.01
V21148-V21149	4144	219	8	0.046	1.68	0.00	0.05	0.00	0.09	0.00	0.04	0.00	0.08
V21149-V21150	4860	100	8	0.028	1.30	0.03	0.12	0.07	0.20	0.02	0.10	0.06	0.18
V21150-V21163	4859	312	8	0.005	0.58	0.03	0.18	0.07	0.33	0.02	0.20	0.06	0.32
V21151-V21152	5133	169	8	0.060	1.91	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.02
V21152-V21153	4555	56	8	0.201	3.50	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V21153-V21154	237	57	8	0.064	1.97	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.03
V21154-V21159	6816	49	8	0.287	4.18	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V21155-V21156	236	159	8	0.030	1.36	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21156-V21157	235	80	8	0.092	2.37	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V21157-V21158	3055	80	8	0.037	1.50	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V21158-V21159	1668	23	8	0.230	3.75	0.00	0.02	0.00	0.03	0.00	0.03	0.01	0.03
V21159-V21160	5288	187	8	0.222	3.68	0.00	0.03	0.01	0.04	0.01	0.03	0.01	0.04
V21160-V21161	6748	41	8	0.107	2.56	0.00	0.02	0.01	0.04	0.01	0.03	0.01	0.04
V21161-V21163	V21161-V21163	74	8	0.296	4.25	0.00	0.12	0.01	0.22	0.01	0.15	0.01	0.23
V21164-V21163	4858	372	12	0.019	3.20	0.13	0.13	0.48	0.24	0.20	0.16	0.52	0.25
V21165-V21166	6271	35	8	0.027	1.29	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21166-V21167	6273	29	8	0.211	3.59	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21167-V21168	2012	252	8	0.089	2.33	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V21168-V21171	6270	210	8	0.135	2.87	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.04
V21169-V21170	6267	43	8	0.142	2.94	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V21170-V21171	6268	298	8	0.126	2.77	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V21171-V21172	6269	31	8	0.147	2.99	0.01	0.03	0.01	0.05	0.01	0.04	0.01	0.05
V21172-V21173	4965	260	8	0.089	2.33	0.01	0.11	0.01	0.21	0.01	0.14	0.01	0.21
V21173-V21164	4966	384	12	0.054	5.34	0.13	0.12	0.49	0.22	0.20	0.15	0.52	0.23
V21173-V21179	6134	47	12	0.035	4.28	0.14	0.12	0.51	0.22	0.22	0.15	0.55	0.23
V21174-V21175	4964	189	8	0.071	2.09	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21175-V21176	6522	98	8	0.027	1.29	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V21176-V21177	6521	144	8	0.045	1.66	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V21177-V21178	6133	153	8	0.043	1.62	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.06
V21178-V21179	1563	141	8	0.005	0.55	0.00	0.11	0.01	0.19	0.00	0.13	0.01	0.20
V21179-V21180	1562	176	12	0.063	5.77	0.14	0.14	0.52	0.27	0.23	0.17	0.56	0.27
V21180-V21181	1561	323	12	0.010	2.35	0.15	0.17	0.53	0.31	0.23	0.20	0.56	0.32
V21182-V21189	6482	327	12	0.019	3.13	0.16	0.24	0.54	0.43	0.23	0.28	0.58	0.44
V21183-V21184	6132	265	8	0.040	1.56	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V21184-V21185	1560	270	8	0.010	0.78	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.08
V21185-V21186	1559	305	8	0.004	0.51	0.01	0.09	0.01	0.11	0.01	0.09	0.01	0.10
V21186-V21187	1558	121	8	0.006	0.60	0.01	0.08	0.02	0.10	0.01	0.08	0.01	0.09
V21187.A0-V21187.B0	4148	40	8	0.051	1.76	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V21187.B0-V21187.C0	6262	57	8	0.048	1.71	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V21187.C0-V21187.D0	6263	233	8	0.107	2.55	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V21187.D0-V21187	6264	128	8	0.067	2.02	0.01	0.05	0.01	0.07	0.00	0.05	0.01	0.06
V21187-V21188	6265	319	8	0.056	1.86	0.02	0.12	0.03	0.16	0.01	0.11	0.02	0.14
V21188.A0-V21188.B0	3259	191	8	0.010	0.79	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.05
V21188.B0-V21188.C0	3261	207	8	0.010	0.79	0.01	0.07	0.01	0.08	0.00	0.06	0.01	0.07
V21188.C0-V21188.D0	3262	77	8	0.011	0.81	0.01	0.08	0.01	0.09	0.01	0.06	0.01	0.07
V21188.D0-V21188.E0	3263	54	8	0.011	0.83	0.01	0.07	0.01	0.09	0.01	0.06	0.01	0.07
V21188.E0-V21188.F0	3264	102	8	0.035	1.46	0.01	0.05	0.02	0.06	0.01	0.05	0.01	0.05
V21188.F0-V21188.G0	3265	60	8	0.307	4.33	0.01	0.06	0.02	0.07	0.01	0.05	0.01	0.06
V21188.G0-V21188.H0	3266	122	8	0.011	0.80	0.01	0.09	0.02	0.10	0.01	0.07	0.01	0.09
V21188.H0-V21188.I0	3267	108	8	0.011	0.80	0.01	0.09	0.02	0.11	0.01	0.08	0.01	0.09
V21188.I0-V21188.J0	3268	158	8	0.010	0.77	0.01	0.09	0.02	0.12	0.01	0.08	0.02	0.10
V21188.J0-V21188.K0	2696	185	8	0.010	0.79	0.01	0.09	0.02	0.12	0.01	0.08	0.02	0.10
V21188.K0-V21188	2697	62	8	0.014	0.94	0.01	0.13	0.03	0.17	0.01	0.12	0.02	0.15
V21188-V21189	6266	332	8	0.004	0.49	0.03	0.33	0.06	0.55	0.02	0.36	0.04	0.54

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V21189-V21190	6480	231	12	0.002	0.97	0.19	0.24	0.61	0.43	0.26	0.28	0.63	0.44
V21190-V21191	5893	397	12	0.022	3.38	0.19	0.19	0.62	0.34	0.26	0.22	0.64	0.35
V21191-V21192	5895	350	15	0.005	2.93	0.21	0.31	0.63	0.49	0.26	0.37	0.65	0.50
V21192-V21193	3256	260	18	0.006	5.36	1.58	0.37	3.12	0.53	2.19	0.44	3.30	0.55
V21193-V21194	3257	200	18	0.008	6.05	1.58	0.32	3.12	0.46	2.19	0.38	3.31	0.47
V21194-V21195	6255	126	18	0.019	9.45	1.58	0.28	3.13	0.40	2.19	0.33	3.32	0.41
V21195-V21196	6254	237	18	0.020	9.71	1.64	0.36	3.25	0.53	2.25	0.42	3.43	0.55
V21196-V22147	7152	299	18	0.004	4.23	1.64	0.42	3.26	0.63	2.25	0.50	3.44	0.66
V21201-V21182	1111	326	12	0.016	2.93	0.16	0.16	0.54	0.29	0.23	0.19	0.57	0.30
V22001-V22002	5885	94	8	0.029	1.34	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V22002-V22003	403	162	8	0.004	0.50	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.06
V22003-V22004	402	286	8	0.004	0.49	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V22004-V22006	5886	298	8	0.068	2.03	0.00	0.04	0.01	0.07	0.01	0.07	0.01	0.08
V22005-V22006	6629	105	8	0.018	1.05	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
V22006-V22007	5887	130	8	0.009	0.73	0.00	0.05	0.01	0.08	0.01	0.07	0.02	0.09
V22007-V22008	6534	202	8	0.044	1.64	0.01	0.04	0.01	0.06	0.01	0.06	0.02	0.07
V22008-V22009	4554	373	8	0.106	2.55	0.01	0.05	0.02	0.07	0.01	0.06	0.02	0.07
V22009-V22010	4578	310	8	0.063	1.97	0.01	0.07	0.02	0.11	0.02	0.09	0.03	0.11
V22010-V22012	5287	196	8	0.011	0.83	0.01	0.07	0.03	0.11	0.02	0.09	0.03	0.11
V22011-V22012	6630	179	8	0.149	3.01	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V22012-V22013	6677	329	8	0.101	2.48	0.01	0.06	0.03	0.09	0.02	0.07	0.04	0.09
V22013-V22025	6631	300	8	0.059	1.89	0.02	0.12	0.04	0.19	0.02	0.15	0.04	0.19
V22015-V22016	5286	208	6	0.050	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V22016-V22017	6676	294	6	0.125	1.28	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
V22017-V22018	6634	110	6	0.034	0.67	0.01	0.05	0.01	0.07	0.01	0.07	0.01	0.07
V22018-V22022	6295	21	6	0.351	2.15	0.01	0.08	0.01	0.11	0.01	0.10	0.01	0.11
V22019-V22020.A0	V22019-V22020.A0	10	8	0.060	1.91	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V22020.A0-V22020	V22020.A0-V22020	171	8	0.190	3.41	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V22020-V22021	6299	169	8	0.131	2.83	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V22021-V22022	6300	348	8	0.105	2.53	0.00	0.06	0.01	0.08	0.01	0.07	0.01	0.09
V22022-V22023	6643	67	8	0.006	0.58	0.01	0.10	0.02	0.14	0.02	0.12	0.02	0.14
V22023-V22025	6297	268	8	0.004	0.48	0.01	0.14	0.02	0.21	0.02	0.17	0.02	0.22
V22024-V22025	6298	197	8	0.178	3.30	0.00	0.10	0.00	0.15	0.00	0.12	0.00	0.15
V22025-V22027	6633	375	8	0.004	0.49	0.03	0.13	0.07	0.20	0.04	0.16	0.07	0.21
V22026-V22027	6632	194	8	0.136	2.88	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
V22027-V22028	4963	179	8	0.081	2.22	0.03	0.08	0.07	0.12	0.05	0.10	0.08	0.13
V22028-V22033	6520	200	8	0.110	2.59	0.03	0.09	0.08	0.14	0.05	0.11	0.08	0.14
V22029-V22031	6301	174	8	0.112	2.62	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V22030-V22031	6302	209	8	0.064	1.97	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V22031-V22032	6304	271	8	0.053	1.79	0.01	0.05	0.01	0.06	0.00	0.04	0.01	0.05
V22032-V22033	6519	27	8	0.022	1.15	0.01	0.08	0.01	0.11	0.01	0.08	0.01	0.11
V22033-V22034	6305	196	8	0.054	1.82	0.04	0.11	0.09	0.16	0.05	0.12	0.09	0.16
V22034-V22037	6306	359	8	0.041	1.58	0.04	0.12	0.10	0.18	0.06	0.14	0.10	0.17
V22035-V22036	6308	330	8	0.145	2.97	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V22036-V22037	6307	274	8	0.076	2.15	0.00	0.08	0.01	0.11	0.00	0.09	0.01	0.11
V22037-V22039	6309	225	8	0.041	1.58	0.05	0.16	0.11	0.23	0.07	0.18	0.11	0.23
V22039-V22038	5892	264	8	0.035	1.46	0.01	0.12	0.01	0.16	0.01	0.14	0.01	0.16
V22039-V22040	6720	126	8	0.011	0.81	0.06	0.20	0.13	0.28	0.09	0.23	0.13	0.28
V22040-V22041	6721	103	8	0.009	0.75	0.07	0.20	0.13	0.29	0.09	0.24	0.14	0.29
V22041-V22048	6722	169	8	0.010	0.78	0.07	0.29	0.14	0.41	0.10	0.32	0.14	0.40
V22042-V22043	6362	71	8	0.010	0.77	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V22043-V22044	4962	81	8	0.130	2.82	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V22044-V22045	6131	126	8	0.126	2.78	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V22045-V22046	1110	264	8	0.135	2.87	0.01	0.04	0.01	0.05	0.01	0.06	0.01	0.06
V22046-V22047.A0	V22046-V22047.A0	85	8	0.028	1.32	0.01	0.06	0.01	0.07	0.01	0.08	0.02	0.09
V22047.A0-V22047	V22047.A0-V22047	90	8	0.018	1.05	0.01	0.19	0.01	0.28	0.02	0.22	0.02	0.28
V22047-V22048	5890	23	12	0.022	3.38	0.35	0.23	0.73	0.34	0.40	0.25	0.69	0.33
V22048-V22049	6723	146	12	0.019	3.21	0.42	0.26	0.87	0.38	0.49	0.28	0.83	0.37
V22049-V22056	6724	340	12	0.013	2.59	0.43	0.29	0.88	0.43	0.50	0.32	0.84	0.42
V22050-V22052	6361	221	8	0.193	3.43	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V22051-V22052	6359	184	8	0.011	0.81	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V22052-V22054	1109	153	8	0.211	3.59	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V22053-V22054	6358	189	8	0.005	0.55	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V22054-V22055	6357	279	8	0.106	2.54	0.01	0.08	0.02	0.10	0.01	0.09	0.02	0.10
V22055-V22056	6356	246	8	0.005	0.54	0.01	0.29	0.02	0.41	0.02	0.32	0.03	0.40
V22056-V22075	4823	39	12	0.008	2.09	0.44	0.29	0.91	0.42	0.53	0.32	0.87	0.41
V22057-V22058	6368	259	6	0.006	0.28	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V22058-V22059	6369	119	6	0.070	0.96	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07
V22059-V22060	6130	71	6	0.006	0.28	0.00	0.08	0.01	0.10	0.00	0.09	0.01	0.10
V22060-V22061	6129	34	6	0.006	0.28	0.00	0.09	0.01	0.12	0.01	0.11	0.01	0.12
V22061-V22062	6128	267	6	0.006	0.28	0.01	0.09	0.01	0.11	0.01	0.10	0.01	0.11
V22062-V22068	6127	346	6	0.035	0.68	0.01	0.09	0.01	0.11	0.01	0.11	0.01	0.12
V22063-V22065	6364	127	6	0.005	0.27	0.00	0.08	0.00	0.09	0.01	0.15	0.01	0.15
V22064-V22065	6365	61	6	0.003	0.21	0.00	0.07	0.00	0.07	0.00	0.13	0.00	0.13
V22065-V22067	6366	180	6	0.006	0.28	0.00	0.08	0.01	0.09	0.02	0.14	0.02	0.14
V22066-V22067	6363	94	6	0.123	1.27	0.00	0.04	0.00	0.05	0.00	0.07	0.00	0.07
V22067-V22068	6171	106	6	0.035	0.68	0.01	0.08	0.01	0.10	0.02	0.12	0.02	0.13
V22068-V22072	1108	173	6	0.050	0.81	0.02	0.11	0.03	0.13	0.03	0.14	0.04	0.15
V22069-V22070	6370	358	6	0.028	0.61	0.00	0.05	0.00	0.05	0.00	0.06	0.00	0.06
V22070-V22071	4961	181	6	0.066	0.93	0.01	0.05	0.01	0.07	0.01	0.07	0.01	0.07
V22071-V22072	1106	274	6	0.119	1.25	0.01	0.09	0.01	0.11	0.01	0.11	0.01	0.11
V22072-V22074	4803	305	6	0.072	0.97	0.03	0.16	0.04	0.19	0.05	0.20	0.05	0.21
V22073-V22074	4822	398	6	0.006	0.28	0.01	0.16	0.01	0.18	0.01	0.18	0.01	0.19
V22074-V22075	4821	223	6	0.020	0.51	0.04	0.37	0.06	0.50	0.07	0.42	0.07	0.51
V22075-V22076	4820	301	12	0.018	3.12	0.49	0.29	0.98	0.41	0.59	0.32	0.95	0.40
V22076-V22077.B0	V22076-V22077.B0	264	12	0.011	2.46	0.50	0.32	1.00	0.46	0.60	0.35	0.95	0.45
V22077.B0-V22077	V22077.B0-V22077	35	12	0.008	2.10	0.50	0.31	1.00	0.45	0.60	0.34	0.96	0.44
V22077-V22078	5646	262	12	0.013	2.63	0.50	0.34	1.00	0.69	0.60	0.37	0.96	0.71
V22078-V22095	6372	193	12	0.005	1.65	0.51	0.35	1.00	0.98	0.61	0.40	0.97	1.00
V22079-V22080	4486	131	8	0.056	1.84	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V22080-V22081	6377	349	8	0.052	1.78	0.00	0.02	0.00	0.04	0.00	0.05	0.00	0.05
V22081-V22092	6375	145	8	0.046	1.68	0.00	0.05	0.01	0.08	0.01	0.11	0.02	0.11
V22082-V22083	6380	102	8	0.030	1.34	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V22083-V22084	6379	225	8	0.006	0.62	0.00	0.04	0.00	0.05	0.01	0.06	0.01	0.06
V22084-V22087	6378	145	6	0.090	1.09	0.00	0.06	0.01	0.07	0.01	0.09	0.01	0.09
V22085.A0-V22085	6697	114	6	0.011	0.37	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V22085-V22086	6698	248	6	0.010	0.37	0.00	0.06	0.01	0.08	0.00	0.07	0.01	0.08
V22086-V22087	4960	344	6	0.061	0.90	0.01	0.06	0.01	0.08	0.01	0.08	0.01	0.09
V22087-V22088	6170	142	6	0.081	1.03	0.01	0.10	0.02	0.13	0.02	0.15	0.03	0.16
V22088-V22089	6169	305	6	0.010	0.36	0.01	0.12	0.02	0.16	0.03	0.19	0.03	0.20
V22089-V22091	1105	224	6	0.030	0.63	0.01	0.09	0.03	0.13	0.04	0.16	0.05	0.17
V22090-V22091	6374	169	6	0.019	0.50	0.00	0.54	0.00	0.55	0.01	0.57	0.01	0.57
V22091-V22092	4802	235	6	0.166	1.48	0.02	0.09	0.03	0.12	0.06	0.17	0.06	0.18
V22092-V22093	4818	216	8	0.046	1.68	0.02	0.10	0.04	0.14	0.09	0.20	0.09	0.21
V22093-V22094	5645	255	8	0.009	0.72	0.02	0.12	0.05	0.59	0.09	0.23	0.10	0.63
V22094-V22095	6644	19	8	0.016	0.98	0.02	0.30	0.18	1.00	0.10	0.39	0.32	1.00
V22095-V22096	6371	213	10	0.013	1.64	0.53	0.48	1.05	1.00	0.70	0.57	1.07	1.00

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V22096-V22097	5387	397	10	0.004	0.86	0.53	0.59	1.05	1.00	0.70	0.73	1.07	1.00
V22097-V22098	5386	292	10	0.003	0.75	0.53	0.64	1.06	1.00	0.70	0.78	1.08	1.00
V22098-V22099	3063	288	10	0.003	0.73	0.53	0.45	1.06	0.67	0.70	0.54	1.08	0.68
V22099-V22145	3064	253	10	0.083	4.07	0.53	0.35	1.06	0.54	0.70	0.45	1.08	0.68
V22100-V22101	5285	203	8	0.151	3.03	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V22101-V22102	6675	243	8	0.160	3.13	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V22102-V22109	4857	402	8	0.042	1.59	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
V22103-V22104	7150	181	8	0.004	0.52	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V22104-V22105	5284	330	8	0.061	1.93	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V22105-V22108	6674	393	8	0.125	2.76	0.00	0.04	0.01	0.07	0.01	0.05	0.01	0.07
V22106-V22107	7151	108	8	1.714	10.22	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
V22107-V22108	6673	305	8	0.081	2.23	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V22108-V22109	4856	253	8	0.014	0.93	0.01	0.06	0.02	0.10	0.01	0.07	0.02	0.10
V22109-V22112	4959	196	8	0.034	1.45	0.01	0.06	0.03	0.10	0.02	0.07	0.03	0.10
V22110-V22111	6671	218	8	0.037	1.50	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V22111-V22112	4958	257	8	0.123	2.74	0.00	0.04	0.01	0.07	0.00	0.05	0.01	0.07
V22112-V22114	1564	291	8	0.066	2.01	0.02	0.07	0.04	0.11	0.02	0.08	0.04	0.11
V22113-V22114	6186	220	8	0.010	0.78	0.01	0.08	0.01	0.10	0.00	0.06	0.00	0.07
V22114-V22116	6292	61	6	0.071	0.97	0.02	0.11	0.05	0.16	0.02	0.12	0.05	0.16
V22115-V22116	7610	250	6	0.104	1.17	0.00	0.07	0.00	0.10	0.00	0.08	0.00	0.10
V22116-V22117	1104	367	8	0.054	1.81	0.03	0.08	0.06	0.12	0.03	0.08	0.05	0.11
V22117-V22119	4485	62	8	0.133	2.85	0.03	0.10	0.07	0.13	0.03	0.10	0.06	0.13
V22118-V22119	1103	280	6	0.091	1.09	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V22119-V22123	5769	303	8	0.029	1.34	0.04	0.13	0.07	0.17	0.04	0.12	0.07	0.15
V22120-V22121	7149	103	6	0.010	0.36	0.02	0.14	0.02	0.14	0.00	0.04	0.00	0.04
V22121-V22122	6168	122	6	0.049	0.80	0.02	0.10	0.02	0.10	0.00	0.04	0.00	0.04
V22122-V22123	1102	236	6	0.126	1.29	0.02	0.09	0.02	0.09	0.00	0.04	0.00	0.04
V22123-V22124	4801	364	8	0.037	1.49	0.07	0.15	0.11	0.18	0.04	0.12	0.07	0.16
V22124-V22125	5644	334	8	0.039	1.55	0.07	0.20	0.11	0.26	0.05	0.18	0.09	0.23
V22125-V22131	5851	386	8	0.004	0.51	0.07	0.24	0.12	0.32	0.06	0.29	0.10	0.33
V22126-V22127	589	146	8	0.075	2.14	0.00	0.01	0.00	0.02	0.01	0.14	0.01	0.14
V22127-V22128	1123	127	8	0.012	0.85	0.00	0.02	0.00	0.03	0.09	0.20	0.09	0.20
V22128-V22129	5850	203	8	0.037	1.50	0.00	0.04	0.00	0.06	0.10	0.25	0.10	0.25
V22129-V22130	5849	174	8	0.004	0.51	0.00	0.07	0.01	0.10	0.11	0.33	0.11	0.33
V22130-V22131	5848	39	8	0.003	0.43	0.00	0.15	0.01	0.21	0.11	0.34	0.11	0.35
V22131-V22132	5847	403	8	0.009	0.76	0.08	0.20	0.13	0.26	0.18	0.30	0.20	0.32
V22132-V22133	5846	140	8	0.021	1.13	0.08	0.20	0.14	0.26	0.18	0.29	0.20	0.32
V22133.A0-V22133	5998	176	6	0.002	0.16	0.01	0.22	0.01	0.27	0.00	0.21	0.00	0.23
V22133-V22134	5845	96	6	0.017	0.47	0.09	0.33	0.15	0.45	0.18	0.50	0.20	0.55
V22134-V22136	1258	55	6	0.006	0.28	0.09	0.38	0.15	0.52	0.18	0.56	0.20	0.62
V22135.A0-V22135.B0	587	103	6	0.002	0.16	0.00	0.00	-	0.02	0.00	0.00	0.00	0.02
V22135.B0-V22135	7620	178	6	0.002	0.16	0.00	0.00	0.00	0.06	0.00	0.03	0.00	0.08
V22135-V22136	2434	124	6	0.002	0.16	0.00	0.19	0.00	0.30	0.00	0.30	0.00	0.37
V22136-V22144	1124	388	6	0.008	0.32	0.09	0.30	0.15	0.41	0.18	0.48	0.21	0.52
V22137.AA-V22137	V22137.AA-V22137	52	8	0.071	2.08	0.00	0.00	-	0.01	0.00	0.04	0.00	0.04
V22137-V22138	6382	589	6	0.015	0.44	0.00	0.00	0.00	0.05	0.00	0.07	0.00	0.09
V22138-V22139	5843	112	6	0.010	0.36	0.00	0.00	0.00	0.09	0.00	0.32	0.01	0.32
V22139-V22140	6381	181	6	0.005	0.26	0.00	0.00	0.00	0.08	0.14	0.41	0.14	0.41
V22140-V22144	1129	54	8	0.068	2.04	0.00	0.08	0.01	0.13	0.14	0.24	0.14	0.24
V22141-V22142	1127	300	6	0.020	0.51	0.00	0.00	-	0.02	0.00	0.00	0.00	0.02
V22142-V22143	1125	151	6	0.020	0.51	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.06
V22143-V22144	1126	176	6	0.009	0.34	0.00	0.11	0.00	0.18	0.00	0.20	0.00	0.24
V22144-V22145	1130	307	10	0.029	2.41	0.09	0.29	0.16	0.45	0.32	0.43	0.34	0.63
V22145-V24090	7144	148	10	0.011	1.49	0.61	0.66	1.23	0.86	1.02	0.80	1.42	1.00
V22146-V22147	6253	228	6	0.011	0.38	0.01	0.54	0.01	0.54	0.03	0.60	0.03	0.60
V22147-V22148	6635	357	18	0.005	5.01	1.65	0.36	3.27	0.54	2.28	0.44	3.47	0.56
V22148-V22149	4800	487	18	0.013	7.87	1.65	0.28	3.28	0.40	2.28	0.33	3.48	0.42
V22149-V22155	4817	407	18	0.041	13.78	1.65	0.26	3.29	0.37	2.28	0.30	3.49	0.38
V22150-V22151	6837	197	8	0.012	0.85	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V22151-V22152	4799	214	8	0.014	0.91	0.00	0.02	0.00	0.04	0.00	0.04	0.00	0.05
V22155.A0-V22152	V22155.A0-V22152	59	8	0.018	1.03	0.00	0.02	0.00	0.05	0.00	0.04	0.01	0.06
V22155.A0-V22155.B0	V22155.A0-V22155.B0	300	8	0.018	1.05	0.00	0.03	0.01	0.06	0.00	0.05	0.01	0.07
V22155.B0-V22155	V22155.B0-V22155	200	8	0.009	0.76	0.00	0.33	0.01	0.49	0.00	0.39	0.01	0.51
V22155-V22156	5640	352	18	0.019	9.46	1.65	0.35	3.30	0.51	2.28	0.41	3.51	0.53
V22156-V22157.C0	7691	200	18	0.005	4.68	1.65	0.43	3.31	0.66	2.28	0.52	3.51	0.69
V22157.C0-V22157	7279	230	18	0.003	3.93	1.65	0.44	3.31	0.68	2.28	0.54	3.52	0.72
V22157-V22158	5842	427	18	0.004	4.27	1.65	0.45	3.32	0.69	2.32	0.55	3.55	0.72
V22158-V22159	5841	429	18	0.003	3.92	1.65	0.35	3.33	0.52	2.32	0.42	3.56	0.55
V22159-V22161	2433	162	18	0.044	14.22	1.65	0.23	3.33	0.33	2.33	0.27	3.57	0.34
V22161-V22162	5619	168	18	0.045	14.45	1.65	0.35	3.34	0.55	2.33	0.44	3.57	0.61
V22162-V24090	7148	13	18	0.004	4.26	1.65	0.48	3.34	0.79	2.33	0.62	3.58	0.88
V23001-V23002	6202	85	8	0.085	2.28	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23002-V23003	6203	72	8	0.102	2.49	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V23003-V23004	6204	249	8	0.046	1.68	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V23004-V23005	6205	183	8	0.059	1.90	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V23005-V23007	6206	316	8	0.032	1.40	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V23006-V23007	6207	93	8	0.003	0.44	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V23007-V23008	1667	256	8	0.008	0.72	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.08
V23008-V23009	5283	341	8	0.098	2.45	0.01	0.04	0.02	0.07	0.01	0.04	0.02	0.06
V23009-V23025	6670	119	8	0.068	2.03	0.01	0.07	0.02	0.11	0.01	0.07	0.02	0.11
V23010-V23011	4576	72	8	0.299	4.27	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23011-V23012	1666	163	8	0.067	2.02	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V23012-V23013	5280	154	8	0.068	2.04	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V23013-V23014	6798	132	8	0.044	1.64	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
V23014-V23015.C0	6210	244	8	0.011	0.84	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.07
V23015.A0-V23015.B0	6208	229	8	0.135	2.87	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V23015.B0-V23015.C0	6209	61	8	0.050	1.74	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
V23015.C0-V23015	6212	49	8	0.017	1.02	0.01	0.06	0.01	0.09	0.01	0.06	0.01	0.09
V23015-V23016	6797	147	8	0.010	0.79	0.01	0.05	0.01	0.08	0.01	0.06	0.01	0.08
V23016-V23021	2011	139	8	0.072	2.10	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.07
V23017-V23018	6796	91	8	0.022	1.15	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V23018-V23019	6795	104	8	0.058	1.88	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V23019-V23020	2010	197	8	0.066	2.01	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V23020-V23021	6747	249	8	0.008	0.70	0.01	0.06	0.01	0.08	0.00	0.05	0.01	0.07
V23021-V23025	6293	124	8	0.083	2.24	0.01	0.08	0.03	0.12	0.01	0.08	0.03	0.11
V23022-V23023	6213	61	8	0.064	1.98	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23023-V23024	6746	109	8	0.034	1.44	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V23024-V23025	6669	164	8	0.034	1.44	0.00	0.06	0.00	0.10	0.00	0.06	0.00	0.09
V23025-V23027	4143	281	8	0.020	1.10	0.02	0.10	0.06	0.16	0.02	0.10	0.05	0.15
V23026-V23027	6197	115	6	0.007	0.31	0.00	0.09	0.00	0.13	0.00	0.09	0.00	0.12
V23027-V23028	4855	270	8	0.021	1.13	0.02	0.10	0.06	0.16	0.02	0.10	0.06	0.15
V23028-V23039	6193	255	8	0.026	1.26	0.03	0.11	0.07	0.17	0.03	0.11	0.06	0.16
V23029-V23030	6839	123	8	0.078	2.19	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23030-V23031	6840	201	8	0.060	1.92	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V23031-V23033	6559	144	8	0.098	2.44	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V23032-V23033	6558	145	8	0.068	2.03	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V23033-V23034	6560	199	8	0.060	1.91	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.05

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V23034.A0-V23034.B0	6562	182	8	0.027	1.28	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V23034.B0-V23034	6645	46	8	0.096	2.42	0.00	0.52	0.00	0.52	0.00	0.52	0.01	0.52
V23034-V23036	6564	35	8	0.198	3.47	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.07
V23035-V23036	6561	370	8	0.051	1.77	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V23036-V23037	6565	226	8	0.039	1.54	0.01	0.06	0.02	0.08	0.01	0.06	0.02	0.08
V23037-V23038	6191	97	8	0.072	2.10	0.01	0.06	0.03	0.08	0.01	0.06	0.02	0.07
V23038-V23039	6192	115	8	0.081	2.22	0.01	0.09	0.03	0.13	0.01	0.09	0.02	0.13
V23039-V23040	6194	167	8	0.026	1.26	0.04	0.13	0.10	0.19	0.04	0.12	0.09	0.18
V23040-V23067	6195	309	8	0.024	1.22	0.04	0.13	0.10	0.20	0.04	0.13	0.09	0.19
V23041-V23042	2478	217	8	0.093	2.38	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V23042-V23043	401	174	8	0.061	1.94	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V23043-V23044	6533	249	8	0.119	2.69	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V23044.A0-V23044.B0	338	3	8	0.155	3.07	0.00	0.01	-	0.01	0.01	0.03	0.01	0.03
V23044.B0-V23044.C0	6214	312	8	0.165	3.17	0.00	0.02	0.00	0.02	0.01	0.03	0.01	0.03
V23044.C0-V23044	6215	77	8	0.145	2.97	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.05
V23044-V23045	5132	219	8	0.050	1.75	0.01	0.04	0.01	0.06	0.01	0.06	0.02	0.07
V23045-V23048	4240	245	8	0.090	2.35	0.01	0.04	0.02	0.07	0.01	0.06	0.02	0.07
V23046-V23047	234	7	8	2.751	12.95	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
V23047-V23048	4575	305	8	0.043	1.62	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V23048-V23051	1665	176	8	0.074	2.13	0.01	0.06	0.02	0.09	0.01	0.07	0.03	0.09
V23049-V23050	6216	280	8	0.088	2.32	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23050-V23051	6217	136	8	0.339	4.55	0.00	0.04	0.01	0.07	0.00	0.05	0.00	0.06
V23051-V23052	5279	231	8	0.032	1.39	0.01	0.07	0.03	0.11	0.02	0.08	0.03	0.11
V23052-V23053	6794	129	8	0.033	1.42	0.01	0.07	0.04	0.11	0.02	0.08	0.04	0.11
V23053-V23059	6793	120	8	0.035	1.46	0.01	0.07	0.04	0.11	0.02	0.08	0.04	0.11
V23054-V23055	6224	106	8	0.003	0.43	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V23055-V23056	1664	264	8	0.040	1.57	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V23056-V23057	5278	262	8	0.042	1.60	0.00	0.04	0.01	0.05	0.00	0.03	0.01	0.05
V23057-V23059	6792	65	8	0.060	1.91	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V23058-V23059	6791	19	8	0.028	1.32	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.06
V23059-V23060	6219	252	8	0.050	1.74	0.02	0.07	0.05	0.11	0.02	0.08	0.05	0.11
V23060-V23061	6220	112	8	0.075	2.13	0.02	0.08	0.05	0.12	0.02	0.08	0.05	0.12
V23061-V23062	6221	267	8	0.031	1.38	0.02	0.09	0.06	0.14	0.03	0.09	0.05	0.13
V23062-V23063	6222	128	8	0.038	1.52	0.02	0.12	0.06	0.18	0.03	0.12	0.06	0.17
V23063-V23065	6223	161	8	0.006	0.62	0.03	0.12	0.06	0.19	0.03	0.13	0.06	0.18
V23064-V23065	6198	146	8	0.008	0.69	0.00	0.06	0.00	0.09	0.00	0.06	0.00	0.08
V23065-V23066	6199	352	8	0.032	1.40	0.03	0.10	0.07	0.16	0.03	0.11	0.06	0.15
V23066-V23067	6200	247	8	0.023	1.17	0.03	0.12	0.07	0.18	0.03	0.12	0.07	0.17
V23067-V23068	6225	74	8	0.075	2.14	0.07	0.14	0.18	0.21	0.07	0.13	0.16	0.20
V23068-V23086	6227	155	8	0.045	1.65	0.08	0.20	0.18	0.32	0.07	0.20	0.16	0.30
V23069-V23070	6647	63	8	0.002	0.35	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V23070-V23071	6228	181	8	0.002	0.37	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V23071-V23072	6230	113	8	0.006	0.63	0.00	0.06	0.01	0.08	0.00	0.06	0.00	0.07
V23072-V23073	6231	147	8	0.003	0.46	0.00	0.07	0.01	0.09	0.00	0.07	0.01	0.09
V23073-V23074	6232	170	8	0.004	0.48	0.01	0.08	0.01	0.10	0.01	0.08	0.01	0.09
V23074-V23075	6233	169	8	0.004	0.50	0.01	0.08	0.01	0.11	0.01	0.07	0.01	0.10
V23075-V23076.C0	6234	75	8	0.007	0.64	0.01	0.07	0.01	0.10	0.01	0.07	0.01	0.10
V23076.A0-V23076.B0	6311	152	8	0.135	2.87	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23076.B0-V23076.C0	6312	65	8	0.078	2.18	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.06
V23076.C0-V23076	6313	74	8	0.010	0.76	0.01	0.09	0.02	0.12	0.01	0.09	0.02	0.12
V23076-V23077	6317	159	8	0.004	0.52	0.01	0.08	0.02	0.12	0.01	0.08	0.02	0.11
V23077-V23079	6316	194	8	0.021	1.13	0.01	0.09	0.02	0.13	0.01	0.09	0.02	0.12
V23078-V23079	6315	287	6	0.143	1.37	0.00	0.09	0.00	0.12	0.00	0.10	0.00	0.12
V23079-V23084	6318	178	8	0.005	0.55	0.01	0.10	0.03	0.14	0.01	0.10	0.03	0.13
V23080-V23081	6236	120	8	0.036	1.48	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V23081-V23082	6235	69	8	0.087	2.31	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V23082-V23083	6649	293	8	0.147	2.99	0.00	0.51	0.01	0.52	0.00	0.51	0.01	0.52
V23083-V23084	6648	209	8	0.019	1.06	0.01	0.54	0.01	0.56	0.01	0.54	0.01	0.55
V23084-V23085	6650	216	8	0.050	1.74	0.02	0.07	0.04	0.10	0.02	0.07	0.04	0.09
V23085-V23086	6646	41	8	0.158	3.11	0.02	0.16	0.04	0.24	0.02	0.16	0.04	0.23
V23086-V23093	6571	160	8	0.007	0.65	0.10	0.27	0.23	0.43	0.09	0.27	0.20	0.40
V23087-V23088	6577	290	6	0.054	0.84	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V23088-V23089	6576	223	6	0.051	0.82	0.00	0.07	0.01	0.08	0.00	0.07	0.01	0.07
V23089-V23091	6651	147	8	0.014	0.93	0.01	0.06	0.01	0.07	0.01	0.05	0.01	0.06
V23090-V23091	6573	312	8	0.145	2.97	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V23091-V23092	6575	230	8	0.064	1.98	0.01	0.05	0.02	0.06	0.01	0.05	0.01	0.06
V23092-V23093	6574	49	8	0.148	3.00	0.01	0.17	0.02	0.25	0.01	0.16	0.02	0.24
V23093.A0-V23093.B0	6240	65	8	0.005	0.56	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V23093.B0-V23093.D0	6241	123	8	0.006	0.60	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V23093.C0-V23093.D0	6242	64	8	0.037	1.49	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V23093.D0-V23093.E0	6566	85	8	0.005	0.55	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.07
V23093.E0-V23093.F0	6567	54	8	0.005	0.56	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.07
V23093.F0-V23093.G0	6568	158	8	0.005	0.55	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V23093.G0-V23093.H0	6569	39	8	0.005	0.56	0.00	0.06	0.01	0.09	0.00	0.06	0.01	0.08
V23093.H0-V23093.J0	6570	55	8	0.007	0.65	0.00	0.05	0.01	0.08	0.00	0.06	0.01	0.07
V23093.I0-V23093.J0	6238	165	6	0.006	0.28	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.05
V23093.J0-V23093	6239	135	6	0.052	0.82	0.01	0.22	0.01	0.34	0.01	0.22	0.01	0.32
V23093-V23094	6579	147	8	0.008	0.69	0.11	0.24	0.26	0.38	0.11	0.24	0.23	0.35
V23094-V23100	6580	149	8	0.028	1.30	0.11	0.27	0.26	0.41	0.11	0.26	0.24	0.39
V23095-V23096	6845	194	6	0.011	0.38	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V23096-V23097	6745	80	6	0.115	1.23	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V23097-V23099	6846	203	6	0.243	1.79	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.04
V23098-V23099	6847	143	6	0.045	0.77	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V23099-V23100	6848	74	8	0.146	2.98	0.01	0.18	0.01	0.28	0.00	0.18	0.01	0.26
V23100-V23101	6849	90	8	0.004	0.52	0.12	0.27	0.27	0.42	0.12	0.27	0.25	0.39
V23101-V23102	6941	254	8	0.027	1.28	0.12	0.21	0.28	0.32	0.12	0.21	0.25	0.30
V23102-V23103	6942	257	8	0.028	1.31	0.12	0.21	0.28	0.31	0.12	0.20	0.25	0.29
V23103-V23105	6583	260	8	0.031	1.37	0.13	0.35	0.29	0.56	0.12	0.34	0.25	0.52
V23104-V23105	6582	164	8	0.024	1.22	0.00	0.26	0.00	0.42	0.00	0.25	0.00	0.38
V23105-V23132	6585	271	8	0.002	0.35	0.13	0.37	0.29	0.60	0.12	0.36	0.26	0.55
V23106.A0-V23106	756	3	4	0.030	0.21	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V23106-V23107	757	123	8	0.081	2.23	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23107-V23108	2477	167	8	0.122	2.73	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V23108-V23109	6532	391	8	0.138	2.90	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V23109-V23112	1663	64	8	0.120	2.71	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.05
V23110-V23111	4574	260	8	0.048	1.70	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V23111-V23112	1661	155	8	0.043	1.62	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V23112.A0-V23112	1660	155	6	0.079	1.02	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V23112-V23113	6061	204	8	0.082	2.24	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.07
V23113-V23114	6062	247	8	0.070	2.07	0.01	0.06	0.02	0.08	0.01	0.06	0.02	0.08
V23114-V23116	6064	123	8	0.037	1.51	0.01	0.06	0.03	0.09	0.01	0.07	0.02	0.09
V23115-V23116	6844	200	8	0.060	1.92	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V23116-V23119	4836	125	8	0.040	1.56	0.01	0.08	0.03	0.11	0.02	0.08	0.03	0.11
V23117-V23119	6592	291	8	0.008	0.69	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.08
V23118-V23119	4835	196	6	0.077	1.01	0.00	0.07	0.00	0.10	0.00	0.07	0.00	0.09
V23119-V23120	4837	159	8	0.021	1.14	0.02	0.08	0.04	0.12	0.02	0.09	0.04	0.12
V23120-V23121	6591	217	8	0.045	1.65	0.02	0.07	0.04	0.10	0.02	0.07	0.04	0.10

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V23121-V23124	6593	349	8	0.084	2.27	0.02	0.12	0.04	0.18	0.02	0.12	0.04	0.17
V23122-V23123	6842	200	8	0.006	0.58	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V23123-V23124	6595	195	8	0.003	0.41	0.00	0.12	0.00	0.16	0.00	0.12	0.00	0.16
V23124-V23126	6594	222	8	0.003	0.44	0.02	0.14	0.05	0.20	0.03	0.13	0.05	0.19
V23125-V23126	6343	120	8	0.028	1.31	0.01	0.07	0.01	0.10	0.00	0.07	0.00	0.09
V23126-V23127	6344	370	8	0.041	1.58	0.03	0.11	0.07	0.15	0.03	0.10	0.06	0.15
V23127-V23128	6345	242	8	0.024	1.20	0.03	0.11	0.07	0.16	0.03	0.11	0.06	0.16
V23128-V23129	6346	80	8	0.025	1.24	0.03	0.12	0.07	0.17	0.03	0.11	0.07	0.16
V23129.A0-V23129	6060	261	6	0.033	0.66	0.00	0.10	0.00	0.14	0.00	0.10	0.00	0.13
V23129-V23130	6347	176	8	0.024	1.22	0.04	0.12	0.08	0.17	0.03	0.12	0.07	0.17
V23130-V23131	6348	138	8	0.023	1.18	0.04	0.16	0.08	0.23	0.04	0.15	0.07	0.22
V23131-V23132	6349	122	8	0.004	0.47	0.04	0.22	0.08	0.33	0.04	0.22	0.08	0.31
V23132-V23211	6586	177	8	0.026	1.25	0.17	0.25	0.38	0.37	0.16	0.25	0.34	0.35
V23133-V23134	6867	219	8	0.003	0.45	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V23134-V23135	579	307	8	0.004	0.50	0.00	0.07	0.00	0.09	0.00	0.08	0.01	0.09
V23135-V23136	578	221	8	0.003	0.41	0.01	0.08	0.01	0.11	0.01	0.09	0.01	0.11
V23136-V23137	577	198	8	0.004	0.48	0.01	0.08	0.01	0.11	0.01	0.09	0.01	0.11
V23137-V23138	1122	266	8	0.005	0.55	0.01	0.07	0.01	0.10	0.01	0.07	0.01	0.10
V23138-V23139	334	269	8	0.047	1.70	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.07
V23139-V23140	337	105	8	0.080	2.21	0.01	0.06	0.02	0.09	0.01	0.07	0.02	0.09
V23140-V23141	2467	273	8	0.013	0.89	0.01	0.08	0.02	0.12	0.01	0.09	0.02	0.12
V23141-V23142	1039	282	8	0.013	0.89	0.01	0.08	0.03	0.11	0.01	0.08	0.03	0.11
V23142-V23143	1037	295	8	0.062	1.95	0.02	0.07	0.03	0.10	0.02	0.07	0.03	0.10
V23143-V23145	6835	73	8	0.037	1.50	0.02	0.08	0.04	0.11	0.02	0.08	0.03	0.11
V23144-V23145	1036	286	8	0.004	0.51	0.00	0.07	0.00	0.09	0.00	0.06	0.00	0.07
V23145-V23147	6531	248	8	0.038	1.51	0.02	0.08	0.04	0.12	0.02	0.08	0.04	0.11
V23146-V23147	5146	159	8	0.032	1.39	0.00	0.54	0.01	0.56	0.00	0.54	0.00	0.55
V23147-V23153	5118	382	8	0.048	1.71	0.03	0.09	0.05	0.14	0.02	0.09	0.04	0.13
V23148-V23149	1034	223	6	0.050	0.81	0.00	0.05	0.00	0.06	0.00	0.07	0.00	0.07
V23149-V23150	5131	264	8	0.005	0.52	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V23150-V23152	5130	153	8	0.025	1.25	0.00	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V23151-V23152	1033	173	6	0.074	0.99	0.00	0.06	0.00	0.08	0.00	0.08	0.00	0.09
V23152-V23153	5129	310	8	0.004	0.49	0.01	0.09	0.01	0.13	0.01	0.10	0.01	0.13
V23153-V23154	4239	254	8	0.041	1.57	0.03	0.09	0.07	0.13	0.03	0.09	0.06	0.12
V23154-V23156	233	110	8	0.173	3.25	0.03	0.09	0.07	0.13	0.03	0.09	0.07	0.12
V23155-V23156	232	264	6	0.018	0.49	0.00	0.09	0.00	0.12	0.00	0.09	0.00	0.11
V23156-V23162	4573	219	8	0.040	1.57	0.04	0.10	0.08	0.15	0.04	0.10	0.07	0.14
V23157-V23158	1032	191	6	0.007	0.29	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V23158-V23159	6530	95	6	0.149	1.40	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V23159-V23162	4238	287	6	0.187	1.57	0.00	0.09	0.01	0.12	0.00	0.08	0.00	0.11
V23160-V23161	231	201	8	0.159	3.12	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
V23161-V23162	4572	197	8	0.084	2.26	0.00	0.06	0.00	0.09	0.00	0.06	0.00	0.08
V23162-V23163	5277	289	8	0.055	1.84	0.04	0.11	0.09	0.16	0.04	0.11	0.08	0.15
V23163-V23165	2009	214	8	0.044	1.64	0.04	0.11	0.10	0.17	0.04	0.11	0.09	0.16
V23164-V23165	1031	312	8	0.111	2.60	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.09
V23165-V23169	6744	129	8	0.045	1.65	0.05	0.12	0.10	0.19	0.04	0.12	0.09	0.18
V23166-V23167	1659	309	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V23167-V23168	5276	106	8	0.316	4.39	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.03
V23168-V23169	1656	83	8	0.080	2.21	0.00	0.08	0.01	0.12	0.00	0.08	0.01	0.12
V23169-V23170	6743	80	8	0.030	1.35	0.05	0.12	0.11	0.18	0.05	0.12	0.10	0.17
V23170-V23172	6668	336	8	0.066	2.01	0.05	0.13	0.11	0.20	0.05	0.14	0.10	0.19
V23171-V23172	1029	231	8	0.165	3.18	0.00	0.09	0.00	0.13	0.00	0.09	0.00	0.12
V23172-V23173	4142	120	8	0.015	0.96	0.05	0.16	0.12	0.24	0.05	0.16	0.11	0.23
V23173-V23179	4854	180	8	0.016	0.99	0.06	0.15	0.12	0.23	0.06	0.15	0.11	0.22
V23174-V23176	6074	101	6	0.006	0.28	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V23175-V23176	1028	111	6	0.008	0.32	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V23176-V23177	2331	101	6	0.048	0.79	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V23177-V23178	6617	206	6	0.134	1.33	0.00	0.04	0.01	0.05	0.00	0.05	0.01	0.05
V23178-V23179	6667	307	6	0.090	1.09	0.00	0.12	0.01	0.17	0.01	0.12	0.01	0.16
V23179-V23188	6713	104	8	0.036	1.48	0.06	0.14	0.14	0.21	0.06	0.15	0.12	0.21
V23180-V23181	6072	161	8	0.020	1.10	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V23181-V23182	6815	122	8	0.090	2.35	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V23182-V23185	6071	185	8	0.062	1.94	0.00	0.04	0.01	0.05	0.00	0.05	0.01	0.05
V23183.00-V23184.00	6068	310	8	0.047	1.69	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V23185-V23186	6073	241	8	0.142	2.94	0.01	0.04	0.02	0.05	0.03	0.07	0.03	0.07
V23186-V23187	1655	85	8	0.131	2.83	0.01	0.04	0.02	0.06	0.03	0.07	0.03	0.08
V23187-V23188	6666	334	8	0.097	2.43	0.01	0.10	0.02	0.14	0.03	0.12	0.03	0.15
V23188-V23191	6712	148	8	0.042	1.61	0.07	0.14	0.16	0.20	0.09	0.16	0.16	0.20
V23189-V23190	6742	163	8	0.021	1.13	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V23190-V23191.A0	6664	226	8	0.669	6.39	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V23191.A0-V23191	6710	49	8	1.981	10.99	0.01	0.56	0.03	0.60	0.02	0.57	0.02	0.60
V23191-V23192	6711	19	8	0.073	2.11	0.08	0.15	0.17	0.22	0.10	0.16	0.17	0.21
V23192-V23193	4956	417	8	0.030	1.35	0.08	0.20	0.17	0.30	0.10	0.23	0.17	0.30
V23193-V23199	6518	272	12	0.004	1.46	0.08	0.15	0.18	0.23	0.10	0.17	0.17	0.23
V23194-V23196	6341	157	8	0.082	2.23	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V23195-V23196	6340	85	8	0.026	1.25	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V23196-V23197	1654	45	8	0.059	1.90	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
V23197-V23198	6663	299	8	0.127	2.78	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.04
V23198-V23199	4955	255	8	0.094	2.40	0.01	0.13	0.01	0.18	0.01	0.14	0.01	0.18
V23199-V23201	6336	153	12	0.007	1.97	0.09	0.14	0.19	0.20	0.11	0.15	0.19	0.20
V23200-V23201	6339	217	8	0.068	2.03	0.00	0.10	0.00	0.15	0.00	0.12	0.00	0.15
V23201-V23202	6337	13	12	0.010	2.29	0.09	0.12	0.20	0.18	0.11	0.14	0.19	0.18
V23202-V23205	6338	300	12	0.022	3.43	0.09	0.10	0.20	0.16	0.11	0.12	0.20	0.15
V23203-V23205	6334	141	6	0.087	1.07	0.00	0.11	0.00	0.16	0.00	0.12	0.00	0.15
V23204-V23205	6333	215	6	0.015	0.44	0.00	0.12	0.00	0.17	0.00	0.12	0.00	0.16
V23205-V23206	6126	180	12	0.044	4.81	0.09	0.10	0.21	0.15	0.11	0.11	0.20	0.14
V23206-V23208	1557	170	12	0.038	4.47	0.09	0.10	0.21	0.15	0.11	0.11	0.21	0.15
V23207-V23208	6590	211	6	0.083	1.04	0.00	0.12	0.00	0.17	0.00	0.13	0.00	0.16
V23208-V23209	6588	247	12	0.036	4.39	0.10	0.10	0.22	0.15	0.12	0.11	0.21	0.15
V23209-V23211	6589	67	12	0.040	4.59	0.10	0.13	0.22	0.20	0.12	0.14	0.22	0.19
V23210-V23211	6587	395	6	0.116	1.23	0.01	0.19	0.01	0.26	0.00	0.19	0.00	0.25
V23211-V23224	6946	236	12	0.044	4.81	0.27	0.18	0.62	0.27	0.29	0.19	0.56	0.26
V23212-V23213	6517	103	8	0.084	2.26	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23213-V23214	6125	69	8	0.089	2.33	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V23214-V23215	1556	128	8	0.038	1.53	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V23215-V23216	1555	198	8	0.040	1.57	0.01	0.06	0.01	0.07	0.01	0.05	0.01	0.06
V23216-V23222	6945	296	8	0.032	1.39	0.01	0.10	0.02	0.11	0.01	0.10	0.01	0.11
V23217-V23218	6516	139	8	0.025	1.24	0.00	0.04	0.00	0.04	0.02	0.09	0.02	0.09
V23218-V23219	6515	211	8	0.027	1.28	0.01	0.05	0.01	0.05	0.02	0.09	0.02	0.09
V23219-V23220	6124	178	8	0.076	2.15	0.01	0.06	0.01	0.06	0.03	0.09	0.03	0.09
V23220.A0-V23220	7621	165	8	0.019	1.07	0.00	0.05	0.00	0.06	0.00	0.07	0.00	0.07
V23220-V23221	1101	149	8	0.059	1.90	0.02	0.07	0.02	0.08	0.04	0.11	0.04	0.11
V23221-V23222	6943	126	8	0.040	1.55	0.02	0.10	0.03	0.12	0.04	0.13	0.04	0.13
V23222-V23223	6947	130	8	0.026	1.26	0.04	0.11	0.05	0.13	0.05	0.13	0.06	0.13
V23223-V23224	6948	129	8	0.096	2.42	0.04	0.20	0.06	0.28	0.06	0.21	0.06	0.27
V23224-V23230	6949	193	12	0.021	3.37	0.31	0.21	0.67	0.31	0.34	0.22	0.63	0.30
V23225-V23226	6952	151	8	0.007	0.65	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V23226-V23229	6954	328	8	0.084	2.26	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.06
V23227-V23228	6065	118	8	0.073	2.11	0.01	0.04	0.01	0.05	0.01	0.05	0.01	0.05
V23228-V23229	6066	146	8	0.060	1.92	0.01	0.06	0.01	0.07	0.01	0.07	0.01	0.07
V23229-V23230	6067	302	8	0.066	2.01	0.02	0.20	0.03	0.28	0.02	0.21	0.02	0.26
V23230-V23231	6950	200	12	0.021	3.36	0.34	0.22	0.71	0.32	0.37	0.23	0.66	0.31
V23231-V22047	6951	210	12	0.018	3.09	0.34	0.22	0.72	0.32	0.38	0.23	0.66	0.31
V24001-V24004	7136	80	6	0.010	0.36	0.00	0.05	0.00	0.06	0.00	0.07	0.00	0.07
V24002.A0-V24002.C0	7139	101	6	0.135	1.33	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V24002.B0-V24002.C0	7138	17	6	0.024	0.56	0.00	0.44	0.00	0.44	0.00	0.44	0.00	0.44
V24002.C0-V24002.D0	6123	79	6	0.069	0.95	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V24002.D0-V24002	1100	117	6	0.164	1.47	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V24002-V24003	7544	184	6	0.205	1.64	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V24003-V24004	7135	90	6	0.066	0.93	0.01	0.07	0.01	0.08	0.01	0.07	0.01	0.08
V24004-V24005	7137	179	6	0.027	0.59	0.01	0.08	0.01	0.10	0.01	0.10	0.01	0.11
V24005-V24013	7133	414	6	0.034	0.67	0.01	0.11	0.01	0.13	0.02	0.13	0.02	0.14
V24006-V24007	6167	121	8	0.010	0.78	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V24007-V24008	6166	83	8	0.103	2.51	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V24008-V24009	1099	234	8	0.177	3.29	0.00	0.02	0.00	0.04	0.00	0.04	0.00	0.04
V24009-V24010.A0	5669	82	8	0.038	1.52	0.00	0.06	0.01	0.07	0.01	0.07	0.01	0.07
V24010.A0-V24010.B0	5668	116	8	0.014	0.91	0.02	0.10	0.02	0.11	0.01	0.09	0.01	0.10
V24010.B0-V24010	4798	51	8	0.010	0.77	0.02	0.08	0.02	0.09	0.01	0.07	0.02	0.08
V24010-V24012	4736	62	8	0.187	3.38	0.02	0.06	0.02	0.07	0.01	0.05	0.02	0.06
V24011-V24012	5138	100	6	0.250	1.81	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.05
V24012-V24013	5639	152	8	0.075	2.15	0.02	0.08	0.03	0.10	0.02	0.09	0.02	0.10
V24013-V24016	7131	133	8	0.034	1.44	0.03	0.12	0.04	0.15	0.04	0.15	0.05	0.16
V24014-V24015	3067	246	8	0.010	0.79	0.00	0.03	0.00	0.04	0.01	0.08	0.01	0.08
V24015-V24016	7132	716	8	0.010	0.78	0.00	0.08	0.00	0.11	0.01	0.14	0.01	0.14
V24016-V24017	7130	348	8	0.010	0.78	0.03	0.14	0.05	0.18	0.06	0.19	0.07	0.21
V24017-V24018	5618	40	8	0.010	0.78	0.03	0.16	0.06	0.21	0.06	0.23	0.08	0.25
V24018-V24031	5617	108	8	0.005	0.55	0.03	0.11	0.06	0.15	0.06	0.16	0.08	0.18
V24019-V24020	7017	107	6	0.169	1.49	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V24020-V24021.A0	7018	126	6	0.102	1.16	0.00	0.14	0.00	0.16	0.00	0.14	0.00	0.15
V24021.A0-V24021	7021	145	6	0.000	0.01	0.00	0.15	0.01	0.17	0.00	0.15	0.00	0.16
V24021-V24025	7121	121	6	0.126	1.29	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.07
V24022-V24023	7122	258	6	1.166	3.92	0.01	0.50	0.01	0.51	0.00	0.51	0.00	0.51
V24023-V24024	6696	137	6	0.313	2.03	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V24024-V24025	7020	179	6	0.044	0.76	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V24025-V24026	7123	248	6	0.061	0.90	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.08
V24026-V24027	7129	113	6	0.094	1.11	0.01	0.08	0.02	0.10	0.01	0.08	0.01	0.09
V24027-V24029	7125	262	6	0.089	1.08	0.01	0.06	0.02	0.07	0.02	0.07	0.02	0.07
V24028-V24029	7126	91	6	0.058	0.87	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V24029-V24030	7127	29	6	8.527	10.59	0.01	0.51	0.02	0.52	0.02	0.52	0.03	0.52
V24030-V24031	7128	182	6	1.197	3.97	0.03	0.53	0.05	0.54	0.06	0.54	0.07	0.55
V24031-V24036	5815	200	8	0.009	0.74	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.06
V24032-V24033	5997	172	6	0.057	0.87	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V24033-V24034	1098	235	6	0.054	0.84	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V24034-V24035	4797	472	6	0.070	0.96	0.00	0.04	0.00	0.06	0.00	0.05	0.01	0.07
V24035-V24115	2432	463	6	0.066	0.93	0.00	0.04	0.01	0.07	0.01	0.07	0.01	0.08
V24037-V24038.A0	5812	271	6	0.005	0.26	0.00	0.04	0.00	0.06	0.00	0.12	0.00	0.12
V24038.A0-V24038	5810	255	6	0.005	0.26	0.00	0.09	0.00	0.17	0.01	0.29	0.01	0.29
V24038-V24039.A0	5811	312	6	0.000	0.01	0.00	0.10	0.00	0.18	0.01	0.27	0.01	0.28
V24039.A0-V24039	5808	312	6	0.045	0.77	0.00	0.12	0.01	0.18	0.02	0.27	0.02	0.28
V24040-V24041	2466	219	6	0.025	0.57	0.00	0.04	0.00	0.04	0.02	0.16	0.02	0.16
V24041-V24042	7142	104	6	0.010	0.37	0.00	0.04	0.00	0.05	0.03	0.15	0.03	0.15
V24042-V24043	3056	226	6	0.080	1.03	0.00	0.11	0.00	0.16	0.03	0.33	0.03	0.33
V24043-V24044.A0	3057	112	6	0.000	0.01	0.00	0.12	0.01	0.16	0.03	0.33	0.03	0.33
V24044.A0-V24044	3058	116	6	0.096	1.12	0.00	0.05	0.01	0.07	0.04	0.14	0.04	0.14
V24044-V24045	2464	187	6	0.052	0.83	0.01	0.06	0.01	0.08	0.05	0.17	0.05	0.17
V24045-V24046	2431	282	6	0.049	0.81	0.01	0.07	0.01	0.11	0.05	0.19	0.05	0.19
V24046.D0-V24046.E0	3062	332	6	0.002	0.16	0.00	0.02	-	0.04	0.00	0.04	0.00	0.05
V24046.E0-V24046	3065	484	6	0.004	0.24	0.00	0.05	0.00	0.10	0.00	0.14	0.00	0.15
V24046-V24047	5807	200	6	0.032	0.65	0.01	0.10	0.02	0.16	0.06	0.27	0.06	0.28
V24047-V24049	5806	249	6	0.008	0.32	0.01	0.10	0.02	0.15	0.07	0.27	0.07	0.27
V24048-V24049	2463	134	6	0.077	1.01	0.00	0.06	0.00	0.08	0.03	0.16	0.03	0.16
V24049-V24123	V24049-V24123	201	8	0.070	2.07	0.01	0.06	0.03	0.09	0.10	0.15	0.10	0.15
V24052.A0-V24052.B0	2447	352	15	0.009	3.96	0.50	0.24	1.11	0.36	1.49	0.43	1.79	0.47
V24052.B0-V24052.C0	2446	362	15	0.010	4.12	0.51	0.23	1.13	0.35	1.53	0.41	1.84	0.46
V24052.C0-V24052.D0	7141	360	18	0.009	6.50	0.51	0.19	1.14	0.28	1.54	0.33	1.85	0.37
V24052.D0-V24052.E0	5840	374	18	0.009	6.45	0.51	0.20	1.14	0.30	1.54	0.35	1.85	0.39
V24052.E0-V24052.F0	2430	372	15	0.009	3.95	0.51	0.24	1.15	0.36	1.54	0.42	1.86	0.47
V24052.F0-V24052	5801	328	18	0.009	6.45	0.51	0.20	1.15	0.29	1.54	0.34	1.87	0.37
V24052-V24053	5802	504	18	0.008	6.09	0.54	0.21	1.19	0.31	1.51	0.35	1.81	0.38
V24053-V24059	2456	181	18	0.008	6.25	0.54	0.17	1.20	0.25	1.51	0.28	1.81	0.31
V24054.A0-V24054.B0	7557	268	8	0.002	0.35	0.00	0.09	-	0.10	0.00	0.14	0.00	0.14
V24054.B0-V24054.G0	1221	160	6	0.000	0.01	0.00	0.17	0.01	0.20	0.01	0.21	0.01	0.22
V24054.C0-V24054.E0	2449	83	6	0.019	0.51	0.01	0.09	0.01	0.10	0.01	0.13	0.01	0.13
V24054.D0-V24054.E0	2450	162	6	0.019	0.50	0.00	0.07	0.01	0.09	0.02	0.16	0.02	0.16
V24054.DA-V24054.D0	7049	81	8	0.014	0.92	0.00	0.03	0.00	0.04	0.00	0.07	0.00	0.07
V24054.DB-V24054.DC	7881	180	8	0.061	1.93	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V24054.DC-V24054.D0	7882	108	8	0.032	1.39	0.00	0.03	0.00	0.05	0.00	0.07	0.00	0.07
V24054.E0-V24052.B0	7941	217	8	0.032	1.39	0.01	0.26	0.02	0.38	0.05	0.46	0.05	0.50
V24054.G0-V24054.K0	5963	130	6	0.013	0.41	0.00	0.05	0.01	0.07	0.01	0.08	0.01	0.08
V24054.H0-V24054.I0	1747	79	6	3.005	6.29	0.00	0.00	-	0.00	0.00	0.50	0.00	0.50
V24054.I0-V24054.J0	5139	43	6	5.528	8.53	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
V24054.J0-V24054.K0	5140	22	8	11.001	25.91	0.00	0.50	0.01	0.51	0.01	0.51	0.01	0.51
V24054.K0-V24054.L0	5839	126	6	0.014	0.43	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.03
V24054.L0-V24054.M0	5838	228	8	0.009	0.75	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.05
V24054.M0-V24054.N0	2453	227	8	0.010	0.78	0.00	0.03	0.00	0.06	0.00	0.06	0.01	0.08
V24054.N0-V24054.O0	2454	141	8	0.009	0.72	0.00	0.04	0.01	0.07	0.01	0.09	0.01	0.10
V24054.O0-V24054.P0	2452	346	8	0.009	0.76	0.00	0.04	0.01	0.08	0.01	0.11	0.02	0.12
V24054.P0-V24054.Q0	2455	362	8	0.009	0.74	0.00	0.05	0.01	0.09	0.02	0.13	0.03	0.14
V24054.Q0-V24054	5799	144	8	0.011	0.81	0.00	0.06	0.02	0.11	0.03	0.16	0.04	0.18
V24055-V24056	5798	27	8	0.014	0.93	0.15	0.47	0.33	0.68	0.46	0.78	0.58	0.91
V24056-V24057	2459	146	12	0.000	0.50	0.24	0.36	0.50	0.52	0.65	0.59	0.83	0.67
V24057-V24058	2460	151	12	0.005	1.58	0.24	0.22	0.50	0.32	0.66	0.36	0.83	0.41
V24058-V24059	2458	40	12	0.034	4.26	0.24	0.17	0.51	0.25	0.67	0.29	0.84	0.32
V24059-V24129	V24059-V24129	17	18	0.116	23.14	0.78	0.30	1.71	0.43	2.18	0.49	2.66	0.56
V24060-V24061	5797	191	18	0.006	5.22	0.78	0.27	1.72	0.41	2.19	0.49	2.67	0.71
V24061-V24062	5795	137	12	0.010	2.32	0.78	0.37	1.72	0.58	2.19	0.68	2.68	0.82
V24062-V24127	V24062-V24127	15	18	0.010	6.79	0.78	0.21	1.72	0.33	2.20	0.37	2.68	0.42
V24063-V24064.A0	1133	272	6	0.019	0.50	0.00	0.53	0.00	0.54	0.00	0.56	0.00	0.56
V24064.A0-V24064	5792	266	6	0.005	0.26	0.00	0.07	0.00	0.10	0.01	0.13	0.01	0.14
V24064-V24066	5793	258	6	0.005	0.26	0.00	0.08	0.01	0.11	0.01	0.14	0.01	0.15
V24065-V24066	2462	146	6	0.002	0.16	0.00	0.06	0.00	0.08	0.00	0.12	0.00	0.12
V24066-V24069	5791	385	6	0.029	0.62	0.01	0.13	0.01	0.19	0.02	0.28	0.02	0.29
V24072-V24089	5786	309	18	0.010	6.88	0.78	0.19	1.72	0.28	2.20	0.32	2.68	0.36
V24075-V24078	4796	277	6	0.034	0.67	0.01	0.09	0.01	0.10	0.01	0.09	0.01	0.09

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V24076-V24077	3076	255	6	0.005	0.26	0.00	0.07	0.00	0.08	0.00	0.08	0.00	0.09
V24077-V24078	4735	75	6	0.006	0.27	0.00	0.09	0.01	0.11	0.01	0.10	0.01	0.10
V24078-V24081	4734	206	6	0.051	0.82	0.02	0.10	0.02	0.11	0.02	0.11	0.02	0.11
V24079-V24080	3079	145	6	0.062	0.90	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V24080-V24081	3080	28	6	0.380	2.24	0.00	0.07	0.01	0.08	0.00	0.07	0.00	0.07
V24081-V24082	5701	316	6	0.070	0.96	0.02	0.15	0.03	0.18	0.02	0.16	0.03	0.17
V24082-V24083	5785	211	6	0.006	0.28	0.03	0.21	0.03	0.24	0.03	0.22	0.03	0.24
V24083-V24084	5784	227	6	0.006	0.28	0.03	0.21	0.04	0.25	0.03	0.23	0.04	0.25
V24084-V24085	5783	224	6	0.006	0.28	0.03	0.22	0.04	0.27	0.04	0.26	0.04	0.28
V24085-V24086	3074	223	6	0.006	0.28	0.03	0.19	0.04	0.23	0.04	0.23	0.05	0.25
V24086-V24088	3075	51	6	0.030	0.63	0.03	0.19	0.05	0.23	0.04	0.25	0.05	0.26
V24087-V24088	3073	179	6	0.002	0.16	0.00	0.12	-	0.14	0.01	0.25	0.01	0.25
V24088-V24089	5782	129	6	0.006	0.28	0.03	0.22	0.05	0.28	0.06	0.30	0.06	0.32
V24089-V08163	7229	42	18	0.088	20.17	0.81	0.29	1.77	0.42	2.26	0.42	2.75	0.49
V24090-V24091	7147	305	18	0.005	4.68	2.26	0.49	4.57	0.80	3.35	0.63	4.97	0.89
V24091-V24092	5780	328	18	0.005	4.70	2.26	0.49	4.57	0.79	3.35	0.62	4.98	0.87
V24092-V24093	5779	194	18	0.005	4.75	2.26	0.48	4.58	0.76	3.35	0.61	4.99	0.82
V24093-V24094	5778	259	18	0.006	5.11	2.26	0.43	4.58	0.66	3.35	0.55	4.99	0.71
V24100-V24101	FM3	118	27	0.009	18.97	2.49	0.25	5.03	0.35	3.86	0.31	5.61	0.38
V24101-V08163	7232	205	27	0.008	18.44	2.49	0.27	5.04	0.39	3.86	0.36	5.61	0.43
V24107-V24075	1097	162	6	0.262	1.86	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V24108-V24075	3078	104	6	0.017	0.48	0.01	0.08	0.01	0.09	0.00	0.06	0.00	0.06
V24112-V24113	V24112-V24113	53	21	0.009	9.93	2.45	0.35	4.94	0.53	3.67	0.44	5.40	0.56
V24113-V24100	V24113-V24100	315	21	0.007	8.84	2.45	0.34	4.94	0.50	3.67	0.42	5.40	0.53
V24115-V24118	V24115-V24118	78	8	0.147	3.00	0.01	0.06	0.02	0.08	0.02	0.10	0.03	0.11
V24116-V24117	V24116-V24117	24	8	0.184	3.35	0.00	0.03	0.01	0.05	0.01	0.06	0.01	0.07
V24117-V24118	V24117-V24118	119	8	0.010	0.76	0.00	0.06	0.01	0.09	0.01	0.11	0.01	0.12
V24118-V24119	V24118-V24119	65	8	0.010	0.79	0.01	0.08	0.02	0.12	0.03	0.15	0.04	0.16
V24119-V24120	V24119-V24120	146	8	0.009	0.74	0.01	0.08	0.02	0.12	0.04	0.15	0.04	0.16
V24120-V24121	V24120-V24121	100	8	0.012	0.87	0.01	0.07	0.02	0.11	0.04	0.13	0.04	0.15
V24121-V24122	V24121-V24122	33	8	0.019	1.08	0.01	0.07	0.03	0.11	0.04	0.13	0.04	0.14
V24122-V24124	V24122-V24124	76	8	0.014	0.93	0.01	0.09	0.03	0.14	0.04	0.19	0.04	0.20
V24123-V24124	V24123-V24124	61	8	0.067	2.03	0.01	0.08	0.03	0.12	0.10	0.20	0.10	0.21
V24124-V24125	V24124-V24125	146	8	0.018	1.05	0.02	0.12	0.06	0.19	0.14	0.29	0.15	0.30
V24125-V24126	V24125-V24126	52	8	0.009	0.73	0.03	0.14	0.07	0.21	0.16	0.32	0.18	0.33
V24126-V24100	V24126-V24100	138	10	0.009	1.34	0.03	0.38	0.09	0.56	0.19	0.54	0.20	0.63
V24127-V24072	V24127-V24072	10	18	0.015	10.68	0.78	0.22	1.72	0.34	2.20	0.39	2.68	0.44
V24129-V24060	V24129-V24060	277	18	0.001	1.73	0.78	0.36	1.71	0.54	2.18	0.62	2.66	0.69
V25001-V25003	6455	191	8	0.062	1.95	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V25002-V25003	6456	129	8	0.016	1.00	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V25003-V25004	6662	270	8	0.130	2.81	0.00	0.04	0.01	0.04	0.00	0.03	0.01	0.04
V25004-V25006	4954	272	8	0.075	2.13	0.01	0.06	0.01	0.09	0.01	0.06	0.01	0.08
V25005-V25006	6454	115	8	0.002	0.34	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.07
V25006-V25026	6514	255	8	0.005	0.53	0.01	0.11	0.02	0.16	0.01	0.12	0.01	0.16
V25007-V25008	6451	221	8	0.016	0.97	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V25008-V25009	230	152	8	0.034	1.43	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
V25009-V25010	229	92	8	0.004	0.52	0.00	0.05	0.00	0.08	0.01	0.08	0.01	0.09
V25010-V25011	228	222	8	0.006	0.61	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
V25011-V25014	4571	297	8	0.077	2.17	0.00	0.05	0.01	0.07	0.01	0.06	0.01	0.08
V25012-V25013	226	164	8	0.005	0.56	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V25013-V25014	225	244	8	0.052	1.78	0.00	0.05	0.01	0.07	0.00	0.05	0.00	0.07
V25014-V25015	224	207	8	0.025	1.24	0.01	0.06	0.02	0.08	0.01	0.07	0.02	0.09
V25015-V25016	6616	163	8	0.092	2.37	0.01	0.05	0.02	0.08	0.02	0.06	0.03	0.08
V25016-V25018	1653	158	8	0.061	1.93	0.01	0.06	0.03	0.08	0.02	0.07	0.03	0.09
V25017-V25018	6452	154	8	0.127	2.79	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V25018-V25019	6741	51	8	0.057	1.86	0.01	0.06	0.03	0.09	0.02	0.07	0.03	0.09
V25019-V25020	6740	139	8	0.061	1.92	0.01	0.53	0.03	0.54	0.02	0.54	0.03	0.55
V25020-V25022	6739	13	6	0.083	1.05	0.01	0.54	0.03	0.56	0.02	0.55	0.03	0.56
V25021-V25022	6453	210	6	0.006	0.28	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.08
V25022-V25023	6738	53	8	0.104	2.52	0.02	0.06	0.04	0.08	0.02	0.07	0.04	0.09
V25023-V25024	6661	180	8	0.095	2.41	0.02	0.07	0.04	0.10	0.02	0.08	0.04	0.11
V25024-V25025	4853	244	8	0.033	1.41	0.02	0.08	0.04	0.11	0.03	0.09	0.04	0.11
V25025-V25026	4953	194	8	0.079	2.20	0.02	0.10	0.04	0.15	0.03	0.11	0.04	0.15
V25026-V25030	6513	217	8	0.010	0.78	0.03	0.13	0.07	0.18	0.04	0.14	0.06	0.18
V25027-V25028	6458	77	6	0.014	0.42	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V25028-V25029	4952	334	6	0.074	0.99	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.05
V25029-V25030	6512	80	6	0.063	0.91	0.00	0.10	0.01	0.14	0.00	0.11	0.01	0.14
V25030-V25031	6121	319	8	0.026	1.25	0.03	0.12	0.08	0.18	0.04	0.13	0.07	0.17
V25031-V25033	6182	162	8	0.017	1.02	0.04	0.16	0.08	0.23	0.04	0.17	0.08	0.23
V25032-V25033	4951	356	6	0.101	1.15	0.00	0.15	0.00	0.20	0.00	0.15	0.00	0.19
V25033-V25034	6181	165	8	0.006	0.61	0.04	0.15	0.09	0.21	0.05	0.15	0.08	0.20
V25034-V25040	5739	302	8	0.067	2.02	0.04	0.11	0.09	0.16	0.05	0.12	0.09	0.15
V25035-V25036	6459	119	8	0.076	2.16	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V25036-V25037	4852	94	8	0.041	1.57	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V25037-V25040	4950	362	8	0.145	2.97	0.00	0.07	0.01	0.10	0.00	0.08	0.00	0.10
V25038-V25039	6120	162	8	0.071	2.08	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V25039-V25040	5738	139	8	0.112	2.61	0.00	0.07	0.00	0.10	0.00	0.08	0.00	0.10
V25040-V25042.A0	5768	301	8	0.054	1.81	0.05	0.11	0.11	0.16	0.06	0.12	0.10	0.15
V25041-V25042	6460	322	8	0.106	2.54	0.00	0.09	0.00	0.13	0.00	0.10	0.00	0.12
V25042.A0-V25042	4794	5	8	0.112	2.61	0.05	0.13	0.11	0.18	0.06	0.14	0.11	0.18
V25042-V25047	4795	174	8	0.018	1.04	0.06	0.16	0.12	0.23	0.06	0.17	0.11	0.23
V25043-V25045	5996	49	8	0.040	1.56	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V25044-V25045	6866	264	8	0.010	0.79	0.00	0.03	0.00	0.04	0.01	0.07	0.01	0.07
V25045-V25046	5737	162	8	0.102	2.49	0.00	0.03	0.01	0.04	0.01	0.06	0.01	0.06
V25046-V25047	5767	261	8	0.076	2.16	0.00	0.10	0.01	0.14	0.02	0.12	0.02	0.15
V25047-V25048	5667	131	8	0.022	1.16	0.06	0.17	0.13	0.25	0.08	0.20	0.13	0.25
V25048.A0-V25048.B0	7683	109	8	0.031	1.38	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V25048.B0-V25048.C0	7684	148	8	0.032	1.41	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.04
V25048.C0-V25048.D0	7685	209	8	0.064	1.98	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.04
V25048.D0-V25048.H0	7686	99	8	0.103	2.50	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.05
V25048.E0-V25048.F0	7681	130	8	0.039	1.55	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V25048.E0-V25070.FA	7679	328	8	0.011	0.81	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V25048.F0-V25048.H0	7682	201	8	0.036	1.48	0.00	0.05	0.01	0.05	0.00	0.05	0.01	0.05
V25048.G0-V25048.H0	7677	150	8	0.043	1.62	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V25048.H0-V25048.I0	7687	107	8	0.095	2.41	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.06
V25048.I0-V25048.J0	7048	322	8	0.091	2.35	0.01	0.07	0.02	0.09	0.01	0.08	0.02	0.10
V25048.J0-V25048	7880	29	8	0.013	0.89	0.01	0.14	0.03	0.19	0.02	0.17	0.03	0.20
V25048-V25055	4793	215	8	0.018	1.04	0.08	0.18	0.16	0.27	0.11	0.25	0.17	0.29
V25049-V25051	5736	311	8	0.007	0.64	0.00	0.04	0.00	0.05	0.02	0.11	0.02	0.11
V25050-V25051	6462	271	8	0.011	0.83	0.00	0.03	0.00	0.04	0.01	0.09	0.01	0.09
V25051-V25052	5766	320	8	0.043	1.63	0.00	0.04	0.01	0.06	0.04	0.12	0.04	0.12
V25052-V25054	5666	278	8	0.034	1.45	0.01	0.05	0.01	0.07	0.05	0.14	0.05	0.14
V25053-V25054	6461	379	8	0.005	0.57	0.00	0.05	0.00	0.07	0.00	0.10	0.00	0.10
V25054-V25055	4792	283	8	0.048	1.72	0.01	0.12	0.02	0.17	0.08	0.21	0.08	0.23
V25055-V25056	4733	76	8	0.024	1.21	0.09	0.23	0.19	0.33	0.20	0.34	0.26	0.39
V25056-V25057	4732	375	8	0.006	0.62	0.09	0.23	0.19	0.34	0.20	0.35	0.26	0.40
V25057-V25078	5638	306	8	0.026	1.25	0.09	0.17	0.19	0.25	0.22	0.28	0.28	0.31

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V25058-V25059	5913	221	8	0.199	3.49	0.00	0.02	0.00	0.02	0.01	0.03	0.01	0.03
V25059-V25060	4851	136	8	0.150	3.02	0.00	0.03	0.01	0.03	0.01	0.04	0.01	0.04
V25060-V25061	5683	197	8	0.182	3.34	0.00	0.05	0.01	0.06	0.01	0.08	0.01	0.09
V25061-V25063	6119	110	8	0.010	0.78	0.01	0.05	0.01	0.07	0.02	0.09	0.02	0.09
V25062-V25063	5914	123	6	0.317	2.04	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V25063-V25064	5735	26	6	0.427	2.37	0.01	0.06	0.01	0.07	0.02	0.11	0.03	0.11
V25064-V25065	6479	170	6	0.072	0.97	0.01	0.07	0.02	0.09	0.05	0.15	0.05	0.15
V25065-V25066	4237	129	8	0.040	1.56	0.01	0.06	0.02	0.08	0.05	0.14	0.05	0.14
V25066-V25067	V25066-V25067	344	8	0.014	0.94	0.01	0.07	0.02	0.10	0.05	0.15	0.05	0.15
V25067-V25068	5889	345	8	0.030	1.36	0.01	0.08	0.03	0.10	0.07	0.16	0.07	0.16
V25068-V25071	4791	189	8	0.019	1.09	0.01	0.10	0.03	0.14	0.07	0.19	0.07	0.20
V25070.A0-V25070.B0	6660	303	8	0.160	3.12	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V25070.AA-V25070.A0	5909	54	8	0.008	0.72	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V25070.B0-V25070.C0	5682	102	8	0.095	2.41	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.06
V25070.C0-V25070.D0	5908	147	8	0.008	0.71	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.06
V25070.D0-V25070.E0	5907	211	8	0.214	3.62	0.01	0.04	0.01	0.05	0.01	0.06	0.01	0.07
V25070.E0-V25070.F0	5906	202	8	0.068	2.04	0.01	0.05	0.02	0.07	0.03	0.10	0.04	0.11
V25070.F0-V25070	4790	52	8	0.043	1.61	0.01	0.09	0.03	0.12	0.04	0.14	0.05	0.15
V25070.FA-V25070.FB	7680	175	8	0.218	3.65	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V25070.FB-V25070.F0	7678	217	8	0.039	1.55	0.00	0.05	0.01	0.07	0.00	0.07	0.01	0.08
V25070-V25071	5410	175	8	0.007	0.65	0.02	0.12	0.03	0.16	0.04	0.20	0.05	0.21
V25071-V25072	4828	156	8	0.019	1.06	0.03	0.12	0.06	0.17	0.11	0.23	0.12	0.24
V25072-V25077	4731	376	8	0.016	0.99	0.03	0.13	0.07	0.19	0.12	0.27	0.14	0.28
V25073-V25074	6955	86	8	0.018	1.04	0.00	0.04	0.00	0.04	0.02	0.11	0.02	0.11
V25074-V25076	5904	370	8	0.012	0.86	0.00	0.05	0.00	0.06	0.02	0.13	0.02	0.13
V25075-V25076	4730	71	8	0.025	1.24	0.00	0.04	0.00	0.05	0.03	0.13	0.03	0.13
V25076-V25077	5982	240	8	0.030	1.35	0.01	0.10	0.01	0.13	0.06	0.22	0.06	0.22
V25077-V25078	5637	375	8	0.016	0.99	0.04	0.14	0.09	0.21	0.19	0.28	0.20	0.30
V25078-V24052.A0	6956	32	8	0.126	2.77	0.13	0.30	0.28	0.45	0.42	0.53	0.49	0.58
V25084-V22085.A0	V25084-V22085.A0	167	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V26001-V26002	6659	330	8	0.019	1.09	0.01	0.08	0.05	0.15	0.10	0.21	0.12	0.23
V26002-V26003	4141	171	8	0.019	1.07	0.01	0.08	0.05	0.15	0.10	0.21	0.12	0.23
V26003-V26009	1049	187	8	0.021	1.12	0.01	0.08	0.05	0.16	0.10	0.22	0.13	0.24
V26004-V26007	6615	277	8	0.130	2.82	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.04
V26005-V26006	1048	60	8	0.151	3.04	0.00	0.00	-	0.01	0.00	0.02	0.00	0.02
V26006-V26007	1046	308	8	0.211	3.58	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V26007-V26008	8203	287	8	0.120	2.71	0.00	0.02	0.01	0.05	0.01	0.05	0.01	0.06
V26008-V26009	1050	182	8	0.015	0.96	0.00	0.06	0.01	0.12	0.01	0.15	0.01	0.17
V26009-V26010	1051	321	8	0.014	0.93	0.02	0.09	0.07	0.18	0.11	0.23	0.14	0.26
V26010-V26017.B0	4850	232	8	0.015	0.95	0.02	0.09	0.07	0.19	0.11	0.23	0.15	0.27
V26011.A0-V26011.B0	6075	208	8	0.050	1.74	0.00	0.02	0.00	0.02	0.01	0.04	0.01	0.04
V26011.B0-V26011	4140	166	8	0.069	2.06	0.00	0.02	0.00	0.04	0.01	0.05	0.01	0.05
V26011-V26013	4849	246	8	0.033	1.42	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.08
V26012-V26013	6709	80	8	0.051	1.77	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
V26013-V26014	6708	55	8	0.007	0.67	0.00	0.04	0.01	0.07	0.01	0.08	0.01	0.09
V26014-V26016	6707	160	8	0.027	1.29	0.00	0.05	0.01	0.08	0.01	0.08	0.01	0.09
V26016.A0-V26016	1421	150	8	0.008	0.70	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V26016-V26017	6706	172	8	0.007	0.63	0.00	0.08	0.01	0.16	0.01	0.18	0.02	0.21
V26017.A0-V26017.B0	4848	181	8	0.090	2.34	0.00	0.06	0.00	0.10	0.00	0.13	0.00	0.14
V26017.B0-V26017	6704	232	8	0.015	0.95	0.02	0.10	0.07	0.21	0.11	0.25	0.15	0.29
V26017-V26018	6705	174	8	0.011	0.83	0.02	0.11	0.09	0.22	0.12	0.26	0.17	0.30
V26018-V26026	5681	271	8	0.013	0.88	0.02	0.12	0.09	0.23	0.12	0.26	0.17	0.30
V26019-V26020	6077	169	8	0.009	0.76	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V26020-V26021	6703	183	8	0.076	2.15	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V26021-V26022	5680	155	8	0.047	1.69	0.00	0.04	0.00	0.06	0.00	0.05	0.01	0.06
V26022-V26026	6511	250	8	0.004	0.49	0.00	0.09	0.01	0.16	0.00	0.16	0.01	0.20
V26024-V26023	6076	147	8	0.071	2.08	0.00	0.03	0.00	0.03	0.01	0.05	0.01	0.05
V26024-V26247	4847	363	8	0.042	1.61	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V26025-V26026	5679	85	8	0.123	2.74	0.00	0.08	0.01	0.14	0.01	0.15	0.01	0.18
V26026-V26029	5678	370	8	0.016	0.98	0.03	0.12	0.11	0.23	0.14	0.25	0.20	0.30
V26027-V26028	5074	237	8	0.119	2.70	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V26028-V26029	5073	236	8	0.020	1.10	0.00	0.07	0.00	0.13	0.00	0.13	0.00	0.16
V26029-V26030	5677	42	8	0.023	1.18	0.03	0.12	0.12	0.22	0.14	0.24	0.21	0.28
V26030-V26070	6118	250	8	0.004	0.49	0.03	0.23	0.13	0.43	0.14	0.42	0.21	0.54
V26031-V26032	6814	156	8	0.032	1.40	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26032-V26033	227	301	8	0.027	1.28	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V26033-V26034	6614	454	8	0.072	2.09	0.00	0.04	0.01	0.06	0.01	0.04	0.01	0.06
V26034-V26035	6790	140	8	0.044	1.64	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
V26035-V26042	1651	320	8	0.044	1.64	0.01	0.16	0.02	0.22	0.01	0.16	0.02	0.21
V26036-V26037	5128	373	6	0.007	0.31	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V26037-V26038	6813	169	8	0.074	2.12	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.04
V26038-V26040	4569	201	8	0.086	2.29	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V26039-V26040	223	148	8	0.002	0.35	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.05
V26040-V26041	6613	172	8	0.088	2.31	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.05
V26041-V26042	1650	159	8	0.090	2.34	0.01	0.16	0.02	0.21	0.01	0.16	0.01	0.20
V26042-V26043	6737	84	8	0.000	0.03	0.02	0.18	0.04	0.24	0.02	0.18	0.03	0.23
V26043-V26044	6736	194	8	0.027	1.27	0.02	0.12	0.04	0.17	0.02	0.12	0.04	0.16
V26044-V26048	6735	214	8	0.004	0.49	0.02	0.13	0.04	0.19	0.02	0.13	0.04	0.18
V26045-V26046	6612	270	8	0.037	1.50	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V26046-V26047	1649	210	8	0.079	2.19	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.03
V26047-V26048	6733	120	8	0.113	2.62	0.01	0.07	0.01	0.10	0.00	0.07	0.01	0.09
V26048-V26049	6658	289	8	0.016	1.00	0.03	0.12	0.06	0.17	0.02	0.12	0.05	0.16
V26049-V26057	5072	267	8	0.013	0.91	0.03	0.11	0.06	0.16	0.03	0.11	0.05	0.15
V26050-V26051	6051	167	8	0.003	0.45	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
V26051-V26052	6812	250	8	0.004	0.49	0.00	0.03	0.00	0.06	0.00	0.05	0.00	0.07
V26052-V26053	5127	280	8	0.005	0.53	0.00	0.02	0.00	0.06	0.00	0.04	0.01	0.06
V26053-V26054	6811	125	8	0.054	1.82	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.05
V26054-V26055	4568	183	8	0.114	2.64	0.00	0.02	0.01	0.04	0.01	0.03	0.01	0.05
V26055-V26056	6611	329	8	0.111	2.60	0.00	0.03	0.01	0.05	0.01	0.04	0.01	0.06
V26056-V26057	6657	80	8	0.070	2.07	0.00	0.06	0.01	0.10	0.01	0.07	0.02	0.10
V26057-V26058	4846	188	8	0.075	2.13	0.03	0.09	0.08	0.13	0.04	0.09	0.07	0.13
V26058-V26059	6702	230	8	0.072	2.09	0.04	0.10	0.08	0.14	0.04	0.10	0.08	0.14
V26059-V26060	6079	233	8	0.047	1.70	0.04	0.15	0.09	0.23	0.04	0.16	0.08	0.22
V26060-V26069	6080	139	8	0.004	0.49	0.04	0.15	0.09	0.23	0.04	0.16	0.08	0.22
V26061-V26062	6081	150	6	0.127	1.29	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V26062-V26064	6082	274	6	0.013	0.41	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V26063-V26064	6610	36	8	0.055	1.84	0.00	0.02	0.00	0.02	0.01	0.04	0.01	0.04
V26064-V26065	6789	146	8	0.137	2.89	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
V26065-V26066	1648	85	8	0.171	3.23	0.00	0.03	0.01	0.04	0.01	0.05	0.01	0.05
V26066-V26067	6655	226	8	0.095	2.40	0.00	0.03	0.01	0.05	0.01	0.06	0.02	0.06
V26067-V26068	6083	224	8	0.093	2.38	0.00	0.04	0.01	0.06	0.02	0.07	0.02	0.08
V26068-V26069.C0	6046	167	8	0.021	1.12	0.00	0.05	0.01	0.08	0.02	0.09	0.02	0.10
V26069.A0-V26069.B0	6047	155	8	0.125	2.76	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V26069.B0-V26069.C0	6048	80	8	0.032	1.40	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
V26069.C0-V26069	6049	142	8	0.021	1.14	0.01	0.08	0.02	0.12	0.02	0.10	0.03	0.13
V26069-V26070	6117	73	8	0.073	2.11	0.05	0.19	0.11	0.33	0.06	0.29	0.11	0.39
V26070-V26071	6153	230	8	0.004	0.50	0.08	0.26	0.24	0.45	0.20	0.42	0.32	0.54

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V26071-V26255	6152	56	10	0.006	1.10	0.08	0.18	0.24	0.31	0.21	0.28	0.33	0.36
V26074-V26075	1680	73	8	0.098	2.45	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V26075-V26076	6609	222	8	0.159	3.11	0.00	0.03	0.00	0.04	0.01	0.04	0.01	0.04
V26076-V26078	6788	71	8	0.028	1.31	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.05
V26077-V26078	6353	30	8	0.028	1.32	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V26078.A0-V26078.B0	6787	155	8	0.018	1.05	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V26078.B0-V26078.C0	6786	27	8	0.040	1.56	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V26078.C0-V26078	6784	43	8	0.025	1.24	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V26078-V26081	6654	362	8	0.097	2.43	0.01	0.04	0.01	0.05	0.01	0.06	0.01	0.06
V26079-V26080	6350	127	8	0.004	0.47	0.00	0.03	0.00	0.03	0.01	0.08	0.01	0.08
V26080-V26081	6352	306	8	0.035	1.47	0.00	0.03	0.00	0.04	0.02	0.07	0.02	0.07
V26081-V26082	4844	84	8	0.257	3.96	0.01	0.05	0.02	0.08	0.03	0.11	0.04	0.12
V26082-V26084	5676	189	8	0.017	1.00	0.01	0.07	0.02	0.10	0.05	0.15	0.06	0.15
V26083-V26084	6084	77	8	0.002	0.35	0.00	0.03	-	0.05	0.00	0.07	0.00	0.07
V26084-V26085	6510	375	8	0.032	1.39	0.01	0.06	0.02	0.10	0.05	0.14	0.06	0.15
V26085-V26086	6507	190	8	0.032	1.39	0.01	0.07	0.03	0.11	0.07	0.16	0.07	0.17
V26086.A0-V26086	6506	307	8	0.020	1.11	0.00	0.05	0.00	0.07	0.02	0.13	0.02	0.13
V26086-V26256	6177	185	8	0.027	1.29	0.01	0.15	0.04	0.25	0.09	0.28	0.09	0.32
V26088-V26089	5136	3	6	0.376	2.22	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V26089-V26090	6036	146	6	0.086	1.06	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V26090-V26091	6035	85	6	0.164	1.47	0.00	0.04	0.00	0.04	0.01	0.05	0.01	0.05
V26091-V26095	1679	81	8	0.084	2.27	0.00	0.04	0.00	0.05	0.01	0.06	0.01	0.06
V26092-V26093	6037	188	8	0.011	0.81	0.00	0.03	0.00	0.03	0.02	0.09	0.02	0.09
V26093-V26094	6038	195	8	0.148	3.01	0.00	0.03	0.00	0.03	0.02	0.06	0.02	0.06
V26094.A0-V26094	1218	3	8	0.717	6.61	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V26094-V26095	1677	22	8	0.112	2.61	0.00	0.04	0.01	0.05	0.02	0.07	0.02	0.07
V26095-V26097	4567	243	8	0.066	2.01	0.01	0.04	0.01	0.06	0.03	0.08	0.03	0.08
V26096-V26097	222	49	8	0.005	0.55	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V26097-V26101	6557	130	8	0.108	2.57	0.01	0.05	0.02	0.07	0.03	0.08	0.03	0.09
V26098-V26099	5117	140	8	0.067	2.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26099-V26100	6810	225	8	0.133	2.85	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V26100-V26101	6556	154	8	0.096	2.42	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.07
V26101-V26105	1647	219	8	0.077	2.17	0.01	0.06	0.03	0.09	0.04	0.11	0.04	0.12
V26102-V26103	6034	158	8	0.212	3.59	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V26103-V26104	6032	84	8	0.182	3.33	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
V26104-V26105	6031	345	8	0.046	1.68	0.00	0.05	0.00	0.07	0.01	0.09	0.01	0.10
V26105-V26106	6732	284	8	0.028	1.32	0.01	0.07	0.03	0.11	0.04	0.12	0.06	0.14
V26106-V26107	6653	302	8	0.041	1.59	0.02	0.07	0.04	0.11	0.04	0.12	0.06	0.13
V26107-V26108	4843	373	8	0.053	1.80	0.02	0.09	0.04	0.14	0.06	0.15	0.07	0.17
V26108-V26160	6701	63	8	0.010	0.77	0.02	0.14	0.05	0.21	0.06	0.22	0.07	0.25
V26109.A0-V26109.B0	6833	34	8	0.014	0.91	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V26109.B0-V26109.C0	6832	194	8	0.008	0.72	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V26109.C0-V26109	6831	199	8	0.008	0.71	0.00	0.05	0.00	0.06	0.01	0.07	0.01	0.08
V26109-V26110	6834	112	8	0.007	0.64	0.00	0.05	0.01	0.08	0.01	0.08	0.01	0.09
V26110-V26113	6830	80	8	0.004	0.50	0.00	0.07	0.01	0.10	0.01	0.10	0.01	0.12
V26111-V26112	5152	114	8	0.162	3.15	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26112-V26113	2476	185	8	0.065	2.00	0.00	0.05	0.00	0.07	0.00	0.07	0.00	0.08
V26113-V26114	6829	252	8	0.004	0.49	0.01	0.08	0.01	0.12	0.01	0.13	0.02	0.14
V26114-V26115	6828	179	8	0.005	0.54	0.01	0.07	0.02	0.11	0.02	0.11	0.02	0.12
V26115-V26116	6043	269	8	0.036	1.49	0.01	0.05	0.02	0.08	0.02	0.08	0.03	0.09
V26116-V26117	6044	312	8	0.068	2.04	0.01	0.07	0.02	0.10	0.02	0.09	0.03	0.11
V26117-V26122	6045	78	8	0.014	0.94	0.01	0.08	0.03	0.12	0.02	0.11	0.03	0.13
V26118-V26119	755	2	8	0.077	2.17	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V26119-V26121	2475	160	8	0.007	0.66	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V26120-V26121	2474	216	8	0.030	1.36	0.00	0.52	0.00	0.52	0.00	0.52	0.00	0.52
V26121-V26122	6529	333	8	0.148	3.00	0.01	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V26122-V26123	6554	187	8	0.035	1.46	0.02	0.08	0.04	0.12	0.03	0.10	0.05	0.12
V26123-V26125	6553	142	8	0.032	1.39	0.02	0.13	0.05	0.18	0.03	0.15	0.05	0.19
V26124.A0-V26124.B0	6528	310	8	0.104	2.52	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V26124.B0-V26124	6809	311	8	0.090	2.34	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
V26124-V26125	1676	68	8	0.003	0.45	0.00	0.12	0.01	0.17	0.01	0.14	0.01	0.17
V26125-V26130	1675	164	8	0.004	0.51	0.03	0.13	0.06	0.20	0.04	0.16	0.06	0.20
V26126-V26128	6042	66	8	0.101	2.48	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V26127-V26128	6041	61	8	0.002	0.32	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V26128.A0-V26128	6039	93	8	0.038	1.53	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V26128-V26129	5116	155	8	0.056	1.84	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.03
V26129-V26130	6808	79	8	0.226	3.72	0.00	0.07	0.01	0.09	0.00	0.07	0.01	0.09
V26130-V26133	1674	116	8	0.030	1.36	0.03	0.10	0.07	0.15	0.04	0.12	0.07	0.15
V26131-V26132	2473	216	8	0.125	2.76	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V26132-V26133	6527	345	8	0.142	2.95	0.01	0.07	0.01	0.09	0.00	0.07	0.01	0.08
V26133-V26134	4566	251	8	0.057	1.87	0.04	0.10	0.08	0.14	0.05	0.11	0.08	0.14
V26134-V26146	6552	190	8	0.061	1.92	0.04	0.10	0.08	0.15	0.05	0.11	0.08	0.15
V26135-V26136	6053	153	8	0.014	0.94	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V26136-V26138	2482	69	8	0.115	2.65	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V26137-V26138	2480	261	8	0.014	0.91	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V26138-V26143	6526	399	8	0.063	1.95	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V26139-V26140	6056	75	8	0.137	2.89	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V26140-V26142	6055	189	8	0.004	0.50	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.07
V26141-V26142	6054	45	8	0.004	0.48	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V26142-V26143	5125	190	8	0.004	0.49	0.00	0.09	0.01	0.12	0.01	0.10	0.01	0.12
V26143-V26144	5124	127	8	0.003	0.44	0.01	0.09	0.02	0.12	0.01	0.09	0.02	0.12
V26144-V26145	6807	216	8	0.105	2.52	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.07
V26145-V26146	6551	192	8	0.100	2.47	0.01	0.08	0.03	0.11	0.02	0.09	0.03	0.11
V26146-V26147.F0	6783	43	8	0.074	2.13	0.05	0.11	0.11	0.17	0.06	0.12	0.11	0.16
V26147.A0-V26147.B0	6806	350	8	0.111	2.60	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V26147.B0-V26147.C0	4565	284	8	0.010	0.78	0.01	0.06	0.01	0.08	0.00	0.06	0.01	0.07
V26147.C0-V26147.D0	221	297	8	0.010	0.78	0.01	0.06	0.01	0.08	0.01	0.05	0.01	0.07
V26147.D0-V26147.E0	6550	286	8	0.053	1.80	0.01	0.07	0.02	0.09	0.01	0.06	0.01	0.08
V26147.E0-V26147.F0	6781	155	8	0.008	0.70	0.01	0.10	0.02	0.14	0.01	0.10	0.02	0.14
V26147.F0-V26147	6780	71	8	0.068	2.03	0.06	0.12	0.13	0.17	0.07	0.13	0.13	0.17
V26147-V26148	6782	115	8	0.070	2.07	0.06	0.12	0.14	0.17	0.07	0.13	0.13	0.17
V26148-V26149	1646	279	8	0.080	2.21	0.06	0.13	0.14	0.19	0.07	0.14	0.13	0.18
V26149-V26150	6652	204	8	0.038	1.53	0.06	0.15	0.14	0.23	0.07	0.16	0.13	0.22
V26150-V26159	5071	260	8	0.019	1.07	0.06	0.16	0.14	0.24	0.07	0.20	0.13	0.25
V26151-V26152	6027	114	8	0.063	1.96	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26152-V26153	6028	261	8	0.141	2.93	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V26153-V26156	6549	87	8	0.114	2.64	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V26154-V26155	220	93	8	0.088	2.31	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26155-V26156	6548	219	8	0.043	1.62	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V26156-V26157	1645	82	8	0.207	3.55	0.00	0.03	0.01	0.04	0.01	0.03	0.01	0.04
V26157-V26158	6029	18	8	0.195	3.45	0.00	0.03	0.01	0.04	0.01	0.03	0.01	0.04
V26158-V26159	6030	140	8	0.156	3.08	0.00	0.09	0.01	0.14	0.01	0.12	0.01	0.15
V26159-V26160	4842	216	8	0.031	1.38	0.07	0.16	0.16	0.24	0.14	0.23	0.20	0.27
V26160-V26161	5675	216	8	0.034	1.44	0.09	0.17	0.21	0.25	0.20	0.25	0.27	0.29
V26161-V26162	6509	299	8	0.036	1.49	0.09	0.18	0.21	0.27	0.20	0.26	0.27	0.31
V26162-V26163	6505	286	8	0.023	1.18	0.09	0.19	0.22	0.29	0.21	0.29	0.29	0.34
V26163-V26173	6026	263	8	0.021	1.12	0.09	0.20	0.22	0.30	0.22	0.31	0.30	0.36

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V26164-V26165	6547	109	8	0.136	2.88	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26165-V26166	1644	123	8	0.092	2.37	0.00	0.08	0.00	0.10	0.00	0.08	0.00	0.09
V26166-V26168	6626	106	8	0.000	0.02	0.00	0.08	0.00	0.10	0.00	0.08	0.00	0.10
V26167-V26168	5070	130	8	0.010	0.78	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V26168-V26169	4841	134	8	0.120	2.71	0.00	0.14	0.01	0.19	0.00	0.15	0.01	0.19
V26169.A0-V26169.B0	6450	300	8	0.134	2.86	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V26169.B0-V26169	6625	315	8	0.061	1.93	0.00	0.14	0.01	0.19	0.01	0.16	0.01	0.19
V26169-V26170	4840	221	8	0.000	0.02	0.01	0.15	0.02	0.20	0.01	0.18	0.02	0.21
V26170.A0-V26170.B0	4839	170	8	0.068	2.03	0.00	0.04	0.00	0.04	0.00	0.07	0.00	0.07
V26170.B0-V26170	4838	170	8	0.006	0.63	0.00	0.05	0.01	0.07	0.01	0.09	0.01	0.09
V26170-V26171	5673	115	8	0.125	2.76	0.01	0.06	0.03	0.08	0.03	0.08	0.04	0.09
V26171-V26172	6508	181	8	0.044	1.64	0.01	0.07	0.03	0.10	0.03	0.10	0.04	0.11
V26172-V26173	6022	206	6	0.060	0.89	0.02	0.18	0.03	0.27	0.04	0.29	0.05	0.33
V26173-V26174	6024	102	8	0.025	1.22	0.11	0.22	0.26	0.34	0.27	0.36	0.36	0.41
V26174-V26257	6025	61	8	0.012	0.87	0.11	0.27	0.26	0.43	0.28	0.45	0.37	0.54
V26175-V26177	6175	232	8	0.027	1.29	0.21	0.31	0.55	0.54	0.60	0.57	0.81	0.69
V26177-V26182	6174	167	8	0.011	0.84	0.21	0.31	0.55	0.53	0.61	0.56	0.82	0.90
V26178-V26179	6700	70	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V26179-V26180	5672	131	8	0.027	1.28	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V26180-V26181	6190	88	8	0.128	2.79	0.00	0.02	0.00	0.03	0.00	0.04	0.01	0.04
V26181-V26182	6504	205	8	0.112	2.61	0.00	0.14	0.00	0.23	0.02	0.26	0.02	0.53
V26182-V26183	6354	60	8	0.035	1.46	0.21	0.35	0.56	0.63	0.63	0.73	0.85	1.00
V26183-V26185	6355	192	8	0.006	0.59	0.21	0.32	0.56	0.58	0.64	0.68	0.85	0.71
V26184.A0-V26184	6435	292	8	0.018	1.03	0.00	0.11	0.00	0.18	0.00	0.20	0.00	0.23
V26184-V26185	5137	58	8	0.000	0.03	0.00	0.20	0.00	0.33	0.01	0.36	0.01	0.42
V26185-V26186	4491	120	8	0.094	2.39	0.21	0.25	0.57	0.42	0.65	0.46	0.87	0.54
V26186-V26187	5765	381	8	0.021	1.14	0.21	0.29	0.57	0.50	0.67	0.56	0.89	0.68
V26187-V26189	5888	232	8	0.022	1.16	0.22	0.30	0.58	0.51	0.70	0.57	0.91	0.85
V26188-V26189	5062	185	6	0.004	0.24	0.00	0.24	0.00	0.38	0.01	0.48	0.03	1.00
V26189-V26190	5061	153	8	0.020	1.10	0.23	0.30	0.59	0.51	0.71	0.57	0.92	1.00
V26190-V26191	4789	365	8	0.024	1.20	0.23	0.31	0.59	0.53	0.73	0.61	0.94	1.00
V26191-V26236	5409	363	8	0.015	0.96	0.23	0.37	0.59	0.64	0.74	0.83	0.95	1.00
V26192-V26193	6052	267	8	0.054	1.82	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V26193-V26194	2472	156	8	0.062	1.95	0.00	0.03	0.01	0.04	0.00	0.04	0.01	0.04
V26194-V26195	6525	178	8	0.065	1.98	0.00	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V26195-V26196	5135	211	8	0.057	1.87	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.06
V26196-V26197	5115	69	8	0.073	2.11	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V26197-V26198	5123	81	8	0.074	2.12	0.01	0.05	0.01	0.07	0.01	0.06	0.02	0.07
V26198-V26199	6805	194	8	0.031	1.37	0.01	0.05	0.01	0.07	0.01	0.06	0.02	0.07
V26199-V26200	1673	148	8	0.107	2.56	0.01	0.05	0.02	0.07	0.01	0.06	0.02	0.07
V26200-V26202	4564	241	8	0.049	1.74	0.01	0.06	0.02	0.08	0.01	0.07	0.02	0.08
V26201-V26202	6449	209	8	0.132	2.84	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V26202-V26203	6448	254	8	0.051	1.76	0.01	0.08	0.03	0.12	0.02	0.10	0.03	0.13
V26203-V26204	6447	336	8	0.005	0.53	0.01	0.12	0.03	0.17	0.02	0.14	0.03	0.18
V26204-V26205	6779	227	8	0.004	0.48	0.02	0.13	0.04	0.19	0.02	0.15	0.04	0.19
V26205-V26206	6778	182	8	0.004	0.49	0.02	0.13	0.04	0.19	0.02	0.15	0.04	0.19
V26206-V26207	6777	259	8	0.004	0.50	0.02	0.14	0.04	0.20	0.02	0.15	0.04	0.20
V26207-V26208	6776	137	8	0.007	0.64	0.02	0.10	0.05	0.14	0.03	0.11	0.04	0.14
V26208-V26209	1643	177	8	0.137	2.89	0.02	0.07	0.05	0.10	0.03	0.07	0.05	0.10
V26209-V26210	6624	59	8	0.091	2.35	0.02	0.07	0.05	0.10	0.03	0.07	0.05	0.10
V26210-V26213	6291	116	8	0.169	3.21	0.02	0.10	0.05	0.14	0.03	0.11	0.05	0.14
V26211-V26212	6446	106	8	0.053	1.79	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26212-V26213	6623	162	8	0.133	2.85	0.00	0.08	0.00	0.11	0.00	0.08	0.00	0.11
V26213-V26214	6695	126	8	0.013	0.88	0.03	0.09	0.06	0.14	0.03	0.11	0.06	0.14
V26214-V26215	6442	138	8	0.258	3.97	0.03	0.07	0.06	0.10	0.03	0.08	0.06	0.10
V26215.A0-V26215.B0	6694	3	8	0.210	3.58	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V26215.B0-V26215.C0	5671	180	8	0.151	3.03	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26215.C0-V26215.D0	6503	119	8	0.073	2.12	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V26215.D0-V26215.E0	5995	122	8	0.026	1.25	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
V26215.E0-V26215	6444	69	8	0.048	1.71	0.00	0.06	0.01	0.09	0.00	0.07	0.01	0.09
V26215-V26216	6445	60	8	0.066	2.01	0.03	0.09	0.07	0.13	0.04	0.10	0.07	0.13
V26216-V26217	4484	239	8	0.040	1.57	0.03	0.11	0.07	0.16	0.04	0.12	0.07	0.16
V26217-V26227	4483	45	8	0.022	1.17	0.03	0.11	0.07	0.16	0.04	0.12	0.07	0.16
V26218-V26219	6441	214	8	0.008	0.71	0.00	0.03	0.00	0.04	0.01	0.08	0.01	0.08
V26219-V26220	6622	318	8	0.025	1.23	0.00	0.04	0.00	0.05	0.01	0.07	0.01	0.07
V26220-V26221	6290	103	8	0.068	2.04	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.07
V26221-V26223	6685	243	8	0.021	1.13	0.00	0.04	0.01	0.06	0.01	0.07	0.02	0.07
V26222-V26223	6440	41	8	0.090	2.35	0.00	0.01	-	0.02	0.00	0.03	0.00	0.03
V26223-V26225	5670	126	8	0.145	2.97	0.00	0.03	0.01	0.04	0.01	0.05	0.02	0.06
V26224-V26225	6439	96	8	0.066	2.00	0.00	0.01	-	0.02	0.00	0.03	0.00	0.03
V26225-V26226	6502	98	8	0.247	3.88	0.00	0.03	0.01	0.05	0.02	0.05	0.02	0.06
V26226-V26227	5734	76	8	0.120	2.70	0.00	0.06	0.01	0.10	0.02	0.09	0.02	0.11
V26227-V26228	4482	135	8	0.055	1.83	0.04	0.10	0.09	0.15	0.06	0.13	0.09	0.16
V26228-V26229	5764	123	8	0.041	1.58	0.04	0.11	0.09	0.17	0.06	0.15	0.10	0.18
V26229-V26231.A0	5665	92	8	0.033	1.42	0.04	0.12	0.09	0.17	0.09	0.17	0.12	0.19
V26230-V26231	6636	144	8	0.002	0.35	0.01	0.14	0.01	0.17	0.00	0.09	0.00	0.11
V26231.A0-V26231	8278	62	8	0.049	1.74	0.05	0.13	0.10	0.19	0.10	0.18	0.13	0.20
V26231-V26233	5664	223	8	0.030	1.34	0.07	0.18	0.12	0.24	0.10	0.24	0.14	0.28
V26232-V26233.A0	4773	53	8	0.037	1.50	0.00	0.04	-	0.05	0.03	0.13	0.03	0.13
V26233.A0-V26233	5060	191	8	0.022	1.15	0.02	0.14	0.02	0.18	0.08	0.24	0.08	0.25
V26233.AA-V26233.AB	7942	83	8	0.002	0.33	0.02	0.17	0.02	0.17	0.01	0.22	0.01	0.22
V26233.AB-V26233.A0	7943	340	8	0.002	0.35	0.02	0.14	0.02	0.14	0.05	0.25	0.05	0.25
V26233-V26234	4788	261	8	0.014	0.94	0.08	0.22	0.15	0.29	0.18	0.34	0.21	0.67
V26234-V26235	5981	364	8	0.008	0.70	0.08	0.26	0.15	0.37	0.21	0.69	0.25	1.00
V26235-V26236	5980	53	8	0.004	0.50	0.09	0.34	0.15	0.56	0.25	1.00	0.27	1.00
V26236-V26237	5979	339	8	0.014	0.92	0.31	0.38	0.75	0.65	0.99	0.85	1.22	1.00
V26237-V26241	6437	367	8	0.023	1.18	0.33	0.53	0.77	0.79	1.00	0.85	1.23	1.00
V26238.A0-V26238.B0	5978	280	8	0.019	1.06	0.02	0.12	0.02	0.12	0.04	0.13	0.04	0.13
V26238.B0-V26238.C0	5636	233	8	0.019	1.07	0.04	0.14	0.04	0.14	0.04	0.15	0.04	0.15
V26238.C0-V26238	5836	136	8	0.012	0.87	0.04	0.15	0.04	0.15	0.06	0.17	0.06	0.17
V26238-V26239	5837	107	8	0.012	0.85	0.04	0.16	0.05	0.16	0.06	0.19	0.06	0.19
V26239-V26240	5835	319	8	0.009	0.74	0.04	0.15	0.05	0.43	0.06	0.60	0.06	0.60
V26240-V26241	6438	32	8	0.021	1.13	0.04	0.42	0.05	0.84	0.08	1.00	0.08	1.00
V26241-V26242	5944	60	8	0.001	0.25	0.37	0.54	0.82	0.81	1.07	0.87	1.30	0.94
V26242-V24052.A0	5141	9	8	0.026	1.26	0.37	0.42	0.82	0.65	1.07	0.77	1.30	0.88
V26252-V26256	V26252-V26256	283	10	0.006	1.08	0.08	0.18	0.25	0.32	0.21	0.30	0.33	0.38
V26253-V26252	V26253-V26252	167	10	0.006	1.11	0.08	0.19	0.25	0.33	0.21	0.29	0.33	0.38
V26254-V26253	V26254-V26253	206	10	0.006	1.09	0.08	0.19	0.24	0.32	0.21	0.29	0.33	0.37
V26255-V26254	CDT-20	21	10	0.008	1.30	0.08	0.18	0.24	0.31	0.21	0.28	0.33	0.36
V26256-V26257	6176	194	10	0.010	1.44	0.10	0.21	0.29	0.35	0.30	0.36	0.43	0.44
V27001-V27002	219	175	8	0.010	0.78	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V27002-V27004	6546	258	8	0.086	2.28	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
V27003.A0-V27003.B0	1045	131	8	0.189	3.39	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
V27003.B0-V27003	1044	151	8	0.011	0.82	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
V27003.C0-V27003	7985	199	8	0.044	1.63	0.00	0.03	0.00	0.05	0.01	0.06	0.01	0.07
V27003.CA-V27003.CB	7986	50	8	0.163	3.15	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V27003.CB-V27003.C0	7483	130	8	0.011	0.83	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V27003-V27004	6545	188	8	0.018	1.04	0.00	0.05	0.01	0.09	0.01	0.08	0.01	0.10
V27004-V27005	6775	340	8	0.010	0.79	0.01	0.06	0.02	0.09	0.01	0.08	0.02	0.10
V27005-V27006	6774	311	8	0.036	1.48	0.01	0.06	0.02	0.10	0.01	0.08	0.02	0.11
V27006-V27007	1642	320	8	0.015	0.97	0.01	0.05	0.02	0.09	0.01	0.07	0.03	0.10
V27007-V27008	6731	75	8	0.224	3.69	0.01	0.10	0.03	0.16	0.02	0.13	0.03	0.17
V27008-V27011	1043	37	8	0.000	0.04	0.01	0.12	0.03	0.20	0.02	0.20	0.03	0.24
V27009-V27010	6621	299	8	0.026	1.25	0.00	0.01	-	0.03	0.01	0.08	0.01	0.09
V27010-V27011	1042	160	8	0.004	0.49	0.00	0.05	0.00	0.10	0.01	0.14	0.01	0.16
V27011.A0-V27011.B0	6773	30	8	0.059	1.90	0.00	0.01	-	0.01	0.01	0.11	0.01	0.11
V27011.B0-V27011.C0	6772	133	8	0.015	0.95	0.00	0.02	0.00	0.03	0.07	0.21	0.07	0.21
V27011.C0-V27011.D0	6771	307	8	0.005	0.56	0.00	0.04	0.00	0.06	0.07	0.25	0.07	0.25
V27011.D0-V27011.E0	1641	343	8	0.005	0.54	0.00	0.04	0.01	0.07	0.07	0.20	0.07	0.20
V27011.E0-V27011.F0	6730	359	8	0.059	1.89	0.00	0.04	0.01	0.07	0.07	0.17	0.07	0.17
V27011.F0-V27011	1040	128	8	0.011	0.81	0.00	0.06	0.01	0.11	0.07	0.20	0.07	0.20
V27011-V26001	1041	207	8	0.025	1.24	0.01	0.08	0.05	0.14	0.09	0.19	0.11	0.21
V28001-V28002	6524	223	8	0.185	3.36	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V28002-V28003	6804	168	8	0.127	2.79	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V28003.A0-V28003.B0	V28003.A0-V28003.B0	152	8	0.139	2.92	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V28003.B0-V28003.C0	V28003.B0-V28003.C0	53	8	0.146	2.98	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V28003.C0-V28003	V28003.C0-V28003	34	8	0.011	0.84	0.00	0.03	0.00	0.05	0.01	0.06	0.01	0.06
V28003-V28004	1672	64	8	0.128	2.80	0.00	0.07	0.01	0.09	0.01	0.09	0.01	0.10
V28004-V28005	8322	17	8	0.000	0.06	0.00	0.07	0.01	0.09	0.01	0.10	0.02	0.10
V28005-V28006	6665	168	8	0.076	2.15	0.00	0.04	0.01	0.05	0.01	0.06	0.02	0.06
V28006-V28008	6544	150	8	0.087	2.30	0.01	0.05	0.01	0.07	0.01	0.07	0.02	0.08
V28007-V28008	6770	32	8	0.006	0.60	0.00	0.20	0.00	0.23	0.00	0.22	0.00	0.23
V28008-V28010	6769	23	8	0.024	1.21	0.01	0.06	0.02	0.08	0.02	0.08	0.02	0.09
V28009-V28010	5918	180	8	0.050	1.74	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V28010-V28020	1640	327	8	0.043	1.61	0.01	0.10	0.02	0.15	0.02	0.14	0.02	0.16
V28012-V28013	5916	198	8	0.096	2.43	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V28013-V28015	1639	119	8	0.114	2.64	0.00	0.05	0.00	0.06	0.01	0.09	0.01	0.09
V28014.A0-V28014.B0	5920	101	8	0.060	1.91	0.00	0.01	0.00	0.02	0.02	0.07	0.02	0.07
V28014.AA-V28014.A0	7192	74	8	0.022	1.16	0.00	0.01	-	0.01	0.01	0.07	0.01	0.07
V28014.B0-V28014	5921	32	8	0.058	1.88	0.00	0.02	0.00	0.04	0.02	0.10	0.02	0.10
V28014-V28015	5922	205	8	0.005	0.54	0.00	0.05	0.00	0.07	0.02	0.14	0.02	0.14
V28015-V28017	6729	113	8	0.005	0.56	0.00	0.07	0.01	0.10	0.03	0.15	0.03	0.16
V28016-V28017	6726	9	8	0.026	1.26	0.00	0.05	0.00	0.07	0.00	0.09	0.00	0.09
V28017-V28019	6728	257	8	0.004	0.50	0.01	0.08	0.01	0.12	0.03	0.16	0.03	0.16
V28018-V28019	5915	158	6	0.036	0.69	0.00	0.56	0.00	0.58	0.00	0.60	0.00	0.61
V28019-V28020	2020	158	8	0.006	0.61	0.01	0.12	0.02	0.17	0.03	0.18	0.03	0.20
V28020-V28021	6727	100	8	0.004	0.51	0.02	0.13	0.05	0.18	0.05	0.18	0.06	0.21
V28021-V28023	6725	227	8	0.016	0.98	0.02	0.12	0.05	0.17	0.05	0.17	0.06	0.20
V28022-V28023	5919	308	8	0.027	1.29	0.00	0.08	0.00	0.11	0.00	0.11	0.00	0.13
V28023-V28037	6021	287	8	0.007	0.65	0.03	0.17	0.06	0.25	0.05	0.23	0.07	0.27
V28024-V28025	5925	284	8	0.035	1.46	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V28025-V28026	1638	216	8	0.038	1.51	0.00	0.05	0.01	0.06	0.00	0.05	0.00	0.05
V28026-V28027	1637	163	8	0.014	0.94	0.01	0.13	0.01	0.15	0.01	0.12	0.01	0.14
V28027-V28028	6767	7	8	0.011	0.81	0.01	0.13	0.01	0.15	0.01	0.12	0.01	0.14
V28028-V28029	6766	55	8	0.027	1.29	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.06
V28029-V28030	6765	250	8	0.043	1.63	0.01	0.53	0.01	0.53	0.01	0.53	0.01	0.53
V28030-V28034	6764	85	8	0.077	2.16	0.01	0.77	0.02	0.80	0.01	0.77	0.02	0.79
V28031-V28032	5923	94	8	0.015	0.94	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V28032-V28033	6763	199	8	0.011	0.83	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V28033-V28034	6762	216	8	0.012	0.84	0.01	0.30	0.01	0.33	0.00	0.30	0.01	0.32
V28034-V28035	1636	139	8	0.002	0.38	0.02	0.29	0.03	0.32	0.02	0.29	0.03	0.31
V28035-V28036	6020	9	8	1.480	9.50	0.02	0.52	0.03	0.52	0.02	0.52	0.03	0.52
V28036-V28037	6019	107	8	0.067	2.03	0.02	0.60	0.03	0.65	0.02	0.63	0.03	0.66
V28037-V28038	6018	343	8	0.004	0.49	0.04	0.20	0.09	0.29	0.07	0.25	0.10	0.30
V28038-V28039	6017	249	8	0.005	0.56	0.05	0.20	0.10	0.28	0.08	0.25	0.11	0.30
V28039-V28041	6016	115	8	0.007	0.64	0.05	0.16	0.10	0.22	0.08	0.20	0.11	0.23
V28040-V28041	6014	170	8	0.013	0.88	0.00	0.07	0.00	0.10	0.00	0.10	0.00	0.11
V28041-V28042	6620	199	8	0.057	1.86	0.05	0.11	0.10	0.16	0.08	0.14	0.12	0.16
V28042-V28043	6289	192	8	0.084	2.26	0.05	0.11	0.11	0.16	0.08	0.14	0.12	0.17
V28043-V28044	5616	186	8	0.052	1.79	0.05	0.13	0.11	0.18	0.08	0.16	0.12	0.19
V28044-V28048	5615	164	8	0.028	1.31	0.05	0.15	0.11	0.21	0.08	0.18	0.12	0.22
V28047-V28048	6288	195	8	0.198	3.48	0.00	0.09	0.00	0.12	0.00	0.11	0.00	0.13
V28048-V28049	5614	226	8	0.019	1.07	0.06	0.16	0.12	0.23	0.09	0.20	0.13	0.24
V28049-V28050	6185	223	8	0.017	1.02	0.06	0.15	0.12	0.22	0.09	0.19	0.13	0.23
V28050-V28054	6501	176	8	0.035	1.47	0.06	0.14	0.12	0.20	0.09	0.17	0.13	0.21
V28051-V28053	5928	109	8	0.208	3.56	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V28052-V28053	5929	88	8	0.065	1.98	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V28053-V28054	5613	197	8	0.141	2.94	0.00	0.08	0.00	0.12	0.00	0.10	0.00	0.12
V28054-V28076.A0	V28054-V28076.A0	188	8	0.035	1.46	0.06	0.14	0.13	0.20	0.09	0.16	0.14	0.20
V28055-V28056	6013	400	8	0.015	0.95	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.07
V28056-V28058	5932	365	8	0.003	0.40	0.01	0.09	0.01	0.11	0.01	0.09	0.01	0.10
V28057-V28058	5931	134	8	0.005	0.57	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.06
V28058-V28059	5930	234	8	0.006	0.62	0.01	0.08	0.02	0.11	0.01	0.08	0.01	0.11
V28059-V28062	6012	223	8	0.007	0.65	0.01	0.10	0.02	0.14	0.01	0.10	0.02	0.14
V28060-V28061	6543	360	8	0.036	1.47	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V28061-V28062	1634	359	8	0.064	1.98	0.00	0.08	0.01	0.11	0.00	0.08	0.01	0.10
V28062-V28063	6011	283	8	0.006	0.58	0.01	0.09	0.03	0.13	0.02	0.09	0.03	0.13
V28063-V28064	6010	38	8	0.072	2.10	0.02	0.06	0.04	0.09	0.02	0.06	0.03	0.09
V28064-V28065	6619	70	8	0.103	2.51	0.02	0.05	0.04	0.08	0.02	0.05	0.03	0.08
V28065-V28066	6287	100	8	0.206	3.54	0.02	0.07	0.04	0.10	0.02	0.07	0.04	0.10
V28066-V28067	5612	426	8	0.032	1.40	0.02	0.06	0.04	0.09	0.02	0.06	0.04	0.09
V28067-V28070	6184	5	8	0.740	6.72	0.02	0.06	0.04	0.09	0.02	0.06	0.04	0.08
V28068-V28069	6693	108	8	0.100	2.47	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V28069-V28070	5611	119	8	0.106	2.54	0.00	0.04	0.00	0.07	0.00	0.04	0.00	0.07
V28070-V28071	6183	41	8	0.043	1.62	0.02	0.07	0.04	0.11	0.02	0.07	0.04	0.10
V28071.00-V28072	6500	199	8	0.084	2.26	0.02	0.10	0.04	0.16	0.02	0.12	0.04	0.16
V28073-V28074	2445	123	8	0.031	1.37	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V28074-V28075	2444	121	8	0.054	1.82	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V28075-V28076.C0	V28075-V28076.C0	302	8	0.055	1.83	0.00	0.09	0.00	0.13	0.00	0.10	0.00	0.13
V28076.A0-V28076.B0	V28076.A0-V28076.B0	35	8	0.053	1.79	0.06	0.14	0.13	0.20	0.09	0.16	0.14	0.21
V28076.B0-V28076.C0	V28076.B0-V28076.C0	144	8	0.049	1.73	0.08	0.15	0.18	0.22	0.11	0.17	0.19	0.23
V28076.C0-V28076	V28076.C0-V28076	151	8	0.050	1.74	0.08	0.14	0.19	0.21	0.11	0.17	0.20	0.22
V28076-V28085	4481	60	8	0.073	2.11	0.08	0.14	0.19	0.21	0.11	0.17	0.20	0.22
V28077-V28078	5934	62	8	0.072	2.09	0.00	0.02	0.00	0.02	0.01	0.04	0.01	0.04
V28078-V28079	6499	128	8	0.128	2.79	0.00	0.03	0.00	0.03	0.01	0.06	0.01	0.06
V28079-V28081	5730	286	8	0.033	1.41	0.00	0.05	0.01	0.06	0.02	0.08	0.02	0.08
V28080-V28081	6957	24	8	0.017	1.01	0.00	0.06	0.00	0.06	0.01	0.08	0.01	0.08
V28081-V28082	4480	115	8	0.047	1.70	0.01	0.08	0.02	0.10	0.03	0.12	0.03	0.12
V28082-V28083	4478	139	8	0.006	0.61	0.01	0.10	0.02	0.12	0.03	0.17	0.03	0.17
V28083-V28084	4477	235	8	0.006	0.61	0.01	0.10	0.02	0.13	0.04	0.18	0.04	0.18
V28084-V28085	4476	246	8	0.006	0.60	0.01	0.12	0.02	0.17	0.05	0.19	0.05	0.21
V28085-V28089	4475	22	8	0.075	2.14	0.10	0.15	0.21	0.22	0.16	0.19	0.24	0.24
V28086-V28087	5729	148	6	0.187	1.57	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V28087-V28088	4474	251	6	0.035	0.68	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V28088.A0-V28088	5728	181	8	0.115	2.65	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
V28088-V28089	4473	34	8	0.101	2.48	0.01	0.09	0.01	0.14	0.01	0.13	0.01	0.15
V28089-V28090.A0	5763	103	6	0.093	1.10	0.10	0.60	0.22	0.65	0.18	0.63	0.26	0.66
V28090.A0-V28172	CDT-26	79	8	0.064	1.97	0.10	0.57	0.23	0.60	0.18	0.59	0.26	0.61
V28091-V28092	5876	333	6	0.011	0.38	0.00	0.15	0.00	0.21	0.02	0.24	0.02	0.26
V28092.A0-V28092	CDT-25	122	8	0.045	1.66	0.11	0.17	0.23	0.25	0.18	0.23	0.27	0.28
V28092-V28127.A0	5635	333	8	0.050	1.75	0.11	0.21	0.24	0.31	0.22	0.30	0.30	0.35
V28093-V28094	2443	140	8	0.062	1.94	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V28094-V28095	6497	136	8	0.078	2.18	0.00	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V28095-V28097	5992	381	8	0.030	1.36	0.01	0.08	0.01	0.09	0.01	0.08	0.01	0.09
V28096-V28097	6642	123	6	0.009	0.34	0.00	0.09	0.00	0.11	0.00	0.09	0.00	0.10
V28097-V28101	5991	261	8	0.004	0.49	0.01	0.11	0.02	0.14	0.01	0.11	0.01	0.13
V28098-V28100	6332	123	8	0.009	0.76	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V28099-V28100	5990	38	8	0.120	2.70	0.00	0.51	0.00	0.52	0.00	0.51	0.00	0.52
V28100-V28101	5989	234	8	0.022	1.15	0.00	0.07	0.00	0.10	0.00	0.07	0.00	0.09
V28101-V28104	5988	333	8	0.004	0.49	0.01	0.13	0.03	0.18	0.01	0.13	0.02	0.16
V28102-V28103	6637	188	6	0.122	1.26	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V28103-V28104	6496	235	8	0.099	2.45	0.00	0.09	0.00	0.12	0.00	0.08	0.00	0.10
V28104-V28108	5987	241	8	0.004	0.49	0.02	0.12	0.04	0.17	0.02	0.12	0.03	0.15
V28105-V28108	6638	257	8	0.137	2.89	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07
V28106-V28107	6639	136	6	0.130	1.31	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V28107-V28108	6640	222	8	0.058	1.88	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.07
V28108-V28119	5727	110	8	0.031	1.37	0.02	0.10	0.05	0.13	0.02	0.10	0.04	0.13
V28109-V28110	6327	183	8	0.020	1.10	0.00	0.04	0.00	0.04	0.01	0.06	0.01	0.06
V28110-V28111	5986	136	8	0.011	0.81	0.00	0.06	0.00	0.07	0.01	0.08	0.01	0.09
V28111-V28112	6495	399	8	0.005	0.56	0.00	0.07	0.01	0.09	0.01	0.11	0.01	0.12
V28112-V28113	6494	107	8	0.004	0.52	0.01	0.08	0.01	0.11	0.02	0.13	0.02	0.14
V28113-V28114	6165	238	8	0.005	0.53	0.01	0.08	0.01	0.10	0.02	0.12	0.02	0.12
V28114-V28115	6164	274	8	0.021	1.14	0.01	0.07	0.02	0.09	0.02	0.10	0.03	0.11
V28115-V28119	5726	221	8	0.023	1.19	0.01	0.08	0.02	0.12	0.02	0.11	0.03	0.12
V28116-V28117	6328	89	6	0.050	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V28117-V28118	5725	138	6	0.102	1.16	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V28118-V28119	4472	40	6	0.013	0.42	0.00	0.10	0.00	0.13	0.00	0.11	0.01	0.13
V28119-V28120	4471	140	8	0.058	1.88	0.04	0.10	0.08	0.14	0.05	0.12	0.08	0.14
V28120-V28121	4470	102	8	0.050	1.75	0.04	0.10	0.08	0.15	0.05	0.12	0.08	0.15
V28121-V28122	6329	362	8	0.053	1.79	0.04	0.10	0.08	0.14	0.06	0.12	0.08	0.15
V28122-V28123.F0	7939	111	8	0.067	2.03	0.04	0.10	0.09	0.14	0.06	0.12	0.09	0.14
V28123.A0-V28123.B0	7934	168	8	0.077	2.16	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V28123.B0-V28123.C0	7935	83	8	0.039	1.53	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V28123.C0-V28123.D0	7936	136	8	0.282	4.15	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V28123.D0-V28123.E0	7937	91	8	0.040	1.57	0.00	0.04	0.01	0.05	0.00	0.05	0.01	0.06
V28123.E0-V28123.F0	7938	110	8	0.020	1.10	0.00	0.07	0.01	0.10	0.01	0.09	0.01	0.11
V28123.F0-V28124.A0	V28123.F0-V28124.A0	91	8	0.073	2.11	0.05	0.11	0.10	0.16	0.07	0.14	0.10	0.16
V28124.A0-V28126	5634	187	8	0.039	1.54	0.05	0.13	0.10	0.19	0.08	0.17	0.11	0.20
V28125-V28126	V28125-V28126	17	8	0.001	0.27	0.00	0.13	0.00	0.19	0.00	0.17	0.00	0.20
V28126-V28127	5834	270	10	0.019	1.96	0.06	0.19	0.11	0.27	0.10	0.25	0.13	0.29
V28127.00-V28137	5833	308	12	0.006	1.81	0.19	0.22	0.37	0.31	0.34	0.31	0.46	0.35
V28127.A0-V28127.00	CDT-24	171	8	0.012	0.87	0.12	0.29	0.26	0.42	0.23	0.40	0.31	0.47
V28128-V28129	4834	221	6	0.024	0.56	0.02	0.11	0.02	0.11	0.02	0.14	0.02	0.14
V28129-V28132	5938	242	6	0.047	0.78	0.02	0.14	0.02	0.15	0.04	0.20	0.04	0.20
V28130-V28131	5935	191	8	0.069	2.05	0.01	0.06	0.01	0.06	0.02	0.08	0.02	0.08
V28131-V28132	5936	255	8	0.119	2.70	0.02	0.10	0.02	0.10	0.03	0.13	0.03	0.13
V28132-V28133	5937	187	6	0.028	0.60	0.04	0.18	0.05	0.19	0.09	0.26	0.09	0.26
V28133-V28134	5977	139	6	0.029	0.61	0.04	0.19	0.05	0.21	0.09	0.29	0.09	0.29
V28134-V28135	5633	373	6	0.020	0.51	0.05	0.20	0.06	0.22	0.11	0.31	0.11	0.31
V28135-V28137	5832	195	8	0.016	1.00	0.05	0.24	0.06	0.31	0.12	0.35	0.12	0.38
V28137-V28138	5961	28	12	0.010	2.29	0.23	0.25	0.44	0.35	0.46	0.36	0.57	0.40
V28138-V28140	CDT-23	465	12	0.004	1.36	0.23	0.28	0.44	0.40	0.46	0.41	0.57	0.47
V28140-V28141	5828	437	8	0.007	0.65	0.23	0.41	0.45	0.61	0.48	0.64	0.59	0.76
V28141-V28142	5700	439	8	0.007	0.65	0.23	0.44	0.45	0.65	0.50	0.70	0.61	0.85
V28142-V28166	5775	329	8	0.007	0.65	0.23	0.32	0.45	0.47	0.50	0.50	0.62	0.60
V28143-V28145	6325	223	8	0.013	0.90	0.00	0.03	0.00	0.04	0.01	0.07	0.01	0.07
V28144-V28145	6326	319	6	0.082	1.04	0.00	0.05	0.00	0.06	0.00	0.07	0.00	0.07
V28145-V28146	6493	246	8	0.027	1.27	0.01	0.05	0.01	0.07	0.01	0.08	0.02	0.08
V28146-V28148	5724	212	8	0.024	1.22	0.01	0.06	0.01	0.08	0.02	0.09	0.02	0.10
V28147-V28148	1322	189	8	0.002	0.35	0.00	0.06	0.00	0.07	0.00	0.09	0.00	0.09
V28148-V28150	4469	175	8	0.028	1.31	0.01	0.06	0.02	0.08	0.02	0.08	0.03	0.09
V28149-V28150	5723	224	8	0.105	2.53	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V28150-V28152	4984	233	8	0.148	3.00	0.01	0.05	0.03	0.07	0.03	0.07	0.04	0.08
V28151-V28152	5941	81	8	0.064	1.98	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V28152-V28161	5976	62	8	0.112	2.61	0.02	0.07	0.03	0.09	0.03	0.09	0.04	0.10
V28153-V28154	5940	232	8	0.051	1.77	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
V28154-V28158	4983	110	8	0.108	2.56	0.00	0.04	0.00	0.05	0.01	0.05	0.01	0.05
V28155-V28156	5663	81	6	0.144	1.37	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V28156-V28157	5662	117	6	0.006	0.28	0.00	0.07	0.00	0.08	0.00	0.08	0.00	0.08
V28157-V28158	4982	167	8	0.024	1.21	0.00	0.05	0.01	0.06	0.01	0.06	0.01	0.06
V28158-V28160	5975	123	8	0.061	1.93	0.01	0.06	0.01	0.07	0.02	0.07	0.02	0.08
V28159-V28160	4981	128	8	0.123	2.74	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V28160-V28161	5973	104	8	0.030	1.35	0.01	0.07	0.02	0.09	0.02	0.09	0.02	0.10
V28161-V28164	5632	158	8	0.089	2.33	0.03	0.08	0.05	0.11	0.05	0.11	0.07	0.12
V28162.A0-V28162.B0	6320	113	8	0.036	1.48	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V28162.B0-V28162	6321	145	8	0.006	0.59	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.07
V28162-V28163	6322	48	8	0.006	0.62	0.00	0.04	0.00	0.06	0.01	0.07	0.01	0.08
V28163-V28164	6323	31	8	0.004	0.51	0.00	0.06	0.00	0.09	0.01	0.09	0.01	0.10
V28164-V28165	5699	126	8	0.089	2.33	0.03	0.09	0.06	0.12	0.06	0.12	0.07	0.14
V28165-V28166	5774	100	8	0.039	1.54	0.03	0.13	0.06	0.19	0.07	0.19	0.08	0.22
V28166-V28167	6958	166	8	0.032	1.39	0.09	0.17	0.17	0.24	0.19	0.25	0.23	0.28
V28167-V24056	6959	31	8	0.032	1.39	0.09	0.42	0.17	0.59	0.19	0.63	0.24	0.64
V28172-V28092.A0	4787	178	8	0.107	2.55	0.10	0.15	0.23	0.23	0.18	0.20	0.26	0.24
V29001-V29002	6404	83	8	0.044	1.64	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V29002-V29005	4468	269	8	0.049	1.72	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V29003-V29004	6492	182	8	0.056	1.84	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V29004-V29005	5722	293	8	0.091	2.35	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.07
V29005-V29006	5762	382	8	0.006	0.60	0.01	0.07	0.01	0.10	0.01	0.07	0.01	0.09
V29006-V29010	6393	355	8	0.025	1.23	0.01	0.06	0.02	0.09	0.01	0.07	0.02	0.09
V29007-V29009	6390	105	8	0.075	2.13	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V29008-V29009	6389	274	8	0.073	2.10	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V29009-V29010	6391	37	8	0.094	2.39	0.01	0.05	0.01	0.06	0.01	0.06	0.01	0.07
V29010-V29011	6392	52	8	0.074	2.13	0.01	0.06	0.03	0.08	0.02	0.07	0.03	0.09
V29011-V29020	4980	345	8	0.083	2.25	0.02	0.07	0.03	0.10	0.02	0.08	0.03	0.10
V29012-V29013	6395	182	8	0.051	1.77	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V29013-V29014	6396	180	8	0.008	0.69	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.04
V29014-V29015	6399	135	8	0.053	1.80	0.00	0.04	0.01	0.05	0.00	0.03	0.00	0.04
V29015-V29016	6398	106	8	0.085	2.28	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.05
V29016-V29019	6400	97	8	0.034	1.44	0.00	0.05	0.01	0.07	0.01	0.06	0.01	0.07
V29017-V29018	6397	180	8	0.030	1.35	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V29018-V29019	6402	182	8	0.084	2.27	0.00	0.05	0.01	0.06	0.01	0.06	0.01	0.06

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V29019-V29020	6401	177	8	0.032	1.39	0.01	0.07	0.02	0.10	0.02	0.09	0.02	0.10
V29020-V29021	5698	145	8	0.087	2.30	0.03	0.08	0.06	0.12	0.04	0.10	0.06	0.13
V29021-V29023	5773	75	8	0.039	1.55	0.03	0.10	0.06	0.14	0.04	0.12	0.06	0.14
V29022-V29023	6405	276	6	0.053	0.84	0.00	0.09	0.00	0.12	0.01	0.12	0.01	0.13
V29023-V29024	5772	216	8	0.039	1.53	0.03	0.10	0.07	0.15	0.05	0.13	0.07	0.16
V29024-V29031	1274	250	8	0.032	1.40	0.03	0.15	0.07	0.21	0.06	0.21	0.08	0.24
V29031-V29032	4721	311	8	0.005	0.54	0.03	0.14	0.07	0.21	0.09	0.22	0.11	0.25
V29032-V29134	7765	91	8	0.043	1.62	0.03	0.11	0.07	0.16	0.09	0.18	0.11	0.20
V29038-V29039	6410	365	8	0.043	1.62	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V29039-V29040	4979	403	8	0.052	1.79	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.05
V29040-V29041	5972	309	8	0.044	1.64	0.00	0.03	0.01	0.06	0.00	0.04	0.01	0.06
V29041-V29046	5631	310	8	0.052	1.78	0.00	0.05	0.01	0.09	0.01	0.06	0.01	0.09
V29042.A0-V29042	6416	66	6	0.067	0.94	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V29042-V29043	5761	219	8	0.051	1.77	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V29043.A0-V29043.B0	2442	110	8	0.022	1.16	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V29043.B0-V29043.C0	5721	301	8	0.088	2.32	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V29043.C0-V29043.E0	6417	74	8	0.016	1.00	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
V29043.D0-V29043.E0	4467	128	8	0.019	1.08	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V29043.E0-V29043.F0	4466	153	8	0.007	0.63	0.00	0.04	0.01	0.07	0.00	0.05	0.01	0.07
V29043.F0-V29043	5759	204	8	0.096	2.42	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
V29043-V29044	4977	242	8	0.050	1.75	0.01	0.04	0.02	0.07	0.01	0.05	0.02	0.07
V29044-V29045.C0	6415	376	8	0.060	1.92	0.01	0.05	0.02	0.08	0.01	0.05	0.02	0.08
V29045.A0-V29045.B0	6412	238	8	0.101	2.48	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V29045.B0-V29045.C0	6413	149	8	0.013	0.90	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
V29045.C0-V29045	6414	45	8	0.065	1.99	0.01	0.06	0.03	0.09	0.01	0.06	0.03	0.09
V29045-V29046	5827	102	8	0.033	1.42	0.01	0.06	0.03	0.11	0.01	0.07	0.03	0.11
V29046-V29047.C0	6419	141	8	0.036	1.48	0.01	0.07	0.05	0.12	0.02	0.08	0.05	0.12
V29047.A0-V29047.B0	5771	55	8	0.034	1.43	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V29047.B0-V29047.C0	6420	80	8	0.024	1.21	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
V29047.C0-V29047.CA	V29047.C0-V29047.CA	100	8	0.041	1.59	0.01	0.07	0.05	0.12	0.02	0.08	0.05	0.13
V29047.CA-V29047	V29047.CA-V29047	126	8	0.033	1.41	0.01	0.07	0.05	0.13	0.02	0.09	0.05	0.14
V29047-V29048	6859	462	8	0.030	1.36	0.02	0.08	0.05	0.15	0.03	0.10	0.06	0.16
V29048-V29049	6860	203	8	0.017	1.03	0.02	0.08	0.06	0.15	0.03	0.11	0.06	0.17
V29049-V29145	1320	303	8	0.022	1.16	0.02	0.54	0.06	0.58	0.03	0.56	0.07	0.58
V29051.A0-V29051	6009	141	8	0.049	1.74	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V29051-V29052	6618	401	8	0.021	1.14	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V29052-V29053	5069	234	8	0.040	1.57	0.00	0.03	0.01	0.05	0.01	0.04	0.01	0.05
V29053-V29054	6286	300	8	0.126	2.77	0.01	0.05	0.01	0.08	0.01	0.07	0.01	0.08
V29054-V29055	5610	172	8	0.007	0.63	0.01	0.06	0.01	0.09	0.01	0.07	0.02	0.10
V29055-V29056	6163	298	8	0.045	1.66	0.01	0.06	0.02	0.10	0.01	0.08	0.02	0.11
V29056-V29063	6162	281	8	0.005	0.55	0.01	0.06	0.02	0.11	0.01	0.08	0.02	0.11
V29057.A0-V29057	V29057.A0-V29057	87	8	0.091	3.06	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V29057-V29058	6421	269	8	0.090	2.35	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V29058-V29059	6422	169	8	0.090	2.35	0.00	0.03	0.01	0.04	0.00	0.04	0.01	0.04
V29059-V29060	5720	111	8	0.049	1.74	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V29060-V29062	4465	136	8	0.019	1.07	0.00	0.05	0.01	0.08	0.01	0.06	0.01	0.08
V29061-V29062	5719	170	8	0.101	2.49	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V29062-V29063	5718	274	8	0.014	0.92	0.01	0.05	0.01	0.08	0.01	0.07	0.01	0.09
V29063-V29064	6423	330	8	0.149	3.01	0.01	0.05	0.04	0.09	0.02	0.07	0.04	0.10
V29064-V29065	6424	329	8	0.045	1.66	0.01	0.09	0.04	0.17	0.02	0.12	0.04	0.17
V29065-V29067	5826	221	8	0.003	0.46	0.01	0.10	0.04	0.18	0.02	0.13	0.05	0.18
V29066-V29067	5630	325	8	0.051	1.76	0.00	0.04	0.00	0.07	0.00	0.06	0.00	0.08
V29067-V29068	5697	309	8	0.029	1.34	0.01	0.14	0.05	0.27	0.02	0.19	0.05	0.29
V29068-V29127	4729	308	8	0.000	0.15	0.01	0.22	0.05	0.42	0.03	0.28	0.06	0.44
V29069-V29071	6008	5	8	1.374	9.15	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V29070-V29071	6007	315	8	0.053	1.80	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V29071-V29074	6006	200	8	0.004	0.47	0.00	0.05	0.00	0.08	0.00	0.06	0.00	0.08
V29072-V29073	6429	175	6	0.016	0.45	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V29073-V29074	6005	156	6	0.091	1.09	0.00	0.04	0.00	0.07	0.00	0.06	0.00	0.07
V29074-V29075	6004	55	8	0.007	0.65	0.00	0.06	0.01	0.10	0.00	0.08	0.01	0.11
V29075-V29077	6003	157	8	0.002	0.35	0.00	0.07	0.01	0.12	0.00	0.08	0.01	0.12
V29076-V29077	6002	257	8	0.056	1.84	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V29077-V29078	6243	102	8	0.008	0.69	0.00	0.05	0.02	0.09	0.01	0.06	0.02	0.09
V29078-V29079	5068	315	8	0.024	1.21	0.01	0.05	0.02	0.09	0.01	0.06	0.02	0.09
V29079-V29080	5067	305	8	0.025	1.23	0.01	0.07	0.02	0.12	0.01	0.08	0.02	0.12
V29080-V29081	5066	195	8	0.004	0.50	0.01	0.08	0.02	0.15	0.01	0.10	0.02	0.15
V29081-V29082	5065	143	8	0.004	0.47	0.01	0.09	0.03	0.16	0.01	0.11	0.03	0.17
V29082-V29083	6285	366	8	0.004	0.49	0.01	0.07	0.03	0.13	0.01	0.09	0.03	0.14
V29083-V29084	6430	245	8	0.041	1.58	0.01	0.06	0.03	0.12	0.01	0.08	0.03	0.12
V29084-V29085	6431	162	8	0.013	0.89	0.01	0.08	0.03	0.14	0.01	0.09	0.03	0.14
V29085-V29086	2491	286	8	0.013	0.90	0.01	0.07	0.04	0.13	0.02	0.09	0.04	0.13
V29086-V29087.C0	7981	198	8	0.037	1.50	0.01	0.06	0.04	0.11	0.02	0.08	0.04	0.11
V29087.A0-V29087.B0	7983	139	8	0.092	2.37	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
V29087.B0-V29087.C0	7984	319	8	0.086	2.29	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
V29087.C0-V29087	7982	15	8	0.051	1.77	0.01	0.09	0.05	0.17	0.02	0.11	0.05	0.17
V29087-V29092	2493	293	8	0.004	0.49	0.01	0.09	0.05	0.17	0.02	0.11	0.05	0.17
V29088-V29089	2166	174	6	0.006	0.27	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V29089-V29092	2167	158	6	0.099	1.14	0.00	0.05	0.00	0.09	0.00	0.07	0.00	0.09
V29090-V29091	2495	244	8	0.005	0.56	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
V29091-V29092	2165	302	8	0.015	0.96	0.00	0.04	0.00	0.08	0.00	0.06	0.01	0.08
V29092-V29093	2168	253	8	0.100	2.46	0.02	0.07	0.06	0.12	0.03	0.09	0.06	0.13
V29093-V29094	4464	154	8	0.052	1.77	0.02	0.06	0.06	0.12	0.03	0.08	0.07	0.12
V29094-V29095	5758	161	8	0.145	2.97	0.02	0.06	0.06	0.12	0.03	0.08	0.07	0.12
V29095-V29096	2170	182	8	0.050	1.75	0.02	0.07	0.07	0.13	0.03	0.09	0.07	0.14
V29096-V29102	2175	124	8	0.048	1.72	0.02	0.10	0.07	0.18	0.03	0.12	0.07	0.18
V29097-V29098	2181	192	8	0.013	0.90	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V29098-V29099	2178	227	8	0.136	2.88	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V29099-V29100	2179	113	8	0.157	3.10	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.04
V29100-V29101	2180	184	8	0.077	2.17	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
V29101-V29102	2177	115	8	0.058	1.89	0.00	0.08	0.01	0.14	0.00	0.09	0.01	0.14
V29102-V29103	2176	79	8	0.010	0.79	0.02	0.11	0.08	0.20	0.04	0.14	0.08	0.21
V29103-V29104	2174	389	8	0.023	1.19	0.02	0.09	0.08	0.17	0.04	0.12	0.09	0.18
V29104-V29105	2173	223	8	0.036	1.49	0.03	0.09	0.09	0.16	0.04	0.11	0.09	0.17
V29105-V29112	2172	150	8	0.042	1.59	0.03	0.11	0.09	0.20	0.04	0.13	0.09	0.20
V29106-V29109	5971	161	8	0.004	0.50	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V29107-V29108	6428	133	8	0.129	2.80	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V29108-V29109	4976	201	8	0.064	1.98	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V29109-V29110	5970	22	8	0.037	1.51	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
V29110-V29111	5629	346	8	0.047	1.69	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V29111-V29112	5696	393	8	0.040	1.55	0.00	0.08	0.01	0.15	0.01	0.10	0.01	0.15
V29112-V29116	4728	119	8	0.012	0.86	0.03	0.26	0.11	0.44	0.05	0.31	0.11	0.45
V29113-V29114	5825	135	6	0.010	0.36	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V29114-V29115	5824	139	6	0.109	1.20	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V29115-V29116	5694	273	6	0.018	0.48	0.00	0.28	0.00	0.46	0.00	0.33	0.00	0.47
V29116-V29117	6427	194	8	0.000	0.02	0.03	0.28	0.11	0.48	0.05	0.33	0.12	0.49
V29117-V29121	6425	118	8	0.005	0.53	0.03	0.18	0.12	0.33	0.05	0.22	0.12	0.33
V29118-V29119	5660	5	8	1.215	8.61	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V29119-V29120	4975	221	8	0.127	2.78	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V29120.A0-V29120	5628	71	6	0.051	0.82	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V29120-V29121	5693	329	8	0.075	2.14	0.00	0.11	0.01	0.19	0.00	0.13	0.01	0.19
V29121-V29122	4727	179	8	0.004	0.51	0.04	0.18	0.13	0.34	0.06	0.22	0.13	0.34
V29122-V29126	5692	313	8	0.005	0.53	0.04	0.19	0.13	0.34	0.06	0.22	0.13	0.34
V29126-V29127	5691	299	8	0.004	0.52	0.04	0.21	0.13	0.39	0.06	0.25	0.14	0.40
V29127-V29128	5690	274	8	0.004	0.49	0.05	0.24	0.19	0.45	0.09	0.29	0.20	0.46
V29128-V29129	5823	265	8	0.004	0.49	0.05	0.18	0.19	0.34	0.09	0.22	0.20	0.35
V29129-V29139	72	357	8	0.078	2.18	0.05	0.55	0.19	0.60	0.09	0.57	0.21	0.60
V29132-V08157	7773	41	8	0.108	2.57	0.00	0.50	-	0.50	0.00	0.50	0.00	0.50
V29134-V29141	7766	170	8	0.020	1.09	0.03	0.56	0.08	0.59	0.09	0.60	0.11	0.61
V29139-V30069	73	186	30	0.002	12.31	5.27	0.48	10.49	0.74	9.79	0.70	12.99	1.00
V29140-V29146	FM1	70	30	0.004	16.45	5.20	0.40	10.20	0.60	9.67	0.58	12.70	0.76
V29141-V29143	7758	142	27	0.004	13.00	3.33	0.35	6.95	0.53	6.32	0.50	8.64	0.61
V29142-V29141	7767	218	27	0.004	12.35	3.30	0.35	6.87	0.53	6.22	0.50	8.51	0.61
V29143-V29144	7549	343	24	0.005	10.29	3.33	0.35	6.95	0.55	6.32	0.51	8.64	0.64
V29144-V29140	7550	35	21	0.024	15.72	3.33	0.45	6.96	0.70	6.32	0.67	8.64	0.83
V29145-V29139	74	774	30	0.003	15.24	5.21	0.43	10.27	0.67	9.71	0.64	12.77	0.90
V29146-V29145	7694	88	30	0.003	14.43	5.20	0.41	10.21	0.61	9.67	0.58	12.70	0.79
V29147-V29148	13	170	24	0.005	10.74	1.86	0.28	3.22	0.38	3.35	0.38	4.05	0.43
V29148-V29149	14	232	24	0.005	10.69	1.86	0.27	3.22	0.37	3.35	0.37	4.06	0.49
V29149-V29140	264	95	21	0.008	9.29	1.87	0.43	3.24	0.63	3.35	0.61	4.06	0.81
V30001-V30002	6097	213	8	0.041	1.58	0.01	0.06	0.01	0.06	0.01	0.06	0.01	0.06
V30002-V30004	5757	382	8	0.042	1.60	0.01	0.08	0.01	0.10	0.01	0.09	0.01	0.10
V30003-V30004	6098	212	8	0.022	1.17	0.00	0.06	0.00	0.07	0.00	0.07	0.00	0.08
V30004-V30008	5659	217	8	0.004	0.50	0.01	0.12	0.02	0.14	0.01	0.12	0.02	0.13
V30005-V30006	6095	268	8	0.002	0.34	0.02	0.17	0.02	0.17	0.02	0.16	0.02	0.16
V30006-V30007	6096	190	8	0.004	0.49	0.03	0.16	0.03	0.17	0.02	0.15	0.02	0.15
V30007-V30008	5658	120	8	0.004	0.49	0.03	0.15	0.03	0.16	0.02	0.14	0.02	0.14
V30008-V30010	4974	335	8	0.024	1.21	0.04	0.16	0.05	0.19	0.04	0.16	0.04	0.18
V30009-V30010.B0	V30009-V30010.B0	147	8	0.004	0.51	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.06
V30010.A0-V30010.B0	V30010.A0-V30010.B0	409	8	0.041	1.58	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.05
V30010.B0-V30010	V30010.B0-V30010	136	8	0.004	0.49	0.00	0.12	0.01	0.16	0.00	0.12	0.01	0.15
V30010-V30012	4973	242	8	0.004	0.49	0.04	0.20	0.06	0.25	0.04	0.20	0.05	0.23
V30011-V30012	6093	291	8	0.091	2.35	0.00	0.11	0.00	0.14	0.00	0.11	0.00	0.13
V30012-V30015	5657	318	8	0.004	0.49	0.04	0.22	0.07	0.28	0.04	0.22	0.06	0.26
V30013-V30014	6091	87	8	0.051	1.76	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V30014-V30015	6252	352	8	0.110	2.59	0.00	0.13	0.00	0.17	0.00	0.13	0.00	0.16
V30015-V30017	4972	215	8	0.003	0.43	0.05	0.20	0.08	0.26	0.05	0.21	0.07	0.25
V30016-V30017	4971	302	8	0.095	2.41	0.00	0.09	0.00	0.12	0.00	0.09	0.00	0.11
V30017-V30018	5969	28	8	0.012	0.84	0.05	0.19	0.09	0.25	0.05	0.19	0.08	0.23
V30018-V30021	5968	424	8	0.004	0.49	0.05	0.22	0.09	0.29	0.05	0.22	0.08	0.27
V30019-V30020	6090	138	8	0.004	0.52	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V30020-V30021	4463	326	8	0.104	2.52	0.00	0.12	0.00	0.16	0.00	0.12	0.00	0.15
V30021-V30022	5967	185	8	0.004	0.49	0.05	0.22	0.10	0.30	0.05	0.22	0.09	0.28
V30022-V30023	6999	437	8	0.004	0.52	0.05	0.30	0.10	0.50	0.05	0.34	0.09	0.50
V30023-V30043.A0	V30023-V30043.A0	50	10	0.003	0.80	0.16	0.30	0.48	0.56	0.24	0.37	0.51	0.58
V30024-V30025	6089	187	8	0.094	2.39	0.00	0.00	-	0.01	0.00	0.01	0.00	0.01
V30025-V30026	6491	114	8	0.181	3.32	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.04
V30026-V30027.E0	V30026-V30027.E0	335	8	0.005	0.53	0.00	0.02	0.00	0.06	0.00	0.04	0.00	0.07
V30027.B0-V30027.C0	V30027.B0-V30027.C0	227	8	0.099	2.46	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V30027.C0-V30027.D0	V30027.C0-V30027.D0	208	8	0.024	1.21	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.03
V30027.D0-V30027.E0	V30027.D0-V30027.E0	189	8	0.094	2.39	0.00	0.02	0.01	0.05	0.00	0.03	0.00	0.05
V30027.E0-V30027	V30027.E0-V30027	22	8	0.020	1.11	0.00	0.04	0.01	0.09	0.00	0.05	0.01	0.09
V30027-V30030	6160	123	8	0.005	0.55	0.00	0.05	0.01	0.11	0.00	0.06	0.01	0.11
V30028-V30029	2441	54	8	0.040	1.56	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V30029-V30030	6489	195	8	0.108	2.56	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
V30030-V30032	6159	269	8	0.006	0.58	0.00	0.07	0.02	0.14	0.01	0.08	0.02	0.14
V30031-V30032	6158	80	8	0.010	0.78	0.00	0.06	0.00	0.09	0.00	0.07	0.00	0.09
V30032-V30040	6157	373	8	0.005	0.55	0.01	0.06	0.02	0.12	0.01	0.08	0.02	0.12
V30033-V30034	5385	152	8	0.134	2.86	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V30034-V30036	6488	246	8	0.079	2.20	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V30035-V30036	6487	129	8	0.219	3.66	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V30036-V30037	6086	151	8	0.006	0.59	0.00	0.05	0.01	0.08	0.00	0.06	0.01	0.08
V30037-V30038	6087	47	8	0.006	0.58	0.00	0.05	0.01	0.09	0.00	0.07	0.01	0.09
V30038-V30039	6088	306	8	0.006	0.58	0.00	0.06	0.01	0.10	0.01	0.08	0.01	0.11
V30039-V30040	6155	207	8	0.006	0.58	0.00	0.06	0.01	0.10	0.01	0.08	0.02	0.11
V30040-V30041	5717	177	8	0.100	2.47	0.01	0.05	0.04	0.08	0.02	0.06	0.05	0.09
V30041-V30042	4462	157	8	0.223	3.69	0.01	0.05	0.04	0.10	0.02	0.07	0.05	0.10
V30042-V30043	5966	86	8	0.039	1.55	0.01	0.34	0.05	0.56	0.02	0.40	0.05	0.56
V30043.A0-V30043	V30043.A0-V30043	241	10	0.003	0.80	0.16	0.40	0.49	0.69	0.24	0.47	0.51	0.72
V30043-V30044.B0	7006	144	10	0.001	0.33	0.17	0.34	0.53	0.58	0.26	0.40	0.56	0.59
V30044.B0-V30044	7008	214	10	0.028	2.36	0.17	0.18	0.54	0.32	0.26	0.22	0.56	0.33
V30044-V30050	5822	363	10	0.028	2.39	0.17	0.20	0.54	0.34	0.26	0.25	0.57	0.35
V30045-V30048	7004	169	8	0.054	1.81	0.00	0.01	-	0.03	0.00	0.02	0.00	0.03
V30046-V30047	7005	276	8	0.041	1.59	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
V30047-V30048	5965	285	8	0.041	1.59	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.05
V30048-V30049	5627	311	8	0.038	1.52	0.00	0.03	0.01	0.06	0.00	0.05	0.01	0.08
V30049-V30050.D0	7953	142	8	0.021	1.13	0.00	0.03	0.01	0.07	0.01	0.08	0.02	0.10
V30050.A0-V30050.B0	5821	299	8	0.004	0.52	0.05	0.21	0.05	0.21	0.05	0.22	0.05	0.22
V30050.B0-V30050.C0	5820	347	8	0.004	0.51	0.05	0.22	0.05	0.23	0.06	0.23	0.06	0.23
V30050.C0-V30050.I0	V30050.C0-V30050.I0	53	8	0.004	0.48	0.05	0.22	0.06	0.24	0.06	0.29	0.06	0.29
V30050.D0-V30050	7954	99	8	0.023	1.17	0.00	0.15	0.01	0.25	0.02	0.20	0.03	0.28
V30050.E0-V30050.H0	V30050.E0-V30050.H0	208	8	0.008	0.72	0.00	0.05	0.01	0.07	0.04	0.16	0.04	0.16
V30050.F0-V30050.G0	V30050.F0-V30050.G0	49	8	0.024	1.21	0.00	0.00	-	0.01	0.00	0.05	0.00	0.05
V30050.G0-V30050.H0	V30050.G0-V30050.H0	172	8	0.008	0.70	0.00	0.02	0.00	0.04	0.02	0.13	0.02	0.13
V30050.H0-V30050.I0	V30050.H0-V30050.I0	82	8	0.022	1.16	0.00	0.13	0.01	0.15	0.07	0.25	0.07	0.25
V30050.I0-V30050	V30050.I0-V30050	301	8	0.005	0.53	0.06	0.24	0.07	0.34	0.13	0.34	0.13	0.39
V30050-V30051.C0	6851	333	10	0.029	2.40	0.23	0.21	0.63	0.35	0.40	0.29	0.71	0.38
V30051.B0-V30051.C0	6853	226	8	0.016	0.98	0.00	0.15	0.00	0.24	0.07	0.28	0.07	0.32
V30051.C0-V30051	6852	173	10	0.030	2.44	0.23	0.22	0.63	0.37	0.47	0.32	0.77	0.41
V30051-V30052	1271	505	10	0.020	1.98	0.24	0.22	0.64	0.38	0.47	0.32	0.78	0.42
V30052-V30055	4719	11	10	0.029	2.42	0.24	0.23	0.64	0.38	0.47	0.32	0.78	0.42
V30053-V30054	4726	314	10	0.002	0.63	0.08	0.23	0.08	0.23	0.00	0.06	0.00	0.06
V30054-V30055	1270	393	10	0.002	0.63	0.07	0.24	0.08	0.31	0.02	0.21	0.02	0.29
V30055-V30056.A0	4718	152	10	0.020	1.98	0.29	0.26	0.70	0.41	0.48	0.33	0.81	0.44
V30056.A0-V30056	4786	290	10	0.003	0.81	0.29	0.38	0.70	0.65	0.48	0.50	0.82	0.73
V30056-V30057.C0	4717	101	10	0.008	1.30	0.29	0.31	0.71	0.52	0.48	0.42	0.82	0.57
V30057.B0-V30057.CD	926	112	8	0.100	2.47	0.00	0.00	-	0.02	0.00	0.04	0.00	0.04
V30057.C0-V30057	5501	353	10	0.010	1.39	0.29	0.34	0.72	0.57	0.49	0.45	0.84	0.63
V30057.CA-V30057.CB	923	187	8	0.005	0.56	0.00	0.00	-	0.02	0.01	0.09	0.01	0.10
V30057.CB-V30057.CC	924	338	8	0.005	0.54	0.00	0.00	0.00	0.05	0.01	0.10	0.01	0.11
V30057.CC-V30057.CD	925	48	8	0.007	0.66	0.00	0.00	0.00	0.05	0.01	0.09	0.02	0.09
V30057.CD-V30057.C0	928	259	8	0.048	1.71	0.00	0.19	0.01	0.34	0.02	0.28	0.02	0.39
V30057-V30058	7375	191	10	0.005	1.03	0.29	0.36	0.72	0.61	0.49	0.48	0.85	0.68
V30058-V30059	7374	149	10	0.006	1.11	0.29	0.36	0.72	0.62	0.49	0.49	0.85	0.70
V30059-V30060	7373	163	10	0.005	0.96	0.29	0.37	0.72	0.61	0.49	0.49	0.86	0.71

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V30060-V30061	7371	26	10	0.002	0.56	0.29	0.26	0.73	0.40	0.49	0.33	0.86	0.64
V30061-V30070	7372	17	10	0.146	5.40	0.29	0.58	0.73	0.62	0.49	0.60	0.86	0.79
V30062.A0-V30062	7625	7	8	0.001	0.30	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V30062-V30078	7587	302	8	0.019	1.08	0.00	0.03	0.00	0.03	0.01	0.06	0.01	0.06
V30063-V30077	5949	30	8	0.003	0.44	0.00	0.84	0.01	1.00	0.04	1.00	0.04	1.00
V30068-V32157	7388	473	36	0.016	53.70	6.23	0.29	12.47	0.42	11.09	0.39	15.04	0.47
V30069-V30071	7369	89	30	0.000	0.89	5.27	0.45	10.49	0.70	9.79	0.66	12.99	1.00
V30070-V30072	7377	450	30	0.002	12.93	5.55	0.46	11.22	0.72	10.28	0.67	13.81	1.00
V30071-V30070	7370	11	30	0.013	30.71	5.27	0.43	10.50	0.68	9.79	0.64	13.00	1.00
V30072-V30073	7382	75	30	0.003	13.39	5.99	0.45	12.02	0.72	10.74	0.65	14.55	1.00
V30073-V30079	7383	76	30	0.003	14.59	6.23	0.43	12.44	0.71	11.08	0.64	15.01	1.00
V30074-V30078	6855	139	30	0.005	18.82	6.23	0.49	12.44	0.79	11.08	0.72	15.01	1.00
V30075-V30077	7551	374	30	0.000	3.06	6.23	0.40	12.46	0.58	11.09	0.54	15.03	0.69
V30076-V30075	7386	21	30	0.019	36.90	6.23	0.47	12.46	0.72	11.09	0.66	15.03	0.97
V30077-V30068	7387	42	30	0.033	47.86	6.23	0.26	12.47	0.37	11.09	0.35	15.04	0.41
V30078-V30076	6856	233	30	0.000	5.21	6.23	0.48	12.45	0.75	11.09	0.69	15.02	0.97
V30079-V30074	7385	12	30	0.000	2.40	6.23	0.41	12.44	0.70	11.08	0.63	15.01	1.00
V30086-V30050.E0	V30086-V30050.E0	251	8	0.013	0.88	0.00	0.05	0.00	0.06	0.01	0.12	0.01	0.12
V30089-V30051.B0	6854	123	8	0.011	0.82	0.00	0.04	0.00	0.04	0.05	0.17	0.05	0.17
V31001-V31002	2440	146	8	0.003	0.43	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V31002-V31003	2439	274	8	0.005	0.53	0.00	0.02	0.00	0.05	0.00	0.03	0.00	0.05
V31003-V31008	2438	293	8	0.017	1.02	0.00	0.03	0.00	0.07	0.00	0.04	0.01	0.07
V31004-V31005	6692	153	8	0.006	0.60	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V31005-V31006	6691	186	8	0.017	1.01	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V31006-V31007	6690	251	8	0.017	1.02	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
V31007-V31008.A0	5384	236	8	0.066	2.01	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
V31008.A0-V31008	2437	83	8	0.047	1.70	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
V31008-V31009	6388	296	8	0.030	1.35	0.00	0.04	0.02	0.08	0.01	0.05	0.02	0.08
V31009-V31010	6386	330	8	0.062	1.94	0.00	0.04	0.02	0.08	0.01	0.05	0.02	0.08
V31010-V31011	6478	179	8	0.046	1.68	0.00	0.04	0.02	0.09	0.01	0.05	0.03	0.09
V31011.A0-V31011	6476	112	8	0.002	0.35	0.00	0.03	0.00	0.06	0.00	0.05	0.00	0.07
V31011-V31014	5756	325	8	0.042	1.61	0.01	0.05	0.03	0.11	0.01	0.07	0.03	0.11
V31012.A0-V31012	6384	177	8	0.087	2.31	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V31012-V31013	6385	266	8	0.050	1.74	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V31013-V31014	5755	314	8	0.075	2.14	0.00	0.05	0.01	0.08	0.00	0.06	0.01	0.08
V31014-V31015	4461	329	8	0.026	1.26	0.01	0.07	0.04	0.13	0.02	0.08	0.04	0.14
V31015-V31116	5964	335	8	0.017	1.01	0.01	0.20	0.04	0.39	0.02	0.27	0.05	0.41
V31016-V31017	6963	298	8	0.005	0.54	0.00	0.04	0.00	0.04	0.01	0.10	0.01	0.10
V31017-V31018	217	220	8	0.014	0.92	0.00	0.05	0.01	0.07	0.02	0.10	0.02	0.10
V31018-V31022.C0	6542	130	8	0.010	0.79	0.00	0.04	0.01	0.06	0.02	0.09	0.02	0.09
V31019-V31021	6960	73	8	0.203	3.52	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V31020-V31021	6961	355	8	0.002	0.31	0.00	0.05	0.00	0.06	0.00	0.08	0.00	0.08
V31021-V31022.B0	6761	113	8	0.003	0.43	0.00	0.06	0.01	0.09	0.01	0.08	0.01	0.10
V31022.A0-V31022.B0	6759	321	8	0.028	1.30	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
V31022.B0-V31022	6758	112	8	0.005	0.54	0.00	0.07	0.01	0.12	0.01	0.12	0.01	0.14
V31022.C0-V31022	6757	85	8	0.147	3.00	0.00	0.06	0.01	0.09	0.02	0.10	0.02	0.11
V31022-V31024	6760	166	8	0.006	0.59	0.01	0.09	0.02	0.14	0.03	0.15	0.04	0.17
V31023-V31024	6962	188	6	0.002	0.16	0.00	0.09	0.00	0.12	0.00	0.14	0.00	0.15
V31024-V31025	1633	328	8	0.008	0.70	0.01	0.07	0.03	0.12	0.03	0.12	0.04	0.14
V31025-V31036.D0	V31025-V31036.D0	41	8	0.039	1.55	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V31026-V31027	6966	86	8	0.051	1.76	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V31027-V31028	6150	161	8	0.010	0.77	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V31028-V31030	5064	212	8	0.015	0.95	0.00	0.04	0.00	0.05	0.00	0.04	0.01	0.06
V31029-V31030	6965	266	8	0.122	2.72	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V31030-V31036	5063	102	8	0.049	1.72	0.00	0.06	0.01	0.09	0.01	0.08	0.01	0.11
V31031-V31032	6968	202	8	0.022	1.16	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V31032-V31034	6001	207	8	0.004	0.52	0.00	0.05	0.00	0.08	0.01	0.09	0.01	0.10
V31033-V31034	6969	304	8	0.049	1.72	0.00	0.04	0.00	0.06	0.00	0.07	0.00	0.08
V31034-V31035	6148	89	8	0.004	0.48	0.00	0.05	0.01	0.09	0.01	0.09	0.01	0.11
V31035-V31036.B0	6627	223	8	0.014	0.94	0.00	0.05	0.01	0.08	0.01	0.08	0.02	0.10
V31036.A0-V31036.B0	6970	134	6	0.249	1.81	0.00	0.04	0.00	0.07	0.00	0.08	0.00	0.08
V31036.B0-V31036	6719	192	8	0.017	1.02	0.01	0.06	0.01	0.11	0.02	0.11	0.02	0.13
V31036.D0-V31036	V31036.D0-V31036	381	8	0.074	2.12	0.01	0.07	0.03	0.11	0.04	0.11	0.05	0.13
V31036-V31037	6284	207	8	0.051	1.76	0.02	0.08	0.06	0.13	0.06	0.12	0.09	0.15
V31037-V31049	5383	303	8	0.075	2.14	0.02	0.10	0.07	0.16	0.06	0.15	0.09	0.19
V31038-V31040	6972	244	8	0.008	0.68	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V31039-V31040	6971	92	8	0.004	0.50	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V31040-V31041	6000	262	8	0.005	0.53	0.00	0.04	0.01	0.06	0.00	0.05	0.01	0.07
V31041-V31042	5999	266	8	0.042	1.61	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.05
V31042-V31043	6147	230	8	0.599	6.05	0.00	0.51	0.01	0.52	0.01	0.51	0.01	0.52
V31043-V31044	6718	42	8	2.784	13.03	0.01	0.52	0.01	0.53	0.01	0.53	0.02	0.54
V31044-V31045	6717	172	8	0.054	1.81	0.00	0.04	0.01	0.06	0.01	0.06	0.02	0.07
V31045-V31047	6283	178	8	0.080	2.20	0.01	0.03	0.02	0.05	0.01	0.04	0.02	0.06
V31046-V31047	6861	100	8	0.972	7.70	0.00	0.51	0.00	0.52	0.01	0.51	0.01	0.52
V31047-V31048	6689	115	8	1.375	9.16	0.01	0.51	0.02	0.52	0.01	0.51	0.03	0.52
V31048-V31049	5382	234	8	0.336	4.53	0.01	0.56	0.02	0.60	0.02	0.59	0.03	0.62
V31049-V31051	6974	288	8	0.017	1.01	0.03	0.14	0.09	0.24	0.08	0.22	0.13	0.28
V31050-V31051	6975	271	8	0.108	2.57	0.00	0.09	0.00	0.15	0.00	0.14	0.00	0.17
V31051-V31052	6976	113	8	0.007	0.63	0.03	0.13	0.10	0.23	0.08	0.21	0.13	0.27
V31052-V31054	6977	141	8	0.030	1.35	0.03	0.11	0.10	0.19	0.08	0.17	0.13	0.22
V31053-V31054	6978	196	8	0.147	2.99	0.00	0.06	0.00	0.10	0.00	0.09	0.00	0.12
V31054-V31056	6154	279	8	0.030	1.35	0.03	0.11	0.10	0.19	0.09	0.17	0.14	0.22
V31055-V31056	6979	336	6	0.165	1.47	0.00	0.09	0.00	0.14	0.00	0.13	0.00	0.16
V31056-V31064	5275	16	8	0.030	1.36	0.04	0.11	0.11	0.19	0.09	0.17	0.15	0.22
V31057-V31058	6981	137	8	0.078	2.18	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V31058-V31059	6146	214	8	0.019	1.08	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V31059-V31060	6715	291	8	0.005	0.54	0.00	0.04	0.01	0.06	0.00	0.06	0.01	0.07
V31060-V31062	6714	154	8	0.069	2.05	0.00	0.03	0.01	0.05	0.01	0.04	0.01	0.05
V31061-V31062	6980	135	6	0.035	0.68	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V31062-V31063	6281	149	8	0.087	2.31	0.01	0.03	0.01	0.05	0.01	0.04	0.01	0.05
V31063-V31064	5381	203	8	0.171	3.23	0.01	0.07	0.02	0.12	0.01	0.10	0.02	0.13
V31064-V31074	5274	315	8	0.042	1.61	0.04	0.13	0.13	0.22	0.10	0.19	0.16	0.24
V31065-V31067	6992	19	8	0.029	1.33	0.00	0.01	-	0.02	0.00	0.02	0.00	0.02
V31066-V31067	6991	155	8	0.016	0.98	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V31067-V31068	6988	281	8	0.023	1.18	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V31068-V31070	6983	107	8	0.148	3.01	0.00	0.02	0.01	0.04	0.00	0.02	0.01	0.04
V31069-V31070	6990	274	8	0.057	1.86	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V31070-V31071	6984	184	8	0.156	3.09	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
V31071-V31072	6985	76	8	0.005	0.58	0.00	0.06	0.01	0.10	0.00	0.06	0.01	0.10
V31072-V31073	6986	115	8	0.009	0.74	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
V31073-V31074	6987	42	8	0.289	4.20	0.00	0.08	0.01	0.14	0.00	0.11	0.01	0.15
V31074.A0-V31074.B0	5379	141	8	0.151	3.04	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.01
V31074.B0-V31074.C0	2436	107	8	0.186	3.37	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V31074.C0-V31074.D0	5714	175	8	0.006	0.59	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V31074.D0-V31074	5713	100	8	0.215	3.63	0.00	0.08	0.01	0.14	0.00	0.11	0.01	0.15
V31074-V31079	5715	243	8	0.024	1.21	0.05	0.15	0.15	0.26	0.11	0.21	0.19	0.29
V31075-V31076	5378	222	8	0.055	1.84	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V31076-V31077	6486	232	8	0.101	2.48	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V31077-V31079	5712	257	8	0.086	2.28	0.00	0.09	0.00	0.16	0.00	0.12	0.00	0.17
V31078-V31079	6475	100	8	0.115	2.64	0.00	0.09	0.00	0.15	0.00	0.12	0.00	0.16
V31079-V31080	6474	293	8	0.016	0.98	0.05	0.18	0.16	0.31	0.11	0.25	0.20	0.34
V31080-V31085	6473	299	8	0.008	0.69	0.05	0.18	0.17	0.31	0.11	0.25	0.20	0.34
V31081-V31082	5711	301	8	0.042	1.60	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V31082-V31085	6472	92	8	0.148	3.01	0.00	0.09	0.00	0.15	0.00	0.12	0.00	0.16
V31083-V31084	6471	220	8	0.011	0.83	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V31084-V31085	6470	29	8	0.206	3.54	0.00	0.08	0.00	0.15	0.00	0.12	0.00	0.16
V31085-V31091	5754	388	8	0.019	1.09	0.06	0.17	0.18	0.29	0.11	0.23	0.21	0.32
V31086-V31087	5273	332	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
V31087-V31089	5272	337	8	0.019	1.07	0.00	0.04	0.01	0.07	0.00	0.03	0.00	0.06
V31088-V31089	5271	121	8	0.010	0.77	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
V31089-V31090	5270	138	8	0.010	0.78	0.00	0.04	0.01	0.07	0.00	0.03	0.01	0.06
V31090-V31091	5710	127	8	0.226	3.72	0.01	0.10	0.01	0.18	0.00	0.13	0.01	0.19
V31091-V31109	6251	381	8	0.015	0.95	0.06	0.17	0.20	0.31	0.12	0.23	0.23	0.33
V31092-V31093	6993	166	8	0.041	1.57	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V31093-V31094	6994	209	8	0.071	2.08	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V31094-V31098	6995	388	8	0.029	1.33	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
V31098-V31099	6688	265	8	0.006	0.61	0.00	0.06	0.01	0.10	0.01	0.08	0.01	0.10
V31099-V31100	6687	282	8	0.005	0.56	0.01	0.07	0.01	0.11	0.01	0.09	0.02	0.12
V31100-V31101	5377	283	8	0.005	0.58	0.01	0.08	0.02	0.13	0.01	0.10	0.02	0.13
V31101-V31102	5376	286	8	0.005	0.53	0.01	0.07	0.02	0.12	0.01	0.09	0.02	0.12
V31102-V31106	5375	391	8	0.029	1.34	0.01	0.05	0.02	0.09	0.01	0.07	0.03	0.09
V31103-V31104	6686	255	8	0.039	1.55	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V31104-V31105	5374	159	8	0.048	1.70	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V31105-V31106.B0	2435	194	8	0.022	1.15	0.00	0.03	0.00	0.06	0.00	0.04	0.01	0.06
V31106.A0-V31106.B0	6996	108	8	0.010	0.79	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V31106.B0-V31106	7585	53	8	0.018	1.04	0.00	0.04	0.01	0.08	0.00	0.05	0.01	0.08
V31106-V31107	5709	389	8	0.076	2.16	0.01	0.05	0.04	0.10	0.02	0.07	0.04	0.10
V31107-V31108	5753	284	8	0.052	1.77	0.01	0.06	0.04	0.11	0.02	0.08	0.04	0.11
V31108-V31109	6250	355	8	0.033	1.42	0.01	0.12	0.04	0.21	0.02	0.16	0.05	0.23
V31109-V31110	4553	362	8	0.024	1.21	0.08	0.20	0.25	0.36	0.14	0.27	0.28	0.39
V31110-V31111	5874	357	8	0.008	0.69	0.08	0.26	0.25	0.50	0.14	0.36	0.28	0.54
V31111-V31116.F0	5873	330	8	0.003	0.44	0.08	0.24	0.26	0.45	0.14	0.32	0.29	0.49
V31112-V31113	4552	399	8	0.054	1.81	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V31113-V31114	5872	124	8	0.004	0.50	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
V31114-V31115	5871	333	8	0.004	0.49	0.00	0.04	0.01	0.15	0.00	0.06	0.01	0.17
V31115-V31116	5870	65	8	0.004	0.50	0.00	0.19	0.01	0.43	0.00	0.25	0.01	0.47
V31116.A0-V31116.C0	5752	249	8	0.071	2.08	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V31116.B0-V31116.C0	6249	5	8	0.061	1.93	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
V31116.C0-V31116.D0	4551	304	8	0.038	1.52	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
V31116.D0-V31116.E0	5867	157	8	0.019	1.08	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
V31116.E0-V31116.F0	5866	145	8	0.005	0.53	0.00	0.11	0.01	0.20	0.00	0.13	0.01	0.21
V31116.F0-V31116	5865	11	8	0.026	1.27	0.08	0.25	0.27	0.47	0.14	0.34	0.30	0.50
V31116-V31118	5869	160	10	0.002	0.68	0.09	0.23	0.32	0.44	0.16	0.31	0.36	0.46
V31117-V31118	6998	328	8	0.025	1.24	0.00	0.13	0.00	0.24	0.00	0.17	0.00	0.25
V31118-V31136	5864	66	10	0.007	1.17	0.09	0.22	0.33	0.43	0.17	0.29	0.36	0.45
V31119-V31121	5373	241	8	0.046	1.67	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V31120-V31121	1878	99	6	0.033	0.66	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
V31121-V31122	6485	329	8	0.058	1.89	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
V31122-V31123	5708	251	8	0.063	1.96	0.00	0.03	0.01	0.05	0.00	0.02	0.01	0.05
V31123-V31125	6469	249	8	0.051	1.76	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
V31124-V31125	6468	202	8	0.012	0.87	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V31125-V31131	5751	100	8	0.048	1.71	0.00	0.04	0.02	0.07	0.00	0.04	0.01	0.07
V31126-V31128	5269	187	8	0.010	0.76	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V31127-V31128	5268	13	8	0.069	2.05	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
V31128-V31129	5707	280	8	0.044	1.63	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
V31129-V31130	5706	155	8	0.010	0.78	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.05
V31130-V31131	5705	100	8	0.171	3.23	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.05
V31131-V31134	6248	176	8	0.071	2.09	0.01	0.05	0.03	0.09	0.01	0.05	0.02	0.08
V31132-V31133	6247	322	8	0.018	1.03	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V31133-V31134	6246	127	8	0.051	1.77	0.00	0.04	0.01	0.07	0.00	0.04	0.00	0.06
V31134-V31135	4550	234	8	0.049	1.73	0.01	0.07	0.04	0.11	0.01	0.06	0.03	0.10
V31135-V31136	5863	247	8	0.020	1.11	0.01	0.20	0.04	0.38	0.01	0.24	0.03	0.39
V31136-V31137	4549	330	10	0.003	0.74	0.11	0.26	0.37	0.51	0.18	0.33	0.40	0.53
V31137-V31138	6245	316	10	0.003	0.75	0.11	0.25	0.38	0.50	0.18	0.33	0.40	0.52
V31138-V31139	6383	103	10	0.003	0.82	0.11	0.24	0.38	0.46	0.18	0.31	0.41	0.48
V31139-V30023	7001	91	10	0.005	0.97	0.11	0.26	0.38	0.50	0.18	0.33	0.41	0.52
V32002-V32003	5861	268	8	0.030	1.35	0.00	0.01	0.00	0.02	0.01	0.07	0.01	0.07
V32003-V32004	5626	66	8	0.100	2.47	0.00	0.01	0.00	0.03	0.01	0.05	0.02	0.06
V32004-V32005	5689	258	8	0.111	2.61	0.00	0.01	0.00	0.03	0.01	0.06	0.02	0.07
V32005-V32006.A0	1269	199	8	0.054	1.81	0.00	0.01	0.01	0.04	0.02	0.06	0.02	0.07
V32006.A0-V32006.B0	V32006.A0-V32006.B0	41	8	0.164	3.16	0.00	0.01	0.01	0.04	0.02	0.06	0.03	0.07
V32006.B0-V32006	V32006.B0-V32006	31	8	0.153	3.05	0.00	0.03	0.01	0.05	0.02	0.08	0.03	0.08
V32006-V32007	5500	279	8	0.037	1.51	0.01	0.05	0.01	0.06	0.02	0.08	0.03	0.09
V32007-V32157	7389	94	8	0.072	2.10	0.01	0.52	0.02	0.53	0.02	0.54	0.03	0.54
V32008-V32009	6244	200	8	0.030	1.35	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V32009-V32013	6116	201	8	0.038	1.52	0.00	0.05	0.00	0.07	0.01	0.07	0.01	0.08
V32010-V32012	6115	136	8	0.030	1.35	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V32011-V32012	6114	161	6	0.019	0.50	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V32012-V32013	6112	58	8	0.059	1.90	0.00	0.05	0.00	0.07	0.00	0.07	0.01	0.07
V32013-V32016	4548	250	8	0.006	0.59	0.01	0.09	0.01	0.12	0.01	0.13	0.02	0.14
V32014-V32015	4546	147	8	0.006	0.59	0.00	0.04	-	0.04	0.01	0.10	0.01	0.10
V32015-V32016	5860	351	8	0.005	0.58	0.01	0.10	0.01	0.12	0.02	0.14	0.02	0.14
V32016-V32025	2182	295	8	0.006	0.59	0.02	0.11	0.03	0.15	0.03	0.16	0.04	0.17
V32017-V32018	6058	38	8	0.006	0.62	0.00	0.03	0.00	0.04	0.00	0.07	0.00	0.07
V32018-V32020	5985	338	8	0.006	0.61	0.00	0.06	0.00	0.08	0.01	0.11	0.01	0.11
V32019-V32020	2429	346	8	0.007	0.66	0.00	0.06	0.00	0.07	0.01	0.11	0.01	0.11
V32020-V32021	2428	297	8	0.008	0.71	0.01	0.07	0.01	0.09	0.03	0.12	0.03	0.13
V32021-V32022	4545	351	8	0.022	1.17	0.01	0.08	0.02	0.11	0.03	0.14	0.04	0.15
V32022-V32026	5859	176	8	0.006	0.61	0.01	0.13	0.02	0.19	0.04	0.22	0.04	0.24
V32023-V32018	5984	249	8	0.042	1.60	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.06
V32023-V32024	2427	347	8	0.029	1.33	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V32024-V32025	6433	353	8	0.030	1.36	0.00	0.08	0.01	0.10	0.01	0.10	0.01	0.11
V32025-V32026	6432	270	8	0.012	0.86	0.02	0.14	0.04	0.20	0.04	0.21	0.05	0.23
V32026-V32027	5858	172	8	0.005	0.58	0.03	0.15	0.07	0.22	0.08	0.23	0.10	0.26
V32027-V32029	5857	290	8	0.020	1.10	0.04	0.11	0.07	0.16	0.09	0.17	0.11	0.19
V32028-V32029.A0	3361	125	8	0.000	0.02	0.01	0.13	0.01	0.13	0.00	0.10	0.00	0.10
V32029.A0-V32029	7951	179	8	0.049	1.73	0.01	0.08	0.01	0.10	0.01	0.11	0.01	0.11
V32029-V32030	5688	306	8	0.071	2.08	0.04	0.10	0.09	0.13	0.10	0.14	0.12	0.16
V32030-V32031	1268	273	8	0.109	2.58	0.04	0.16	0.09	0.20	0.10	0.18	0.12	0.21
V32031-V32034	4784	128	8	0.011	0.81	0.09	0.25	0.14	0.30	0.10	0.24	0.13	0.27
V32032-V32033	4783	196	8	0.005	0.53	0.00	0.09	-	0.09	0.00	0.00	0.00	0.02
V32033-V32034	4782	152	8	0.005	0.57	0.04	0.23	0.04	0.26	0.00	0.12	0.00	0.16
V32034-V32035	5499	241	8	0.010	0.78	0.13	0.30	0.18	0.36	0.10	0.26	0.13	0.30
V32035-V32036	4540	192	10	0.004	0.85	0.13	0.27	0.18	0.32	0.10	0.28	0.13	0.30

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V32036-V32037	4539	63	10	0.003	0.78	0.13	0.22	0.18	0.26	0.19	0.26	0.21	0.27
V32037-V32038	4328	317	10	0.024	2.17	0.13	0.20	0.19	0.24	0.19	0.24	0.21	0.25
V32038-V32039	4327	191	10	0.010	1.41	0.13	0.16	0.19	0.19	0.19	0.19	0.21	0.20
V32039-V32160	7552	37	10	0.268	7.33	0.13	0.55	0.19	0.56	0.19	0.55	0.21	0.56
V32040-V32041.A0	5687	120	8	0.156	3.09	0.00	0.01	0.00	0.01	0.00	0.09	0.00	0.09
V32041.A0-V32041	1267	181	8	0.103	2.51	0.00	0.01	0.00	0.03	0.12	0.18	0.12	0.18
V32041-V32042	5498	383	8	0.040	1.56	0.00	0.02	0.00	0.04	0.14	0.21	0.14	0.21
V32042-V32043	4318	37	8	0.033	1.43	0.00	0.04	0.01	0.07	0.15	0.31	0.15	0.31
V32043-V32044	5425	106	8	0.008	0.70	0.00	0.04	0.01	0.07	0.21	0.29	0.21	0.29
V32044-V32047	5424	32	8	0.143	2.95	0.00	0.06	0.01	0.09	0.21	0.31	0.21	0.31
V32045-V32046	7002	260	8	0.006	0.58	0.01	0.08	0.01	0.08	0.00	0.05	0.00	0.06
V32046-V32047	5423	208	8	0.004	0.51	0.01	0.09	0.01	0.11	0.00	0.23	0.00	0.24
V32047-V32048	5422	105	8	0.005	0.54	0.01	0.09	0.02	0.12	0.21	0.40	0.21	0.40
V32048-V32049	5421	238	8	0.013	0.90	0.01	0.06	0.02	0.09	0.21	0.27	0.21	0.27
V32049-V32162	825	54	8	0.127	2.79	0.01	0.37	0.02	0.53	0.21	0.57	0.21	0.59
V32050-V32051	5420	196	8	0.040	1.56	0.04	0.16	0.04	0.16	0.00	0.01	0.00	0.02
V32051-V32052	5518	200	8	0.007	0.66	0.04	0.13	0.04	0.13	0.00	0.01	0.00	0.03
V32052-V32165	824	42	8	0.450	5.24	0.04	0.53	0.05	0.53	0.00	0.50	0.00	0.51
V32053-V32054	5704	69	8	0.086	2.29	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V32054-V32056	5750	295	8	0.062	1.94	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
V32055-V32056	2426	259	8	0.016	1.00	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.06
V32056-V32057	2425	141	8	0.004	0.46	0.01	0.08	0.01	0.11	0.01	0.09	0.01	0.11
V32057-V32058	2424	235	8	0.004	0.49	0.01	0.09	0.01	0.12	0.01	0.10	0.01	0.12
V32058-V32060	2423	300	8	0.004	0.49	0.01	0.10	0.02	0.14	0.01	0.10	0.02	0.13
V32059-V32060	2422	41	8	0.000	0.04	0.00	0.10	0.00	0.14	0.00	0.11	0.00	0.13
V32060-V32062	2421	180	8	0.005	0.55	0.01	0.11	0.02	0.15	0.01	0.11	0.02	0.14
V32061-V32062	2420	247	8	0.020	1.10	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.09
V32062-V32069	2419	180	8	0.005	0.55	0.02	0.13	0.03	0.19	0.02	0.14	0.03	0.18
V32063-V32064	5703	121	8	0.026	1.25	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V32064.A0-V32064	5702	72	8	0.037	1.51	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V32064-V32065	5903	179	8	0.039	1.54	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V32065-V32068	5749	238	8	0.040	1.56	0.00	0.05	0.01	0.06	0.00	0.05	0.01	0.06
V32066-V32067	5902	166	8	0.009	0.74	0.00	0.04	0.00	0.05	0.01	0.06	0.01	0.06
V32067-V32068	5748	300	8	0.009	0.73	0.00	0.06	0.01	0.07	0.01	0.07	0.01	0.08
V32068-V32069	2418	236	8	0.033	1.42	0.01	0.11	0.02	0.15	0.01	0.11	0.02	0.14
V32069-V32070	2416	135	8	0.005	0.55	0.03	0.15	0.05	0.21	0.03	0.16	0.05	0.21
V32070-V32071	2415	193	8	0.005	0.55	0.03	0.15	0.06	0.21	0.03	0.16	0.05	0.20
V32071-V32077	2414	310	8	0.007	0.64	0.03	0.16	0.06	0.23	0.03	0.17	0.06	0.22
V32072-V32073	5267	225	8	0.042	1.60	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V32073-V32075	5266	85	8	0.017	1.03	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V32074-V32075	5265	137	8	0.003	0.44	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V32075-V32076	5983	350	8	0.052	1.78	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V32076-V32077	5747	247	8	0.067	2.02	0.01	0.11	0.01	0.16	0.01	0.11	0.01	0.15
V32077-V32080	2413	175	8	0.005	0.55	0.04	0.18	0.08	0.26	0.04	0.19	0.07	0.25
V32078-V32079	4949	233	8	0.062	1.94	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V32079-V32080	5746	351	8	0.056	1.85	0.00	0.11	0.01	0.16	0.00	0.12	0.01	0.15
V32080-V32084	4781	198	8	0.005	0.55	0.04	0.20	0.09	0.29	0.05	0.21	0.08	0.27
V32081-V32082	4832	213	8	0.033	1.43	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V32082-V32083	5901	308	8	0.043	1.62	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V32083-V32084	5745	351	8	0.045	1.66	0.01	0.13	0.01	0.18	0.01	0.13	0.01	0.17
V32084-V32085	4780	128	8	0.005	0.55	0.05	0.21	0.11	0.30	0.06	0.22	0.10	0.29
V32085-V32092	4779	139	8	0.005	0.55	0.05	0.22	0.11	0.32	0.06	0.23	0.10	0.31
V32086-V32087	5264	115	8	0.056	1.85	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V32087-V32088	4831	186	8	0.054	1.82	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V32088-V32089	5900	236	8	0.018	1.05	0.00	0.05	0.01	0.06	0.00	0.05	0.01	0.06
V32089-V32090	5899	243	8	0.019	1.07	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.07
V32090-V32091	5898	301	8	0.020	1.10	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.07
V32091-V32092	5744	297	8	0.050	1.75	0.01	0.15	0.02	0.21	0.01	0.15	0.02	0.20
V32092-V32093	4778	122	8	0.005	0.55	0.07	0.21	0.13	0.31	0.07	0.22	0.12	0.29
V32093-V32094	4777	91	8	0.011	0.83	0.07	0.19	0.14	0.28	0.07	0.20	0.12	0.27
V32094-V32096	4776	177	8	0.010	0.78	0.07	0.21	0.14	0.30	0.07	0.21	0.12	0.28
V32095-V32096	4775	165	8	0.045	1.66	0.00	0.12	0.00	0.17	0.00	0.12	0.00	0.16
V32096-V32097	4544	241	8	0.010	0.78	0.07	0.18	0.14	0.25	0.07	0.18	0.13	0.24
V32097-V32100	5625	317	8	0.050	1.74	0.07	0.14	0.15	0.20	0.07	0.14	0.13	0.19
V32098-V32099	4774	85	8	0.037	1.49	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V32099-V32100	4543	270	8	0.078	2.18	0.00	0.08	0.00	0.11	0.00	0.08	0.00	0.10
V32100-V32101	5818	165	8	0.069	2.05	0.08	0.13	0.16	0.18	0.08	0.13	0.14	0.17
V32101-V32102	5686	110	8	0.123	2.74	0.08	0.17	0.16	0.24	0.08	0.17	0.14	0.23
V32102-V32113	4724	239	8	0.010	0.78	0.08	0.20	0.16	0.28	0.08	0.19	0.14	0.25
V32103-V32104	5742	199	8	0.063	1.96	0.00	0.06	0.00	0.07	0.00	0.03	0.00	0.03
V32104-V32105	4542	288	8	0.038	1.53	0.04	0.12	0.04	0.13	0.00	0.04	0.00	0.05
V32105-V32108	5856	161	8	0.025	1.24	0.04	0.13	0.05	0.13	0.01	0.05	0.01	0.07
V32106-V32107	5855	186	8	0.011	0.83	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V32107-V32108	5854	340	8	0.017	1.01	0.00	0.08	0.00	0.09	0.00	0.05	0.00	0.06
V32108-V32109	5623	255	8	0.041	1.59	0.05	0.14	0.06	0.16	0.01	0.07	0.02	0.09
V32109-V32112	5816	127	8	0.012	0.85	0.05	0.18	0.06	0.21	0.01	0.10	0.02	0.13
V32110-V32111	5853	201	8	0.039	1.54	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V32111-V32112	5622	212	8	0.039	1.55	0.00	0.12	0.01	0.14	0.00	0.07	0.00	0.09
V32112-V32113.A0	5955	115	8	0.010	0.78	0.06	0.14	0.07	0.16	0.02	0.08	0.03	0.10
V32113.A0-V32113	5956	65	8	0.338	4.54	0.06	0.13	0.07	0.16	0.02	0.10	0.03	0.13
V32113-V32116	1266	112	8	0.086	2.28	0.13	0.15	0.24	0.20	0.10	0.13	0.18	0.17
V32114-V32115	5685	319	8	0.102	2.49	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V32115-V32116	1265	263	8	0.019	1.07	0.00	0.08	0.01	0.11	0.00	0.07	0.00	0.09
V32116-V32117	1554	47	8	0.319	4.41	0.14	0.18	0.25	0.24	0.10	0.15	0.18	0.21
V32117-V32118	1283	55	8	0.025	1.22	0.14	0.20	0.25	0.27	0.10	0.17	0.19	0.24
V32118-V32119	5497	294	8	0.071	2.09	0.14	0.21	0.25	0.28	0.10	0.18	0.19	0.25
V32119.A0-V32119.B0	7433	127	8	1.223	8.64	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
V32119.B0-V32119.C0	7434	49	8	2.074	11.25	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
V32119.C0-V32119.D0	7909	139	8	0.011	0.82	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V32119.D0-V32119.E0	7815	74	8	0.012	0.85	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
V32119.E0-V32119.F0	7910	178	8	0.026	1.25	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.05
V32119.F0-V32119	7911	7	8	0.026	1.26	0.00	0.14	0.01	0.19	0.00	0.12	0.01	0.17
V32119-V32121	5517	65	8	0.022	1.17	0.14	0.21	0.26	0.28	0.10	0.18	0.19	0.24
V32120-V32121	5516	396	8	0.025	1.24	0.00	0.08	-	0.11	0.00	0.08	0.00	0.11
V32121-V32122	5513	138	8	0.087	2.30	0.14	0.19	0.26	0.26	0.10	0.16	0.20	0.22
V32122.A0-V32122.B0	7647	28	8	0.010	0.78	0.02	0.12	0.05	0.19	0.03	0.14	0.05	0.18
V32122.AA-V32122.AB	7912	123	8	0.021	1.13	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V32122.AB-V32122.AC	7913	48	8	0.022	1.16	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V32122.AC-V32122.AE	7914	115	8	0.021	1.13	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V32122.AD-V32122.AE	7813	228	8	0.084	2.27	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V32122.AE-V32122.AF	7814	208	8	0.056	1.86	0.01	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V32122.AF-V32122.AG	7915	107	8	0.034	1.44	0.01	0.05	0.01	0.06	0.00	0.04	0.01	0.06
V32122.AG-V32122.AH	7916	166	8	0.037	1.50	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.08
V32122.AH-V32122.AI	7878	311	8	0.010	0.80	0.01	0.08	0.02	0.11	0.01	0.07	0.01	0.10
V32122.AI-V32122.AJ	7917	134	8	0.011	0.82	0.01	0.08	0.02	0.12	0.01	0.08	0.02	0.11
V32122.AJ-V32122.AO	7918	154	8	0.011	0.82	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.10
V32122.AK-V32122.AL	7876	102	8	0.011	0.84	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V32122.AL-V32122.AM	7667	149	8	0.013	0.89	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V32122.AM-V32122.AN	7875	209	8	0.070	2.07	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.04
V32122.AN-V32122.AO	7874	347	8	0.115	2.65	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.06
V32122.AO-V32122.AP	7873	129	8	0.083	2.24	0.02	0.07	0.04	0.09	0.02	0.07	0.03	0.09
V32122.AP-V32122.AQ	7872	90	8	0.063	1.96	0.02	0.07	0.04	0.10	0.02	0.07	0.04	0.10
V32122.AQ-V32122.AR	7871	53	8	0.054	1.81	0.02	0.07	0.04	0.11	0.02	0.08	0.04	0.10
V32122.AR-V32122.AS	7870	23	8	0.052	1.78	0.02	0.07	0.04	0.11	0.02	0.08	0.04	0.10
V32122.AS-V32122.AT	7869	56	8	0.054	1.81	0.02	0.08	0.04	0.11	0.02	0.08	0.04	0.11
V32122.AT-V32122.AU	7834	53	8	0.044	1.63	0.02	0.10	0.04	0.14	0.02	0.10	0.04	0.13
V32122.AU-V32122.AV	7833	266	8	0.011	0.80	0.02	0.11	0.05	0.16	0.02	0.12	0.04	0.15
V32122.AV-V32122.AW	7832	102	8	0.012	0.85	0.02	0.11	0.05	0.16	0.02	0.12	0.04	0.16
V32122.AW-V32122.AX	7831	74	8	0.013	0.88	0.02	0.12	0.05	0.17	0.03	0.13	0.05	0.17
V32122.AX-V32122.AY	7817	99	8	0.010	0.76	0.02	0.10	0.05	0.15	0.03	0.11	0.05	0.15
V32122.AY-V32122.A0	7432	333	8	0.050	1.74	0.02	0.10	0.05	0.15	0.03	0.11	0.05	0.15
V32122.B0-V32122.C0	7646	300	8	0.008	0.68	0.02	0.13	0.05	0.20	0.03	0.15	0.05	0.20
V32122.C0-V32122.D0	7645	300	8	0.008	0.68	0.02	0.11	0.06	0.17	0.03	0.12	0.06	0.16
V32122.D0-V32173	7644	46	8	0.068	2.03	0.02	0.54	0.06	0.56	0.03	0.54	0.06	0.56
V32122-V32170	7003	312	8	0.035	1.46	0.14	0.60	0.26	0.64	0.10	0.59	0.20	0.62
V32123-V32124	5511	223	8	0.015	0.96	0.00	0.00	-	0.02	0.00	0.00	0.00	0.02
V32124-V32125	5510	185	8	0.008	0.68	0.00	0.05	0.00	0.07	0.00	0.00	0.00	0.05
V32125-V32126	5509	108	8	0.005	0.55	0.01	0.09	0.01	0.11	0.00	0.00	0.00	0.06
V32126-V32128	5508	69	8	0.005	0.55	0.01	0.14	0.01	0.19	0.00	0.12	0.00	0.18
V32127.A0-V32127.B0	4830	149	8	0.121	2.72	0.00	0.01	0.00	0.01	0.01	0.04	0.01	0.04
V32127.B0-V32127.C0	5897	72	8	0.206	3.54	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
V32127.C0-V32127.D0	5741	148	8	0.058	1.88	0.00	0.02	0.00	0.03	0.01	0.05	0.01	0.05
V32127.D0-V32127.E0	4541	286	8	0.088	2.31	0.00	0.03	0.01	0.04	0.01	0.05	0.01	0.06
V32127.E0-V32127.F0	5684	283	8	0.121	2.72	0.00	0.03	0.01	0.05	0.02	0.06	0.02	0.06
V32127.F0-V32127.G0	5496	295	8	0.103	2.50	0.00	0.03	0.01	0.05	0.02	0.06	0.02	0.07
V32127.G0-V32127.H0	5512	144	8	0.132	2.84	0.01	0.04	0.02	0.06	0.02	0.07	0.03	0.08
V32127.H0-V32127.I0	5515	113	8	0.053	1.80	0.01	0.05	0.02	0.08	0.02	0.09	0.03	0.10
V32127.I0-V32128.D0	7735	56	8	0.015	0.95	0.01	0.06	0.02	0.10	0.02	0.11	0.03	0.12
V32128.A0-V32122.AS	7816	104	8	0.011	0.84	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V32128.A0-V32128.B0	7919	55	8	0.088	2.32	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
V32128.B0-V32128.C0	7879	110	8	0.057	1.87	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V32128.C0-V32128.E0	7920	144	8	0.011	0.82	0.00	0.07	0.00	0.09	0.00	0.08	0.00	0.09
V32128.D0-V32128.E0	7734	75	8	0.012	0.85	0.01	0.07	0.02	0.12	0.02	0.12	0.03	0.14
V32128.E0-V32128.F0	7733	111	8	0.008	0.72	0.01	0.09	0.03	0.13	0.02	0.13	0.03	0.15
V32128.F0-V32128.I0	7736	52	8	0.008	0.70	0.01	0.09	0.03	0.14	0.02	0.12	0.04	0.15
V32128.G0-V32128.H0	7921	156	8	0.050	1.74	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V32128.H0-V32128.I0	7922	55	8	0.060	1.92	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V32128.I0-V32128.J0	7737	136	8	0.013	0.88	0.01	0.09	0.03	0.14	0.03	0.12	0.04	0.15
V32128.J0-V32128.K0	7738	143	8	0.011	0.82	0.02	0.10	0.04	0.14	0.03	0.12	0.04	0.15
V32128.K0-V32128.X0	7739	63	8	0.012	0.87	0.02	0.10	0.04	0.14	0.03	0.13	0.04	0.16
V32128.L0-V32128.M0	7931	47	8	0.105	2.53	0.00	0.01	0.00	0.02	0.01	0.04	0.01	0.04
V32128.M0-V32128.N0	7932	233	8	0.109	2.58	0.00	0.02	0.00	0.02	0.01	0.04	0.01	0.04
V32128.N0-V32128.P0	7930	70	8	0.107	2.56	0.00	0.02	0.00	0.04	0.01	0.06	0.01	0.06
V32128.P0-V32128.Q0	7929	148	8	0.041	1.58	0.00	0.03	0.01	0.05	0.02	0.09	0.02	0.10
V32128.PA-V32128.P0	8349	78	8	0.002	0.35	0.00	0.01	-	0.02	0.01	0.12	0.01	0.12
V32128.Q0-V32128.R0	7928	284	8	0.015	0.97	0.00	0.05	0.01	0.08	0.02	0.11	0.02	0.12
V32128.R0-V32128.T0	7927	307	8	0.010	0.80	0.01	0.07	0.01	0.09	0.03	0.12	0.03	0.12
V32128.S0-V32128.T0	7926	160	8	0.011	0.82	0.01	0.06	0.01	0.08	0.01	0.10	0.02	0.11
V32128.SA-V32128.SB	7923	90	8	0.021	1.13	0.00	0.02	0.00	0.03	0.01	0.07	0.01	0.07
V32128.SB-V32128.SC	7924	164	8	0.021	1.12	0.00	0.04	0.00	0.05	0.01	0.08	0.01	0.08
V32128.SC-V32128.S0	7925	139	8	0.012	0.86	0.00	0.05	0.01	0.07	0.01	0.09	0.01	0.09
V32128.T0-V32128.U0	7760	77	8	0.042	1.61	0.01	0.07	0.03	0.09	0.04	0.11	0.05	0.12
V32128.U0-V32128.V0	7761	68	8	0.042	1.61	0.02	0.07	0.03	0.09	0.04	0.11	0.05	0.12
V32128.V0-V32128.W0	7762	71	8	0.059	1.89	0.02	0.06	0.03	0.08	0.04	0.10	0.05	0.10
V32128.W0-V32128.X0	7763	60	8	0.133	2.85	0.02	0.08	0.03	0.11	0.04	0.11	0.05	0.13
V32128.X0-V32128.Y0	7740	176	8	0.060	1.91	0.03	0.08	0.07	0.12	0.07	0.12	0.10	0.14
V32128.Y0-V32128.Z0	7741	78	8	0.196	3.46	0.03	0.10	0.07	0.15	0.07	0.15	0.10	0.17
V32128.Z0-V32128	5537	183	8	0.011	0.82	0.03	0.17	0.08	0.24	0.07	0.22	0.10	0.26
V32128-V32129	5507	68	8	0.005	0.55	0.04	0.19	0.09	0.28	0.07	0.26	0.10	0.31
V32129-V32130	6106	227	8	0.005	0.55	0.04	0.20	0.09	0.29	0.09	0.29	0.12	0.33
V32130-V32131	6107	318	8	0.004	0.49	0.04	0.21	0.09	0.31	0.09	0.31	0.12	0.36
V32131-V32139	5506	265	8	0.004	0.49	0.04	0.17	0.10	0.25	0.09	0.25	0.13	0.29
V32132-V32133.A0	5505	80	8	0.017	1.03	0.00	0.00	-	0.01	0.00	0.00	0.00	0.01
V32133.A0-V32133	6102	81	8	0.017	1.03	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.06
V32133-V32135	6103	192	8	0.017	1.03	0.01	0.06	0.01	0.07	0.03	0.13	0.03	0.13
V32134-V32135	6104	182	8	0.012	0.85	0.00	0.03	-	0.04	0.00	0.07	0.00	0.07
V32135-V32139	6105	231	8	0.013	0.89	0.01	0.09	0.01	0.12	0.04	0.16	0.04	0.17
V32136-V32137	6109	138	8	0.004	0.49	0.00	0.04	-	0.04	0.00	0.00	0.00	0.02
V32137-V32138	6110	100	8	0.004	0.49	0.00	0.07	0.01	0.07	0.00	0.00	0.00	0.04
V32138-V32139	5503	193	8	0.006	0.60	0.00	0.09	0.01	0.12	0.00	0.09	0.00	0.12
V32139-V32140	6111	249	8	0.062	1.94	0.05	0.15	0.12	0.22	0.15	0.25	0.18	0.28
V32140-V32180	7009	174	8	0.009	0.76	0.05	0.17	0.12	0.25	0.15	0.27	0.18	0.30
V32141-V32142	7016	305	8	0.016	1.00	0.01	0.08	0.01	0.08	0.02	0.10	0.02	0.10
V32142-V32143	7015	298	8	0.008	0.72	0.01	0.09	0.01	0.10	0.02	0.11	0.02	0.12
V32143-V32145.E0	V32143-V32145.E0	149	8	0.008	0.70	0.01	0.09	0.01	0.11	0.02	0.12	0.02	0.13
V32144-V32145	7014	259	8	0.072	2.09	0.00	0.06	0.00	0.07	0.00	0.07	0.00	0.08
V32145.A0-V32145.B0	V32145.A0-V32145.B0	184	8	0.002	0.39	0.00	0.00	-	0.02	0.00	0.06	0.00	0.06
V32145.B0-V32145.D0	V32145.B0-V32145.D0	227	8	0.008	0.71	0.00	0.00	0.00	0.04	0.00	0.05	0.01	0.06
V32145.C0-V32145.D0	V32145.C0-V32145.D0	144	8	0.027	1.29	0.00	0.00	-	0.03	0.00	0.03	0.00	0.03
V32145.D0-V32145.E0	V32145.D0-V32145.E0	74	8	0.015	0.97	0.00	0.04	0.00	0.08	0.00	0.09	0.01	0.10
V32145.E0-V32145	V32145.E0-V32145	105	8	0.008	0.70	0.01	0.09	0.02	0.12	0.02	0.12	0.03	0.14
V32145-V32148	7012	74	8	0.014	0.93	0.02	0.09	0.03	0.12	0.03	0.12	0.03	0.14
V32146-V32147	5502	23	8	0.093	2.39	0.00	0.01	-	0.01	0.00	0.04	0.00	0.04
V32147-V32148	7222	536	8	0.021	1.14	0.00	0.05	0.00	0.07	0.01	0.09	0.01	0.10
V32148-V32156	7011	289	8	0.015	0.96	0.02	0.50	0.03	0.56	0.03	0.56	0.05	0.58
V32153-V32154	7336	443	24	0.004	9.27	0.81	0.20	1.65	0.29	1.20	0.25	1.81	0.30
V32154-V32155	FM5	376	24	0.004	9.24	0.84	0.20	1.69	0.28	1.25	0.24	1.87	0.30
V32155-V32156	7338	311	24	0.005	10.35	0.84	0.25	1.70	0.35	1.25	0.30	1.87	0.36
V32157-V32181	7390	338	36	0.003	24.28	6.23	0.36	12.51	0.53	11.10	0.49	15.08	0.60
V32158-V32159	7393	395	36	0.003	22.43	6.27	0.36	12.63	0.53	11.18	0.50	15.22	0.60
V32159-V32160	7395	451	36	0.003	23.07	6.27	0.37	12.64	0.54	11.18	0.50	15.24	0.61
V32160-V32161	7396	509	36	0.003	21.69	6.40	0.36	12.85	0.53	11.36	0.49	15.46	0.59
V32161-V32162	7397	356	36	0.003	24.29	6.40	0.26	12.87	0.36	11.36	0.34	15.48	0.40
V32162-V32163	7398	159	36	0.077	119.62	6.47	0.19	13.06	0.27	11.65	0.25	15.83	0.30
V32163-V32164	7400	151	36	0.020	60.74	6.47	0.29	13.07	0.43	11.65	0.40	15.84	0.48
V32164-V32165	7401	151	36	0.003	22.98	6.47	0.36	13.08	0.53	11.66	0.50	15.85	0.60
V32165-V32166	7402	314	36	0.003	23.08	6.51	0.35	13.13	0.51	11.66	0.48	15.86	0.57
V32166-V32167	7403	351	36	0.004	27.14	6.51	0.31	13.14	0.45	11.66	0.43	15.87	0.51
V32167-V32168	7404	446	36	0.007	35.72	6.51	0.27	13.15	0.39	11.66	0.37	15.88	0.44
V32168-V32169	7405	105	36	0.012	46.43	6.51	0.25	13.17	0.37	11.66	0.34	15.89	0.41
V32169-V32170	7406	258	36	0.011	45.42	6.51	0.26	13.17	0.38	11.66	0.35	15.90	0.41
V32170-V32171	7407	202	36	0.011	44.99	6.64	0.23	13.45	0.32	11.76	0.30	16.09	0.35
V32171-ABN_V32T068.0	7408	401	36	0.043	89.37	6.64	0.28	13.45	0.41	11.76	0.38	16.10	0.46
V32172-V32173	7411	450	36	0.003	24.04	6.64	0.37	13.48	0.55	11.76	0.51	16.13	0.62

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V32173-V32183	7412	528	36	0.003	21.79	6.66	0.37	13.56	0.55	11.79	0.51	16.20	0.62
V32174-V32184	7024	568	36	0.004	26.22	6.67	0.38	13.62	0.56	11.80	0.51	16.26	0.62
V32175-V32176	7027	549	36	0.003	22.83	6.67	0.45	13.68	0.64	11.80	0.59	16.31	0.71
V32176-V32177	7028	431	36	0.000	0.66	6.67	0.38	13.70	0.53	11.80	0.49	16.33	0.59
V32177-V32178	7029	440	36	0.015	52.79	6.67	0.26	13.71	0.38	11.80	0.35	16.35	0.42
V32178-V32179	7030	449	36	0.008	38.35	6.67	0.33	13.73	0.49	11.80	0.45	16.36	0.54
V32180-V01061	7334	209	24	0.007	12.00	0.05	0.13	0.12	0.18	0.15	0.16	0.19	0.20
V32181-V32158	7391	120	36	0.002	20.43	6.23	0.37	12.52	0.54	11.10	0.51	15.09	0.61
V32182-V32174	7023	475	36	0.003	22.47	6.67	0.36	13.60	0.54	11.79	0.49	16.23	0.60
V32183-V32182	7022	408	36	0.003	24.34	6.66	0.37	13.58	0.55	11.79	0.50	16.22	0.61
V32184-V01062	7025	539	36	0.002	17.33	6.67	0.33	13.64	0.49	11.80	0.45	16.28	0.54
V32T033.00-V32T032.0	145	477	36	0.004	27.27	7.51	0.36	15.98	0.54	13.05	0.48	18.86	0.60
V32T034.00-V32T033.0	146	457	36	0.004	28.80	7.51	0.35	15.96	0.54	13.05	0.48	18.88	0.60
V32T035.00-V32T034.0	147	430	36	0.033	78.64	7.51	0.28	15.94	0.42	13.05	0.37	18.92	0.46
V32T036.00-V32T035.0	148	556	36	0.006	33.52	7.51	0.27	15.92	0.40	13.05	0.36	18.92	0.44
V32T037.00-V32T036.0	150	433	36	0.029	73.32	7.51	0.28	15.91	0.41	13.05	0.37	18.98	0.45
V32T038.00-V32T037.0	149	222	36	0.046	92.30	7.51	0.20	15.90	0.30	13.05	0.27	18.99	0.33
V32T039.00-V32T038.0	151	506	36	0.006	34.48	7.51	0.26	15.88	0.39	13.05	0.35	18.99	0.43
V32T040.00-V32T039.0	152	612	36	0.005	30.23	7.51	0.34	15.85	0.51	13.05	0.45	19.14	0.56
V32T041.00-V32T040.0	154	373	36	0.042	88.05	7.51	0.27	15.84	0.40	13.05	0.36	19.44	0.45
V32T042.00-V32T041.0	155	550	36	0.074	117.13	7.51	0.18	15.82	0.27	13.05	0.24	19.51	0.30
V32T043.00-V32T042.0	157	558	36	0.005	31.76	7.51	0.26	15.80	0.39	13.05	0.35	19.59	0.43
V32T044.00-V32T043.0	159	48	36	0.038	84.24	7.51	0.28	15.79	0.41	13.05	0.37	19.97	0.46
V32T045.00-V32T044.0	158	104	36	0.007	35.88	7.51	0.25	15.79	0.37	13.05	0.33	19.47	0.42
V32T046.00-V32T045.0	160	234	36	0.027	70.47	6.67	0.26	13.90	0.37	11.80	0.34	16.53	0.41
V32T047.00-V32T046.0	162	456	36	0.003	23.10	6.67	0.29	13.88	0.42	11.80	0.39	16.51	0.46
V32T048.00-V32T047.0	7446	473	36	0.003	22.70	6.67	0.37	13.86	0.55	11.80	0.50	16.49	0.61
V32T049.00-V32T048.0	7445	190	36	0.003	23.42	6.67	0.37	13.85	0.56	11.80	0.51	16.49	0.63
V32T050.00-V32T049.0	7444	362	36	0.048	94.93	6.67	0.27	13.84	0.41	11.80	0.37	16.47	0.45
V32T051.00-V32T050.0	7037	454	36	0.037	83.14	6.67	0.19	13.82	0.27	11.80	0.25	16.45	0.29
V32T052.00-V32T051.0	7036	366	36	0.006	32.64	6.67	0.26	13.81	0.37	11.80	0.34	16.44	0.41
V32T053.00-V32T052.0	7035	482	36	0.003	24.85	6.67	0.34	13.79	0.49	11.80	0.45	16.42	0.55
V32T054.00-V32T053.0	7034	321	36	0.015	52.85	6.67	0.30	13.78	0.44	11.80	0.40	16.41	0.48
V32T055.00-V32T054.0	7033	288	36	0.003	22.85	6.67	0.30	13.77	0.43	11.80	0.40	16.40	0.48
V32T056.00-V32T055.0	7032	445	36	0.003	22.75	6.67	0.37	13.75	0.54	11.80	0.49	16.38	0.60
V32T068.00-V3217	7409	406	36	0.003	22.53	6.64	0.37	13.47	0.55	11.76	0.50	16.11	0.61
V32T205.00-V32T045.0	1327	78	27	0.022	29.65	0.00	0.20	0.01	0.30	0.00	0.26	0.01	0.33
V32T206.00-V32T207.0	828	13	27	0.002	8.95	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00
V32T207.00-V32T205.0	1001	164	27	0.002	8.95	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V32T208.00-V32T045.0	827	55	27	0.014	23.60	0.85	0.27	1.88	0.39	1.26	0.34	2.95	0.47
V32T209.00-V32T208.0	1000	177	27	0.014	23.80	0.85	0.13	1.87	0.19	1.26	0.16	2.06	0.26
V32T210.00-V32T210.A	999	119	27	0.000	0.58	0.85	0.19	1.87	0.25	1.26	0.22	2.05	0.27
V32T210.A0-V32T209.0	826	24	27	0.014	23.85	0.85	0.13	1.87	0.19	1.26	0.16	2.06	0.20
V32T211.00-V32T210.0	7218	459	27	0.002	9.80	0.85	0.22	1.86	0.31	1.26	0.26	2.04	0.32
V32T212.00-V32T211.0	7217	325	27	0.002	9.81	0.85	0.20	1.85	0.29	1.26	0.24	2.03	0.31
V32T213.00-V32T212.0	7216	442	24	0.004	9.26	0.85	0.21	1.84	0.32	1.26	0.26	2.02	0.33
V32T214.00-V32T213.0	7215	395	21	0.009	9.60	0.85	0.22	1.83	0.32	1.26	0.27	2.01	0.34
V32T215.00-V32T214.0	7214	387	21	0.009	9.62	0.85	0.20	1.82	0.30	1.26	0.24	2.00	0.31
V32T216.00-V32T215.0	7454	408	21	0.009	9.61	0.85	0.20	1.81	0.29	1.26	0.24	1.99	0.31
V32T216.A0-V32T216.0	7453	155	21	0.009	9.62	0.85	0.20	1.81	0.29	1.26	0.24	1.99	0.31
V32T217.00-V32T216.A	7452	282	21	0.009	9.62	0.85	0.20	1.80	0.29	1.26	0.24	1.98	0.31
V32T218.00-V32T217.0	7221	166	21	0.004	6.52	0.85	0.22	1.80	0.32	1.26	0.27	1.98	0.34
V32T219.00-V32T218.0	7220	165	21	0.004	6.52	0.85	0.25	1.79	0.36	1.26	0.30	1.97	0.38
V32T220.00-V32T219.0	7451	591	21	0.012	11.36	0.85	0.21	1.78	0.31	1.26	0.26	1.96	0.33
V32T221.00-V32T220.0	7450	594	21	0.009	9.61	0.85	0.19	1.76	0.28	1.26	0.24	1.95	0.30
V32T222.00-V32T221.0	7449	256	21	0.009	9.60	0.85	0.20	1.76	0.29	1.26	0.25	1.94	0.31
V32T223.00-V32T222.0	7448	470	21	0.004	6.48	0.85	0.23	1.75	0.33	1.26	0.28	1.93	0.34
V32T224.00-V32T223.0	7339	73	24	0.000	2.42	0.85	0.26	1.75	0.37	1.26	0.32	1.93	0.39
V33001-V33002	1721	363	8	0.010	0.80	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V33002-V33005	1720	270	8	0.020	1.11	0.00	0.06	0.01	0.07	0.00	0.06	0.00	0.07
V33002-V33083	1719	331	8	0.023	1.18	0.00	0.05	0.01	0.07	0.00	0.05	0.00	0.06
V33003-V33004	1718	161	8	0.007	0.67	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V33004-V33005	1717	350	8	0.008	0.68	0.00	0.07	0.01	0.08	0.00	0.07	0.01	0.08
V33005-V33006	1716	236	8	0.021	1.12	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.11
V33006-V33007	1715	358	8	0.010	0.78	0.01	0.10	0.03	0.14	0.02	0.10	0.02	0.13
V33007-V33008	1714	339	8	0.010	0.80	0.02	0.11	0.04	0.15	0.02	0.12	0.03	0.15
V33008-V33009	1713	147	8	0.010	0.80	0.02	0.11	0.04	0.15	0.02	0.11	0.04	0.14
V33009-V33012	1712	146	8	0.029	1.34	0.02	0.12	0.05	0.17	0.03	0.13	0.04	0.16
V33010-V33011	1711	352	8	0.041	1.59	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V33010-V33082	1710	250	8	0.020	1.11	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V33011-V33012	1709	323	8	0.050	1.74	0.00	0.09	0.01	0.13	0.00	0.10	0.01	0.13
V33012-V33023	1630	365	8	0.006	0.59	0.03	0.18	0.06	0.25	0.03	0.17	0.06	0.24
V33013-V33014	1629	197	8	0.020	1.11	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V33013-V33118	1628	219	8	0.021	1.13	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V33014-V33015	1627	213	8	0.054	1.82	0.00	0.04	0.01	0.05	0.00	0.03	0.00	0.04
V33015-V33023	1626	146	8	0.057	1.87	0.01	0.12	0.01	0.17	0.00	0.11	0.01	0.15
V33016-V33018	1625	120	8	0.011	0.84	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V33017-V33018	1624	85	8	0.012	0.86	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V33018-V33019	1623	190	8	0.010	0.79	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V33019-V33021	1622	194	8	0.019	1.06	0.00	0.05	0.01	0.07	0.00	0.04	0.01	0.06
V33020-V33021	1621	221	8	0.011	0.80	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.04
V33020-V33125	1620	231	8	0.045	1.65	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V33021-V33022	1619	103	8	0.042	1.60	0.01	0.05	0.02	0.07	0.00	0.04	0.01	0.06
V33022-V33023	1618	253	8	0.040	1.57	0.01	0.13	0.02	0.18	0.01	0.11	0.01	0.17
V33023-V33024	1617	380	8	0.005	0.56	0.05	0.20	0.10	0.30	0.04	0.19	0.09	0.28
V33024-V33025	1616	326	8	0.005	0.58	0.05	0.17	0.11	0.25	0.04	0.16	0.09	0.23
V33025-V33027	1615	351	8	0.043	1.62	0.05	0.12	0.11	0.18	0.05	0.12	0.10	0.17
V33026-V33027	1217	238	6	0.011	0.37	0.00	0.11	0.00	0.15	0.00	0.10	0.00	0.13
V33027-V33028	1216	290	8	0.050	1.75	0.06	0.12	0.13	0.18	0.05	0.12	0.11	0.17
V33028-V33029	1215	197	8	0.050	1.75	0.06	0.13	0.13	0.19	0.05	0.12	0.11	0.17
V33029-V33030	1214	194	8	0.050	1.75	0.06	0.13	0.13	0.19	0.05	0.12	0.11	0.17
V33030-V33031	1213	204	8	0.049	1.73	0.06	0.15	0.14	0.23	0.05	0.14	0.12	0.21
V33031-V33032	1212	71	8	0.022	1.15	0.06	0.13	0.14	0.19	0.05	0.12	0.12	0.17
V33032-V33033	97	94	8	0.355	4.65	0.06	0.11	0.14	0.16	0.05	0.10	0.12	0.15
V33033-V33034	98	111	8	0.049	1.73	0.06	0.13	0.14	0.19	0.06	0.12	0.12	0.18
V33034-V33035	99	312	10	0.051	3.20	0.06	0.10	0.14	0.15	0.06	0.10	0.13	0.14
V33035-V33041	100	126	10	0.039	2.80	0.07	0.11	0.15	0.16	0.06	0.12	0.13	0.16
V33036.A0-V33036	106	71	8	0.022	1.16	0.00	0.02	-	0.02	0.00	0.00	0.00	0.01
V33036-V33037	108	192	8	0.020	1.09	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V33037-V33038	109	178	8	0.030	1.36	0.01	0.06	0.01	0.07	0.01	0.08	0.01	0.08
V33038-V33039	110	70	8	0.031	1.38	0.01	0.07	0.01	0.10	0.02	0.10	0.02	0.11
V33039.A0-V33039.B0	107	86	8	0.015	0.95	0.00	0.00	-	0.01	0.00	0.04	0.00	0.04
V33039.B0-V33039.D0	103	57	8	0.022	1.15	0.00	0.02	0.00	0.04	0.01	0.06	0.01	0.06
V33039.C0-V33039.D0	288	101	8	0.010	0.77	0.00	0.02	-	0.03	0.00	0.03	0.00	0.03
V33039.D0-V33039.E0	104	236	8	0.026	1.25	0.00	0.05	0.01	0.07	0.01	0.06	0.01	0.06
V33039.E0-V33039	105	237	8	0.020	1.12	0.01	0.08	0.01	0.10	0.01	0.08	0.01	0.10
V33039-V33040	111	50	8	0.020	1.10	0.02	0.08	0.03	0.10	0.03	0.10	0.03	0.11

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V33040-V33041	112	103	8	0.085	2.27	0.02	0.10	0.03	0.15	0.04	0.13	0.05	0.15
V33041-V33042	115	123	10	0.043	2.94	0.08	0.14	0.19	0.20	0.10	0.16	0.18	0.20
V33042-V33047	518	152	12	0.009	2.23	0.08	0.15	0.19	0.22	0.11	0.17	0.19	0.22
V33047-V33048	520	69	12	0.004	1.38	0.09	0.15	0.20	0.21	0.11	0.16	0.19	0.21
V33048-V33056	521	91	12	0.017	2.96	0.09	0.22	0.20	0.30	0.11	0.24	0.19	0.30
V33049-V33051.A0	464	94	8	0.009	0.73	0.00	0.03	-	0.03	0.00	0.05	0.00	0.05
V33050-V33051	467	113	8	0.010	0.78	0.00	0.06	0.00	0.07	0.00	0.05	0.00	0.05
V33051.A0-V33051	465	84	8	0.010	0.78	0.00	0.06	0.01	0.07	0.01	0.09	0.01	0.09
V33051-V33052	463	225	8	0.010	0.77	0.01	0.07	0.01	0.09	0.02	0.10	0.02	0.10
V33052-V33053	462	175	8	0.010	0.80	0.01	0.08	0.01	0.10	0.02	0.11	0.02	0.11
V33053-V33054	118	130	8	0.010	0.80	0.01	0.09	0.02	0.11	0.02	0.12	0.03	0.13
V33054-V33055	119	41	8	0.011	0.83	0.01	0.08	0.02	0.10	0.02	0.11	0.03	0.12
V33055-V33056	448	99	8	0.032	1.41	0.02	0.28	0.02	0.36	0.03	0.31	0.03	0.37
V33056-V33057	116	35	12	0.002	1.10	0.10	0.23	0.22	0.31	0.14	0.26	0.23	0.31
V33057-V33080	460	173	12	0.012	2.57	0.10	0.18	0.22	0.26	0.14	0.22	0.23	0.27
V33059-V33060	489	24	8	0.017	1.03	0.00	0.00	-	0.01	0.00	0.00	0.00	0.01
V33060-V33061	490	82	8	0.027	1.28	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.03
V33061-V33063	491	209	8	0.069	2.05	0.00	0.00	0.00	0.03	0.01	0.06	0.01	0.06
V33062-V33063	514	160	8	0.020	1.09	0.00	0.00	-	0.02	0.00	0.04	0.00	0.04
V33063-V33064	492	55	8	0.032	1.39	0.00	0.02	0.01	0.05	0.01	0.07	0.01	0.07
V33064-V33080.B0	494	63	8	0.031	1.38	0.00	0.06	0.01	0.09	0.01	0.10	0.01	0.11
V33065.A0-V33065.B0	496	208	8	0.010	0.77	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.02
V33065.B0-V33065	497	80	8	0.024	1.21	0.00	0.05	0.01	0.06	0.00	0.03	0.00	0.05
V33065.C0-V33065.D0	207	29	8	0.578	5.94	0.00	0.02	-	0.02	0.00	0.00	0.00	0.01
V33065.D0-V33065	495	64	8	0.025	1.22	0.00	0.05	0.00	0.06	0.00	0.03	0.00	0.04
V33065-V33066	498	74	8	0.020	1.12	0.01	0.06	0.01	0.07	0.01	0.05	0.01	0.06
V33066-V33067	7588	126	8	0.029	1.33	0.01	0.06	0.01	0.08	0.01	0.05	0.01	0.07
V33067-V33068	499	106	8	0.021	1.14	0.01	0.08	0.02	0.10	0.01	0.06	0.01	0.08
V33068-V33080.A0	501	43	8	0.014	0.92	0.01	0.09	0.02	0.13	0.01	0.09	0.01	0.12
V33069.A0-V33069.B0	485	68	8	0.010	0.77	0.00	0.00	-	0.01	0.00	0.00	0.00	0.01
V33069.B0-V33069.C0	486	80	8	0.012	0.86	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
V33069.C0-V33069.E0	487	244	8	0.011	0.81	0.00	0.02	0.00	0.05	0.00	0.03	0.00	0.05
V33069.D0-V33069.E0	484	94	8	0.010	0.77	0.00	0.02	-	0.03	0.00	0.03	0.00	0.03
V33069.E0-V33069.F0	197	344	8	0.031	1.37	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.08
V33069.F0-V33069.G0	198	21	8	0.030	1.35	0.00	0.04	0.01	0.07	0.02	0.09	0.02	0.10
V33069.G0-V33069	204	97	8	0.023	1.19	0.00	0.05	0.01	0.09	0.03	0.11	0.03	0.12
V33069.H0-V33069.I0	200	22	8	0.018	1.05	0.00	0.00	-	0.01	0.00	0.00	0.00	0.01
V33069.I0-V33069.J0	201	38	8	0.023	1.19	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V33069.J0-V33069	202	69	8	0.034	1.44	0.00	0.03	0.00	0.06	0.00	0.06	0.00	0.07
V33069-V33080.A0	502	274	8	0.017	1.01	0.01	0.08	0.02	0.12	0.03	0.12	0.03	0.14
V33070.A0-V33070	468	132	8	0.017	1.00	0.00	0.00	-	0.02	0.00	0.00	0.00	0.02
V33070-V33072	469	165	8	0.011	0.83	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
V33071.A0-V33071	475	68	8	0.010	0.79	0.01	0.64	0.01	0.65	0.01	0.65	0.01	0.65
V33071-V33072.B0	474	118	8	0.007	0.65	0.01	0.53	0.01	0.54	0.01	0.54	0.01	0.54
V33072.A0-V33072.B0	473	183	8	0.010	0.80	0.00	0.53	0.00	0.54	0.00	0.54	0.00	0.54
V33072.B0-V33072	472	166	8	0.021	1.14	0.01	0.08	0.01	0.10	0.02	0.09	0.02	0.10
V33072-V33073	470	167	8	0.010	0.78	0.01	0.09	0.02	0.11	0.01	0.09	0.02	0.11
V33073-V33074.B0	451	60	8	0.013	0.90	0.01	0.09	0.02	0.12	0.01	0.11	0.02	0.12
V33074.A0-V33074.B0	450	212	6	0.010	0.37	0.00	0.10	0.00	0.12	0.01	0.13	0.01	0.14
V33074.B0-V33074	452	86	8	0.013	0.88	0.02	0.10	0.03	0.13	0.03	0.13	0.04	0.14
V33074-V33079.B0	455	81	8	0.010	0.77	0.02	0.10	0.03	0.14	0.03	0.13	0.04	0.15
V33075.A0-V33075	476	84	8	0.011	0.82	0.00	0.00	-	0.01	0.00	0.01	0.00	0.02
V33075-V33076	477	240	8	0.010	0.78	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V33076-V33077	479	352	8	0.010	0.79	0.01	0.09	0.01	0.11	0.01	0.09	0.01	0.10
V33077-V33078	480	198	8	0.010	0.79	0.02	0.10	0.03	0.12	0.01	0.11	0.02	0.12
V33078-V33079	481	130	8	0.012	0.86	0.02	0.11	0.03	0.15	0.03	0.14	0.03	0.16
V33079.A0-V33079.B0	458	186	6	0.016	0.46	0.00	0.07	-	0.09	0.00	0.09	0.00	0.10
V33079.B0-V33079.D0	456	164	8	0.010	0.78	0.02	0.11	0.03	0.15	0.03	0.14	0.04	0.16
V33079.C0-V33079.D0	482	119	8	0.012	0.84	0.00	0.08	0.00	0.10	0.00	0.09	0.00	0.10
V33079.D0-V33079	457	108	8	0.011	0.81	0.02	0.12	0.04	0.16	0.04	0.15	0.05	0.17
V33079-V33080	461	124	8	0.020	1.12	0.04	0.23	0.07	0.33	0.07	0.29	0.08	0.34
V33080.A0-V33080.B0	205	187	8	0.016	0.98	0.02	0.10	0.04	0.14	0.03	0.13	0.05	0.15
V33080.B0-V33080.H0	195	160	8	0.043	1.62	0.03	0.10	0.06	0.14	0.06	0.14	0.07	0.16
V33080.C0-V33080.D0	513	319	8	0.030	1.34	0.00	0.02	-	0.03	0.00	0.03	0.00	0.03
V33080.D0-V33080.E0	511	26	8	0.033	1.42	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.06
V33080.E0-V33080.H0	510	132	8	0.018	1.05	0.00	0.07	0.01	0.11	0.01	0.11	0.01	0.12
V33080.F0-V33080.G0	7590	151	8	0.024	1.22	0.00	0.01	0.00	0.04	0.00	0.00	0.00	0.04
V33080.FA-V33080.F0	7591	292	8	0.025	1.23	0.00	0.00	-	0.02	0.00	0.00	0.00	0.02
V33080.G0-V33080.H0	7589	106	8	0.022	1.17	0.00	0.06	0.01	0.11	0.00	0.08	0.01	0.11
V33080.H0-V33080	196	109	8	0.029	1.33	0.03	0.21	0.07	0.32	0.07	0.28	0.09	0.34
V33080-V33081	515	77	12	0.005	1.68	0.17	0.22	0.38	0.32	0.27	0.28	0.41	0.34
V33081-V33135	516	213	12	0.006	1.84	0.17	0.18	0.38	0.26	0.27	0.21	0.41	0.27
V33082-V33083	1211	324	8	0.031	1.37	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.06
V33083-V33092	1210	175	8	0.039	1.54	0.01	0.08	0.02	0.11	0.01	0.07	0.02	0.10
V33084-V33085	1209	198	8	0.027	1.29	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V33084-V33093	1208	144	8	0.011	0.82	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V33085-V33086	1207	248	8	0.057	1.87	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.04
V33086-V33087	1206	349	8	0.032	1.40	0.01	0.05	0.01	0.07	0.00	0.04	0.01	0.06
V33087-V33088	1205	331	8	0.032	1.39	0.01	0.06	0.02	0.08	0.01	0.05	0.01	0.07
V33088-V33091	1204	90	8	0.032	1.39	0.01	0.07	0.02	0.10	0.01	0.06	0.02	0.09
V33089-V33090	1203	50	6	0.031	0.64	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V33090-V33091	2712	201	6	0.030	0.63	0.00	0.07	0.00	0.09	0.00	0.06	0.00	0.08
V33091-V33092	2711	275	8	0.022	1.16	0.01	0.08	0.03	0.12	0.01	0.07	0.02	0.11
V33092-V33103	2655	182	8	0.033	1.43	0.02	0.12	0.06	0.18	0.02	0.11	0.05	0.17
V33093-V33095	2654	301	8	0.032	1.40	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
V33094-V33095	2653	127	8	0.056	1.86	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V33095-V33096	2652	128	8	0.055	1.83	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.05
V33096-V33097	2651	230	8	0.057	1.86	0.01	0.04	0.01	0.07	0.00	0.04	0.01	0.06
V33097-V33098	2650	267	8	0.049	1.73	0.01	0.06	0.02	0.09	0.01	0.05	0.01	0.08
V33098-V33099	2649	350	8	0.016	1.00	0.01	0.08	0.02	0.12	0.01	0.07	0.02	0.11
V33099-V33102	2648	351	8	0.010	0.80	0.01	0.10	0.03	0.15	0.01	0.08	0.03	0.13
V33100-V33101	2647	350	8	0.012	0.86	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V33100-V33109	2646	276	8	0.042	1.60	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V33101-V33102	2645	299	8	0.020	1.12	0.00	0.07	0.01	0.11	0.00	0.06	0.01	0.10
V33102-V33103	2644	177	8	0.014	0.94	0.02	0.13	0.05	0.19	0.01	0.11	0.04	0.17
V33103-V33105	2643	250	8	0.018	1.04	0.05	0.14	0.11	0.21	0.04	0.12	0.09	0.19
V33104-V33105	2642	109	6	0.041	0.73	0.00	0.10	0.00	0.15	0.00	0.09	0.00	0.13
V33105-V33106	2641	343	8	0.031	1.37	0.05	0.13	0.12	0.20	0.04	0.12	0.10	0.19
V33106-V33107	2640	350	8	0.028	1.31	0.05	0.14	0.13	0.21	0.04	0.12	0.10	0.19
V33107-V33108	2639	350	8	0.028	1.31	0.06	0.15	0.13	0.23	0.04	0.13	0.11	0.20
V33108-V33115	2638	334	8	0.025	1.24	0.06	0.14	0.14	0.21	0.05	0.12	0.12	0.19
V33109-V33110	2637	251	8	0.023	1.18	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V33110-V33111	2636	231	8	0.069	2.05	0.01	0.05	0.01	0.06	0.00	0.04	0.01	0.05
V33111-V33114	2635	120	8	0.061	1.92	0.01	0.05	0.02	0.07	0.01	0.05	0.01	0.07
V33112-V33113	2634	205	6	0.040	0.72	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V33113-V33114	2633	169	8	0.040	1.56	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
V33114-V33115	2632	256	8	0.060	1.92	0.01	0.09	0.03	0.13	0.01	0.08	0.02	0.12

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V33115-V33116	2631	262	8	0.089	2.32	0.07	0.12	0.17	0.19	0.06	0.11	0.14	0.17
V33116-V33117	2630	155	8	0.089	2.32	0.07	0.13	0.18	0.20	0.06	0.12	0.15	0.19
V33117-V33132	2629	155	8	0.048	1.71	0.07	0.14	0.18	0.21	0.06	0.12	0.15	0.20
V33118-V33121	2628	289	8	0.059	1.90	0.00	0.04	0.01	0.06	0.00	0.03	0.00	0.05
V33119-V33120	2627	114	8	0.011	0.80	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V33120-V33121	2626	300	8	0.013	0.89	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V33121-V33123	2625	339	8	0.061	1.93	0.01	0.06	0.02	0.08	0.01	0.04	0.01	0.07
V33122-V33123	2624	184	8	0.017	1.01	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
V33122-V33126	2623	234	8	0.013	0.90	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V33123-V33124	2622	335	8	0.060	1.91	0.01	0.08	0.03	0.11	0.01	0.06	0.02	0.10
V33124-V33128	2621	112	8	0.014	0.93	0.02	0.10	0.04	0.14	0.01	0.07	0.03	0.12
V33125-V33126	2620	308	8	0.081	2.22	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.04
V33126-V33127	2619	201	8	0.079	2.20	0.01	0.05	0.01	0.07	0.00	0.04	0.01	0.06
V33127-V33128	2618	167	8	0.035	1.46	0.01	0.08	0.02	0.11	0.01	0.06	0.01	0.10
V33128-V33129	2617	186	8	0.027	1.29	0.03	0.12	0.06	0.17	0.01	0.09	0.04	0.15
V33129-V33130	2616	279	8	0.011	0.83	0.03	0.11	0.06	0.17	0.02	0.09	0.05	0.15
V33130-V33131	2615	328	8	0.050	1.75	0.03	0.09	0.07	0.14	0.02	0.07	0.05	0.12
V33131-V33132	2614	326	8	0.055	1.83	0.03	0.11	0.07	0.17	0.02	0.09	0.06	0.16
V33132-V33133	2613	284	12	0.070	6.09	0.11	0.09	0.26	0.14	0.08	0.08	0.21	0.13
V33133-V33134	2612	339	12	0.069	6.05	0.11	0.10	0.26	0.15	0.08	0.09	0.22	0.14
V33134-V33135	507	246	12	0.036	4.39	0.11	0.12	0.27	0.18	0.08	0.12	0.22	0.18
V33135-V33143	517	139	12	0.099	7.26	0.28	0.31	0.65	0.49	0.35	0.36	0.64	0.50
V33136-V33137.A0	2611	590	12	0.011	2.39	0.56	0.38	1.17	0.60	0.77	0.46	1.22	0.62
V33137-V33140	2610	309	12	0.004	1.41	0.56	0.44	1.18	0.70	0.77	0.53	1.24	0.73
V33138-V33140	1614	6	8	0.002	0.35	0.00	0.65	0.01	1.00	0.00	0.78	0.01	1.00
V33139-V33140	1613	6	8	0.002	0.35	0.00	0.65	0.01	1.00	0.00	0.78	0.01	1.00
V33140-V33141	2609	310	12	0.004	1.42	0.56	0.44	1.18	0.71	0.77	0.53	1.24	0.74
V33141-V33142	2608	288	12	0.004	1.42	0.56	0.38	1.19	0.59	0.77	0.45	1.25	0.61
V33142-V33143	508	281	12	0.014	2.71	0.56	0.40	1.19	0.62	0.77	0.47	1.25	0.64
V33143-V33144	509	262	15	0.004	2.58	0.84	0.39	1.85	0.63	1.12	0.46	1.90	0.64
V33144-V33146	3000	349	15	0.004	2.56	0.84	0.39	1.85	0.63	1.12	0.46	1.91	0.65
V33145-V33146	2607	7	8	0.002	0.35	0.01	0.73	0.02	1.00	0.01	0.86	0.01	1.00
V33146-V33148	2606	383	15	0.004	2.55	0.84	0.40	1.86	0.64	1.12	0.47	1.91	0.65
V33147-V33148	1612	12	8	0.002	0.35	0.01	0.73	0.02	1.00	0.01	0.86	0.01	1.00
V33148-V33149	2605	451	15	0.004	2.53	0.84	0.40	1.87	0.64	1.12	0.47	1.92	0.65
V33149-V33150	2604	451	15	0.004	2.53	0.84	0.40	1.88	0.64	1.12	0.47	1.93	0.65
V33150-V33151	2603	456	15	0.004	2.54	0.84	0.40	1.89	0.65	1.12	0.47	1.94	0.66
V33151-V33152	3002	455	15	0.004	2.54	0.84	0.39	1.90	0.62	1.12	0.45	1.95	0.64
V33152-V33154	3001	341	15	0.005	2.91	0.84	0.45	1.91	0.76	1.12	0.53	1.96	0.77
V33153-V33154	2602	16	8	0.038	1.52	0.00	0.54	0.00	0.92	0.00	0.64	0.00	0.95
V33154-V33156	2601	558	15	0.002	1.84	0.84	0.44	1.91	0.74	1.12	0.52	1.97	0.76
V33155-V33156	1751	10	8	0.002	0.35	0.01	0.64	0.02	1.00	0.01	0.75	0.01	1.00
V33156-V33173	2600	350	15	0.006	3.22	0.84	0.40	1.93	0.65	1.12	0.47	1.98	0.66
V33157-V33158	3004	140	8	0.020	1.12	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V33158-V33162	2599	340	8	0.020	1.10	0.00	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V33159-V33160	2598	278	8	0.024	1.20	0.00	0.04	0.00	0.04	0.01	0.05	0.01	0.05
V33160-V33161	2597	352	8	0.040	1.56	0.01	0.05	0.01	0.06	0.01	0.06	0.01	0.07
V33161-V33162	2596	164	8	0.025	1.22	0.01	0.07	0.01	0.09	0.01	0.08	0.02	0.10
V33162-V33163	2595	328	8	0.020	1.11	0.02	0.09	0.03	0.12	0.02	0.10	0.03	0.12
V33163-V33164	2594	329	8	0.020	1.11	0.02	0.09	0.04	0.13	0.02	0.10	0.04	0.13
V33164-V33165	2593	320	8	0.020	1.10	0.02	0.11	0.04	0.16	0.03	0.12	0.04	0.16
V33165-V33166	2592	359	8	0.007	0.67	0.02	0.13	0.05	0.19	0.03	0.15	0.05	0.18
V33166-V33168	2591	304	8	0.010	0.78	0.03	0.13	0.06	0.18	0.03	0.13	0.05	0.16
V33167-V33168	2590	219	8	0.052	1.78	0.04	0.12	0.04	0.13	0.00	0.06	0.00	0.07
V33168-V33172	2589	214	8	0.051	1.77	0.07	0.19	0.10	0.29	0.04	0.19	0.06	0.27
V33169.A0-V33169	8062	78	8	0.055	1.84	0.00	0.07	0.00	0.13	0.06	0.15	0.06	0.18
V33169-V33171	2588	319	15	0.057	9.97	0.10	0.09	0.36	0.16	0.18	0.11	0.40	0.17
V33170-V33171	2587	72	8	0.191	3.41	0.00	0.10	-	0.18	0.00	0.12	0.00	0.19
V33171-V33172	2586	245	15	0.012	4.65	0.10	0.12	0.36	0.20	0.18	0.14	0.41	0.21
V33172-V33173	2585	175	15	0.011	4.45	0.17	0.29	0.47	0.48	0.21	0.34	0.48	0.49
V33173-V33174.A0	V33173-V33174.A0	64	18	0.003	3.40	1.00	0.37	2.41	0.62	1.34	0.44	2.47	0.63
V33174.A0-V33174	V33174.A0-V33174	411	18	0.002	3.38	1.00	0.38	2.41	0.64	1.34	0.44	2.47	0.64
V33174-V33175	FM08	469	18	0.003	3.41	1.00	0.36	2.42	0.59	1.34	0.41	2.48	0.82
V33175-B01128	FMB2_1	138	18	0.004	4.44	1.00	0.32	2.43	0.51	1.34	0.37	2.49	1.00
V34001-V34002	2583	354	8	0.010	0.80	0.00	0.04	0.00	0.04	0.00	0.04	0.01	0.06
V34002-V34003	2582	266	8	0.050	1.75	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.06
V34003-V34015	2581	320	8	0.066	2.01	0.01	0.09	0.01	0.11	0.01	0.10	0.02	0.16
V34004-V34006	2580	354	8	0.006	0.58	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.08
V34005-V34006	2579	144	8	0.045	1.66	0.00	0.04	0.00	0.04	0.00	0.05	0.01	0.07
V34006-V34009	2578	289	8	0.013	0.89	0.00	0.06	0.01	0.07	0.01	0.06	0.02	0.10
V34007-V34008	2577	304	8	0.020	1.10	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.06
V34008-V34009	2576	278	8	0.020	1.12	0.01	0.06	0.01	0.06	0.00	0.05	0.01	0.08
V34009-V34010	2575	178	8	0.040	1.55	0.01	0.06	0.02	0.07	0.01	0.06	0.03	0.10
V34010-V34015	2574	233	8	0.062	1.95	0.01	0.10	0.02	0.12	0.01	0.11	0.04	0.17
V34011-V34012	3007	67	8	0.026	1.26	0.00	0.03	0.00	0.03	0.00	0.05	0.01	0.07
V34012-V34013	2573	292	8	0.010	0.80	0.00	0.04	0.00	0.04	0.00	0.06	0.01	0.09
V34013-V34014	2572	224	8	0.010	0.79	0.00	0.05	0.00	0.06	0.01	0.07	0.02	0.11
V34014-V34015.B0	8325	114	8	0.006	0.59	0.00	0.06	0.01	0.07	0.01	0.07	0.02	0.13
V34015.A0-V34015.B0	8001	134	6	0.014	0.43	0.00	0.04	-	0.05	0.00	0.05	0.00	0.08
V34015.B0-V34015	2571	209	8	0.007	0.64	0.00	0.10	0.01	0.13	0.01	0.11	0.02	0.19
V34015-V34018	2570	279	8	0.006	0.59	0.03	0.15	0.04	0.19	0.03	0.16	0.08	0.26
V34016-V34017	2569	175	8	0.040	1.56	0.00	0.03	0.00	0.03	0.00	0.03	0.01	0.05
V34017-V34018	2568	349	8	0.053	1.80	0.00	0.10	0.00	0.12	0.00	0.10	0.01	0.17
V34018-V34020	2567	255	8	0.006	0.59	0.03	0.16	0.05	0.20	0.04	0.17	0.10	0.27
V34019-V34020	2566	288	8	0.054	1.81	0.00	0.10	0.01	0.12	0.00	0.10	0.01	0.17
V34020-V34028	2565	257	8	0.008	0.71	0.04	0.17	0.06	0.21	0.04	0.19	0.12	0.30
V34021-V34028	2564	259	8	0.058	1.87	0.00	0.11	0.01	0.14	0.01	0.12	0.01	0.19
V34022-V34023	3298	100	8	0.011	0.81	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.05
V34023-V34019	2563	289	8	0.045	1.65	0.00	0.03	0.00	0.03	0.00	0.03	0.01	0.05
V34023-V34024	2562	256	8	0.010	0.79	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V34024-V34021	2561	260	8	0.051	1.76	0.00	0.03	0.00	0.04	0.00	0.03	0.01	0.05
V34024-V34025	2560	259	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.05
V34025-V34026	2559	229	8	0.040	1.56	0.00	0.04	0.00	0.04	0.00	0.04	0.01	0.06
V34026-V34027	2558	234	8	0.040	1.56	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.08
V34027-V34028	2557	248	8	0.028	1.30	0.01	0.12	0.01	0.15	0.01	0.13	0.02	0.20
V34028-V34029	2556	263	8	0.008	0.71	0.05	0.18	0.08	0.22	0.06	0.19	0.15	0.31
V34029-V34035	2555	174	8	0.011	0.83	0.05	0.17	0.08	0.22	0.06	0.19	0.15	0.30
V34030-V34031	2554	260	8	0.010	0.79	0.00	0.05	0.00	0.05	0.00	0.05	0.01	0.07
V34031-V34032	2553	261	8	0.010	0.79	0.00	0.06	0.01	0.07	0.00	0.06	0.01	0.09
V34032-V34033	2552	260	8	0.010	0.79	0.01	0.06	0.01	0.07	0.01	0.06	0.02	0.10
V34033-V34034	2551	270	8	0.005	0.55	0.00	0.06	0.00	0.07	0.00	0.06	0.01	0.09
V34033-V34052	2550	251	8	0.010	0.79	0.01	0.07	0.01	0.07	0.00	0.06	0.01	0.10
V34034-V34035	2549	319	8	0.012	0.84	0.01	0.12	0.01	0.15	0.01	0.12	0.01	0.20
V34035-V34036	2548	332	8	0.012	0.84	0.06	0.18	0.09	0.23	0.07	0.19	0.17	0.31
V34036-V34037	2546	348	8	0.012	0.84	0.06	0.17	0.09	0.22	0.07	0.18	0.17	0.29
V34037-V34060	2545	111	8	0.019	1.07	0.06	0.19	0.10	0.24	0.07	0.21	0.17	0.32
V34038-V34039	2544	213	8	0.020	1.10	0.00	0.01	-	0.02	0.00	0.02	0.00	0.03

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V34039-V34040	2543	303	8	0.017	1.02	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.07
V34040-V34042	2542	234	8	0.008	0.71	0.00	0.05	0.01	0.06	0.01	0.08	0.01	0.08
V34041-V34042	2541	51	8	0.019	1.08	0.00	0.02	-	0.03	0.01	0.08	0.01	0.08
V34042-V34043	2540	354	8	0.023	1.18	0.00	0.04	0.01	0.05	0.02	0.08	0.02	0.08
V34043-V34044	2539	304	8	0.054	1.81	0.00	0.04	0.01	0.05	0.02	0.07	0.02	0.08
V34044-V34047	2538	325	8	0.054	1.81	0.00	0.04	0.01	0.06	0.02	0.09	0.02	0.10
V34045-V34047	2537	51	8	0.009	0.73	0.00	0.03	0.00	0.05	0.00	0.06	0.00	0.07
V34046.A0-V34046.B0	7297	197	8	0.074	2.12	0.00	0.00	-	0.01	0.01	0.06	0.01	0.06
V34046.B0-V34046.H0	V34046.B0-V34046.H0	220	8	0.062	1.94	0.00	0.01	0.00	0.03	0.03	0.08	0.03	0.08
V34046.C0-V34046.D0	V34046.C0-V34046.D0	106	8	0.010	1.03	0.00	0.00	-	0.01	0.00	0.00	0.00	0.01
V34046.D0-V34046.F0	V34046.D0-V34046.F0	84	8	0.010	0.78	0.00	0.02	0.00	0.04	0.00	0.00	0.00	0.02
V34046.E0-V34046.F0	V34046.E0-V34046.F0	123	8	0.010	1.02	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.05
V34046.F0-V34046.G0	V34046.F0-V34046.G0	95	8	0.011	0.80	0.00	0.05	0.00	0.06	0.00	0.03	0.00	0.06
V34046.G0-V34046.H0	V34046.G0-V34046.H0	176	8	0.008	0.69	0.00	0.04	0.01	0.05	0.01	0.07	0.01	0.08
V34046.H0-V34046	V34046.H0-V34046	64	8	0.123	2.74	0.00	0.04	0.01	0.05	0.03	0.11	0.04	0.12
V34046-V34047	2536	160	8	0.010	0.77	0.00	0.05	0.01	0.07	0.03	0.13	0.04	0.14
V34047-V34048	2535	319	8	0.054	1.81	0.01	0.05	0.02	0.08	0.05	0.11	0.06	0.13
V34048-V34050	2534	212	8	0.053	1.80	0.01	0.05	0.02	0.08	0.05	0.13	0.06	0.14
V34049-V34050	2533	49	8	0.014	0.93	0.00	0.03	-	0.04	0.02	0.11	0.02	0.12
V34050-V34051	2532	215	8	0.035	1.47	0.01	0.07	0.02	0.10	0.06	0.16	0.08	0.18
V34051-V34060	2531	137	8	0.011	0.83	0.01	0.15	0.02	0.20	0.06	0.22	0.08	0.26
V34052-V34053	2529	253	8	0.010	0.77	0.01	0.07	0.01	0.08	0.01	0.06	0.02	0.10
V34053-V34058	2528	252	8	0.020	1.10	0.01	0.09	0.01	0.10	0.01	0.08	0.02	0.13
V34054-V34055	2527	245	8	0.049	1.73	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.05
V34055-V34056	2526	300	8	0.050	1.75	0.00	0.04	0.00	0.04	0.00	0.03	0.01	0.06
V34056-V34057	2525	300	8	0.050	1.75	0.01	0.05	0.01	0.06	0.00	0.04	0.01	0.07
V34057-V34058	2088	280	8	0.041	1.58	0.01	0.08	0.01	0.10	0.01	0.07	0.02	0.12
V34058-V34059	2087	210	8	0.011	0.83	0.02	0.11	0.03	0.13	0.02	0.10	0.05	0.16
V34059-V34060.D0	V34059-V34060.D0	81	8	0.010	0.77	0.02	0.11	0.03	0.14	0.02	0.10	0.05	0.17
V34060.A0-V34060.B0	V34060.A0-V34060.B0	164	8	0.010	0.79	0.00	0.00	-	0.01	0.00	0.05	0.00	0.05
V34060.B0-V34060.C0	V34060.B0-V34060.C0	205	8	0.013	0.90	0.00	0.00	0.00	0.02	0.01	0.05	0.01	0.05
V34060.C0-V34060.D0	V34060.C0-V34060.D0	195	8	0.030	1.36	0.00	0.06	0.00	0.08	0.01	0.08	0.01	0.09
V34060.D0-V34060	V34060.D0-V34060	173	8	0.011	0.82	0.02	0.16	0.03	0.21	0.02	0.18	0.05	0.27
V34060-V34061	2085	204	10	0.010	1.43	0.09	0.17	0.16	0.22	0.13	0.20	0.26	0.28
V34061-V34063	2084	201	10	0.014	1.68	0.09	0.18	0.16	0.24	0.13	0.22	0.26	0.31
V34062.A0-V34062.B0	8023	34	8	0.039	1.53	0.01	0.06	0.01	0.06	0.01	0.07	0.01	0.07
V34062.B0-V34062.C0	8024	134	8	0.028	1.31	0.01	0.06	0.01	0.06	0.01	0.07	0.01	0.07
V34062.C0-V34062.D0	8022	263	8	0.079	2.19	0.02	0.08	0.02	0.08	0.02	0.08	0.02	0.09
V34062.D0-V34063	1750	104	8	0.011	0.82	0.02	0.18	0.02	0.22	0.02	0.20	0.02	0.27
V34063-V34065	2083	351	10	0.008	1.23	0.11	0.18	0.18	0.23	0.15	0.21	0.28	0.29
V34064-V34065	1749	115	8	0.035	1.47	0.00	0.09	-	0.12	0.01	0.14	0.01	0.17
V34065-V34066.D0	V34065-V34066.D0	29	10	0.027	2.31	0.11	0.17	0.18	0.22	0.16	0.21	0.29	0.28
V34066.A0-V34066.B0	V34066.A0-V34066.B0	259	8	0.010	0.79	0.00	0.02	-	0.02	0.00	0.00	0.00	0.02
V34066.B0-V34066.C0	V34066.B0-V34066.C0	300	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.05
V34066.C0-V34066.D0	V34066.C0-V34066.D0	135	8	0.053	1.80	0.00	0.14	0.00	0.18	0.01	0.17	0.01	0.23
V34066.D0-V34066	V34066.D0-V34066	241	10	0.009	1.33	0.11	0.19	0.18	0.24	0.16	0.23	0.30	0.31
V34066-V34073	2081	165	10	0.013	1.63	0.11	0.20	0.19	0.26	0.16	0.25	0.30	0.33
V34067-V34068	2080	259	8	0.044	1.64	0.00	0.02	-	0.02	0.01	0.05	0.01	0.05
V34068-V34069	2079	231	8	0.048	1.71	0.01	0.04	0.01	0.05	0.01	0.08	0.01	0.08
V34069-V34070	2078	241	8	0.048	1.71	0.01	0.06	0.01	0.06	0.03	0.10	0.03	0.10
V34070-V34071	2077	227	8	0.048	1.71	0.01	0.07	0.02	0.07	0.03	0.10	0.04	0.11
V34071-V34073	2076	146	8	0.026	1.26	0.01	0.18	0.02	0.22	0.03	0.24	0.04	0.28
V34073-V34079	2075	147	10	0.006	1.12	0.12	0.23	0.20	0.30	0.20	0.29	0.33	0.38
V34074-V34077	1807	166	8	0.048	1.71	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.05
V34075-V34076	1806	228	8	0.035	1.46	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.05
V34076-V34077	1805	239	8	0.026	1.27	0.00	0.04	0.00	0.04	0.00	0.03	0.01	0.06
V34077-V34078	1804	271	8	0.074	2.12	0.01	0.05	0.01	0.06	0.00	0.05	0.02	0.09
V34078-V34079	1803	234	8	0.009	0.74	0.01	0.18	0.01	0.23	0.01	0.21	0.02	0.30
V34079-V34081	1802	165	10	0.006	1.10	0.13	0.23	0.22	0.29	0.20	0.29	0.35	0.38
V34080-V34081	1801	131	8	0.023	1.18	0.00	0.15	0.00	0.19	0.00	0.19	0.01	0.25
V34081-V34082	1800	211	10	0.009	1.38	0.13	0.19	0.22	0.24	0.21	0.23	0.36	0.30
V34082-V34086	1799	239	10	0.043	2.92	0.14	0.15	0.22	0.19	0.21	0.18	0.36	0.24
V34083-V34084	1798	138	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.05
V34084-V34085	1797	255	8	0.102	2.50	0.00	0.03	0.00	0.03	0.00	0.03	0.01	0.05
V34085-V34086	1796	269	8	0.092	2.37	0.00	0.11	0.01	0.14	0.00	0.13	0.01	0.18
V34086-V34088	1795	246	10	0.040	2.83	0.14	0.17	0.23	0.21	0.21	0.20	0.38	0.28
V34087-V34088	1794	59	8	0.025	1.25	0.00	0.13	0.00	0.16	0.00	0.15	0.00	0.21
V34088-V34093	1793	216	10	0.022	2.10	0.14	0.16	0.24	0.21	0.21	0.20	0.39	0.27
V34089-V34090	1792	171	8	0.082	2.24	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.04
V34090-V34091	1791	251	8	0.116	2.67	0.00	0.03	0.00	0.03	0.00	0.02	0.01	0.05
V34091-V34092	1790	279	8	0.112	2.61	0.01	0.04	0.01	0.04	0.00	0.03	0.01	0.06
V34092-V34093	1789	281	8	0.092	2.37	0.01	0.11	0.01	0.14	0.00	0.12	0.02	0.18
V34093-V34104	1788	175	10	0.060	3.46	0.15	0.21	0.25	0.26	0.22	0.24	0.41	0.33
V34094-V34095	1787	273	8	0.071	2.07	0.01	0.04	0.01	0.04	0.00	0.02	0.00	0.03
V34095-V34096	1786	300	8	0.070	2.07	0.01	0.05	0.01	0.05	0.01	0.04	0.01	0.05
V34096-V34097	2524	191	8	0.052	1.78	0.01	0.06	0.01	0.06	0.01	0.04	0.01	0.05
V34097-V34098	2523	185	8	0.053	1.80	0.01	0.06	0.01	0.07	0.01	0.04	0.01	0.05
V34098-V34099	2522	184	8	0.054	1.82	0.01	0.06	0.02	0.07	0.01	0.04	0.01	0.05
V34099-V34100	2521	191	8	0.054	1.82	0.01	0.06	0.02	0.07	0.01	0.05	0.01	0.06
V34100-V34101	2520	273	8	0.041	1.59	0.01	0.07	0.02	0.08	0.01	0.05	0.01	0.07
V34101-V34102	2519	199	8	0.017	1.01	0.01	0.07	0.02	0.09	0.01	0.06	0.01	0.08
V34102-V34103	2518	178	8	0.042	1.59	0.01	0.06	0.02	0.07	0.01	0.04	0.01	0.06
V34103-V34104	2517	189	8	0.103	2.50	0.01	0.19	0.02	0.24	0.01	0.21	0.02	0.29
V34104-V34105.A0	20	94	10	0.007	1.18	0.17	0.21	0.27	0.27	0.22	0.24	0.42	0.33
V34105.A0-V34105	21	350	10	0.054	3.30	0.17	0.28	0.27	0.35	0.22	0.32	0.43	0.44
V34105-V34164	2516	243	12	0.001	0.87	0.17	0.25	0.27	0.32	0.22	0.29	0.43	0.40
V34106-V34107	2515	250	12	0.005	1.62	0.17	0.22	0.28	0.28	0.23	0.25	0.43	0.35
V34107-V34108	2514	320	12	0.005	1.60	0.17	0.24	0.28	0.31	0.23	0.28	0.43	0.39
V34108-V34109	FM06	341	12	0.004	1.47	0.17	0.16	0.28	0.21	0.23	0.19	0.43	0.67
V34109-V34110	3299	31	12	0.760	20.08	0.17	0.53	0.29	0.54	0.23	0.54	0.45	1.00
V34110-V34111	FMV2_2	34	15	0.011	4.31	0.37	0.20	0.37	0.20	1.03	0.33	1.36	1.00
V34164-V34106	V34164-V34106	107	12	0.014	2.70	0.17	0.19	0.28	0.25	0.23	0.23	0.43	0.31
V35002-V35003	2512	66	8	0.061	1.93	0.00	0.00	-	0.00	0.02	0.06	0.02	0.06
V35003-V35005	2511	122	8	0.137	2.89	0.00	0.01	0.00	0.01	0.02	0.06	0.02	0.06
V35004-V35005	1748	7	6	0.001	0.09	0.00	0.06	0.00	0.05	0.00	0.10	0.01	0.11
V35005-V35006	2510	147	10	0.120	4.90	0.00	0.03	0.00	0.02	0.02	0.06	0.03	0.07
V35006-V35007	2509	221	10	0.020	2.02	0.00	0.04	0.00	0.04	0.02	0.08	0.03	0.09
V35007-V35008	2508	351	10	0.010	1.42	0.01	0.06	0.01	0.05	0.02	0.09	0.03	0.11
V35008-V35009	2507	296	10	0.010	1.43	0.01	0.05	0.01	0.05	0.03	0.08	0.04	0.10
V35009-V35021	2506	91	10	0.045	3.01	0.01	0.04	0.01	0.04	0.03	0.08	0.04	0.09
V35010-V35011	2505	70	8	0.008	0.70	0.00	0.00	-	0.01	0.04	0.16	0.04	0.16
V35011-V35012	2504	127	8	0.008	0.70	0.00	0.00	0.00	0.02	0.04	0.13	0.04	0.13
V35012-V35013	2503	267	8	0.066	2.01	0.00	0.00	0.00	0.02	0.04	0.10	0.04	0.10
V35013-V35014	2502	213	8	0.045	1.65	0.00	0.01	0.00	0.03	0.04	0.11	0.04	0.11
V35014-V35018	2501	40	8	0.026	1.26	0.00	0.03	0.00	0.04	0.04	0.13	0.04	0.13
V35015-V35016	2500	87	8	0.008	0.68	0.00	0.03	0.00	0.02	0.00	0.04	0.00	0.07
V35016-V35018	2499	163	8	0.009	0.75	0.00	0.05	0.00	0.04	0.00	0.09	0.01	0.10

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V35017-V35018	2498	217	8	0.009	0.74	0.00	0.04	0.00	0.04	0.00	0.09	0.00	0.09
V35018-V35019	2497	383	8	0.026	1.26	0.01	0.07	0.01	0.08	0.05	0.19	0.05	0.20
V35019.B0-V35019.C0	8115	121	8	0.012	0.84	0.00	0.01	-	0.01	0.02	0.09	0.02	0.09
V35019.B0-V35019.C0	8116	274	8	0.028	1.30	0.00	0.03	0.00	0.03	0.02	0.08	0.02	0.08
V35019.C0-V35019.D0	8114	219	8	0.047	1.69	0.00	0.04	0.00	0.04	0.02	0.09	0.02	0.10
V35019.D0-V35019	8113	218	8	0.011	0.80	0.00	0.07	0.00	0.08	0.02	0.18	0.02	0.19
V35019-V35020	2496	203	8	0.008	0.71	0.01	0.07	0.01	0.08	0.07	0.17	0.08	0.18
V35020-V35021	2191	117	8	0.219	3.65	0.01	0.05	0.01	0.05	0.08	0.11	0.09	0.11
V35021-V35022	2190	218	10	0.181	6.02	0.02	0.05	0.03	0.06	0.10	0.11	0.12	0.12
V35022-V35023	2189	301	10	0.040	2.82	0.02	0.07	0.03	0.08	0.10	0.14	0.12	0.15
V35023-V35024	2188	300	10	0.020	2.01	0.02	0.08	0.03	0.09	0.10	0.16	0.12	0.17
V35024-V35025	2187	348	10	0.017	1.86	0.02	0.07	0.03	0.09	0.10	0.15	0.12	0.17
V35025-V35040	2186	161	10	0.025	2.23	0.02	0.11	0.03	0.12	0.10	0.20	0.12	0.22
V35027-V35028	2185	282	8	0.085	2.27	0.00	0.04	0.00	0.03	0.00	0.03	0.00	0.05
V35028-V35031	2184	233	8	0.022	1.15	0.00	0.06	0.00	0.05	0.00	0.07	0.01	0.09
V35029-V35030	2183	48	8	0.008	0.68	0.00	0.03	0.00	0.02	0.00	0.05	0.00	0.06
V35030-V35031	425	302	8	0.016	0.97	0.00	0.05	0.00	0.05	0.01	0.08	0.01	0.09
V35031-V35032	424	188	8	0.010	0.78	0.01	0.06	0.01	0.06	0.01	0.08	0.02	0.10
V35032-V35033	423	362	8	0.062	1.94	0.01	0.06	0.01	0.05	0.02	0.08	0.03	0.09
V35033-V35037	422	365	8	0.045	1.66	0.02	0.10	0.01	0.08	0.03	0.13	0.04	0.14
V35034-V35035	421	141	8	0.071	2.08	0.01	0.05	0.00	0.03	0.00	0.04	0.00	0.04
V35035-V35036	420	282	8	0.075	2.13	0.01	0.06	0.00	0.04	0.01	0.06	0.01	0.06
V35036-V35037.D0	8108	102	8	0.035	1.46	0.01	0.07	0.01	0.05	0.02	0.09	0.02	0.09
V35037.A0-V35037.B0	8111	210	8	0.014	0.93	0.01	0.06	0.00	0.04	0.01	0.06	0.01	0.06
V35037.B0-V35037.C0	8112	63	8	0.172	3.24	0.01	0.04	0.00	0.03	0.01	0.05	0.01	0.05
V35037.C0-V35037.D0	8110	32	8	0.092	2.37	0.01	0.07	0.00	0.05	0.01	0.08	0.01	0.08
V35037.D0-V35037	8109	225	8	0.032	1.40	0.02	0.10	0.01	0.08	0.03	0.13	0.03	0.14
V35037-V35038	419	389	8	0.034	1.44	0.04	0.09	0.03	0.08	0.06	0.12	0.07	0.13
V35038-V35039	418	97	8	0.497	5.51	0.04	0.09	0.03	0.08	0.06	0.11	0.08	0.12
V35039-V35040	417	38	8	0.026	1.26	0.04	0.16	0.03	0.14	0.06	0.23	0.08	0.26
V35040-V35061	416	14	10	0.007	1.22	0.06	0.16	0.06	0.15	0.16	0.25	0.20	0.28
V35041-V35042	415	112	8	0.009	0.73	0.00	0.01	-	0.01	0.00	0.05	0.00	0.05
V35042-V35043	414	281	8	0.026	1.26	0.00	0.04	0.00	0.03	0.01	0.05	0.01	0.06
V35043-V35044	413	282	8	0.026	1.26	0.01	0.06	0.00	0.05	0.01	0.09	0.01	0.10
V35044-V35045	411	331	8	0.005	0.53	0.01	0.08	0.00	0.07	0.02	0.15	0.02	0.16
V35045-V35046	3431	207	8	0.004	0.52	0.01	0.09	0.01	0.09	0.03	0.17	0.04	0.18
V35046-V35047	3430	185	8	0.004	0.52	0.01	0.11	0.01	0.10	0.03	0.18	0.04	0.19
V35047-V35048	410	179	8	0.004	0.49	0.01	0.08	0.01	0.08	0.03	0.13	0.04	0.14
V35048-V35059	409	38	8	0.126	2.77	0.01	0.06	0.01	0.05	0.03	0.09	0.04	0.10
V35049-V35050	408	5	8	0.073	2.11	0.00	0.00	-	0.00	0.01	0.06	0.01	0.06
V35050-V35054	407	209	8	0.004	0.49	0.00	0.05	-	0.03	0.01	0.09	0.01	0.09
V35051-V35052	406	4	8	0.005	0.56	0.01	0.08	0.01	0.05	0.00	0.05	0.00	0.06
V35052-V35053	933	230	8	0.035	1.47	0.01	0.07	0.01	0.04	0.01	0.06	0.01	0.06
V35053-V35054	932	233	8	0.048	1.72	0.01	0.08	0.01	0.06	0.01	0.08	0.01	0.09
V35054-V35055	1586	346	8	0.016	1.00	0.02	0.10	0.01	0.07	0.02	0.12	0.02	0.12
V35055-V35056	1585	301	8	0.016	0.98	0.02	0.09	0.01	0.07	0.04	0.13	0.04	0.14
V35056-V35057.A0	V35056-V35057.A0	224	8	0.019	1.07	0.02	0.09	0.01	0.08	0.04	0.14	0.05	0.15
V35057.A0-V35057	V35057.A0-V35057	86	8	0.018	1.06	0.02	0.08	0.01	0.07	0.04	0.12	0.05	0.13
V35057-V35058	1583	119	8	0.114	2.64	0.02	0.11	0.01	0.09	0.04	0.15	0.05	0.16
V35058-V35059	1582	86	8	0.005	0.53	0.02	0.11	0.02	0.09	0.04	0.15	0.05	0.16
V35059-V35060	3432	280	8	0.242	3.84	0.03	0.07	0.03	0.07	0.08	0.11	0.10	0.12
V35060-V35061	3433	184	8	0.102	2.49	0.03	0.14	0.03	0.13	0.08	0.22	0.10	0.24
V35061-V35063	1581	518	10	0.016	1.81	0.10	0.15	0.09	0.15	0.25	0.24	0.30	0.27
V35062-V35063	2336	45	8	0.010	0.78	0.00	0.09	-	0.09	0.00	0.15	0.00	0.17
V35063-V35064	1580	350	10	0.021	2.07	0.10	0.15	0.09	0.14	0.25	0.23	0.30	0.26
V35064-V35065	1891	351	10	0.023	2.14	0.10	0.16	0.09	0.15	0.25	0.25	0.30	0.28
V35065-V35066	1890	231	10	0.011	1.51	0.10	0.17	0.09	0.17	0.25	0.28	0.31	0.31
V35066-V35067	1889	350	10	0.011	1.47	0.10	0.17	0.09	0.17	0.25	0.28	0.31	0.31
V35067-V35068	1888	331	10	0.010	1.43	0.10	0.18	0.10	0.18	0.25	0.28	0.31	0.32
V35068-V35069	1887	346	10	0.010	1.43	0.10	0.18	0.10	0.18	0.25	0.28	0.31	0.32
V35069-V35100	1886	277	10	0.010	1.43	0.10	0.18	0.10	0.18	0.25	0.27	0.31	0.31
V35070-V35071	1885	103	8	0.008	0.71	0.00	0.06	0.00	0.04	0.00	0.04	0.00	0.07
V35071-V35073	1884	260	8	0.006	0.60	0.01	0.07	0.00	0.05	0.00	0.07	0.01	0.08
V35072-V35073	1883	8	8	0.016	1.00	0.00	0.03	-	0.02	0.01	0.08	0.01	0.08
V35073-V35074	1882	221	8	0.015	0.95	0.01	0.06	0.00	0.05	0.01	0.09	0.02	0.09
V35074-V35075	1881	224	8	0.018	1.03	0.01	0.07	0.01	0.05	0.02	0.09	0.02	0.09
V35075-V35076	1880	298	8	0.031	1.38	0.01	0.08	0.01	0.06	0.02	0.09	0.02	0.10
V35076-V35080	1879	271	8	0.033	1.41	0.03	0.11	0.01	0.09	0.03	0.13	0.03	0.14
V35077-V35078	1578	8	8	0.033	1.41	0.01	0.05	0.00	0.03	0.00	0.01	0.00	0.04
V35078-V35079	1577	262	8	0.033	1.43	0.01	0.05	0.00	0.03	0.00	0.05	0.00	0.05
V35079-V35080	1576	303	8	0.029	1.33	0.01	0.09	0.00	0.07	0.02	0.12	0.02	0.13
V35080-V35081	1575	318	8	0.015	0.95	0.03	0.12	0.02	0.09	0.05	0.14	0.06	0.15
V35081-V35097	1574	308	8	0.039	1.53	0.04	0.12	0.02	0.10	0.05	0.14	0.06	0.15
V35082-V35083	3435	108	8	0.046	1.68	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.03
V35083-V35097	1573	349	8	0.070	2.07	0.00	0.07	0.00	0.06	0.00	0.09	0.00	0.09
V35084-V35085	1572	174	6	0.007	0.30	0.00	0.08	0.00	0.06	0.00	0.07	0.00	0.10
V35085-V35086	1571	86	6	0.007	0.31	0.01	0.09	0.00	0.06	0.00	0.08	0.01	0.12
V35086-V35087	1570	67	6	0.009	0.35	0.01	0.10	0.00	0.08	0.00	0.09	0.01	0.15
V35087-V35088	1569	370	8	0.004	0.49	0.01	0.07	0.00	0.06	0.01	0.08	0.02	0.11
V35088-V35089	1568	319	8	0.035	1.47	0.01	0.06	0.01	0.05	0.02	0.08	0.02	0.09
V35089-V35091	1567	352	8	0.040	1.56	0.01	0.08	0.01	0.07	0.03	0.11	0.03	0.12
V35090-V35091	1566	92	8	0.010	0.80	0.00	0.05	-	0.04	0.00	0.07	0.00	0.07
V35091-V35092	2150	208	8	0.010	0.79	0.01	0.08	0.01	0.07	0.03	0.11	0.03	0.12
V35092-V35096	2149	246	8	0.035	1.45	0.01	0.08	0.01	0.07	0.03	0.11	0.03	0.12
V35093-V35094	2148	253	6	0.013	0.41	0.01	0.10	0.00	0.07	0.01	0.08	0.01	0.09
V35094-V35095	2147	184	6	0.016	0.46	0.01	0.08	0.00	0.06	0.01	0.08	0.01	0.09
V35095-V35096	2146	73	8	0.066	2.00	0.01	0.07	0.00	0.06	0.01	0.09	0.02	0.10
V35096-V35097	2145	97	8	0.027	1.29	0.02	0.11	0.02	0.09	0.04	0.14	0.05	0.15
V35097-V35098	2144	273	8	0.070	2.07	0.07	0.13	0.05	0.11	0.10	0.15	0.12	0.17
V35098-V35099	2143	270	8	0.071	2.08	0.07	0.12	0.05	0.10	0.10	0.14	0.12	0.15
V35099-V35100	2142	257	8	0.140	2.92	0.07	0.17	0.05	0.15	0.10	0.23	0.12	0.25
V35100-V35107	2141	192	10	0.027	2.31	0.17	0.19	0.15	0.18	0.34	0.27	0.44	0.31
V35101-V35102	2140	294	8	0.054	1.81	0.00	0.05	0.00	0.04	0.00	0.05	0.00	0.07
V35102.A0-V35102.B0	8123	225	8	0.026	1.27	0.00	0.04	0.00	0.03	0.01	0.07	0.01	0.07
V35102.B0-V35102.C0	8124	229	8	0.026	1.27	0.01	0.06	0.00	0.05	0.02	0.10	0.02	0.11
V35102.C0-V35102.D0	8125	276	8	0.029	1.32	0.01	0.07	0.01	0.06	0.04	0.10	0.04	0.11
V35102.CA-V35102.CB	8121	170	8	0.065	1.99	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.04
V35102.CB-V35102.CC	8122	210	8	0.065	1.99	0.00	0.04	0.00	0.03	0.01	0.05	0.01	0.06
V35102.CC-V35102.C0	8120	240	8	0.050	1.75	0.01	0.06	0.00	0.05	0.02	0.09	0.02	0.10
V35102.D0-V35102.E0	8126	226	8	0.094	2.40	0.01	0.07	0.01	0.06	0.04	0.11	0.04	0.12
V35102.E0-V35102	8127	199	8	0.022	1.16	0.01	0.07	0.01	0.07	0.04	0.11	0.04	0.12
V35102-V35103	2139	242	8	0.071	2.08	0.02	0.07	0.02	0.07	0.04	0.11	0.05	0.12
V35103-V35104	2138	253	8	0.045	1.66	0.02	0.07	0.02	0.06	0.05	0.10	0.06	0.11
V35104-V35105	2137	84	8	0.286	4.18	0.02	0.06	0.02	0.06	0.05	0.10	0.06	0.11
V35105-V35106	2136	141	8	0.042	1.61	0.02	0.09	0.02	0.09	0.05	0.14	0.06	0.16
V35106-V35107	2135	130	8	0.010	0.78	0.02	0.18	0.02	0.17	0.05	0.26	0.06	0.29
V35107-V35108	2132	159	10	0.025	2.24	0.18	0.22	0.17	0.21	0.39	0.32	0.50	0.36

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V35108-V35109	2131	352	10	0.010	1.42	0.18	0.24	0.17	0.23	0.39	0.36	0.50	0.41
V35109-V35125	2130	350	10	0.010	1.43	0.18	0.26	0.17	0.24	0.39	0.37	0.50	0.42
V35110-V35111	1782	210	8	0.011	0.81	0.00	0.07	0.00	0.04	0.00	0.06	0.00	0.07
V35111-V35112	1781	257	8	0.011	0.81	0.01	0.09	0.00	0.06	0.01	0.07	0.01	0.09
V35112-V35114	1780	346	8	0.010	0.80	0.01	0.09	0.01	0.07	0.01	0.08	0.01	0.10
V35113-V35114	1779	71	8	0.030	1.35	0.00	0.06	0.00	0.04	0.01	0.06	0.01	0.07
V35114-V35115	1778	180	8	0.025	1.24	0.02	0.09	0.01	0.07	0.02	0.09	0.02	0.11
V35115-V35116	1777	242	8	0.022	1.15	0.02	0.08	0.01	0.06	0.02	0.07	0.03	0.09
V35116-V35117	1776	152	8	0.230	3.74	0.02	0.05	0.01	0.04	0.02	0.05	0.03	0.07
V35117-V35124	1775	288	8	0.209	3.57	0.02	0.10	0.01	0.08	0.02	0.10	0.03	0.12
V35118-V35119	1774	246	8	0.020	1.11	0.01	0.07	0.00	0.05	0.01	0.06	0.01	0.07
V35119-V35120	1773	86	8	0.010	0.79	0.01	0.07	0.00	0.05	0.01	0.07	0.01	0.07
V35120-V35121	1611	346	8	0.014	0.94	0.01	0.08	0.00	0.06	0.01	0.08	0.01	0.09
V35121-V35122	1610	76	8	0.010	0.78	0.01	0.06	0.01	0.05	0.01	0.06	0.01	0.07
V35122-V35123	1609	157	8	0.467	5.33	0.01	0.04	0.01	0.03	0.01	0.04	0.01	0.04
V35123-V35124	1607	39	8	0.215	3.62	0.01	0.09	0.01	0.08	0.01	0.09	0.01	0.11
V35124-V35125	1606	115	8	0.010	0.77	0.03	0.24	0.02	0.22	0.03	0.31	0.05	0.35
V35125-V35126	365	256	10	0.010	1.44	0.22	0.25	0.20	0.24	0.42	0.36	0.54	0.41
V35126-V35144	364	351	10	0.015	1.74	0.22	0.24	0.20	0.23	0.42	0.35	0.55	0.40
V35127-V35128	886	103	8	0.019	1.09	0.00	0.00	-	0.01	0.00	0.00	0.00	0.01
V35128-V35129	885	349	8	0.020	1.11	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.02
V35129-V35136	884	249	8	0.013	0.88	0.01	0.08	0.01	0.07	0.00	0.05	0.00	0.07
V35130-V35131	883	290	6	0.005	0.25	0.00	0.03	-	0.03	0.00	0.00	0.00	0.04
V35131-V35132	882	310	6	0.007	0.31	0.00	0.07	0.00	0.06	0.00	0.07	0.00	0.09
V35132-V35135	881	280	6	0.011	0.39	0.00	0.06	0.00	0.06	0.02	0.13	0.02	0.14
V35133-V35134	880	262	6	0.006	0.27	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.08
V35134-V35135	879	266	6	0.011	0.37	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.09
V35135-V35136	878	85	6	0.036	0.69	0.00	0.08	0.01	0.08	0.02	0.13	0.03	0.14
V35136-V35137	877	249	8	0.027	1.29	0.02	0.10	0.01	0.09	0.02	0.14	0.03	0.16
V35137-V35139	876	270	8	0.004	0.52	0.02	0.13	0.01	0.12	0.04	0.21	0.05	0.23
V35138-V35139	875	386	8	0.005	0.55	0.00	0.08	0.00	0.08	0.00	0.13	0.00	0.15
V35139-V35140	874	299	8	0.003	0.45	0.02	0.14	0.02	0.14	0.05	0.23	0.06	0.25
V35140-V35141	873	330	8	0.005	0.53	0.02	0.11	0.02	0.11	0.05	0.17	0.06	0.18
V35141-V35142	872	269	8	0.115	2.65	0.02	0.06	0.02	0.06	0.06	0.11	0.08	0.12
V35142-V35143	871	301	8	0.169	3.21	0.02	0.07	0.02	0.07	0.09	0.13	0.10	0.14
V35143-V35144	870	111	8	0.066	2.00	0.02	0.19	0.02	0.19	0.09	0.30	0.10	0.34
V35144-V35145	246	300	10	0.016	1.81	0.24	0.25	0.22	0.25	0.51	0.38	0.65	0.43
V35145-V35146	245	128	10	0.012	1.56	0.24	0.27	0.23	0.26	0.51	0.40	0.65	0.46
V35146-V35147	244	273	10	0.010	1.43	0.24	0.28	0.23	0.28	0.51	0.42	0.65	0.49
V35147-V35148	243	360	10	0.010	1.43	0.24	0.25	0.23	0.25	0.51	0.38	0.65	0.43
V35148-V35149	242	322	10	0.027	2.32	0.24	0.21	0.23	0.21	0.53	0.32	0.67	0.36
V35149-V35204	241	365	10	0.031	2.47	0.24	0.29	0.23	0.29	0.53	0.48	0.67	0.53
V35150-V35152	240	292	8	0.042	1.59	0.00	0.06	0.00	0.05	0.01	0.08	0.01	0.09
V35151.A0-V35151.B0	362	86	8	0.012	0.86	0.00	0.04	0.00	0.03	0.00	0.05	0.00	0.07
V35151.B0-V35151.C0	361	175	8	0.009	0.75	0.00	0.05	0.00	0.04	0.01	0.07	0.01	0.09
V35151.C0-V35151.D0	360	253	8	0.012	0.84	0.00	0.05	0.00	0.04	0.01	0.06	0.01	0.08
V35151.D0-V35151.E0	359	147	8	0.048	1.71	0.00	0.04	0.00	0.03	0.01	0.05	0.01	0.06
V35151.E0-V35151	166	47	8	0.100	2.47	0.01	0.05	0.00	0.04	0.01	0.06	0.02	0.08
V35151.F0-V35151	8295	5	8	0.000	0.11	0.00	0.06	0.00	0.05	0.00	0.07	0.00	0.09
V35151-V35152	363	99	8	0.017	1.02	0.01	0.07	0.01	0.07	0.01	0.10	0.02	0.12
V35152-V35153	165	104	8	0.006	0.59	0.01	0.08	0.01	0.07	0.02	0.10	0.02	0.12
V35153-V35154	164	351	8	0.037	1.50	0.01	0.06	0.01	0.05	0.02	0.07	0.03	0.09
V35154-V35155.C0	8096	24	8	0.072	2.09	0.01	0.06	0.01	0.06	0.02	0.08	0.03	0.09
V35155.A0-V35155.B0	8136	367	8	0.029	1.32	0.00	0.06	0.00	0.04	0.02	0.11	0.02	0.11
V35155.B0-V35155.C0	8137	75	8	0.005	0.56	0.01	0.07	0.00	0.06	0.02	0.11	0.02	0.12
V35155.C0-V35155	8135	318	8	0.072	2.10	0.02	0.06	0.01	0.06	0.04	0.09	0.04	0.10
V35155-V35172	1423	126	8	0.079	2.19	0.02	0.08	0.02	0.07	0.04	0.11	0.05	0.13
V35156-V35158	1422	76	6	0.010	0.36	0.00	0.02	-	0.02	0.01	0.10	0.01	0.10
V35157-V35158	1420	55	6	0.020	0.51	0.00	0.04	0.00	0.03	0.00	0.08	0.01	0.08
V35158-V35160	1419	193	8	0.017	1.02	0.00	0.04	0.00	0.03	0.01	0.08	0.01	0.08
V35159-V35160	1418	25	6	0.027	0.59	0.00	0.05	0.00	0.04	0.00	0.08	0.00	0.09
V35160-V35162	1417	193	8	0.017	1.02	0.00	0.05	0.00	0.04	0.01	0.08	0.02	0.08
V35161-V35162	1416	73	8	0.053	1.81	0.00	0.02	-	0.02	0.00	0.04	0.00	0.04
V35162-V35165	1415	168	8	0.029	1.33	0.00	0.05	0.00	0.04	0.01	0.08	0.02	0.09
V35163-V35165	1414	28	6	0.020	0.51	0.00	0.05	0.00	0.04	0.00	0.09	0.01	0.10
V35164-V35165	1413	27	6	0.020	0.51	0.00	0.05	0.00	0.04	0.00	0.09	0.00	0.10
V35165-V35167	1412	168	8	0.030	1.35	0.01	0.06	0.01	0.05	0.02	0.09	0.03	0.10
V35167-V35168	1410	68	8	0.015	0.96	0.01	0.08	0.01	0.07	0.02	0.10	0.03	0.12
V35168-V35170	1409	188	8	0.012	0.87	0.02	0.11	0.01	0.08	0.02	0.11	0.03	0.13
V35169-V35170	1406	6	6	0.057	0.86	0.00	0.10	0.00	0.07	0.01	0.11	0.01	0.12
V35170-V35171	1405	187	8	0.013	0.89	0.02	0.10	0.01	0.08	0.03	0.12	0.04	0.13
V35171-V35172	1404	131	8	0.050	1.75	0.02	0.09	0.01	0.07	0.06	0.13	0.06	0.14
V35172-V35173	1403	226	8	0.079	2.20	0.04	0.10	0.03	0.09	0.09	0.14	0.11	0.15
V35173-V35174.G0	3426	105	8	0.064	1.97	0.04	0.10	0.03	0.09	0.09	0.17	0.11	0.18
V35174.A0-V35174.B0	3353	206	8	0.013	0.88	0.00	0.05	0.00	0.03	0.01	0.09	0.01	0.09
V35174.B0-V35174.C0	3354	174	8	0.040	1.57	0.01	0.05	0.00	0.04	0.04	0.11	0.04	0.11
V35174.C0-V35174.D0	3355	145	8	0.069	2.05	0.01	0.05	0.01	0.04	0.04	0.10	0.05	0.10
V35174.D0-V35174.E0	3356	80	8	0.089	2.33	0.01	0.05	0.01	0.04	0.05	0.11	0.05	0.11
V35174.E0-V35174.F0	3357	94	8	0.051	1.77	0.01	0.07	0.01	0.06	0.05	0.18	0.05	0.19
V35174.F0-V35174.G0	3424	185	8	0.005	0.55	0.01	0.10	0.01	0.09	0.07	0.22	0.07	0.23
V35174.G0-V35174	3425	245	8	0.062	1.95	0.05	0.12	0.04	0.10	0.16	0.21	0.18	0.22
V35174-V35175	1402	350	8	0.039	1.55	0.05	0.14	0.04	0.12	0.16	0.25	0.18	0.27
V35175-V35178	1401	349	8	0.018	1.06	0.05	0.14	0.04	0.13	0.17	0.25	0.19	0.27
V35176-V35177.A0	3344	70	8	0.037	1.49	0.00	0.01	0.00	0.01	0.00	0.04	0.00	0.05
V35177.A0-V35177	3345	280	8	0.038	1.51	0.00	0.03	0.00	0.03	0.00	0.03	0.01	0.05
V35177-V35178.E0	3346	55	8	0.058	1.88	0.01	0.05	0.00	0.04	0.00	0.05	0.01	0.07
V35178.A0-V35178.B0	3348	108	8	0.013	0.88	0.00	0.03	0.00	0.02	0.01	0.09	0.01	0.09
V35178.B0-V35178.C0	3350	240	8	0.011	0.83	0.00	0.03	0.00	0.03	0.01	0.09	0.01	0.09
V35178.C0-V35178.D0	3351	153	8	0.012	0.85	0.00	0.04	0.00	0.04	0.02	0.09	0.02	0.10
V35178.D0-V35178.E0	3352	148	8	0.018	1.06	0.00	0.04	0.00	0.04	0.02	0.08	0.02	0.09
V35178.E0-V35178	3347	292	8	0.085	2.28	0.01	0.09	0.01	0.08	0.02	0.15	0.03	0.16
V35178-V35193	322	221	10	0.043	2.92	0.06	0.09	0.05	0.09	0.19	0.16	0.22	0.17
V35179-V35180	321	371	10	0.015	1.71	0.00	0.01	-	0.01	0.01	0.06	0.01	0.06
V35180-V35191	319	369	10	0.076	3.90	0.00	0.05	0.00	0.05	0.03	0.09	0.03	0.10
V35181-V35183	318	260	8	0.011	0.80	0.01	0.08	0.00	0.05	0.01	0.07	0.01	0.08
V35182-V35183	317	280	8	0.059	1.89	0.01	0.06	0.00	0.05	0.00	0.06	0.01	0.07
V35183-V35187	316	240	8	0.011	0.81	0.01	0.10	0.01	0.08	0.01	0.10	0.02	0.12
V35184-V35186	315	246	8	0.038	1.52	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.05
V35185-V35186	314	18	6	0.021	0.52	0.00	0.03	0.00	0.02	0.00	0.03	0.00	0.07
V35186-V35187	313	298	8	0.049	1.73	0.00	0.06	0.00	0.05	0.00	0.07	0.01	0.10
V35187-V35189	312	221	8	0.010	0.78	0.02	0.10	0.01	0.08	0.02	0.11	0.03	0.14
V35188-V35189	311	326	6	0.056	0.86	0.00	0.07	0.00	0.06	0.00	0.09	0.00	0.12
V35189-V35190	310	29	8	0.016	1.00	0.02	0.10	0.01	0.09	0.03	0.12	0.04	0.15
V35190-V35191	309	350	8	0.010	0.79	0.02	0.11	0.01	0.10	0.03	0.14	0.05	0.17
V35191-V35192	308	244	10	0.010	1.44	0.02	0.09	0.02	0.09	0.05	0.13	0.06	0.15
V35192-V35193	307	173	10	0.007	1.20	0.02	0.09	0.02	0.09	0.05	0.14	0.06	0.15
V35193-V35202.A0	8221	60	10	0.171	5.86	0.08	0.12	0.08	0.11	0.24	0.20	0.28	0.21

Appendix C-2. Table 1 - Existing Collection System Gravity Main Model Output

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V35202.A0-V35202.B0	8245	246	10	0.014	1.69	0.09	0.15	0.08	0.15	0.24	0.26	0.28	0.29
V35202.B0-V35202.C0	8246	127	10	0.013	1.62	0.09	0.16	0.08	0.15	0.26	0.27	0.30	0.29
V35202.C0-V35202.D0	8244	224	10	0.013	1.61	0.09	0.17	0.08	0.16	0.26	0.29	0.30	0.31
V35202.D0-V35202.E0	8243	317	10	0.013	1.62	0.09	0.12	0.08	0.12	0.26	0.21	0.30	0.23
V35202.E0-V35202.F0	8242	99	10	0.297	7.72	0.09	0.12	0.08	0.12	0.26	0.21	0.31	0.23
V35202.F0-V35202.G0	8241	350	10	0.010	1.42	0.09	0.17	0.08	0.16	0.26	0.29	0.31	0.32
V35202.G0-V35202.H0	8240	248	10	0.010	1.42	0.09	0.17	0.08	0.16	0.26	0.29	0.31	0.32
V35202.H0-V35202.I0	8239	248	10	0.010	1.42	0.09	0.17	0.08	0.17	0.26	0.29	0.31	0.32
V35202.I0-V35202.J0	8238	307	10	0.013	1.62	0.09	0.14	0.09	0.14	0.26	0.24	0.31	0.26
V35202.J0-V35202.K0	8237	189	10	0.080	4.01	0.09	0.10	0.09	0.10	0.29	0.18	0.34	0.19
V35202.K0-V35202.L0	8236	150	10	0.098	4.43	0.09	0.10	0.09	0.10	0.29	0.17	0.34	0.19
V35202.L0-V35202.M0	8235	95	10	0.098	4.43	0.09	0.11	0.09	0.11	0.29	0.19	0.34	0.21
V35202.M0-V35202	1408	84	10	0.039	2.78	0.09	0.14	0.09	0.14	0.29	0.29	0.34	0.31
V35202-V35203	815	331	10	0.014	1.66	0.09	0.14	0.09	0.15	0.42	0.32	0.48	0.34
V35203-V35204	576	365	10	0.028	2.37	0.09	0.25	0.09	0.25	0.42	0.46	0.48	0.51
V35204-V35205	696	506	15	0.004	2.52	0.32	0.25	0.33	0.25	0.95	0.44	1.16	0.49
V35205-V35206	3427	315	15	0.004	2.59	0.32	0.19	0.33	0.19	0.95	0.32	1.16	0.35
V35206-V35207	575	167	15	0.087	12.30	0.32	0.19	0.33	0.19	0.95	0.32	1.16	0.36
V35207-V35208	574	498	15	0.004	2.54	0.32	0.20	0.33	0.21	0.96	0.35	1.18	0.39
V35208-V35225	3428	203	15	0.027	6.92	0.32	0.15	0.34	0.15	0.96	0.26	1.18	0.28
V35209-V35210	573	194	8	0.050	1.75	0.01	0.04	0.00	0.03	0.01	0.05	0.01	0.05
V35210-V35212	572	198	8	0.050	1.74	0.01	0.06	0.00	0.04	0.01	0.06	0.01	0.07
V35211-V35212	571	330	8	0.071	2.09	0.01	0.07	0.00	0.04	0.01	0.07	0.01	0.07
V35212-V35213	570	212	8	0.047	1.70	0.03	0.09	0.01	0.06	0.02	0.09	0.03	0.09
V35213-V35214	569	241	8	0.059	1.89	0.03	0.09	0.01	0.06	0.03	0.10	0.04	0.10
V35214-V35215	568	286	8	0.050	1.75	0.03	0.11	0.02	0.09	0.04	0.14	0.05	0.14
V35215-V35220	567	132	8	0.010	0.78	0.03	0.15	0.02	0.11	0.05	0.18	0.05	0.19
V35216-V35217	566	13	8	0.009	0.75	0.01	0.08	0.00	0.05	0.01	0.09	0.01	0.09
V35217-V35218	565	199	8	0.015	0.96	0.01	0.07	0.00	0.05	0.01	0.08	0.01	0.08
V35218-V35219	564	251	8	0.015	0.96	0.01	0.07	0.00	0.05	0.01	0.08	0.01	0.08
V35219-V35220	563	343	8	0.024	1.20	0.01	0.11	0.01	0.09	0.01	0.13	0.02	0.14
V35220-V35222	562	190	8	0.010	0.78	0.04	0.16	0.02	0.12	0.06	0.19	0.07	0.20
V35222-V35223	561	162	8	0.010	0.78	0.05	0.19	0.03	0.15	0.06	0.22	0.07	0.23
V35223-V35224	560	61	8	0.005	0.53	0.05	0.14	0.03	0.11	0.06	0.16	0.07	0.18
V35224-V35225	3429	61	8	0.354	4.65	0.05	0.18	0.03	0.17	0.07	0.29	0.08	0.32
V35225-V34110	3629	232	15	0.027	6.85	0.37	0.18	0.37	0.18	1.03	0.30	1.26	0.65
V35270-V34164	V35270-V34164	92	8	0.280	4.14	0.00	0.13	-	0.16	0.01	0.16	0.01	0.21
2016 CIP	8077_P00	283	12	0.008	2.09	0.75	0.44	1.50	0.81	1.05	0.53	1.60	0.83
2016 CIP	8077_P01	79	15	0.002	2.05	0.19	0.26	0.32	0.42	0.23	0.32	0.33	0.44
2016 CIP	8077_P02	217	15	0.006	3.30	0.56	0.28	1.18	0.41	0.82	0.34	1.27	0.43
2016 CIP	8077_P03	220	15	0.003	2.39	0.56	0.31	1.18	0.47	0.82	0.38	1.27	0.49
2016 CIP	8077_P04	168	15	0.007	3.40	0.56	0.27	1.18	0.41	0.82	0.33	1.27	0.43
2016 CIP	8077_P05	366	15	0.008	3.68	0.56	0.26	1.18	0.39	0.82	0.32	1.27	0.41
2016 CIP	8077_P06	234	15	0.016	5.28	0.56	0.22	1.18	0.32	0.81	0.27	1.27	0.33
2016 CIP	8077_P07	83	15	0.005	3.04	0.56	0.29	1.18	0.43	0.81	0.35	1.27	0.45
2016 CIP	8077_P08	362	15	0.003	2.42	0.53	0.31	1.13	0.46	0.73	0.36	1.18	0.47
2016 CIP	8077_P09	159	15	0.005	2.93	0.53	0.29	1.13	0.42	0.73	0.34	1.18	0.43
2016 CIP	8077_P10	91	15	0.005	3.09	0.53	0.28	1.13	0.42	0.73	0.33	1.17	0.43
2016 CIP	8077_P11	153	12	0.007	1.87	0.31	0.27	0.73	0.43	0.46	0.34	0.79	0.45
2016 CIP	8077_P12	26	12	0.011	2.43	0.31	0.24	0.73	0.37	0.46	0.29	0.79	0.39
2016 CIP	8077_P13	21	12	0.016	2.95	0.31	0.22	0.73	0.34	0.46	0.27	0.79	0.35
2016 CIP	8077_P14	263	12	0.008	2.08	0.30	0.26	0.72	0.41	0.46	0.32	0.79	0.43
2016 CIP	8077_P15	227	12	0.014	2.68	0.30	0.24	0.72	0.38	0.46	0.30	0.78	0.40
2016 CIP	8077_P16	43	12	0.011	2.45	0.30	0.24	0.72	0.37	0.46	0.29	0.78	0.39
2016 CIP	8077_P17	193	10	0.009	1.35	0.22	0.28	0.40	0.37	0.27	0.31	0.39	0.37
2016 CIP	8077_P18	418	10	0.009	1.33	0.22	0.28	0.40	0.37	0.27	0.31	0.39	0.37
2016 CIP	8077_P20	23	8	0.146	2.99	0.03	0.07	0.05	0.09	0.08	0.11	0.09	0.12
2016 CIP	8077_P21	54	8	0.221	3.67	0.00	0.03	-	0.05	0.00	0.06	0.00	0.06
2016 CIP	8077_P22	154	8	0.084	2.26	0.03	0.07	0.05	0.10	0.08	0.12	0.09	0.13
2016 CIP	8077_P23	31	8	0.015	0.95	0.03	0.10	0.05	0.14	0.08	0.17	0.09	0.18
2016 CIP	8077_P24	322	8	0.006	0.59	0.03	0.13	0.05	0.19	0.08	0.23	0.09	0.25

Note: 2016 CIP pipes manually added to the model based on drawings for near term CIP projects received March 2016. Asset ID unavailable for these pipes.

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Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B01001-B01003	86	508	8	0.010	0.77	0.02	0.09	0.02	0.09	0.01	0.08	0.01	0.08
B01002-B01003	3300	101	8	0.040	1.55	0.00	0.06	0.00	0.06	0.00	0.04	0.00	0.05
B01003-B01004	85	257	8	0.038	1.51	0.02	0.08	0.02	0.09	0.01	0.07	0.02	0.08
B01004-B01005	82	338	8	0.042	1.60	0.02	0.11	0.03	0.13	0.01	0.10	0.02	0.12
B01005-B01006	81	355	8	0.006	0.58	0.02	0.16	0.03	0.18	0.02	0.15	0.03	0.19
B01006-B01007	80	398	8	0.004	0.50	0.03	0.18	0.05	0.21	0.03	0.18	0.05	0.23
B01007-B01010	79	265	8	0.004	0.49	0.04	0.21	0.05	0.24	0.04	0.20	0.06	0.25
B01008-B01009	78	149	6	0.072	0.97	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
B01009-B01010	77	152	6	0.070	0.96	0.01	0.18	0.01	0.21	0.00	0.17	0.00	0.21
B01010-B01011	76	141	8	0.004	0.49	0.05	0.19	0.07	0.22	0.05	0.18	0.07	0.23
B01011-B01013	75	499	8	0.022	1.15	0.05	0.13	0.07	0.16	0.05	0.13	0.08	0.16
B01012-B01013	3301	140	8	0.081	2.22	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.08
B01013-B01014	71	429	8	0.082	2.24	0.07	0.15	0.09	0.17	0.05	0.13	0.09	0.17
B01014-B01020	70	123	8	0.019	1.09	0.07	0.17	0.10	0.20	0.06	0.15	0.10	0.20
B01015-B01016	299	398	8	0.073	2.10	0.00	0.02	0.00	0.02	0.01	0.04	0.01	0.05
B01016-B01017	298	349	8	0.064	1.98	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.06
B01017-B01018	161	351	8	0.076	2.15	0.01	0.06	0.01	0.08	0.01	0.08	0.02	0.10
B01018-B01020	156	342	8	0.014	0.92	0.01	0.12	0.02	0.15	0.02	0.12	0.03	0.16
B01019-B01020	153	478	8	0.005	0.52	0.01	0.12	0.01	0.13	0.01	0.11	0.01	0.14
B01020-B01021	140	358	8	0.047	1.70	0.09	0.27	0.14	0.32	0.08	0.26	0.14	0.33
B01021-B01024	130	65	8	0.001	0.22	0.09	0.28	0.14	0.33	0.08	0.27	0.15	0.34
B01022.A0-B01022	7648	6	8	0.002	0.35	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B01022-B01023	121	235	8	0.085	2.28	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
B01023-B01024	289	226	8	0.078	2.18	0.01	0.11	0.01	0.13	0.01	0.10	0.01	0.13
B01024-B01025	700	285	8	0.049	1.73	0.10	0.16	0.16	0.19	0.09	0.15	0.17	0.20
B01025-B01026	691	250	8	0.111	2.60	0.11	0.15	0.17	0.19	0.10	0.15	0.17	0.19
B01026.A0-B01026	7649	36	8	0.013	0.88	0.00	0.09	0.00	0.11	0.00	0.10	0.00	0.13
B01026-B01050	690	177	8	0.055	1.84	0.11	0.20	0.17	0.25	0.10	0.20	0.18	0.26
B01027-B01028	3308	20	8	0.002	0.35	0.01	0.07	0.01	0.07	0.00	0.06	0.00	0.06
B01028-B01030	689	372	8	0.067	2.02	0.01	0.08	0.01	0.09	0.00	0.08	0.00	0.09
B01029-B01030	681	64	8	0.005	0.55	0.01	0.11	0.01	0.11	0.01	0.12	0.01	0.12
B01030-B01034	683	217	8	0.005	0.55	0.02	0.16	0.02	0.18	0.02	0.17	0.02	0.20
B01031.B0-B01031.E0	527	216	8	0.006	0.60	0.01	0.09	0.01	0.09	0.01	0.11	0.01	0.11
B01031.D0-B01031.E0	530	180	8	0.016	0.98	0.01	0.09	0.01	0.09	0.01	0.11	0.01	0.11
B01031.E0-B01031.F0	531	338	8	0.016	0.98	0.02	0.09	0.02	0.09	0.03	0.11	0.04	0.12
B01031.F0-B01031	532	109	8	0.080	2.21	0.02	0.07	0.03	0.08	0.03	0.09	0.04	0.10
B01031-B01032	533	119	8	0.081	2.22	0.02	0.07	0.03	0.08	0.04	0.09	0.05	0.11
B01032-B01033	680	240	8	0.071	2.08	0.03	0.08	0.03	0.09	0.04	0.10	0.05	0.11
B01033-B01034	684	295	8	0.104	2.52	0.03	0.14	0.04	0.16	0.04	0.16	0.06	0.18
B01034-B01035	679	335	8	0.007	0.67	0.05	0.18	0.07	0.20	0.07	0.19	0.09	0.23
B01035-B01036	675	264	8	0.022	1.15	0.06	0.19	0.08	0.22	0.07	0.19	0.10	0.23
B01036-B01037	674	322	10	0.006	1.06	0.08	0.19	0.10	0.21	0.07	0.18	0.10	0.22
B01037-B01038	673	326	10	0.005	1.00	0.08	0.19	0.10	0.22	0.07	0.19	0.11	0.23
B01038.A0-B01038	1834	37	6	0.323	2.06	0.00	0.17	0.00	0.19	0.01	0.19	0.01	0.22
B01038-B01039	672	251	10	0.005	1.00	0.08	0.20	0.11	0.23	0.08	0.20	0.12	0.25
B01039-B01047	671	115	10	0.004	0.85	0.08	0.21	0.11	0.25	0.08	0.21	0.13	0.27
B01040-B01041	3303	45	8	0.583	5.97	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02
B01041-B01043	3304	180	8	0.021	1.13	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.04
B01043-B01044	670	308	8	0.055	1.83	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.08
B01044-B01045	669	304	8	0.004	0.49	0.00	0.06	0.01	0.09	0.01	0.07	0.01	0.10
B01045-B01046	3306	193	8	0.037	1.50	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.07
B01046-B01047	3307	168	8	0.216	3.63	0.01	0.16	0.02	0.19	0.01	0.15	0.02	0.20
B01047-B01048	668	233	10	0.006	1.06	0.10	0.18	0.14	0.21	0.09	0.18	0.15	0.23
B01048-B01049	667	342	10	0.025	2.24	0.10	0.14	0.14	0.17	0.10	0.14	0.16	0.18
B01049-B01050	665	398	10	0.027	2.34	0.10	0.17	0.15	0.21	0.10	0.16	0.16	0.21
B01050-B01051	664	249	12	0.026	3.70	0.21	0.16	0.33	0.20	0.20	0.16	0.35	0.21
B01051-B01053	663	265	12	0.024	3.56	0.21	0.16	0.33	0.21	0.20	0.16	0.36	0.22
B01052-B01053	3309	46	8	0.006	0.59	0.00	0.12	0.00	0.16	0.00	0.13	0.00	0.17
B01053-B01055	528	499	12	0.024	3.57	0.21	0.16	0.34	0.21	0.20	0.16	0.36	0.22
B01054-B01055	3310	47	8	0.013	0.89	0.00	0.12	0.00	0.16	0.00	0.13	0.00	0.17
B01055-B01056	525	271	12	0.024	3.57	0.21	0.16	0.34	0.21	0.20	0.16	0.37	0.22
B01056-B01057.J0	524	235	12	0.024	3.57	0.21	0.17	0.35	0.23	0.20	0.18	0.38	0.24
B01057.A0-B01057.B0	8071	103	8	0.013	0.89	0.00	0.05	0.01	0.06	0.02	0.11	0.03	0.12
B01057.AA-B01057.A0	B01057.AA-B01057.A0	203	8	0.013	0.88	0.00	0.05	0.00	0.05	0.01	0.08	0.01	0.09
B01057.B0-B01057.CB	B01057.B0-B01057.CB	100	8	0.012	0.86	0.00	0.05	0.01	0.07	0.02	0.11	0.03	0.12
B01057.C0-B01057.DB	B01057.C0-B01057.DB	67	8	0.009	0.73	0.00	0.05	0.01	0.09	0.03	0.13	0.04	0.15
B01057.CA-B01057.CB	B01057.CA-B01057.CB	201	8	0.010	0.80	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.06
B01057.CB-B01057.C0	B01057.CB-B01057.C0	133	8	0.018	1.05	0.00	0.05	0.01	0.08	0.02	0.12	0.03	0.13
B01057.D0-B01057.EB	B01057.D0-B01057.EB	43	8	0.037	1.50	0.01	0.05	0.02	0.09	0.03	0.10	0.05	0.12
B01057.DA-B01057.DB	B01057.DA-B01057.DB	217	8	0.010	0.78	0.00	0.02	0.00	0.04	0.00	0.06	0.00	0.07
B01057.DB-B01057.DF	B01057.DB-B01057.DF	143	8	0.015	0.95	0.00	0.05	0.01	0.10	0.03	0.12	0.04	0.14
B01057.DC-B01057.DE	B01057.DC-B01057.DE	126	8	0.012	0.84	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.02
B01057.DD-B01057.DE	B01057.DD-B01057.DE	100	8	0.012	0.85	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.02
B01057.DE-B01057.DF	B01057.DE-B01057.DF	134	8	0.011	0.84	0.00	0.05	0.01	0.08	0.00	0.06	0.00	0.09
B01057.DF-B01057.D0	B01057.DF-B01057.D0	33	8	0.020	1.09	0.01	0.06	0.02	0.10	0.03	0.10	0.04	0.13
B01057.E0-B01057.F0	8075	67	8	0.019	1.07	0.01	0.08	0.03	0.13	0.05	0.17	0.07	0.20
B01057.EA-B01057.EB	B01057.EA-B01057.EB	153	8	0.010	0.78	0.00	0.05	0.00	0.06	0.01	0.09	0.01	0.10
B01057.EB-B01057.E0	B01057.EB-B01057.E0	136	8	0.056	1.85	0.01	0.06	0.03	0.10	0.04	0.12	0.06	0.15
B01057.F0-B01057.G0	7818	300	8	0.009	0.73	0.01	0.11	0.03	0.16	0.06	0.19	0.08	0.23
B01057.G0-B01057.H0	7819	321	8	0.009	0.73	0.02	0.12	0.05	0.17	0.06	0.19	0.08	0.22
B01057.H0-B01057.I0	7836	335	8	0.012	0.84	0.02	0.12	0.05	0.17	0.06	0.18	0.09	0.22
B01057.I0-B01057.J0	7972	149	8	0.012	0.85	0.03	0.20	0.06	0.27	0.06	0.24	0.10	0.31
B01057.J0-B01057	8301	111	12	0.025	3.63	0.23	0.15	0.41	0.20	0.26	0.16	0.48	0.21
B01057-B01058	523	324	12	0.114	7.78	0.23	0.27	0.41	0.41	0.26	0.30	0.48	0.45
B01058-B01060	522	476	15	0.008	2.03	0.88	0.33	2.04	0.52	1.14	0.38	2.43	0.64
B01060-B01061	3283	115	15	0.009	2.15	0.88	0.39	2.04	0.71	1.14	0.54	2.44	0.84
B01061-B01062	519	399	21	0.007	5.74	2.11	0.36	6.42	0.69	4.57	0.55	8.23	0.95
B01062-B01063	3312	502	21	0.005	4.90	2.11	0.33	6.43	0.62	4.57	0.50	8.24	0.79
B01063-B01065	512	245	21	0.016	8.55	2.11	0.35	6.44	0.68	4.57	0.54	8.26	0.79
B01064-B01065	3313	21	8	0.541	5.74	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
B01065-B01068	506	280	24	0.002	4.86	2.11	0.37	6.45	0.72	4.57	0.57	8.26	0.92
B01066-B01068	3315	23	8	0.414	5.02	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
B01067-B01068	3314	21	8	0.595	6.02	0.00	0.51	0.00	0.51	0.00	0.50	0.00	0.50
B01068-B01093	505	447	24	0.003	5.50	2.11	0.35	6.46	0.68	4.57	0.54	8.27	0.85
B01069-B01070	504	117	8	0.017	1.03	0.00	0.04	0.00	0.04	0.02	0.10	0.02	0.10
B01070-B01071	503	221	8	0.018	1.06	0.00	0.04	0.00	0.05	0.02	0.10	0.03	0.11
B01071-B01075	500	127	8	0.018	1.04	0.00	0.07	0.01	0.09	0.02	0.11	0.03	0.13
B01072-B01073	206	210	8	0.038	1.52	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B01073-B01074	199	300	8	0.039	1.54	0.01	0.07	0.01	0.07	0.01	0.06	0.01	0.07
B01074-B01075	493	300	8	0.033	1.41	0.02	0.09	0.02	0.10	0.01	0.09	0.02	0.11
B01075-B01076.A0	488	296	8	0.019	1.09	0.03	0.11	0.04	0.13	0.04	0.13	0.05	0.16
B01076.A0-B01076	B01076.A0-B01076	51	8	0.017	1.02	0.00	0.07	0.00	0.08	0.00	0.09	0.00	0.10
B01076-B01079	483	297	8	0.021	1.13	0.03	0.11	0.04	0.13	0.05	0.14	0.07	0.16
B01077-B01078	478	187	8	0.045	1.65	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B01078-B01079	471	228	8	0.063	1.96	0.00	0.06	0.00	0.08	0.01	0.09	0.01	0.11
B01079-B01080	466	169	8	0.038	1.51	0.03	0.09	0.05	0.12	0.06	0.13	0.08	0.15
B01080-B01082	459	252	8	0.078	2.17	0.03	0.14	0.06	0.20	0.06	0.18	0.09	0.24

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B01081.A0-B01081.B0	7848	177	8	0.040	1.56	0.01	0.05	0.01	0.07	0.00	0.03	0.01	0.06
B01081.AA-B01081.AB	7849	330	8	0.013	0.91	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.02
B01081.AB-B01081.A0	7850	206	8	0.038	1.53	0.01	0.04	0.01	0.05	0.00	0.00	0.00	0.04
B01081.B0-B01081.CH	7839	52	8	0.021	1.12	0.01	0.06	0.01	0.09	0.01	0.07	0.01	0.10
B01081.C0-B01081.D0	7846	99	8	0.014	0.92	0.01	0.08	0.03	0.13	0.02	0.09	0.04	0.14
B01081.CA-B01081.CC	7855	209	8	0.005	0.54	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.06
B01081.CB-B01081.CC	7841	79	8	0.020	1.10	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
B01081.CC-B01081.CD	7856	161	8	0.005	0.53	0.00	0.05	0.00	0.08	0.00	0.05	0.01	0.08
B01081.CD-B01081.CE	7854	60	8	0.007	0.66	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
B01081.CE-B01081.CF	7853	84	8	0.064	1.98	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.05
B01081.CF-B01081.CG	7852	177	8	0.101	2.48	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.06
B01081.CG-B01081.CH	7851	73	8	0.058	1.88	0.01	0.06	0.01	0.08	0.01	0.06	0.02	0.09
B01081.CH-B01081.C0	7840	276	8	0.028	1.30	0.01	0.08	0.03	0.11	0.02	0.09	0.03	0.13
B01081.D0-B01081.E0	7847	171	8	0.014	0.92	0.01	0.08	0.03	0.13	0.02	0.09	0.04	0.14
B01081.E0-B01081.FI	B01081.EO-B01081.FI	65	8	0.013	0.91	0.01	0.10	0.04	0.16	0.02	0.10	0.04	0.16
B01081.EA-B01081.E0	B01081.EA-B01081.EO	207	8	0.011	0.82	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
B01081.F0-B01081.G0	7843	67	8	0.095	2.40	0.02	0.08	0.06	0.12	0.02	0.07	0.06	0.12
B01081.FA-B01081.FB	B01081.FA-B01081.FB	69	8	0.011	0.81	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.01
B01081.FB-B01081.FC	B01081.FB-B01081.FC	112	8	0.011	0.82	0.01	0.09	0.01	0.09	0.00	0.00	0.00	0.03
B01081.FC-B01081.FE	B01081.FC-B01081.FE	52	8	0.011	0.82	0.01	0.09	0.01	0.09	0.00	0.01	0.00	0.04
B01081.FD-B01081.FE	B01081.FD-B01081.FE	68	8	0.010	0.78	0.00	0.04	0.00	0.05	0.00	0.01	0.00	0.03
B01081.FE-B01081.FF	B01081.FE-B01081.FF	133	8	0.011	0.81	0.01	0.09	0.01	0.09	0.00	0.03	0.00	0.06
B01081.FF-B01081.FG	B01081.FF-B01081.FG	322	8	0.010	0.79	0.01	0.09	0.02	0.10	0.00	0.03	0.01	0.07
B01081.FG-B01081.FH	B01081.FG-B01081.FH	93	8	0.011	0.84	0.01	0.08	0.02	0.10	0.00	0.03	0.01	0.07
B01081.FH-B01081.FI	B01081.FH-B01081.FI	110	8	0.014	0.93	0.01	0.10	0.02	0.14	0.00	0.06	0.01	0.12
B01081.FI-B01081.F0	B01081.FI-B01081.FO	104	8	0.016	1.00	0.02	0.09	0.06	0.14	0.02	0.08	0.06	0.14
B01081.G0-B01081.H0	7844	272	8	0.042	1.60	0.02	0.11	0.06	0.16	0.02	0.11	0.06	0.17
B01081.H0-B01081.I0	7838	116	8	0.009	0.76	0.02	0.13	0.06	0.20	0.03	0.14	0.07	0.21
B01081.I0-B01081	7837	82	8	0.010	0.78	0.02	0.11	0.07	0.18	0.03	0.12	0.07	0.19
B01081-B01082	449	127	8	0.023	1.19	0.02	0.15	0.07	0.23	0.03	0.18	0.08	0.26
B01082-B01083	114	252	8	0.010	0.77	0.06	0.16	0.13	0.23	0.09	0.20	0.17	0.27
B01083-B01084	113	144	8	0.071	2.08	0.06	0.11	0.13	0.16	0.10	0.14	0.18	0.19
B01084-B01085	102	104	8	0.109	2.58	0.06	0.11	0.13	0.16	0.10	0.14	0.18	0.19
B01085-B01086	287	144	8	0.064	1.98	0.06	0.14	0.13	0.21	0.10	0.17	0.18	0.24
B01086-B01088	96	51	8	0.020	1.09	0.06	0.16	0.13	0.24	0.10	0.20	0.18	0.28
B01087-B01088	2127	15	8	0.000	0.06	0.00	0.16	0.00	0.24	0.00	0.20	0.00	0.28
B01088-B01089	95	209	8	0.022	1.15	0.06	0.15	0.14	0.22	0.10	0.18	0.18	0.25
B01089-B01090	93	63	8	0.045	1.65	0.06	0.13	0.14	0.20	0.10	0.16	0.18	0.23
B01090-B01091	92	101	8	0.044	1.63	0.06	0.15	0.14	0.23	0.10	0.19	0.18	0.26
B01091-B01092	91	82	8	0.015	0.95	0.06	0.17	0.14	0.26	0.10	0.22	0.19	0.31
B01092-B01093	90	90	8	0.013	0.88	0.06	0.18	0.14	0.27	0.10	0.22	0.19	0.31
B01093-B01096	89	54	24	0.004	6.42	2.16	0.37	6.61	0.69	4.62	0.55	8.49	0.84
B01094-B01096	3317	26	8	0.187	3.38	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
B01095-B01096	3316	32	8	0.149	3.01	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
B01096-B01097	88	439	24	0.002	4.96	2.16	0.30	6.62	0.54	4.62	0.44	8.49	0.64
B01097-B01099	69	383	24	0.024	15.78	2.16	0.28	6.63	0.52	4.62	0.42	8.50	0.67
B01098-B01099	68	13	8	0.228	3.73	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
B01099-B01100	67	523	24	0.003	5.86	2.16	0.37	6.64	0.73	4.63	0.57	8.51	0.96
B01100-B01101	66	520	24	0.002	5.00	2.16	0.35	6.66	0.68	4.63	0.54	8.53	0.84
B01101-B01127	FM09	390	24	0.005	7.35	2.16	0.27	6.67	0.48	4.63	0.39	8.54	0.56
B01102-B01103	3319	24	8	0.002	0.35	0.02	0.12	0.02	0.12	0.02	0.12	0.02	0.12
B01103-B01105	64	231	8	0.012	0.84	0.01	0.09	0.02	0.09	0.02	0.09	0.02	0.10
B01104-B01105	63	22	8	0.002	0.35	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.07
B01105-B01106	62	230	8	0.015	0.95	0.01	0.08	0.02	0.09	0.02	0.09	0.02	0.10
B01106.A0-B01106	60	19	8	0.002	0.35	0.00	0.05	0.00	0.05	0.00	0.06	0.00	0.07
B01106-B01107	61	46	8	0.028	1.31	0.01	0.07	0.02	0.08	0.02	0.09	0.03	0.10
B01107-B01111.A0	2121	20	8	0.036	1.47	0.01	0.10	0.02	0.11	0.02	0.11	0.03	0.12
B01108-B01109	58	300	8	0.023	1.18	0.01	0.08	0.01	0.08	0.01	0.06	0.01	0.06
B01109-B01110	57	163	8	0.011	0.82	0.01	0.08	0.02	0.09	0.01	0.06	0.01	0.07
B01110-B01111	56	35	8	0.034	1.45	0.01	0.11	0.02	0.12	0.01	0.09	0.01	0.11
B01111.A0-B01111.B0	2134	224	8	0.007	0.63	0.02	0.14	0.03	0.15	0.02	0.13	0.03	0.15
B01111.B0-B01111.C0	2122	202	8	0.007	0.63	0.03	0.14	0.03	0.15	0.02	0.13	0.03	0.15
B01111.C0-B01111	2123	50	8	0.008	0.70	0.03	0.14	0.03	0.16	0.02	0.13	0.04	0.16
B01111-B01113.A0	2124	102	8	0.014	0.92	0.04	0.16	0.05	0.18	0.03	0.14	0.05	0.17
B01113.A0-B01113.B0	2125	187	8	0.009	0.72	0.05	0.17	0.06	0.19	0.03	0.14	0.05	0.18
B01113.B0-B01113.C0	7828	230	8	0.013	0.89	0.05	0.15	0.06	0.16	0.03	0.12	0.05	0.16
B01113-B01113.C0	2126	25	8	0.051	1.77	0.05	0.10	0.06	0.11	0.04	0.09	0.06	0.11
B01113-B01114	55	100	8	0.338	4.54	0.05	0.12	0.06	0.13	0.04	0.10	0.06	0.13
B01114-B01115	54	161	8	0.014	0.93	0.05	0.18	0.06	0.20	0.04	0.14	0.06	0.18
B01115-B01116	53	209	8	0.014	0.92	0.08	0.18	0.09	0.20	0.04	0.13	0.06	0.17
B01116-B01123	52	102	8	0.036	1.48	0.08	0.14	0.09	0.15	0.04	0.10	0.07	0.13
B01117-B01118	51	287	8	0.050	1.75	0.02	0.10	0.02	0.10	0.00	0.05	0.00	0.05
B01118-B01119	50	283	8	0.016	0.98	0.03	0.11	0.03	0.12	0.01	0.06	0.01	0.07
B01119-B01120	49	125	8	0.036	1.49	0.03	0.11	0.03	0.12	0.01	0.05	0.01	0.07
B01120-B01121	194	188	8	0.040	1.57	0.05	0.12	0.06	0.13	0.01	0.06	0.02	0.08
B01121-B01122	193	192	8	0.040	1.56	0.05	0.14	0.06	0.14	0.01	0.07	0.02	0.10
B01122-B01123	192	225	8	0.021	1.14	0.05	0.13	0.06	0.14	0.01	0.08	0.03	0.11
B01123-B01124	3006	157	8	0.339	4.55	0.13	0.17	0.15	0.19	0.07	0.12	0.11	0.16
B01124-B01125	3005	101	8	0.025	1.25	0.13	0.20	0.15	0.21	0.07	0.14	0.11	0.18
B01125-B01126	191	201	8	0.081	2.23	0.13	0.18	0.15	0.19	0.07	0.13	0.11	0.17
B01126-B01127	190	20	8	0.044	1.63	0.13	0.41	0.16	0.60	0.07	0.51	0.12	0.59
B01127-B01128	FMB2_2	54	24	0.023	15.62	2.25	0.21	6.82	0.38	4.65	0.31	8.67	0.72
B01151-B01061	B01151-B01061	252	21	0.000	1.21	1.36	0.42	4.38	0.79	3.51	0.67	5.81	0.95
B01152-B01151	FM07	79	24	0.001	4.64	1.36	0.44	4.38	0.82	3.51	0.71	5.81	1.00
B02001-B01058	2977	323	12	0.022	3.44	0.65	0.36	1.61	0.57	0.94	0.42	1.94	0.64
B02002-B02003	183	158	8	0.029	1.34	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B02003-B02004	182	165	8	0.064	1.98	0.01	0.04	0.01	0.04	0.01	0.04	0.01	0.05
B02004-B02027	181	134	8	0.113	2.63	0.01	0.30	0.01	0.50	0.01	0.36	0.01	0.52
B02005-B02006	48	278	8	0.010	0.78	0.04	0.15	0.04	0.15	0.01	0.07	0.01	0.07
B02006-B02007	47	299	8	0.036	1.48	0.05	0.15	0.06	0.15	0.01	0.08	0.02	0.09
B02007-B02008	46	329	8	0.023	1.20	0.07	0.18	0.07	0.19	0.02	0.11	0.03	0.13
B02008-B02009	45	272	8	0.016	0.99	0.07	0.15	0.08	0.15	0.03	0.09	0.04	0.11
B02009-B02010	6938	143	8	0.410	5.00	0.08	0.12	0.08	0.12	0.03	0.08	0.04	0.09
B02010-B02014	6937	31	8	0.042	1.60	0.08	0.15	0.09	0.16	0.03	0.10	0.05	0.12
B02011.A0-B02011	7651	52	8	0.008	0.70	0.00	0.01	0.00	0.01	0.00	0.04	0.00	0.04
B02011-B02012	6936	339	8	0.020	1.10	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B02012-B02013	6935	365	8	0.058	1.89	0.00	0.02	0.00	0.05	0.01	0.04	0.01	0.06
B02013-B02014	6934	297	8	0.057	1.87	0.00	0.08	0.01	0.10	0.01	0.07	0.02	0.10
B02014-B02015	6933	303	8	0.058	1.89	0.08	0.14	0.10	0.16	0.04	0.10	0.07	0.13
B02015-B02016.B0	6939	365	8	0.066	2.00	0.08	0.13	0.10	0.14	0.04	0.09	0.07	0.12
B02016.A0-B02016.B0	7294	269	8	0.014	0.91	0.00	0.55	0.01	0.56	0.00	0.54	0.00	0.55
B02016.B0-B02016	6940	32	8	0.194	3.44	0.09	0.12	0.11	0.14	0.05	0.09	0.08	0.12
B02016-B02024	6932	383	8	0.075	2.14	0.09	0.17	0.11	0.20	0.05	0.13	0.08	0.18
B02017-B02018	6931	456	8	0.050	1.75	0.01	0.06	0.01	0.06	0.00	0.05	0.00	0.05
B02018-B02019	6930	268	8	0.080	2.21	0.02	0.07	0.02	0.08	0.01	0.06	0.02	0.07
B02019-B02022	6929	250	8	0.055	1.82	0.02	0.09	0.03	0.10	0.02	0.08	0.03	0.10
B02020-B02021.D0	2982	193	8	0.006	0.63	0.01	0.24	0.01	0.25	0.01	0.23	0.01	0.25

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B02021.A0-B02021.C0	2980	311	8	0.009	0.75	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.05
B02021.B0-B02021.C0	2981	196	8	0.011	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.05
B02021.C0-B02021.D0	2979	78	8	0.083	2.26	0.00	0.21	0.01	0.23	0.01	0.21	0.01	0.24
B02021.D0-B02021	3047	74	8	0.002	0.38	0.02	0.23	0.02	0.25	0.01	0.22	0.02	0.25
B02021-B02022.B0	7830	167	8	0.048	1.71	0.02	0.07	0.02	0.09	0.02	0.07	0.03	0.09
B02022.A0-B02022.B0	7829	282	8	0.011	0.83	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.07
B02022.B0-B02022	7293	160	8	0.047	1.70	0.02	0.08	0.03	0.10	0.02	0.08	0.03	0.11
B02022-B02023	6928	234	8	0.073	2.11	0.04	0.10	0.06	0.12	0.04	0.10	0.07	0.12
B02023-B02024	6927	346	8	0.070	2.07	0.04	0.15	0.07	0.18	0.04	0.13	0.07	0.17
B02024-B02025	6926	216	8	0.044	1.63	0.13	0.18	0.19	0.21	0.09	0.15	0.16	0.20
B02025-B02026	6925	233	8	0.112	2.62	0.13	0.16	0.19	0.19	0.09	0.13	0.17	0.18
B02026-B02027	6924	196	12	0.048	5.04	0.14	0.24	0.20	0.39	0.09	0.27	0.17	0.43
B02027-B02001	2975	325	12	0.010	2.28	0.64	0.34	1.60	0.56	0.94	0.41	1.93	0.64
B02028-B02030	B02028-B02030	113	8	0.198	3.48	0.00	0.00	0.00	0.02	0.03	0.14	0.03	0.14
B02029-B02030	B02029-B02030	40	8	0.443	5.20	0.00	0.00	0.00	0.02	0.03	0.13	0.03	0.13
B02030-B02031	6923	128	8	0.010	0.76	0.00	0.31	0.00	0.52	0.07	0.52	0.07	0.60
B02031-B02027	2976	98	12	0.004	1.45	0.51	0.39	1.40	0.70	0.90	0.51	1.74	0.84
B02032-B02031	2973	378	15	0.028	7.03	0.51	0.25	1.38	0.45	0.83	0.34	1.68	0.54
B02033-B02032	2972	383	15	0.007	3.53	0.50	0.23	1.37	0.38	0.83	0.29	1.67	0.42
B02034-B02033	2971	378	15	0.007	3.56	0.48	0.26	1.35	0.44	0.83	0.34	1.66	0.49
B02036.A0-B02036.C0	B02036.A0-B02036.C0	127	8	0.111	2.60	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B02036.C0-B02036.D0	B02036.C0-B02036.D0	67	8	0.023	1.19	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
B02036.D0-B02036	B02036.D0-B02036	69	8	0.023	1.18	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B02036-B02038	6922	214	8	0.023	1.20	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
B02037-B02038	3626	30	8	0.002	0.35	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B02038-B02039	6921	202	8	0.069	2.05	0.00	0.26	0.01	0.46	0.00	0.35	0.01	0.51
B02039-B02034	2970	385	15	0.006	3.10	0.48	0.26	1.34	0.44	0.83	0.34	1.65	0.50
B02040-B02041	6920	350	8	0.049	1.72	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
B02041-B02042	6919	351	8	0.048	1.71	0.01	0.06	0.01	0.07	0.00	0.02	0.00	0.05
B02042-B02043	6918	282	8	0.032	1.40	0.01	0.53	0.02	0.54	0.00	0.51	0.01	0.53
B02043-B02039	2969	42	15	0.005	3.01	0.48	0.40	1.33	0.63	0.82	0.51	1.62	0.69
B02044-B02043	2968	25	15	0.004	2.66	0.47	0.50	1.31	0.76	0.81	0.62	1.61	0.83
B02045-B02046	2978	241	8	0.081	2.22	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B02046-B02048	6917	155	8	0.049	1.72	0.00	0.02	0.00	0.05	0.00	0.03	0.00	0.05
B02047-B02048	6916	238	8	0.051	1.77	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
B02048-B02049	6915	99	8	0.013	0.89	0.00	0.04	0.01	0.08	0.00	0.05	0.01	0.09
B02049-B02055	6914	94	8	0.004	0.50	0.00	0.06	0.01	0.12	0.00	0.06	0.01	0.12
B02050-B02051	6913	110	8	0.065	2.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.01
B02051-B02052	6912	116	8	0.084	2.26	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
B02052-B02053	6911	177	8	0.064	1.97	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B02053-B02054	6910	166	8	0.043	1.62	0.00	0.03	0.01	0.05	0.00	0.02	0.01	0.04
B02054-B02055	6909	314	8	0.059	1.89	0.00	0.05	0.01	0.10	0.00	0.04	0.01	0.10
B02055-B02056	6908	120	8	0.004	0.49	0.00	0.07	0.02	0.15	0.00	0.07	0.02	0.15
B02056-B02063	6907	83	8	0.005	0.55	0.01	0.07	0.02	0.14	0.00	0.06	0.02	0.13
B02057-B02058	6906	140	8	0.065	2.00	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B02059-B02058	6905	106	8	0.119	2.69	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.03
B02060-B02059	6904	142	8	0.077	2.16	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B02061-B02060	6903	176	8	0.083	2.25	0.00	0.03	0.01	0.05	0.00	0.02	0.01	0.05
B02061-B02062	6902	286	8	0.024	1.20	0.00	0.04	0.01	0.07	0.00	0.03	0.01	0.06
B02062-B02063	6901	195	8	0.020	1.11	0.00	0.05	0.01	0.10	0.00	0.04	0.01	0.09
B02063-B02064	6900	161	8	0.028	1.32	0.01	0.06	0.04	0.12	0.01	0.05	0.04	0.12
B02064-B02065	6899	73	8	0.032	1.39	0.01	0.06	0.04	0.12	0.01	0.05	0.04	0.12
B02065-B02066	6898	188	8	0.027	1.28	0.01	0.07	0.04	0.14	0.01	0.06	0.04	0.13
B02066-B02067	2965	195	8	0.022	1.16	0.01	0.06	0.05	0.12	0.01	0.06	0.04	0.12
B02067-B02068	2966	26	8	0.100	2.47	0.01	0.22	0.05	0.39	0.01	0.29	0.05	0.43
B02068-B02044	2967	195	12	0.018	3.07	0.47	0.42	1.30	0.68	0.81	0.54	1.61	0.76
B02069-B02070	6897	288	8	0.091	2.35	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B02070-B02071	6896	61	8	0.033	1.43	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B02071-B02073	6895	105	8	0.091	2.35	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.05
B02072-B02073	6894	48	8	0.010	0.78	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B02073-B02074	3322	180	8	0.015	0.96	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B02074-B02075	3323	121	8	0.102	2.50	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B02075-B02076	3324	47	8	0.122	2.72	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B02076-B02077.A0	3325	120	8	0.140	2.92	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B02077.A0-B02077	3326	69	8	0.069	2.05	0.00	0.04	0.01	0.06	0.01	0.04	0.01	0.06
B02077-B02079	6188	301	8	0.049	1.73	0.00	0.25	0.02	0.43	0.01	0.34	0.02	0.49
B02078-B02079.D0	8345	57	12	0.008	2.00	0.42	0.31	1.07	0.52	0.72	0.41	1.34	0.59
B02079.A0-B02079.B0	8279	10	8	0.035	1.46	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
B02079.B0-B02079.C0	8346	263	8	0.050	1.75	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B02079.C0-B02079.D0	8347	113	8	0.056	1.85	0.00	0.24	0.00	0.40	0.00	0.33	0.01	0.46
B02079.D0-B02079	3648	214	12	0.008	2.07	0.42	0.31	1.08	0.52	0.73	0.42	1.35	0.60
B02079-B02080	1968	220	12	0.008	1.99	0.43	0.32	1.10	0.54	0.74	0.43	1.37	0.62
B02080-B02081	6178	301	12	0.007	1.98	0.43	0.29	1.10	0.49	0.74	0.39	1.38	0.56
B02081-B02082	5993	251	12	0.016	2.92	0.43	0.29	1.11	0.50	0.74	0.39	1.39	0.57
B02082.A0-B02082.B0	3332	168	8	0.055	1.84	0.01	0.05	0.02	0.08	0.01	0.05	0.02	0.08
B02082.AA-B02082.AB	B02082.AA-B02082.AB	344	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.02
B02082.AB-B02082.AF	B02082.AB-B02082.AF	183	8	0.015	0.96	0.00	0.04	0.01	0.06	0.00	0.02	0.00	0.05
B02082.AC-B02082.AD	B02082.AC-B02082.AD	257	8	0.010	0.78	0.00	0.00	0.00	0.02	0.01	0.08	0.01	0.08
B02082.AD-B02082.AF	B02082.AD-B02082.AF	143	8	0.010	0.78	0.00	0.02	0.00	0.05	0.01	0.06	0.01	0.08
B02082.AE-B02082.AF	B02082.AE-B02082.AF	340	8	0.021	1.14	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B02082.AF-B02082.AG	B02082.AF-B02082.AG	66	8	0.132	2.83	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.08
B02082.AG-B02082.A0	B02082.AG-B02082.A0	20	8	0.037	1.49	0.01	0.05	0.02	0.08	0.01	0.05	0.02	0.08
B02082.B0-B02082.C0	3331	209	8	0.072	2.09	0.01	0.05	0.02	0.07	0.01	0.05	0.03	0.08
B02082.C0-B02082.D0	3330	42	8	0.105	2.53	0.01	0.05	0.03	0.09	0.01	0.06	0.03	0.09
B02082.D0-B02082.E0	3329	253	8	0.027	1.28	0.01	0.06	0.03	0.09	0.01	0.06	0.03	0.10
B02082.E0-B02082.F0	3328	71	8	0.083	2.25	0.01	0.05	0.03	0.08	0.01	0.05	0.03	0.08
B02082.F0-B02082.G0	3327	108	8	0.102	2.49	0.01	0.05	0.03	0.08	0.01	0.05	0.03	0.09
B02082.G0-B02082.H0	3054	74	8	0.070	2.07	0.01	0.05	0.03	0.09	0.01	0.05	0.04	0.10
B02082.H0-B02082.M0	3053	53	8	0.048	1.72	0.01	0.08	0.03	0.14	0.01	0.08	0.04	0.14
B02082.I0-B02082.J0	3048	77	8	0.008	0.70	0.00	0.05	0.01	0.09	0.00	0.05	0.01	0.09
B02082.IA-B02082.IB	348	270	8	0.072	2.10	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B02082.IB-B02082.IF	349	91	8	0.067	2.02	0.00	0.03	0.00	0.06	0.00	0.04	0.00	0.06
B02082.IC-B02082.ID	350	139	8	0.070	2.07	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B02082.ID-B02082.IE	920	122	8	0.094	2.39	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
B02082.IE-B02082.IF	921	75	8	0.012	0.87	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.07
B02082.IF-B02082.I0	922	48	8	0.010	0.78	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.08
B02082.J0-B02082.K0	3050	78	8	0.009	0.76	0.00	0.05	0.01	0.09	0.00	0.05	0.01	0.09
B02082.K0-B02082.L0	3051	78	8	0.009	0.76	0.00	0.05	0.01	0.09	0.00	0.05	0.01	0.09
B02082.L0-B02082.M0	3052	197	8	0.011	0.80	0.00	0.07	0.01	0.13	0.00	0.07	0.01	0.13
B02082.M0-B02082.N0	3334	287	8	0.012	0.86	0.02	0.08	0.05	0.15	0.01	0.08	0.05	0.16
B02082.N0-B02082.P0	3335	168	8	0.035	1.47	0.02	0.08	0.06	0.14	0.02	0.07	0.06	0.14
B02082.O0-B02082.P0	3337	114	8	0.017	1.02	0.00	0.05	0.00	0.08	0.00	0.05	0.00	0.08
B02082.P0-B02082.Q0	3336	89	8	0.036	1.48	0.02	0.07	0.06	0.13	0.02	0.07	0.06	0.13
B02082.Q0-B02082.R0	6870	89	8	0.071	2.08	0.02	0.06	0.06	0.12	0.02	0.06	0.06	0.12
B02082.R0-B02082.S0	6871	98	8	0.069	2.05	0.02	0.07	0.06	0.13	0.02	0.07	0.06	0.13
B02082.S0-B02082.T0	3338	95	8	0.046	1.68	0.02	0.09	0.06	0.16	0.02	0.08	0.07	0.16
B02082.T0-B02082.U0	3339	212	8	0.017	1.02	0.02	0.08	0.06	0.15	0.02	0.08	0.07	0.15

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B02082.U0-B02082.V0	3340	104	8	0.107	2.55	0.02	0.07	0.07	0.13	0.02	0.07	0.07	0.13
B02082.UA-B02082.UB	B02082.UA-B02082.UB	48	8	0.009	0.75	0.00	0.00	0.00	0.01	0.00	0.04	0.00	0.04
B02082.UB-B02082.U0	B02082.UB-B02082.U0	208	8	0.011	0.83	0.00	0.03	0.00	0.07	0.00	0.05	0.00	0.08
B02082.V0-B02082.W0	3341	234	8	0.037	1.49	0.02	0.08	0.07	0.16	0.02	0.09	0.08	0.17
B02082.W0-B02082.X0	3342	23	8	0.019	1.09	0.02	0.10	0.07	0.20	0.02	0.10	0.08	0.21
B02082.X0-B02082.Y0	3343	79	8	0.007	0.66	0.02	0.11	0.07	0.22	0.02	0.12	0.08	0.23
B02082.Y0-B02082.Z0	3358	38	8	0.009	0.74	0.02	0.16	0.08	0.40	0.02	0.25	0.08	0.47
B02082.Z0-B02082	3423	49	8	0.004	0.47	0.02	0.35	0.08	0.72	0.02	0.52	0.08	0.85
B02082-B02083	6156	251	12	0.007	1.94	0.45	0.33	1.19	0.58	0.76	0.45	1.47	0.67
B02083-B02084	6138	273	12	0.008	2.03	0.45	0.26	1.19	0.45	0.77	0.35	1.48	0.51
B02084-B02068	2964	118	12	0.073	6.23	0.46	0.22	1.25	0.38	0.80	0.30	1.55	0.43
B02085-B02084	3321	195	12	0.125	8.16	0.01	0.11	0.05	0.18	0.03	0.14	0.06	0.20
B02086-B02087	6122	359	8	0.018	1.06	0.00	0.06	0.00	0.07	0.00	0.07	0.00	0.07
B02087-B02088	6498	290	8	0.005	0.55	0.01	0.07	0.01	0.10	0.01	0.10	0.01	0.12
B02088-B02085	1845	245	12	0.039	4.54	0.01	0.03	0.05	0.06	0.03	0.05	0.06	0.07
B02089-B02088	1844	86	8	0.077	2.16	0.01	0.05	0.03	0.10	0.02	0.08	0.04	0.11
B02090-B02089	1843	270	8	0.076	2.16	0.01	0.04	0.03	0.08	0.02	0.07	0.04	0.10
B02091-B02090	1842	136	8	0.076	2.15	0.01	0.04	0.03	0.08	0.02	0.07	0.04	0.09
B02092-B02091	5896	184	8	0.050	1.74	0.00	0.04	0.02	0.08	0.02	0.07	0.03	0.09
B02093-B02092	1841	242	8	0.050	1.75	0.00	0.04	0.02	0.08	0.01	0.07	0.03	0.09
B02094-B02093	1840	156	8	0.029	1.32	0.00	0.04	0.02	0.08	0.01	0.07	0.03	0.09
B02095-B02094	1839	269	8	0.098	2.44	0.00	0.04	0.02	0.07	0.01	0.06	0.02	0.08
B02096-B02095	1838	39	8	0.076	2.15	0.00	0.03	0.02	0.06	0.01	0.05	0.02	0.07
B02097-B02096	1837	266	8	0.018	1.04	0.00	0.03	0.01	0.07	0.01	0.06	0.02	0.08
B02098-B02097	1836	348	8	0.021	1.13	0.00	0.04	0.01	0.07	0.01	0.06	0.01	0.08
B02099-B02098	186	174	8	0.043	1.61	0.00	0.03	0.01	0.05	0.00	0.05	0.01	0.06
B02100-B02099	187	159	8	0.010	0.80	0.00	0.02	0.00	0.04	0.00	0.05	0.01	0.06
B02101-B02100	1835	226	8	0.003	0.44	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
B03001-B03002	6481	300	8	0.004	0.49	0.01	0.10	0.01	0.11	0.01	0.10	0.01	0.10
B03002-B03003	4479	305	8	0.004	0.49	0.01	0.10	0.02	0.10	0.01	0.09	0.01	0.10
B03003-B03004	6477	429	8	0.032	1.39	0.01	0.09	0.02	0.11	0.01	0.11	0.02	0.13
B03004-B03010	6260	57	8	0.005	0.54	0.01	0.09	0.02	0.12	0.02	0.12	0.04	0.14
B03005-B03006	5661	131	8	0.050	1.74	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
B03006-B03007	6113	119	8	0.050	1.75	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
B03007-B03008	2417	167	8	0.114	2.64	0.00	0.03	0.01	0.05	0.00	0.01	0.00	0.04
B03008-B03009	4769	165	8	0.023	1.17	0.00	0.04	0.01	0.06	0.00	0.01	0.00	0.05
B03009-B03010	5760	187	8	0.062	1.94	0.00	0.05	0.01	0.07	0.00	0.04	0.01	0.07
B03010-B03011.C0	7820	152	8	0.060	1.91	0.02	0.07	0.04	0.10	0.02	0.08	0.04	0.11
B03011.A0-B03011.B0	7835	75	8	0.115	2.65	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01
B03011.B0-B03011.C0	7868	300	8	0.090	2.34	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
B03011.C0-B03011	7821	125	8	0.067	2.03	0.02	0.07	0.04	0.10	0.02	0.08	0.05	0.11
B03011-B03014	3016	188	8	0.065	1.99	0.02	0.07	0.04	0.11	0.02	0.08	0.05	0.12
B03013-B03014	4190	413	6	0.090	1.09	0.00	0.06	0.00	0.09	0.00	0.06	0.00	0.08
B03014-B03024	5743	387	8	0.049	1.72	0.02	0.13	0.05	0.22	0.02	0.16	0.06	0.24
B03015-B03016	4189	175	8	0.103	2.51	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
B03016-B03017	1107	166	8	0.018	1.06	0.00	0.03	0.00	0.04	0.00	0.01	0.00	0.03
B03017-B03018	5733	274	8	0.143	2.95	0.00	0.03	0.01	0.05	0.00	0.02	0.01	0.04
B03018-B03019	5716	321	8	0.028	1.30	0.00	0.04	0.01	0.07	0.00	0.03	0.01	0.07
B03019-B03021	4833	184	8	0.019	1.08	0.00	0.05	0.01	0.09	0.00	0.06	0.01	0.09
B03020-B03021	605	240	8	0.144	2.97	0.00	0.03	0.00	0.05	0.01	0.07	0.01	0.08
B03021-B03022	4816	74	8	0.021	1.12	0.01	0.05	0.02	0.09	0.02	0.08	0.03	0.10
B03022-B03023	5974	343	8	0.035	1.46	0.01	0.05	0.02	0.08	0.02	0.07	0.03	0.09
B03023-B03024	5868	352	8	0.092	2.37	0.01	0.11	0.03	0.20	0.03	0.15	0.04	0.22
B03024-B03025	5852	373	8	0.004	0.48	0.03	0.13	0.09	0.22	0.04	0.16	0.11	0.25
B03025-B03026	5395	349	8	0.109	2.58	0.03	0.13	0.09	0.22	0.05	0.15	0.11	0.24
B03026-B03027	5844	282	8	0.004	0.48	0.03	0.17	0.10	0.30	0.05	0.21	0.12	0.34
B03027-B03028	5831	322	8	0.004	0.51	0.03	0.17	0.10	0.31	0.05	0.22	0.12	0.34
B03028-B03067	5817	349	8	0.004	0.48	0.03	0.21	0.10	0.41	0.05	0.25	0.13	0.44
B03029-B03030	5641	322	8	0.105	2.53	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
B03030-B03031	5624	65	8	0.011	0.81	0.00	0.04	0.01	0.07	0.00	0.06	0.01	0.07
B03031-B03034	1015	230	8	0.005	0.54	0.00	0.06	0.01	0.10	0.00	0.09	0.01	0.11
B03032-B03033	595	200	8	0.105	2.54	0.00	0.01	0.00	0.02	0.01	0.04	0.01	0.04
B03033-B03034	5813	102	8	0.145	2.97	0.00	0.04	0.00	0.07	0.01	0.07	0.01	0.09
B03034-B03035	5796	255	8	0.006	0.58	0.00	0.05	0.01	0.09	0.01	0.08	0.02	0.10
B03035-B03036	5781	358	8	0.125	2.76	0.00	0.03	0.02	0.05	0.01	0.04	0.02	0.06
B03036-B03043.A0	4723	50	8	0.435	5.15	0.01	0.51	0.02	0.52	0.01	0.52	0.03	0.53
B03038-B03039	1280	340	8	0.004	0.52	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.04
B03039-B03040	1262	373	8	0.004	0.49	0.00	0.02	0.00	0.08	0.00	0.02	0.00	0.08
B03040-B03041	5695	298	8	0.004	0.48	0.00	0.03	0.01	0.10	0.00	0.02	0.01	0.10
B03041-B03042	4811	290	8	0.004	0.52	0.00	0.03	0.01	0.09	0.00	0.02	0.01	0.09
B03042-B03043.A0	7295	45	8	0.057	1.86	0.00	0.51	0.02	0.53	0.00	0.51	0.01	0.53
B03043.A0-B03043	7299	356	8	0.003	0.41	0.01	0.53	0.04	0.56	0.01	0.54	0.04	0.56
B03043-B03044	4978	242	8	0.034	1.45	0.01	0.05	0.04	0.12	0.01	0.07	0.05	0.12
B03044-B03047	4547	105	8	0.048	1.72	0.01	0.05	0.05	0.12	0.01	0.07	0.05	0.12
B03045-B03046	4178	5	8	1.440	9.37	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00
B03046-B03047	7296	215	8	0.065	2.00	0.00	0.04	0.00	0.07	0.00	0.03	0.00	0.06
B03047-B03048	5504	244	8	0.048	1.72	0.01	0.07	0.05	0.14	0.01	0.08	0.05	0.15
B03048-B03049	5495	428	8	0.017	1.02	0.01	0.07	0.06	0.14	0.02	0.07	0.06	0.14
B03049-B03062	5494	267	8	0.112	2.61	0.01	0.11	0.06	0.22	0.02	0.12	0.06	0.22
B03050-B03051	5493	166	8	0.005	0.56	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.01
B03051-B03053	3037	271	8	0.082	2.24	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B03052-B03053	3456	224	8	0.002	0.34	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
B03053-B03060.A0	3462	115	8	0.063	1.97	0.00	0.03	0.01	0.05	0.01	0.05	0.01	0.06
B03054-B03055	2281	15	8	0.020	1.10	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00
B03055-B03056	5492	130	8	0.042	1.61	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.01
B03056-B03059	5491	279	8	0.088	2.32	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.03
B03057-B03058	2275	15	8	0.020	1.10	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00
B03058-B03059	5490	130	8	0.039	1.53	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.02
B03059-B03060	5489	228	8	0.064	1.97	0.01	0.07	0.01	0.11	0.00	0.05	0.01	0.10
B03060.A0-B03060	3463	123	8	0.010	0.79	0.00	0.08	0.01	0.13	0.01	0.09	0.02	0.13
B03060-B03061	5488	398	8	0.005	0.57	0.01	0.08	0.03	0.13	0.01	0.08	0.03	0.13
B03061-B03062	5486	379	8	0.049	1.73	0.01	0.12	0.03	0.22	0.01	0.12	0.03	0.21
B03062-B03063	5485	350	8	0.004	0.51	0.03	0.13	0.10	0.24	0.03	0.13	0.10	0.24
B03063-B03066	5484	185	8	0.085	2.27	0.03	0.07	0.11	0.14	0.03	0.07	0.11	0.14
B03064-B03065	5483	295	8	0.085	2.28	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.02
B03065-B03066	5482	252	8	0.014	0.91	0.00	0.06	0.01	0.09	0.00	0.03	0.00	0.08
B03066-B03067	5481	128	8	0.211	3.58	0.03	0.16	0.12	0.31	0.03	0.17	0.11	0.32
B03067-B03068	5480	349	8	0.004	0.48	0.06	0.24	0.23	0.48	0.08	0.27	0.25	0.50
B03068-B03077	5479	335	8	0.005	0.57	0.06	0.23	0.23	0.44	0.08	0.26	0.25	0.46
B03069-B03070	5478	234	8	0.125	2.76	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.02
B03070-B03071	5477	298	8	0.007	0.64	0.00	0.04	0.00	0.06	0.00	0.00	0.00	0.05
B03071-B03072	4167	194	8	0.026	1.26	0.00	0.04	0.01	0.06	0.00	0.00	0.01	0.05
B03072-B03075	2366	261	8	0.081	2.22	0.00	0.04	0.01	0.07	0.00	0.01	0.01	0.06
B03073-B03074	5476	241	8	0.118	2.69	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B03074-B03075	4948	163	8	0.063	1.95	0.00	0.03	0.00	0.06	0.00	0.02	0.00	0.06
B03075-B03076	4947	215	8	0.024	1.20	0.01	0.06	0.02	0.11	0.00	0.05	0.02	0.11
B03076-B03077	4946	318	8	0.005	0.57	0.01	0.15	0.02	0.28	0.01	0.17	0.02	0.29

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B03077-B03078	4945	20	8	0.004	0.52	0.07	0.18	0.26	0.34	0.09	0.20	0.28	0.35
B03078-B03080	4944	237	8	0.066	2.01	0.07	0.14	0.26	0.26	0.09	0.15	0.29	0.27
B03079-B03080	4942	331	8	0.025	1.23	0.00	0.08	0.00	0.15	0.00	0.09	0.00	0.16
B03080-B03094	4941	246	8	0.042	1.61	0.07	0.22	0.27	0.40	0.09	0.24	0.29	0.41
B03081-B03082	4940	350	8	0.092	2.37	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.02
B03082-B03083	4939	205	8	0.054	1.81	0.03	0.09	0.03	0.09	0.00	0.00	0.00	0.04
B03083-B03084	4938	290	8	0.043	1.61	0.03	0.10	0.03	0.11	0.00	0.05	0.01	0.07
B03084-B03085	4937	276	8	0.022	1.15	0.03	0.10	0.03	0.12	0.02	0.09	0.02	0.10
B03085-B03086	4936	198	8	0.030	1.35	0.03	0.11	0.04	0.12	0.02	0.09	0.03	0.11
B03086-B03087	4935	252	8	0.020	1.11	0.03	0.10	0.04	0.12	0.02	0.10	0.03	0.11
B03087-B03088	4083	316	8	0.036	1.49	0.03	0.11	0.04	0.13	0.02	0.09	0.04	0.11
B03088-B03089	4158	151	8	0.032	1.40	0.05	0.14	0.06	0.15	0.02	0.10	0.04	0.12
B03089-B03090	4934	179	8	0.024	1.21	0.05	0.13	0.06	0.15	0.02	0.09	0.04	0.12
B03090-B03091	4070	204	8	0.043	1.61	0.05	0.13	0.07	0.16	0.02	0.11	0.04	0.14
B03091-B03092	4933	241	8	0.021	1.14	0.05	0.13	0.07	0.16	0.05	0.13	0.06	0.15
B03092-B03093	4932	207	8	0.041	1.58	0.05	0.13	0.07	0.16	0.05	0.13	0.06	0.15
B03093-B03094	4931	353	8	0.025	1.22	0.05	0.21	0.07	0.34	0.05	0.23	0.07	0.35
B03094-B03173	4930	156	8	0.007	0.67	0.12	0.37	0.35	0.61	0.14	0.39	0.37	0.63
B03107-B03108	3885	150	6	0.006	0.28	0.00	0.06	0.00	0.07	0.00	0.04	0.00	0.04
B03108-B03110	4919	239	8	0.004	0.49	0.00	0.07	0.00	0.08	0.00	0.05	0.00	0.07
B03109-B03110	3900	197	6	0.025	0.58	0.00	0.07	0.00	0.09	0.00	0.04	0.00	0.06
B03110-B03112	4918	288	8	0.004	0.49	0.01	0.10	0.01	0.12	0.00	0.05	0.01	0.10
B03111-B03112	3909	212	6	0.023	0.55	0.00	0.10	0.00	0.12	0.00	0.03	0.00	0.07
B03112-B03113	4917	256	8	0.004	0.50	0.01	0.10	0.02	0.13	0.00	0.08	0.01	0.12
B03113-B03114	4916	262	8	0.013	0.88	0.01	0.08	0.02	0.12	0.02	0.10	0.03	0.13
B03114-B03172	4915	271	8	0.013	0.88	0.01	0.20	0.03	0.28	0.02	0.21	0.03	0.28
B03115-B03117	741	265	8	0.008	0.70	0.00	0.04	0.00	0.05	0.01	0.06	0.01	0.06
B03116-B03117	744	300	8	0.034	1.44	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.02
B03117-B03118	4914	220	8	0.102	2.50	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.05
B03118-B03122	4913	217	8	0.102	2.50	0.01	0.07	0.02	0.10	0.01	0.06	0.01	0.09
B03119-B03121	3458	190	8	0.032	1.40	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.01
B03120-B03121	742	100	8	0.032	1.40	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.01
B03121-B03122	4912	231	8	0.072	2.09	0.00	0.07	0.01	0.09	0.00	0.04	0.00	0.08
B03122-B03123	5475	63	8	0.008	0.71	0.01	0.08	0.03	0.11	0.01	0.06	0.02	0.10
B03123-B03124	5474	162	8	0.140	2.92	0.02	0.07	0.04	0.09	0.01	0.05	0.02	0.07
B03124-B03125	5473	273	8	0.107	2.55	0.03	0.11	0.05	0.13	0.02	0.08	0.03	0.11
B03125-B03127	5472	113	8	0.012	0.86	0.04	0.28	0.05	0.34	0.02	0.21	0.04	0.29
B03126-B03127	5471	301	8	0.005	0.58	0.00	0.21	0.00	0.25	0.00	0.16	0.00	0.22
B03127-B03128	5470	238	8	0.000	0.02	0.04	0.28	0.06	0.35	0.02	0.21	0.04	0.30
B03128-B03129	5469	277	8	0.013	0.90	0.04	0.12	0.06	0.16	0.02	0.11	0.04	0.15
B03129-B03130	5468	312	8	0.044	1.64	0.04	0.10	0.06	0.13	0.06	0.12	0.08	0.15
B03130-B03131	5467	333	8	0.060	1.91	0.04	0.10	0.07	0.14	0.06	0.12	0.08	0.15
B03131-B03166.M0	7622	353	8	0.042	1.61	0.04	0.17	0.07	0.24	0.06	0.17	0.09	0.24
B03132-B03133	746	87	8	0.022	1.16	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.01
B03133-B03134	5466	350	8	0.060	1.91	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.03
B03134-B03135	5465	194	8	0.085	2.28	0.01	0.04	0.01	0.05	0.00	0.01	0.01	0.04
B03135-B03136	5464	316	8	0.089	2.33	0.01	0.05	0.01	0.06	0.00	0.01	0.01	0.05
B03136-B03137	5463	350	8	0.088	2.32	0.01	0.07	0.02	0.08	0.00	0.01	0.01	0.06
B03137-B03140	5461	368	8	0.031	1.38	0.02	0.07	0.03	0.09	0.00	0.01	0.01	0.07
B03138-B03139	2061	139	8	0.036	1.48	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.01
B03139-B03140	5460	85	8	0.031	1.38	0.00	0.04	0.00	0.06	0.00	0.00	0.00	0.04
B03140-B03166.C0	5459	143	8	0.143	2.95	0.02	0.08	0.04	0.11	0.00	0.04	0.02	0.09
B03144-B03145	745	249	8	0.106	2.54	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.01
B03145-B03146	5457	210	8	0.107	2.56	0.00	0.03	0.01	0.04	0.00	0.02	0.00	0.04
B03146-B03150	5456	344	8	0.059	1.90	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
B03147-B03149	743	135	8	0.036	1.47	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.02
B03148-B03149	3457	220	8	0.016	0.99	0.00	0.04	0.00	0.04	0.01	0.05	0.01	0.05
B03149-B03150	5455	361	8	0.089	2.33	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.06
B03150-B03151	5454	270	8	0.059	1.89	0.02	0.06	0.03	0.09	0.01	0.06	0.03	0.08
B03151-B03156	5453	348	8	0.079	2.20	0.02	0.08	0.03	0.10	0.01	0.06	0.03	0.09
B03152-B03153	747	155	8	0.173	3.25	0.01	0.04	0.01	0.04	0.00	0.03	0.00	0.03
B03153-B03155	5452	365	8	0.081	2.22	0.01	0.05	0.01	0.05	0.01	0.04	0.01	0.05
B03154-B03155	5451	161	8	0.124	2.76	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B03155-B03156	5450	120	8	0.091	2.35	0.01	0.08	0.02	0.09	0.01	0.06	0.01	0.08
B03156-B03157	5449	183	8	0.092	2.36	0.05	0.13	0.08	0.15	0.02	0.08	0.05	0.12
B03157-B03166.F0	8283	123	8	0.020	1.11	0.05	0.14	0.08	0.17	0.02	0.09	0.05	0.14
B03161.A0-B03161.B0	8058	75	8	0.148	3.01	0.00	0.00	0.00	0.01	0.01	0.03	0.01	0.03
B03161.B0-B03161.C0	8059	109	8	0.163	3.16	0.00	0.03	0.00	0.04	0.01	0.03	0.01	0.04
B03161.C0-B03161.D0	8060	122	8	0.094	2.40	0.02	0.06	0.02	0.07	0.01	0.05	0.01	0.05
B03161.D0-B03166.G0	8061	102	8	0.052	1.78	0.02	0.15	0.02	0.19	0.01	0.12	0.02	0.17
B03166.A0-B03166.B0	8313	290	8	0.055	1.83	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
B03166.B0-B03166.D0	8304	128	8	0.034	1.45	0.00	0.06	0.00	0.08	0.00	0.05	0.01	0.08
B03166.C0-B03166.D0	8305	37	8	0.012	0.85	0.02	0.10	0.04	0.14	0.01	0.07	0.03	0.12
B03166.D0-B03166.G0	8306	332	8	0.030	1.35	0.02	0.17	0.05	0.22	0.01	0.12	0.04	0.19
B03166.F0-B03166.G0	5448	145	8	0.037	1.50	0.05	0.19	0.08	0.24	0.02	0.13	0.05	0.20
B03166.G0-B03166.H0	8312	250	8	0.008	0.71	0.09	0.25	0.15	0.32	0.04	0.18	0.11	0.28
B03166.H0-B03166.I0	8311	275	8	0.008	0.71	0.09	0.23	0.15	0.29	0.05	0.16	0.12	0.26
B03166.I0-B03166.J0	5415	155	8	0.022	1.16	0.09	0.17	0.16	0.23	0.05	0.13	0.12	0.20
B03166.J0-B03166.K0	8310	90	8	0.064	1.98	0.09	0.17	0.16	0.22	0.05	0.12	0.13	0.20
B03166.K0-B03166.L0	5414	209	8	0.023	1.18	0.09	0.20	0.16	0.27	0.05	0.15	0.13	0.24
B03166.L0-B03166.M0	5413	203	8	0.013	0.88	0.09	0.23	0.16	0.31	0.05	0.19	0.13	0.29
B03166.M0-B03167	5412	410	8	0.017	1.01	0.13	0.25	0.24	0.34	0.10	0.23	0.22	0.33
B03167-B03168	5411	334	8	0.017	1.01	0.14	0.31	0.25	0.43	0.13	0.30	0.25	0.43
B03168-B03169	5113	189	8	0.004	0.48	0.14	0.38	0.26	0.52	0.13	0.36	0.25	0.52
B03169-B03170	5112	164	8	0.004	0.50	0.14	0.31	0.26	0.42	0.13	0.29	0.25	0.41
B03170-B03171	5111	280	8	0.029	1.32	0.16	0.24	0.28	0.32	0.13	0.22	0.26	0.31
B03171-B03172	5110	215	8	0.023	1.19	0.16	0.29	0.28	0.39	0.15	0.28	0.27	0.38
B03172-B03173	5109	506	8	0.010	0.78	0.18	0.39	0.32	0.58	0.17	0.39	0.31	0.58
B03173-B03174	2004	353	10	0.006	1.08	0.30	0.42	0.67	0.64	0.31	0.43	0.69	0.64
B03174-B03176	2003	66	10	0.000	0.06	0.30	0.35	0.68	0.51	0.31	0.35	0.69	0.52
B03175-B03176	1199	165	8	0.039	1.54	0.03	0.63	0.04	0.70	0.03	0.64	0.03	0.71
B03176-B03178	2002	276	10	0.045	2.99	0.30	0.28	0.68	0.43	0.32	0.29	0.70	0.44
B03177-B03178	1736	60	8	0.002	0.35	0.00	0.34	0.00	0.59	0.00	0.35	0.00	0.60
B03178-B03181	2001	296	10	0.008	1.24	0.30	0.32	0.69	0.50	0.32	0.33	0.71	0.51
B03179-B03180	4063	167	6	0.084	1.05	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B03180-B03181	2000	201	8	0.054	1.81	0.00	0.20	0.00	0.30	0.00	0.21	0.00	0.31
B03181-B03182	1999	271	10	0.013	1.63	0.31	0.28	0.70	0.43	0.33	0.29	0.71	0.44
B03182-B03183	1998	253	10	0.022	2.12	0.31	0.26	0.70	0.39	0.34	0.27	0.72	0.40
B03183-B02078	3643	253	10	0.024	2.17	0.31	0.31	0.70	0.51	0.34	0.38	0.73	0.56
B04001-B04002	2877	71	8	0.009	0.74	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
B04002-B04003	1358	207	8	0.064	1.98	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
B04003-B04004	1335	214	8	0.079	2.20	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B04004-B04006	2878	461	8	0.059	1.89	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B04005.C0-B04005	B04005.C0-B04005	85	8	0.146	2.99	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02
B04005-B04006	2879	168	8	0.117	2.67	0.00	0.02	0.00	0.05	0.00	0.03	0.00	0.05
B04006-B04008	2880	286	8	0.038	1.53	0.00	0.05	0.02	0.12	0.00	0.06	0.02	0.12
B04007-B04008	3460	252	8	0.056	1.85	0.00	0.04	0.00	0.09	0.00	0.04	0.00	0.08

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B04008-B04009.F0	8266	85	8	0.003	0.44	0.00	0.07	0.02	0.15	0.01	0.08	0.02	0.15
B04009.A0-B04009.B0	8268	15	8	0.010	0.78	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
B04009.B0-B04009.D0	8269	173	8	0.046	1.68	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B04009.C0-B04009.D0	8270	25	8	0.010	0.78	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
B04009.D0-B04009.E0	8271	139	8	0.109	2.57	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.03
B04009.E0-B04009.F0	8272	38	8	0.191	3.41	0.00	0.04	0.00	0.09	0.00	0.05	0.01	0.09
B04009.F0-B04009	8267	124	8	0.008	0.68	0.00	0.05	0.03	0.12	0.01	0.06	0.03	0.12
B04009-B04032	1334	336	8	0.042	1.60	0.01	0.04	0.03	0.10	0.01	0.06	0.03	0.10
B04030.B0-B04030	3835	98	8	0.004	0.49	0.00	0.01	0.00	0.02	0.01	0.11	0.01	0.11
B04030-B04032	2120	403	8	0.004	0.51	0.00	0.03	0.00	0.07	0.01	0.09	0.01	0.10
B04032-B04033	1330	171	8	0.065	1.99	0.01	0.05	0.04	0.11	0.02	0.08	0.05	0.12
B04033-B04036	1329	137	8	0.025	1.22	0.01	0.05	0.04	0.13	0.02	0.09	0.05	0.14
B04034-B04035	2128	236	8	0.006	0.58	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
B04035-B04036	1328	247	8	0.037	1.50	0.00	0.04	0.00	0.08	0.00	0.06	0.00	0.09
B04036-B04037.E0	B04036-B04037.E0	390	8	0.034	1.44	0.01	0.05	0.05	0.13	0.02	0.08	0.06	0.14
B04037.A0-B04037.B0	B04037.A0-B04037.B0	81	8	0.011	1.07	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
B04037.B0-B04037.C0	B04037.B0-B04037.C0	270	8	0.012	0.84	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.03
B04037.C0-B04037.D0	B04037.C0-B04037.D0	296	8	0.056	1.84	0.00	0.01	0.00	0.03	0.00	0.01	0.00	0.04
B04037.D0-B04037.E0	B04037.D0-B04037.E0	77	8	0.238	3.81	0.00	0.03	0.01	0.08	0.00	0.04	0.01	0.09
B04037.E0-B04037	B04037.E0-B04037	27	8	0.055	1.83	0.01	0.05	0.07	0.14	0.02	0.08	0.07	0.15
B04037-B04038	1325	370	8	0.036	1.49	0.01	0.06	0.07	0.15	0.02	0.10	0.08	0.17
B04038-B04039	1324	403	8	0.025	1.23	0.01	0.08	0.07	0.19	0.04	0.14	0.10	0.23
B04039-B04041	1323	298	8	0.011	0.83	0.02	0.09	0.08	0.19	0.04	0.14	0.11	0.22
B04040-B04041	2129	160	8	0.019	1.08	0.00	0.05	0.00	0.09	0.00	0.07	0.00	0.10
B04041-B04042	1321	234	8	0.038	1.53	0.02	0.08	0.08	0.17	0.04	0.12	0.11	0.19
B04042-B04043	3479	190	8	0.031	1.37	0.02	0.09	0.09	0.19	0.04	0.14	0.12	0.22
B04043-B04044	3480	259	8	0.012	0.87	0.02	0.10	0.09	0.22	0.04	0.16	0.12	0.25
B04044-B04045	1318	209	8	0.012	0.87	0.02	0.10	0.09	0.22	0.05	0.16	0.13	0.26
B04045-B04046	3481	108	8	0.012	0.87	0.02	0.10	0.10	0.23	0.05	0.17	0.13	0.26
B04046-B04058	3109	149	8	0.012	0.86	0.02	0.13	0.10	0.26	0.05	0.22	0.13	0.32
B04047-B04048	1927	280	8	0.052	1.78	0.00	0.00	0.00	0.02	0.00	0.05	0.00	0.05
B04048-B04052	1317	238	10	0.012	1.57	0.00	0.01	0.00	0.04	0.01	0.07	0.02	0.08
B04051-B04052	1933	200	8	0.017	1.01	0.00	0.02	0.00	0.04	0.01	0.07	0.01	0.08
B04052-B04055	1316	205	10	0.012	1.57	0.00	0.05	0.01	0.10	0.02	0.10	0.03	0.13
B04053-B04054	1935	225	8	0.001	0.24	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B04054.A0-B04054.B0	4929	323	8	0.026	1.27	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B04054.B0-B04054.C0	4928	309	8	0.039	1.54	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.06
B04054.C0-B04054.G0	4927	307	8	0.064	1.98	0.01	0.05	0.01	0.08	0.01	0.08	0.02	0.10
B04054.D0-B04054.E0	4926	116	8	0.065	1.99	0.00	0.00	0.00	0.01	0.02	0.08	0.02	0.08
B04054.E0-B04054.F0	4923	271	8	0.068	2.04	0.00	0.01	0.00	0.03	0.03	0.08	0.03	0.09
B04054.F0-B04054.G0	4922	381	8	0.074	2.13	0.00	0.03	0.00	0.06	0.03	0.09	0.03	0.11
B04054.G0-B04054.H0	4921	212	8	0.046	1.67	0.01	0.07	0.03	0.11	0.04	0.13	0.06	0.16
B04054.H0-B04054.IC	8178	164	8	0.011	0.84	0.01	0.10	0.03	0.16	0.04	0.16	0.06	0.21
B04054.I0-B04054.K0	4920	180	8	0.010	0.78	0.02	0.12	0.04	0.19	0.04	0.19	0.07	0.25
B04054.IA-B04054.IB	8176	237	8	0.026	1.26	0.00	0.04	0.00	0.04	0.00	0.02	0.00	0.03
B04054.IB-B04054.IC	8177	373	8	0.023	1.18	0.00	0.08	0.01	0.11	0.00	0.11	0.01	0.14
B04054.IC-B04054.I0	8179	67	8	0.007	0.64	0.02	0.11	0.04	0.17	0.04	0.17	0.07	0.22
B04054.J0-B04054.K0	3867	47	6	0.010	0.36	0.00	0.10	0.00	0.16	0.00	0.16	0.00	0.20
B04054.K0-B04054.L0	3850	366	8	0.004	0.48	0.02	0.12	0.05	0.20	0.04	0.19	0.08	0.25
B04054.L0-B04054	3860	300	8	0.016	1.00	0.02	0.08	0.05	0.13	0.05	0.12	0.08	0.16
B04054-B04055	1315	30	8	0.227	3.72	0.02	0.07	0.06	0.13	0.05	0.12	0.09	0.16
B04055-B04056	1314	242	10	0.016	1.81	0.02	0.07	0.07	0.13	0.06	0.14	0.12	0.18
B04056-B04057	1313	297	10	0.020	2.01	0.02	0.08	0.08	0.15	0.09	0.17	0.15	0.21
B04057-B04058	1312	130	10	0.008	1.24	0.02	0.10	0.08	0.21	0.10	0.20	0.16	0.27
B04058-B04089	25	103	10	0.011	1.46	0.04	0.23	0.18	0.42	0.15	0.42	0.30	0.54
B04059-B04060	3560	155	8	0.003	0.46	0.00	0.04	0.00	0.08	0.01	0.15	0.01	0.15
B04060-B04065	1310	109	8	0.000	0.02	0.00	0.05	0.00	0.10	0.01	0.15	0.01	0.16
B04061-B04065	3517	273	6	0.003	0.18	0.00	0.06	0.00	0.07	0.00	0.10	0.00	0.10
B04062-B04063	1936	195	8	0.005	0.54	0.00	0.03	0.00	0.03	0.01	0.07	0.01	0.07
B04063-B04064	1309	273	8	0.101	2.48	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
B04064-B04065	44	116	8	0.086	2.29	0.00	0.03	0.01	0.06	0.02	0.08	0.02	0.09
B04065-B04066	43	110	8	0.045	1.65	0.00	0.06	0.02	0.12	0.03	0.17	0.04	0.18
B04066-B04067	87	257	8	0.002	0.35	0.00	0.08	0.02	0.15	0.04	0.22	0.04	0.24
B04067-B04068	42	253	8	0.005	0.53	0.00	0.06	0.02	0.13	0.04	0.18	0.05	0.19
B04068-B04070	41	76	8	0.012	0.87	0.01	0.06	0.02	0.12	0.05	0.17	0.06	0.19
B04069-B04070	3602	167	8	0.199	3.49	0.00	0.04	0.00	0.07	0.02	0.12	0.02	0.13
B04070-B04071	40	35	8	0.013	0.91	0.01	0.06	0.03	0.12	0.07	0.19	0.08	0.20
B04071-B04072	39	179	8	0.018	1.04	0.01	0.05	0.03	0.10	0.07	0.16	0.08	0.17
B04072-B04074	38	322	8	0.064	1.97	0.01	0.04	0.03	0.09	0.09	0.14	0.09	0.15
B04073-B04074	3121	250	8	0.002	0.35	0.00	0.04	0.00	0.06	0.00	0.11	0.00	0.11
B04074-B04075	37	280	8	0.092	2.37	0.01	0.05	0.04	0.10	0.10	0.15	0.11	0.16
B04075-B04079	36	255	8	0.049	1.73	0.01	0.06	0.04	0.11	0.10	0.17	0.11	0.18
B04076-B04078	3363	270	6	0.002	0.15	0.00	0.08	0.00	0.09	0.01	0.19	0.01	0.19
B04077-B04078	3122	92	6	0.002	0.17	0.00	0.08	0.00	0.09	0.01	0.18	0.01	0.18
B04078-B04079	35	353	6	0.002	0.16	0.00	0.09	0.01	0.14	0.02	0.24	0.02	0.24
B04079-B04081	34	191	8	0.049	1.73	0.01	0.06	0.05	0.12	0.12	0.18	0.14	0.19
B04080-B04081	33	132	6	0.002	0.16	0.00	0.07	0.00	0.10	0.00	0.17	0.00	0.18
B04081-B04083	32	228	8	0.068	2.04	0.01	0.07	0.06	0.13	0.13	0.19	0.15	0.21
B04082-B04083	2051	196	6	0.071	0.97	0.00	0.05	0.00	0.10	0.01	0.17	0.01	0.18
B04083-B04088	31	208	8	0.031	1.38	0.01	0.07	0.06	0.14	0.14	0.21	0.16	0.23
B04084-B04085	30	103	8	0.010	0.78	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.05
B04085-B04086	29	192	8	0.080	2.21	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
B04086-B04087	28	215	8	0.071	2.09	0.00	0.03	0.01	0.04	0.02	0.07	0.02	0.07
B04087-B04088	27	351	8	0.088	2.32	0.00	0.05	0.01	0.09	0.02	0.14	0.02	0.15
B04088-B04089	26	100	8	0.049	1.72	0.02	0.25	0.08	0.44	0.16	0.49	0.19	0.60
B04089-B04092	927	109	10	0.000	0.04	0.06	0.23	0.26	0.42	0.29	0.44	0.48	0.56
B04090-B04091	24	423	8	0.030	1.35	0.00	0.03	0.00	0.03	0.01	0.06	0.01	0.06
B04091-B04092	23	305	8	0.099	2.45	0.00	0.09	0.01	0.17	0.02	0.20	0.02	0.24
B04092-B04093.B0	351	173	10	0.021	2.06	0.06	0.15	0.28	0.27	0.31	0.28	0.51	0.36
B04093.A0-B04093.B0	8300	75	8	0.012	0.86	0.04	0.18	0.04	0.25	0.01	0.22	0.01	0.27
B04093.B0-B04093	8299	125	10	0.014	1.67	0.11	0.17	0.31	0.30	0.32	0.30	0.52	0.39
B04093-B04095	347	336	10	0.013	1.60	0.11	0.18	0.31	0.30	0.33	0.31	0.52	0.40
B04094-B04095	346	299	6	0.002	0.16	0.00	0.18	0.00	0.29	0.01	0.34	0.01	0.40
B04095-B04097	345	241	10	0.013	1.60	0.11	0.17	0.32	0.30	0.34	0.30	0.54	0.39
B04096-B04097	3372	310	6	0.073	0.98	0.00	0.15	0.00	0.25	0.00	0.27	0.00	0.33
B04097-B04098	344	125	10	0.017	1.83	0.11	0.17	0.33	0.30	0.34	0.31	0.55	0.39
B04098-B04105.B0	22	138	10	0.012	1.57	0.11	0.18	0.33	0.31	0.34	0.32	0.55	0.40
B04099-B04100	19	360	8	0.100	2.47	0.00	0.02	0.00	0.03	0.01	0.05	0.01	0.05
B04100-B04101	3384	223	8	0.060	1.92	0.00	0.03	0.01	0.05	0.01	0.07	0.01	0.07
B04101-B04103	2680	336	8	0.027	1.27	0.00	0.04	0.01	0.06	0.01	0.08	0.02	0.08
B04102-B04103	2659	40	8	0.121	2.72	0.00	0.02	0.00	0.04	0.01	0.06	0.01	0.06
B04103-B04104	2667	230	8	0.052	1.79	0.00	0.03	0.01	0.06	0.02	0.08	0.03	0.09
B04104-B04105	2675	201	8	0.067	2.02	0.00	0.11	0.02	0.20	0.02	0.21	0.03	0.27
B04105.A0-B04105.B0	6869	249	8	0.008	0.69	0.01	0.61	0.02	0.69	0.04	0.70	0.04	0.75
B04105.B0-B04105	18	168	10	0.015	1.71	0.11	0.17	0.34	0.29	0.35	0.30	0.56	0.38
B04105-B04106	17	323	10	0.025	2.22	0.11	0.15	0.36	0.27	0.38	0.28	0.60	0.35
B04106-B02078	3394	197	10	0.026	2.29	0.11	0.26	0.36	0.45	0.38	0.39	0.60	0.53

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B07001-B07002	1507	73	8	0.020	1.12	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B07002-B07003	1506	190	8	0.016	0.97	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B07003-B07004	1505	239	8	0.025	1.24	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
B07004-B07005	1504	446	8	0.005	0.55	0.01	0.08	0.01	0.12	0.01	0.08	0.01	0.11
B07005-B07010	1503	135	8	0.005	0.55	0.01	0.07	0.02	0.11	0.01	0.07	0.02	0.11
B07006-B07007	1502	77	8	0.004	0.50	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B07007-B07008	1501	177	8	0.029	1.33	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B07008-B07009	1500	180	8	0.008	0.70	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
B07009-B07010	1499	178	8	0.086	2.29	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
B07010-B07011	1498	61	8	0.064	1.98	0.01	0.05	0.03	0.08	0.01	0.05	0.03	0.08
B07011-B07012	1497	382	8	0.102	2.49	0.01	0.05	0.03	0.08	0.01	0.05	0.03	0.08
B07012-B07013	1496	410	8	0.095	2.41	0.01	0.06	0.04	0.11	0.01	0.07	0.03	0.11
B07013-B07022	1495	252	8	0.014	0.92	0.01	0.08	0.04	0.15	0.01	0.09	0.04	0.14
B07014-B07017	1494	466	8	0.024	1.21	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
B07015-B07016	1493	162	8	0.018	1.05	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B07016-B07017	1492	141	8	0.034	1.44	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
B07017-B07019	1491	225	8	0.019	1.09	0.01	0.05	0.01	0.08	0.01	0.05	0.01	0.07
B07018-B07019	1490	131	8	0.017	1.01	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B07019-B07022	1489	137	8	0.083	2.26	0.01	0.06	0.02	0.11	0.01	0.07	0.02	0.11
B07020-B07021	1488	196	8	0.020	1.11	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B07021-B07022	1487	247	8	0.047	1.69	0.00	0.05	0.00	0.09	0.00	0.06	0.00	0.09
B07022-B07023	1486	178	8	0.037	1.49	0.02	0.08	0.07	0.15	0.02	0.09	0.07	0.14
B07023-B07024	2245	236	8	0.048	1.70	0.02	0.10	0.07	0.18	0.02	0.11	0.07	0.18
B07024-B07028	2246	201	8	0.010	0.77	0.02	0.10	0.08	0.19	0.03	0.11	0.07	0.19
B07025-B07026	1485	159	8	0.020	1.09	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B07026-B07027	1484	123	8	0.019	1.08	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B07027-B07028	1483	140	8	0.020	1.10	0.00	0.06	0.01	0.10	0.00	0.07	0.01	0.10
B07028-B07029	1482	178	8	0.046	1.68	0.03	0.09	0.09	0.15	0.03	0.09	0.08	0.15
B07029-B07038	1481	178	8	0.055	1.83	0.03	0.10	0.09	0.17	0.03	0.11	0.09	0.17
B07030-B07031	1480	139	8	0.044	1.64	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
B07031-B07033	1479	142	8	0.055	1.82	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B07032-B07033	1478	122	8	0.051	1.77	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B07033-B07034	1476	257	8	0.015	0.96	0.00	0.06	0.01	0.09	0.00	0.07	0.01	0.09
B07034-B07037	1244	214	8	0.004	0.49	0.01	0.07	0.01	0.11	0.01	0.08	0.01	0.10
B07035-B07036	1243	181	8	0.050	1.75	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B07036-B07037	1242	90	8	0.066	2.01	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
B07037-B07038	1241	243	8	0.024	1.21	0.01	0.09	0.02	0.14	0.01	0.09	0.02	0.14
B07038-B07043	1240	102	8	0.033	1.41	0.04	0.16	0.12	0.28	0.04	0.17	0.11	0.28
B07039-B07040	1239	180	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
B07040-B07041	1238	202	8	0.004	0.49	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
B07041-B07042	1237	136	8	0.004	0.50	0.00	0.05	0.01	0.08	0.00	0.06	0.01	0.08
B07042-B07043	1236	153	8	0.032	1.40	0.00	0.12	0.01	0.21	0.01	0.14	0.01	0.21
B07043-B07044	1235	171	8	0.004	0.49	0.04	0.17	0.13	0.30	0.05	0.19	0.13	0.30
B07044-B07051	1234	219	8	0.018	1.04	0.04	0.14	0.13	0.25	0.05	0.15	0.13	0.24
B07045-B07046	1233	82	8	0.010	0.78	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B07046-B07047	1232	82	8	0.010	0.79	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B07047-B07050	1231	153	8	0.010	0.78	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
B07048-B07049	1230	139	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B07049-B07050	1229	54	8	0.004	0.50	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
B07050-B07051	1228	148	8	0.017	1.02	0.00	0.10	0.01	0.16	0.01	0.11	0.01	0.16
B07051-B07055	1227	131	8	0.017	1.02	0.05	0.16	0.15	0.29	0.06	0.18	0.14	0.29
B07054.A0-B07054.B0	B07054.A0-B07054.B0	86	8	0.025	1.62	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B07054.B0-B07054.C0	B07054.B0-B07054.C0	271	8	0.017	1.02	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B07054.C0-B07054.D0	B07054.C0-B07054.D0	271	8	0.011	0.81	0.00	0.06	0.01	0.08	0.00	0.05	0.01	0.07
B07054.D0-B07054.H0	B07054.D0-B07054.H0	125	8	0.012	0.84	0.01	0.05	0.01	0.08	0.00	0.05	0.01	0.08
B07054.F0-B07054.G0	B07054.F0-B07054.G0	127	8	0.014	0.93	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B07054.G0-B07054.H0	B07054.G0-B07054.H0	110	8	0.110	2.59	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
B07054.H0-B07054.I0	B07054.H0-B07054.I0	134	8	0.061	1.92	0.01	0.05	0.02	0.09	0.01	0.07	0.02	0.10
B07054.I0-B07054.J0	B07054.I0-B07054.J0	54	8	0.013	0.89	0.01	0.07	0.02	0.12	0.01	0.10	0.02	0.13
B07054.J0-B07054	B07054.J0-B07054	145	8	0.005	0.57	0.01	0.09	0.02	0.14	0.01	0.12	0.03	0.15
B07054-B07055	1226	55	8	0.004	0.48	0.01	0.14	0.02	0.24	0.02	0.16	0.03	0.24
B07055-B07057	1225	215	8	0.010	0.78	0.06	0.19	0.17	0.34	0.07	0.22	0.17	0.34
B07056-B07057	1224	197	8	0.004	0.49	0.00	0.12	0.00	0.20	0.00	0.14	0.00	0.20
B07057-B07058	1223	217	8	0.010	0.78	0.06	0.16	0.18	0.27	0.08	0.18	0.18	0.27
B07058-B07079	B07058-B07079	94	8	0.096	2.42	0.06	0.37	0.18	0.59	0.08	0.56	0.18	0.59
B07059.A0-B07090	B07059.A0-B07090	151	8	0.064	1.97	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.01
B07062.A0-B07062	B07062.A0-B07062	172	8	0.016	0.99	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.04
B07062-B07063	1160	244	8	0.180	3.31	0.00	0.02	0.00	0.03	0.01	0.03	0.01	0.04
B07063-B07064	1475	67	8	0.079	2.20	0.00	0.02	0.01	0.04	0.01	0.04	0.01	0.05
B07079-B01152	B07079-B01152	210	20	0.011	9.64	1.36	0.38	4.37	0.73	3.51	0.63	5.80	0.78
B07080-B07079	B07080-B07079	253	20	0.012	10.03	1.30	0.25	4.18	0.46	3.43	0.41	5.61	0.55
B07081-B07080	B07081-B07080	642	20	0.004	5.83	1.30	0.29	4.16	0.55	3.43	0.49	5.59	0.67
B07082-B07081	B07082-B07081	571	20	0.004	5.66	1.30	0.33	4.14	0.64	3.43	0.57	5.58	0.81
B07083-B07082	B07083-B07082	111	8	0.125	2.76	0.00	0.42	0.01	0.52	0.01	0.52	0.01	0.52
B07084-B07082	B07084-B07082	65	20	0.004	5.79	1.30	0.32	4.13	0.63	3.43	0.56	5.56	0.80
B07085-B07084	B07085-B07084	51	20	0.007	7.57	1.30	0.30	4.13	0.60	3.43	0.53	5.56	0.75
B07086-B07085	B07086-B07085	221	20	0.006	6.77	1.30	0.29	4.13	0.56	3.43	0.50	5.55	0.70
B07087-B07086	B07087-B07086	262	20	0.006	6.79	1.30	0.30	4.12	0.56	3.43	0.50	5.55	0.69
B07089-B07087	B07089-B07087	248	8	0.025	1.24	0.00	0.38	0.00	0.52	0.00	0.50	0.00	0.52
B07090-B07089	B07090-B07089	36	8	0.052	1.78	0.00	0.02	0.00	0.04	0.00	0.01	0.00	0.03
B08001-B08002	1997	20	8	0.002	0.33	0.00	0.04	0.00	0.04	0.01	0.05	0.01	0.05
B08002-B08004	748	54	8	0.498	5.51	0.00	0.04	0.00	0.04	0.01	0.05	0.01	0.05
B08003-B08004	1140	23	8	0.002	0.35	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
B08004-B08005	1141	246	8	0.005	0.54	0.00	0.05	0.00	0.07	0.01	0.08	0.01	0.09
B08005-B08006	2302	357	8	0.004	0.51	0.00	0.06	0.01	0.09	0.01	0.09	0.01	0.11
B08006-B08007	2301	355	8	0.004	0.50	0.00	0.06	0.01	0.11	0.01	0.12	0.02	0.14
B08007-B08020	2300	350	8	0.006	0.59	0.00	0.14	0.02	0.22	0.02	0.27	0.03	0.30
B08008-B08009	2299	39	8	0.008	0.71	0.04	0.16	0.04	0.16	0.06	0.19	0.06	0.19
B08009-B08010	2298	311	8	0.009	0.75	0.04	0.16	0.04	0.17	0.06	0.19	0.06	0.19
B08010-B08011	2297	268	8	0.010	0.80	0.04	0.15	0.05	0.15	0.06	0.18	0.07	0.18
B08011-B08012	2296	341	8	0.024	1.21	0.04	0.13	0.05	0.14	0.07	0.16	0.07	0.16
B08012-B08014	2295	270	8	0.030	1.35	0.04	0.32	0.05	0.36	0.07	0.42	0.08	0.43
B08013-B08014	2294	294	8	0.019	1.07	0.00	0.26	0.00	0.29	0.02	0.39	0.02	0.40
B08014-B08015	2293	80	8	0.003	0.39	0.04	0.32	0.06	0.36	0.09	0.42	0.10	0.44
B08015-B08016	2292	300	8	0.044	1.63	0.05	0.17	0.07	0.20	0.10	0.24	0.11	0.25
B08016-B08019	2291	299	8	0.004	0.50	0.05	0.18	0.07	0.22	0.10	0.26	0.11	0.28
B08017-B08019	2290	81	8	0.032	1.39	0.00	0.56	0.01	0.58	0.03	0.61	0.03	0.61
B08018.A0-B08018.B0	1142	301	8	0.013	0.90	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
B08018.B0-B08018	1143	291	8	0.028	1.30	0.00	0.03	0.00	0.05	0.01	0.08	0.01	0.09
B08018.C0-B08018	1144	42	8	0.015	0.96	0.00	0.04	0.00	0.05	0.00	0.07	0.00	0.08
B08019.A0-B08019	1146	56	8	0.073	2.12	0.01	0.56	0.02	0.58	0.03	0.61	0.03	0.61
B08019.A0-B08019	CDT-51	341	8	0.022	1.15	0.00	0.52	0.01	0.53	0.03	0.55	0.03	0.56
B08019-B08020	2289	345	10	0.030	2.45	0.05	0.14	0.09	0.20	0.15	0.25	0.17	0.27
B08020-B08021	2288	279	10	0.003	0.83	0.06	0.15	0.11	0.21	0.17	0.26	0.20	0.28
B08022-B08024	2768	324	15	0.004	2.53	0.50	0.27	2.02	0.58	1.62	0.50	2.77	0.77
B08023-B08024	909	111	8	0.010	0.79	0.00	0.21	0.00	0.45	0.00	0.41	0.00	0.52
B08024-B08025.A0	FM11	42	15	0.012	4.59	0.50	0.23	2.03	0.50	1.63	0.44	2.79	0.61

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B08025.A0-B08025	2285	191	15	0.008	3.77	0.50	0.30	2.03	0.64	1.63	0.56	2.79	0.82
B08025-B08028	2286	176	15	0.002	1.89	0.50	0.29	2.03	0.61	1.63	0.55	2.79	0.79
B08026.D0-B08026.F0	B08026.D0-B08026.F0	150	8	0.049	1.73	0.00	0.01	0.00	0.02	0.01	0.05	0.01	0.06
B08026.F0-B08026.G0	B08026.F0-B08026.G0	155	8	0.039	1.55	0.00	0.01	0.00	0.03	0.01	0.06	0.01	0.07
B08026.G0-B08026.H0	B08026.G0-B08026.H0	141	8	0.030	1.35	0.00	0.02	0.00	0.05	0.01	0.08	0.01	0.08
B08026.H0-B08026.I0	B08026.H0-B08026.I0	56	8	0.011	0.81	0.00	0.09	0.01	0.19	0.01	0.23	0.01	0.27
B08026.I0-B08026	B08026.I0-B08026	180	8	0.031	1.36	0.07	0.16	0.29	0.32	0.46	0.41	0.57	0.46
B08026-B08027	3243	150	8	0.026	1.25	0.07	0.17	0.29	0.33	0.46	0.42	0.57	0.48
B08027-B08028	3242	116	8	0.024	1.22	0.08	0.30	0.30	0.61	0.46	0.62	0.58	0.74
B08028-B08021	2287	248	10	0.027	2.31	0.06	0.22	0.12	0.43	0.17	0.40	0.21	0.54
B08028-B08030	3241	221	15	0.017	5.50	0.63	0.25	2.45	0.52	2.19	0.49	3.56	0.66
B08029-B08030	1147	51	8	0.131	2.83	0.00	0.27	0.00	0.51	0.00	0.51	0.00	0.51
B08030-B08032	3239	370	15	0.009	4.03	0.63	0.25	2.46	0.53	2.19	0.49	3.57	0.71
B08031.A0-B08031.B0	1152	66	8	0.042	1.60	0.01	0.08	0.05	0.15	0.09	0.20	0.10	0.22
B08031.B0-B08031.C0	1153	108	8	0.012	0.84	0.01	0.07	0.05	0.13	0.09	0.17	0.11	0.19
B08031.C0-B08031.D0	1059	77	8	0.350	4.62	0.01	0.07	0.05	0.14	0.09	0.17	0.11	0.20
B08031.D0-B08031.E0	1060	179	8	0.006	0.62	0.01	0.10	0.05	0.20	0.09	0.26	0.11	0.29
B08031.E0-B08031	1061	147	8	0.006	0.63	0.01	0.09	0.05	0.18	0.09	0.22	0.11	0.25
B08031-B08032	3238	81	8	0.027	1.28	0.01	0.25	0.06	0.52	0.09	0.51	0.11	0.60
B08032-B08050	3237	267	15	0.017	5.46	0.65	0.30	2.53	0.72	2.28	0.64	3.69	0.84
B08033.A0-B08033	7652	160	8	0.100	2.47	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.05
B08033-B08034	3236	376	8	0.045	1.65	0.00	0.03	0.00	0.04	0.02	0.08	0.02	0.08
B08034-B08043	3235	419	8	0.060	1.91	0.00	0.07	0.01	0.13	0.03	0.19	0.03	0.20
B08035-B08036	1062	185	8	0.005	0.56	0.00	0.03	0.00	0.04	0.00	0.07	0.00	0.07
B08036-B08038	3234	195	8	0.006	0.58	0.00	0.03	0.00	0.06	0.01	0.09	0.01	0.09
B08037-B08038	1063	221	8	0.158	3.10	0.00	0.02	0.00	0.04	0.01	0.07	0.01	0.07
B08038-B08040	3233	107	8	0.024	1.21	0.00	0.03	0.01	0.05	0.02	0.08	0.02	0.09
B08039-B08040	1065	118	8	0.024	1.21	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
B08040-B08041	1066	183	8	0.156	3.09	0.00	0.02	0.01	0.05	0.03	0.07	0.03	0.08
B08041-B08042	1067	273	8	0.137	2.89	0.00	0.03	0.01	0.06	0.03	0.08	0.04	0.09
B08042-B08043	3232	209	8	0.105	2.53	0.00	0.07	0.02	0.13	0.04	0.19	0.04	0.20
B08043-B08048	1068	213	8	0.003	0.46	0.01	0.08	0.04	0.15	0.07	0.21	0.08	0.23
B08044-B08045	3459	150	8	0.045	1.66	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B08045-B08047	3231	185	8	0.032	1.39	0.00	0.02	0.00	0.04	0.01	0.05	0.01	0.05
B08046-B08047	3230	90	8	0.285	4.17	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.04
B08047-B08048	1150	118	8	0.173	3.25	0.00	0.04	0.01	0.07	0.01	0.09	0.02	0.10
B08048-B08031.A0	1151	107	8	0.094	2.40	0.01	0.06	0.05	0.11	0.09	0.14	0.10	0.16
B08050-B08051	3229	27	15	0.003	2.11	0.65	0.37	2.53	0.95	2.28	0.82	3.70	1.00
B08051-B08052	3228	372	15	0.003	2.34	0.65	0.31	2.53	0.72	2.28	0.64	3.70	0.81
B08052-B08054	3227	308	15	0.015	5.16	0.65	0.26	2.54	0.53	2.28	0.50	3.71	0.68
B08054-B08071	3226	127	15	0.010	4.11	0.65	0.26	2.55	0.54	2.28	0.50	3.72	0.69
B08055-B08056	4317	348	8	0.010	0.76	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
B08056-B08058	4316	282	8	0.037	1.50	0.00	0.03	0.01	0.05	0.01	0.07	0.01	0.07
B08057-B08058	4314	220	8	0.007	0.65	0.00	0.02	0.00	0.04	0.00	0.06	0.00	0.07
B08058-B08061	4313	176	8	0.035	1.46	0.00	0.03	0.01	0.08	0.02	0.08	0.02	0.10
B08059-B08060	4312	339	8	0.005	0.57	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.03
B08060-B08061	4311	361	8	0.039	1.55	0.00	0.02	0.00	0.06	0.00	0.06	0.01	0.08
B08061-B08062	4310	328	8	0.027	1.29	0.00	0.05	0.02	0.13	0.02	0.13	0.04	0.16
B08062-B08063	4309	361	8	0.004	0.49	0.00	0.06	0.03	0.15	0.02	0.14	0.04	0.18
B08063-B08064	4308	295	8	0.015	0.94	0.01	0.05	0.03	0.13	0.03	0.12	0.05	0.16
B08064-B08066	4307	484	8	0.018	1.04	0.01	0.13	0.04	0.21	0.03	0.18	0.06	0.22
B08065.A0-B08065.B0	B08065.A0-B08065.B0	246	8	0.021	1.13	0.03	0.12	0.03	0.12	0.00	0.07	0.00	0.07
B08065.B0-B08065.C0	B08065.B0-B08065.C0	88	8	0.010	0.80	0.03	0.13	0.03	0.14	0.02	0.11	0.02	0.11
B08065.C0-B08065.D0	B08065.C0-B08065.D0	190	8	0.009	0.75	0.03	0.13	0.03	0.14	0.02	0.11	0.02	0.12
B08065.D0-B08065	B08065.D0-B08065	54	8	0.010	0.79	0.03	0.13	0.03	0.14	0.02	0.11	0.02	0.12
B08065-B08066	4306	310	8	0.015	0.96	0.03	0.16	0.03	0.21	0.02	0.17	0.02	0.20
B08066-B08067	4305	274	8	0.004	0.48	0.04	0.23	0.09	0.33	0.06	0.29	0.09	0.34
B08067-B08068	4304	245	8	0.002	0.38	0.04	0.20	0.09	0.28	0.07	0.25	0.10	0.30
B08068-B08071	4303	42	8	0.024	1.21	0.04	0.29	0.09	0.56	0.07	0.49	0.11	0.60
B08069-B08070	4302	122	8	0.055	1.83	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
B08070-B08071	4301	272	8	0.021	1.13	0.00	0.24	0.00	0.49	0.00	0.45	0.00	0.52
B08071-B08072	4300	231	15	0.016	5.26	0.69	0.27	2.65	0.56	2.31	0.51	3.83	0.82
B08072-B08091	4299	404	15	0.008	3.79	0.69	0.29	2.66	0.60	2.31	0.56	3.83	1.00
B08073-B08074	1252	282	6	0.121	1.26	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
B08074-B08076	1073	218	6	0.092	1.10	0.00	0.10	0.00	0.11	0.01	0.07	0.01	0.08
B08075-B08076	1254	204	6	0.156	1.43	0.00	0.09	0.00	0.10	0.00	0.06	0.00	0.06
B08076-B08077	1255	339	6	0.038	0.71	0.04	0.15	0.04	0.16	0.01	0.08	0.01	0.10
B08077-B08085	4298	137	6	0.084	1.05	0.04	0.17	0.05	0.19	0.01	0.09	0.02	0.12
B08078-B08079	4297	197	8	0.025	1.23	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B08079-B08080	4296	151	8	0.117	2.67	0.00	0.07	0.00	0.08	0.01	0.04	0.01	0.04
B08080-B08081	4295	223	8	0.046	1.68	0.05	0.11	0.05	0.11	0.01	0.05	0.01	0.05
B08081-B08082	4294	117	8	0.094	2.39	0.05	0.10	0.05	0.11	0.01	0.05	0.01	0.06
B08082-B08083	4293	104	8	0.096	2.42	0.05	0.09	0.06	0.10	0.01	0.04	0.02	0.05
B08083-B08084	4292	85	8	0.268	4.04	0.05	0.12	0.06	0.13	0.01	0.06	0.02	0.07
B08084-B08085	4291	136	8	0.014	0.93	0.05	0.16	0.06	0.17	0.01	0.08	0.02	0.10
B08085-B08086	4236	280	8	0.048	1.72	0.09	0.15	0.11	0.17	0.02	0.14	0.04	0.15
B08086-B08087	4235	283	8	0.053	1.80	0.09	0.16	0.11	0.18	0.17	0.21	0.17	0.21
B08087-B08090	4234	65	8	0.043	1.62	0.09	0.18	0.12	0.20	0.17	0.26	0.17	0.26
B08088-B08089	1072	58	8	0.039	1.55	0.00	0.03	0.00	0.03	0.07	0.19	0.07	0.19
B08089-B08090	4538	357	8	0.005	0.55	0.00	0.13	0.01	0.14	0.07	0.27	0.07	0.27
B08090-B08091	4537	372	8	0.024	1.21	0.10	0.36	0.13	0.61	0.24	0.65	0.24	0.65
B08091-B08092	4536	106	15	0.011	4.32	0.79	0.30	2.79	0.61	2.54	0.57	4.04	1.00
B08092-B08093	3974	365	15	0.009	3.93	0.79	0.31	2.80	0.63	2.54	0.59	4.05	1.00
B08093-B08094	3972	119	15	0.008	3.78	0.79	0.32	2.81	0.66	2.54	0.62	4.06	1.00
B08094-B08095	4957	169	15	0.007	3.47	0.79	0.33	2.81	0.69	2.54	0.64	4.06	0.96
B08095.A0-B08095	5380	124	8	0.009	0.73	0.00	0.32	0.00	0.50	0.00	0.52	0.01	0.55
B08095-B08096	5674	226	18	0.004	2.70	0.79	0.29	2.81	0.58	2.54	0.55	4.07	0.76
B08096-B08097	5366	253	18	0.004	2.70	0.80	0.31	2.83	0.60	2.54	0.57	4.08	0.78
B08097-B08098	5355	22	18	0.001	1.26	0.80	0.30	2.83	0.60	2.54	0.56	4.09	0.77
B08098-B08099	5609	259	18	0.005	2.82	0.80	0.27	2.83	0.54	2.54	0.51	4.09	0.68
B08099-B08116	B08099-B08116	102	18	0.006	3.29	0.80	0.24	2.84	0.47	2.55	0.45	4.10	0.59
B08101-B08102	B08101-B08102	203	8	0.026	1.26	0.00	0.01	0.00	0.01	0.02	0.07	0.02	0.07
B08102-B08103	B08102-B08103	224	8	0.075	2.14	0.00	0.02	0.00	0.04	0.02	0.07	0.02	0.08
B08103-B08104	B08103-B08104	27	4	0.091	0.37	0.00	0.06	0.01	0.10	0.02	0.17	0.02	0.18
B08104-B08105	1070	174	8	0.032	1.39	0.00	0.03	0.01	0.05	0.02	0.09	0.02	0.09
B08105-B08106	5542	135	8	0.040	1.57	0.00	0.03	0.01	0.06	0.02	0.09	0.03	0.10
B08106-B08107	5261	298	8	0.040	1.56	0.00	0.03	0.01	0.06	0.03	0.08	0.03	0.09
B08107-B08120	B08107-B08120	21	8	0.170	3.22	0.00	0.03	0.01	0.06	0.03	0.08	0.03	0.09
B08110-B08111	B08110-B08111	96	8	0.013	0.88	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
B08111-B08112	B08111-B08112	252	8	0.021	1.14	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B08112-B08115	B08112-B08115	25	8	0.018	1.05	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B08114-B08115	B08114-B08115	39	8	0.015	0.97	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B08115-B08118	B08115-B08118	9	8	0.213	3.60	0.00	0.19	0.01	0.35	0.01	0.33	0.01	0.42
B08116-B08117	B08116-B08117	134	18	0.011	7.16	0.80	0.23	2.85	0.45	2.55	0.43	4.10	0.56
B08117-B08118	B08117-B08118	254	18	0.010	6.94	0.80	0.20	2.85	0.38	2.55	0.36	4.10	0.47
B08118-B08119	B08118-B08119	78	18	0.047	14.75	0.81	0.18	2.87	0.35	2.55	0.33	4.12	0.42
B08119-B08126	B08119-B08126	40	18	0.016	8.52	0.81	0.20	2.87	0.38	2.55	0.36	4.12	0.47

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B08120-B08121	B08120-B08121	62	8	0.045	1.65	0.00	0.04	0.01	0.07	0.03	0.10	0.04	0.11
B08121-B08122	B08121-B08122	138	8	0.028	1.31	0.00	0.03	0.02	0.07	0.03	0.10	0.04	0.11
B08122-B08124	B08122-B08124	41	8	0.096	2.42	0.00	0.04	0.02	0.08	0.03	0.10	0.04	0.11
B08124-B08125	B08124-B08125	95	8	0.019	1.07	0.00	0.04	0.02	0.09	0.03	0.12	0.04	0.13
B08125-B08126	B08125-B08126	85	8	0.021	1.13	0.00	0.24	0.02	0.46	0.03	0.44	0.04	0.56
B08126-B08154	B08126-B08154	64	18	0.021	9.86	0.81	0.23	2.89	0.42	2.58	0.39	4.17	0.51
B08154-B07087	B08154-B07087	152	20	0.015	11.00	1.30	0.26	4.11	0.49	3.43	0.44	5.54	0.59
B08155-B14319	B08155-B14319	186	16	0.008	4.50	0.50	0.25	1.22	0.39	0.85	0.32	1.37	0.42
B08156-B08155	CDT-41	75	16	0.008	4.43	0.50	0.23	1.21	0.36	0.85	0.30	1.37	0.38
B09001-B09002	5256	116	8	0.006	0.63	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B09002-B09003	5252	267	8	0.059	1.90	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.06
B09003-B09006	5246	329	8	0.027	1.28	0.00	0.04	0.01	0.06	0.02	0.09	0.02	0.10
B09004-B09005	2771	31	8	0.000	0.14	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B09005-B09006	5242	201	8	0.210	3.58	0.00	0.02	0.00	0.04	0.00	0.06	0.00	0.06
B09006-B09007	5240	55	8	0.025	1.23	0.00	0.04	0.01	0.07	0.02	0.09	0.03	0.10
B09007-B09010	5236	135	8	0.044	1.63	0.00	0.03	0.01	0.07	0.02	0.09	0.03	0.10
B09008-B09009	2770	130	8	0.002	0.35	0.00	0.01	0.00	0.03	0.00	0.03	0.00	0.04
B09009-B09010	8055	370	8	0.002	0.35	0.00	0.03	0.00	0.07	0.00	0.06	0.00	0.08
B09010-B09011	3420	138	8	0.053	1.80	0.00	0.04	0.02	0.08	0.03	0.11	0.04	0.12
B09011-B09039	3415	352	8	0.047	1.70	0.00	0.06	0.02	0.13	0.06	0.17	0.07	0.19
B09012-B09013	5521	100	8	0.015	0.95	0.00	0.01	0.00	0.02	0.06	0.16	0.06	0.16
B09013-B09015	5442	239	8	0.047	1.69	0.00	0.02	0.00	0.03	0.06	0.13	0.06	0.13
B09014-B09015	5434	136	8	0.201	3.50	0.00	0.02	0.00	0.03	0.00	0.07	0.00	0.07
B09015-B09016	5430	287	8	0.053	1.79	0.00	0.03	0.01	0.05	0.06	0.13	0.06	0.13
B09016-B09017	5098	230	8	0.050	1.74	0.00	0.04	0.01	0.08	0.06	0.19	0.06	0.19
B09017-B09018	5093	299	8	0.004	0.50	0.00	0.05	0.01	0.12	0.06	0.24	0.06	0.25
B09018-B09028	5086	282	8	0.004	0.49	0.00	0.08	0.02	0.18	0.06	0.28	0.07	0.30
B09019-B09020	5084	211	8	0.197	3.47	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B09020-B09021	5076	178	8	0.005	0.55	0.00	0.03	0.00	0.06	0.00	0.05	0.00	0.07
B09021-B09026	5342	245	8	0.010	0.78	0.00	0.05	0.01	0.10	0.00	0.11	0.01	0.13
B09022-B09023	5331	74	8	0.004	0.50	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
B09023-B09025	5330	215	8	0.032	1.39	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.05
B09024-B09025	5328	150	8	0.109	2.58	0.00	0.02	0.00	0.03	0.03	0.07	0.03	0.07
B09025-B09026	5312	230	8	0.124	2.75	0.00	0.05	0.01	0.09	0.03	0.12	0.03	0.13
B09026-B09027	4673	261	8	0.004	0.50	0.00	0.06	0.02	0.11	0.03	0.14	0.04	0.16
B09027-B09028	4672	249	8	0.032	1.39	0.01	0.07	0.02	0.16	0.03	0.21	0.04	0.24
B09028-B09029	4671	281	8	0.004	0.50	0.01	0.07	0.05	0.16	0.10	0.23	0.11	0.25
B09029-B09030	5305	274	8	0.086	2.29	0.01	0.05	0.05	0.10	0.10	0.14	0.12	0.16
B09030-B09031	5302	434	8	0.075	2.14	0.01	0.06	0.05	0.13	0.10	0.17	0.12	0.19
B09031-B09032	5294	311	8	0.020	1.12	0.01	0.07	0.06	0.15	0.10	0.20	0.12	0.22
B09032-B09034	4760	233	8	0.026	1.25	0.01	0.07	0.06	0.15	0.10	0.19	0.13	0.21
B09033-B09034	2769	113	8	0.020	1.10	0.00	0.05	0.00	0.09	0.00	0.10	0.00	0.11
B09034-B09035	388	251	8	0.032	1.40	0.01	0.07	0.07	0.15	0.10	0.18	0.13	0.21
B09035-B09036	379	245	8	0.031	1.37	0.01	0.07	0.07	0.16	0.10	0.18	0.14	0.21
B09036-B09037	378	205	8	0.031	1.36	0.01	0.07	0.07	0.16	0.10	0.18	0.14	0.22
B09037-B09038	4755	358	8	0.034	1.44	0.01	0.07	0.08	0.15	0.10	0.17	0.14	0.20
B09038-B09039	4753	272	8	0.053	1.80	0.02	0.07	0.08	0.16	0.10	0.19	0.15	0.22
B09039-B09040	4747	309	8	0.047	1.70	0.02	0.08	0.11	0.18	0.18	0.22	0.23	0.25
B09040-B09047	4738	310	8	0.050	1.74	0.02	0.08	0.12	0.19	0.19	0.22	0.24	0.26
B09041-B09042	1303	113	6	0.108	1.19	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B09042-B09044	1289	249	6	0.007	0.31	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
B09043-B09044	656	278	6	0.084	1.05	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B09044.A0-B09044	2772	123	8	0.006	0.58	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B09044-B09045	3410	277	8	0.050	1.75	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B09045-B09046	3407	263	8	0.020	1.10	0.00	0.04	0.01	0.09	0.00	0.04	0.01	0.09
B09046-B09047	3406	304	8	0.009	0.72	0.00	0.07	0.02	0.15	0.00	0.14	0.02	0.18
B09047-B09055	3405	136	8	0.048	1.70	0.02	0.11	0.14	0.26	0.19	0.30	0.26	0.36
B09048-B09049	2773	83	8	0.235	3.78	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B09049-B09051	2774	103	8	0.088	2.31	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
B09050-B09051	3404	48	8	0.023	1.19	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B09051-B09052	3403	322	8	0.061	1.94	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
B09052-B09053	3401	111	8	0.004	0.47	0.00	0.07	0.01	0.11	0.01	0.11	0.01	0.12
B09053-B09054	653	131	8	0.004	0.50	0.01	0.08	0.01	0.11	0.01	0.13	0.02	0.14
B09054-B09055	647	362	8	0.005	0.53	0.01	0.11	0.01	0.22	0.02	0.26	0.03	0.30
B09055-B09059	642	204	8	0.008	0.71	0.03	0.15	0.16	0.33	0.22	0.38	0.30	0.45
B09056-B09057	2775	157	8	0.087	2.30	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
B09057-B09058	5232	256	8	0.044	1.65	0.00	0.05	0.00	0.07	0.01	0.08	0.01	0.08
B09058-B09059	4378	251	8	0.004	0.49	0.00	0.11	0.01	0.21	0.01	0.24	0.01	0.28
B09059-B09060	4371	182	8	0.010	0.79	0.04	0.14	0.18	0.30	0.23	0.34	0.32	0.40
B09060-B09061	4363	300	8	0.023	1.18	0.04	0.12	0.18	0.26	0.23	0.30	0.32	0.36
B09061-B09062	4357	168	8	0.023	1.18	0.04	0.12	0.18	0.27	0.23	0.30	0.33	0.36
B09062-B09064	212	70	8	0.023	1.18	0.04	0.12	0.19	0.27	0.24	0.31	0.33	0.37
B09063-B09064	867	253	8	0.020	1.12	0.00	0.07	0.00	0.15	0.00	0.16	0.00	0.19
B09064-B09081.A0	2776	276	8	0.021	1.13	0.04	0.13	0.19	0.27	0.24	0.30	0.33	0.36
B09065.A0-B09065	2777	97	8	0.007	0.66	0.00	0.01	0.00	0.01	0.01	0.07	0.01	0.07
B09065-B09066	860	212	8	0.094	2.39	0.00	0.03	0.00	0.04	0.01	0.07	0.01	0.07
B09066-B09067	4353	222	8	0.032	1.41	0.00	0.04	0.01	0.06	0.02	0.09	0.02	0.09
B09067-B09081	4343	360	8	0.085	2.27	0.01	0.10	0.02	0.18	0.04	0.23	0.04	0.26
B09068-B09069	2778	146	8	0.182	3.33	0.00	0.02	0.00	0.02	0.01	0.06	0.01	0.06
B09069-B09070	4339	465	8	0.059	1.89	0.00	0.03	0.00	0.04	0.02	0.08	0.02	0.08
B09070-B09071	4333	199	8	0.062	1.95	0.00	0.03	0.01	0.06	0.03	0.09	0.03	0.09
B09071-B09074	5225	139	8	0.055	1.83	0.00	0.04	0.01	0.07	0.03	0.11	0.04	0.12
B09072-B09073	5222	136	8	0.079	2.19	0.00	0.02	0.00	0.02	0.01	0.06	0.01	0.06
B09073-B09074	4988	344	8	0.109	2.57	0.00	0.03	0.00	0.05	0.03	0.10	0.03	0.10
B09074-B09075	4985	113	8	0.055	1.83	0.01	0.05	0.02	0.08	0.07	0.13	0.07	0.14
B09075-B09078	4905	178	8	0.049	1.72	0.01	0.08	0.02	0.13	0.07	0.22	0.08	0.22
B09076-B09077	4894	145	8	0.004	0.49	0.00	0.02	0.00	0.03	0.00	0.06	0.00	0.06
B09077-B09078	5213	326	8	0.004	0.50	0.00	0.06	0.00	0.11	0.01	0.20	0.01	0.20
B09078-B09079	5203	154	8	0.005	0.53	0.01	0.09	0.03	0.15	0.09	0.24	0.10	0.25
B09079-B09080	4284	247	8	0.030	1.36	0.02	0.07	0.04	0.11	0.10	0.17	0.11	0.18
B09080-B09081	5191	191	8	0.064	1.98	0.02	0.11	0.05	0.21	0.11	0.27	0.11	0.30
B09081.A0-B09081	7583	225	8	0.028	1.30	0.04	0.14	0.20	0.28	0.25	0.34	0.34	0.39
B09081-B09082	5190	308	8	0.028	1.30	0.07	0.17	0.27	0.34	0.39	0.41	0.50	0.47
B09082-B09085	5186	41	8	0.015	0.95	0.07	0.18	0.27	0.36	0.40	0.44	0.50	0.51
B09084.A0-B09084	7584	50	6	0.002	0.16	0.00	0.05	0.00	0.07	0.00	0.16	0.00	0.20
B09084-B09085	2780	184	6	0.001	0.11	0.00	0.15	0.00	0.28	0.01	0.40	0.01	0.48
B09085-B09087	5185	200	8	0.019	1.08	0.07	0.17	0.27	0.33	0.40	0.41	0.51	0.47
B09086-B09087	2779	136	6	0.002	0.17	0.00	0.14	0.00	0.24	0.01	0.33	0.01	0.36
B09087-B09088	2224	182	8	0.027	1.29	0.07	0.17	0.28	0.33	0.41	0.42	0.52	0.48
B09088-B09089	2223	296	8	0.020	1.10	0.07	0.17	0.28	0.33	0.45	0.43	0.55	0.48
B09089-B08026.I0	B09089-B08026.I0	42	8	0.028	1.32	0.07	0.16	0.29	0.32	0.45	0.40	0.56	0.45
B10001-B10002	761	184	8	0.008	0.68	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B10002-B10003	775	204	8	0.017	1.01	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B10003-B10004	2219	211	8	0.029	1.33	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B10004-B10005	3090	207	8	0.030	1.36	0.00	0.03	0.01	0.06	0.00	0.04	0.01	0.06
B10005-B10006	3084	270	8	0.030	1.34	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
B10006-B10007	4529	269	8	0.030	1.35	0.00	0.04	0.02	0.08	0.00	0.04	0.02	0.08

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B10007-B10008	4522	365	8	0.040	1.57	0.00	0.15	0.02	0.34	0.01	0.24	0.02	0.38
B10008-B10009	4509	206	10	0.014	1.66	0.15	0.22	0.78	0.52	0.45	0.38	0.98	0.60
B10009-B10015	1602	250	10	0.009	1.36	0.15	0.21	0.78	0.50	0.45	0.37	0.98	0.58
B10010-B10011	2073	191	8	0.033	1.42	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
B10011-B10012	2070	206	8	0.089	2.33	0.00	0.02	0.00	0.03	0.00	0.03	0.01	0.04
B10012-B10014	2066	180	8	0.151	3.03	0.00	0.02	0.01	0.03	0.00	0.03	0.01	0.04
B10013-B10014	3218	154	8	0.011	0.82	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
B10014-B10015	3216	259	8	0.296	4.25	0.00	0.13	0.01	0.30	0.01	0.22	0.01	0.34
B10015-B10016	3200	461	10	0.021	2.07	0.16	0.18	0.80	0.41	0.45	0.30	1.00	0.47
B10016-B10025	5180	420	10	0.035	2.65	0.16	0.21	0.80	0.50	0.46	0.36	1.01	0.57
B10017-B10019	5179	224	8	0.002	0.35	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B10018-B10019	5178	231	8	0.004	0.50	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B10019-B10021	5177	183	8	0.091	2.36	0.00	0.03	0.01	0.06	0.00	0.02	0.01	0.05
B10020-B10021	5176	225	8	0.027	1.28	0.00	0.03	0.00	0.05	0.00	0.02	0.00	0.04
B10021-B10023	5175	149	8	0.023	1.17	0.00	0.04	0.01	0.08	0.00	0.03	0.01	0.07
B10022-B10023	5174	188	8	0.433	5.14	0.00	0.52	0.00	0.54	0.00	0.52	0.00	0.54
B10023-B10024	5173	249	8	0.027	1.29	0.01	0.06	0.02	0.10	0.00	0.04	0.01	0.09
B10024-B10025	5171	213	8	0.007	0.67	0.01	0.19	0.02	0.45	0.00	0.30	0.02	0.50
B10025-B10026	5170	362	12	0.005	1.61	0.16	0.22	0.84	0.52	0.46	0.37	1.04	0.60
B10026-B10027	5162	256	12	0.004	1.51	0.16	0.23	0.84	0.55	0.46	0.39	1.05	0.63
B10027.A0-B10027.B0	B10027.A0-B10027.B0	115	8	0.060	2.49	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
B10027.B0-B10027.C0	B10027.B0-B10027.C0	115	8	0.146	2.99	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
B10027.C0-B10027.D0	B10027.C0-B10027.D0	316	8	0.137	2.90	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B10027.D0-B10027	B10027.D0-B10027	106	8	0.063	1.96	0.00	0.18	0.01	0.45	0.00	0.31	0.01	0.51
B10027-B10070	2408	189	12	0.004	1.39	0.17	0.24	0.85	0.56	0.46	0.42	1.06	0.65
B10028-B10029	2393	206	8	0.005	0.55	0.00	0.04	0.00	0.05	0.01	0.11	0.01	0.11
B10029-B10030	2488	230	8	0.005	0.55	0.00	0.04	0.00	0.06	0.01	0.10	0.01	0.11
B10030-B10031	2483	228	8	0.016	1.00	0.00	0.03	0.01	0.05	0.01	0.07	0.02	0.08
B10031-B10032	4883	174	8	0.201	3.50	0.00	0.03	0.01	0.05	0.02	0.06	0.02	0.07
B10032-B10033	4875	182	8	0.050	1.74	0.00	0.03	0.01	0.06	0.02	0.06	0.02	0.07
B10033-B10034	320	167	8	0.200	3.50	0.00	0.03	0.02	0.05	0.02	0.05	0.02	0.06
B10034-B10035	8202	154	8	0.187	3.38	0.01	0.05	0.02	0.09	0.02	0.08	0.03	0.10
B10035-B10036	4715	142	8	0.010	0.78	0.01	0.05	0.02	0.09	0.02	0.08	0.03	0.10
B10036-B10037	1608	66	8	0.334	4.52	0.01	0.04	0.02	0.08	0.02	0.07	0.03	0.09
B10037-B10038	2133	110	8	0.020	1.11	0.01	0.06	0.02	0.12	0.02	0.11	0.03	0.13
B10038-B10039	5042	288	8	0.010	0.78	0.01	0.07	0.03	0.11	0.02	0.10	0.03	0.13
B10039-B10040	5038	272	8	0.041	1.59	0.01	0.06	0.03	0.10	0.02	0.09	0.04	0.11
B10040-B10054	5032	254	8	0.064	1.98	0.01	0.07	0.04	0.12	0.03	0.15	0.05	0.16
B10041-B10042	4664	336	8	0.108	2.56	0.00	0.01	0.00	0.02	0.02	0.06	0.02	0.06
B10042-B10043	4661	176	8	0.144	2.96	0.00	0.01	0.00	0.03	0.02	0.06	0.02	0.06
B10043-B10044.A0	1579	135	8	0.157	3.09	0.00	0.01	0.01	0.03	0.02	0.06	0.02	0.06
B10044.A0-B10044	412	134	8	0.247	3.88	0.00	0.01	0.01	0.03	0.02	0.05	0.02	0.06
B10044-B10045	3464	116	8	0.260	3.99	0.00	0.01	0.01	0.04	0.02	0.06	0.03	0.06
B10045-B10046	4650	175	8	0.154	3.06	0.00	0.01	0.01	0.04	0.02	0.06	0.03	0.07
B10046-B10047	2530	282	8	0.207	3.55	0.00	0.02	0.01	0.06	0.02	0.07	0.03	0.09
B10047-B10048	2547	316	8	0.035	1.45	0.00	0.02	0.02	0.07	0.02	0.08	0.03	0.10
B10048-B10049	4643	244	8	0.100	2.47	0.00	0.01	0.02	0.05	0.03	0.07	0.04	0.08
B10049-B10050	4639	102	8	1.968	10.96	0.00	0.50	0.02	0.52	0.09	0.53	0.10	0.53
B10050-B10051	4630	45	8	4.390	16.36	0.00	0.51	0.02	0.54	0.09	0.58	0.10	0.58
B10051-B10053	5018	105	8	0.056	1.84	0.00	0.03	0.02	0.09	0.09	0.16	0.10	0.16
B10052-B10053	5005	235	8	0.060	1.91	0.00	0.03	0.00	0.06	0.00	0.10	0.00	0.10
B10053-B10054	5004	224	8	0.047	1.70	0.00	0.06	0.03	0.12	0.10	0.19	0.10	0.20
B10054-B10057	5000	186	8	0.043	1.63	0.02	0.08	0.07	0.15	0.16	0.21	0.18	0.23
B10055-B10056	4993	415	8	0.012	0.86	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B10055-B10058	4259	206	8	0.042	1.61	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B10056-B10057	4253	399	8	0.047	1.70	0.00	0.06	0.01	0.11	0.00	0.12	0.01	0.14
B10057-B10060	4244	197	8	0.041	1.59	0.02	0.12	0.09	0.22	0.16	0.28	0.19	0.31
B10058-B10059	4242	471	8	0.026	1.26	0.00	0.05	0.01	0.06	0.00	0.05	0.01	0.06
B10059-B10060	4132	341	8	0.032	1.41	0.01	0.10	0.01	0.17	0.01	0.20	0.01	0.23
B10060-B10062	3818	194	8	0.007	0.68	0.03	0.17	0.11	0.31	0.17	0.39	0.21	0.43
B10061-B10062	3816	350	8	0.007	0.63	0.00	0.11	0.00	0.19	0.00	0.23	0.00	0.26
B10062-B10063	3808	204	8	0.004	0.52	0.04	0.19	0.12	0.34	0.20	0.47	0.24	0.52
B10063-B10064	3804	281	8	0.004	0.49	0.04	0.19	0.13	0.34	0.24	0.48	0.28	0.52
B10064-B10068	3794	276	8	0.006	0.60	0.04	0.19	0.13	0.35	0.25	0.48	0.29	0.53
B10065-B10066	3789	381	8	0.031	1.38	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B10065-B10067	556	186	8	0.049	1.74	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B10066-B10068	4700	221	8	0.030	1.36	0.00	0.12	0.01	0.22	0.00	0.27	0.01	0.31
B10067-B10068	4694	268	8	0.035	1.47	0.00	0.12	0.01	0.21	0.00	0.28	0.00	0.31
B10068-B10069	4682	261	8	0.004	0.49	0.05	0.21	0.15	0.38	0.26	0.51	0.31	0.57
B10069-B10070	4624	123	8	0.004	0.51	0.05	0.28	0.16	0.60	0.26	0.59	0.31	0.77
B10070-B10071	4622	182	12	0.006	1.84	0.21	0.20	1.02	0.46	0.72	0.38	1.37	0.54
B10071-B10072	4617	257	12	0.024	3.58	0.21	0.16	1.02	0.36	0.73	0.30	1.37	0.42
B10072-B10073	4610	292	12	0.028	3.84	0.21	0.16	1.02	0.35	0.73	0.29	1.38	0.41
B10073-B10074	4603	292	12	0.030	4.00	0.21	0.16	1.03	0.37	0.73	0.31	1.38	0.43
B10074-B10075	4598	326	12	0.021	3.30	0.21	0.19	1.03	0.44	0.75	0.37	1.41	0.53
B10075-B10076	4597	413	12	0.008	2.08	0.21	0.23	1.04	0.55	0.78	0.47	1.43	0.69
B10076-B10081	4585	273	12	0.005	1.58	0.21	0.25	1.05	0.58	0.79	0.49	1.45	0.72
B10077-B10078	4502	209	8	0.072	2.09	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
B10078.A0-B10078	2119	316	8	0.002	0.35	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
B10078-B10079	4498	295	8	0.068	2.04	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B10079-B10080	4273	290	8	0.139	2.91	0.01	0.05	0.01	0.06	0.00	0.05	0.01	0.06
B10080-B10081	2325	409	8	0.104	2.52	0.02	0.21	0.03	0.45	0.02	0.38	0.03	0.53
B10081-B10082	2317	52	12	0.006	1.78	0.23	0.23	1.08	0.52	0.81	0.44	1.48	0.62
B10082-B10083	2308	133	12	0.010	2.35	0.23	0.20	1.09	0.44	0.81	0.38	1.49	0.53
B10083-B10084	959	234	12	0.020	3.24	0.23	0.19	1.09	0.42	0.81	0.37	1.49	0.51
B10084.A0-B10084.B0	1722	97	8	0.036	1.47	0.00	0.02	0.00	0.02	0.07	0.15	0.07	0.15
B10084.B0-B10084.C0	2717	151	8	0.039	1.55	0.00	0.05	0.00	0.06	0.07	0.17	0.07	0.17
B10084.C0-B10084.D0	1975	278	8	0.025	1.24	0.02	0.10	0.03	0.11	0.10	0.21	0.10	0.21
B10084.D0-B10084.E0	2737	212	8	0.012	0.85	0.02	0.15	0.03	0.17	0.10	0.26	0.10	0.26
B10084.E0-B10084.F0	2754	82	8	0.005	0.55	0.04	0.20	0.05	0.22	0.10	0.32	0.10	0.32
B10084.F0-B10084.G0	2811	266	8	0.005	0.55	0.04	0.16	0.05	0.17	0.13	0.27	0.13	0.27
B10084.G0-B10084	711	167	8	0.055	1.83	0.04	0.21	0.06	0.39	0.13	0.39	0.13	0.49
B10084-B10085	1592	290	12	0.016	2.91	0.27	0.20	1.15	0.42	0.94	0.38	1.60	0.51
B10085-B10089	548	264	12	0.021	3.35	0.27	0.22	1.15	0.48	0.94	0.43	1.61	0.60
B10086.A0-B10086.B0	2933	198	8	0.058	1.88	0.00	0.03	0.00	0.03	0.01	0.05	0.01	0.05
B10086.B0-B10086	1851	192	8	0.128	2.80	0.00	0.04	0.01	0.05	0.01	0.07	0.01	0.07
B10086-B10088	2836	330	8	0.022	1.15	0.01	0.06	0.01	0.08	0.02	0.13	0.02	0.13
B10087-B10088	2688	219	8	0.130	2.82	0.00	0.04	0.00	0.05	0.02	0.11	0.02	0.11
B10088-B10089	2348	71	8	0.016	1.00	0.01	0.22	0.02	0.47	0.06	0.46	0.06	0.58
B10089-B10092	1535	341	12	0.007	1.95	0.28	0.25	1.18	0.56	1.00	0.51	1.67	0.71
B10090-B10091	953	325	8	0.002	0.35	0.00	0.01	0.00	0.02	0.00	0.04	0.00	0.04
B10091-B10092	944	221	8	0.089	2.33	0.00	0.20	0.00	0.44	0.01	0.39	0.01	0.52
B10092-B10093	4269	310	12	0.007	1.98	0.28	0.25	1.19	0.56	1.01	0.51	1.69	0.72
B10093-B10094	4263	347	12	0.008	2.01	0.28	0.24	1.19	0.53	1.03	0.48	1.71	0.66
B10094-B08022	2765	265	12	0.012	2.52	0.28	0.31	1.20	0.67	1.04	0.59	1.72	0.80
B11001-B11002	2494	292	8	0.076	2.15	0.00	0.02	0.00	0.03	0.05	0.11	0.05	0.11
B11002-B11003	4459	162	8	0.051	1.76	0.00	0.03	0.00	0.05	0.05	0.13	0.05	0.13

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B11003-B11004	4450	35	8	0.032	1.40	0.00	0.02	0.01	0.04	0.05	0.11	0.05	0.11
B11004-B11005	4443	209	8	0.218	3.65	0.00	0.02	0.01	0.04	0.05	0.09	0.05	0.09
B11005-B11006	6373	248	8	0.134	2.86	0.00	0.04	0.01	0.07	0.05	0.14	0.05	0.15
B11006-B11007	6581	223	8	0.007	0.67	0.00	0.05	0.01	0.10	0.06	0.19	0.06	0.20
B11007-B11008	4435	291	8	0.008	0.70	0.00	0.05	0.02	0.11	0.06	0.20	0.06	0.20
B11008-B11021	4428	206	8	0.008	0.71	0.00	0.05	0.02	0.11	0.06	0.17	0.06	0.18
B11009-B11010	4419	196	8	0.095	2.40	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.01
B11010-B11011	4415	282	8	0.054	1.81	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.03
B11011-B11012	4414	76	8	0.127	2.79	0.00	0.02	0.01	0.04	0.00	0.01	0.01	0.03
B11012-B11021	4412	278	8	0.167	3.19	0.00	0.03	0.01	0.07	0.00	0.08	0.01	0.10
B11013-B11014	4410	250	8	0.040	1.57	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.02
B11014-B11015	4409	249	8	0.021	1.13	0.00	0.02	0.00	0.04	0.00	0.00	0.00	0.03
B11015-B11018	1094	120	8	0.304	4.31	0.00	0.02	0.01	0.04	0.00	0.02	0.01	0.04
B11016-B11017	1077	173	8	0.005	0.56	0.00	0.04	0.00	0.05	0.01	0.10	0.01	0.10
B11017-B11018	4398	263	8	0.005	0.56	0.00	0.03	0.00	0.05	0.01	0.08	0.01	0.08
B11018-B11019	6259	147	8	0.175	3.27	0.00	0.03	0.01	0.06	0.01	0.05	0.02	0.07
B11019-B11020	5281	195	8	0.045	1.65	0.00	0.03	0.02	0.07	0.01	0.07	0.02	0.08
B11020-B11021	4117	309	8	0.095	2.41	0.00	0.04	0.02	0.09	0.02	0.11	0.03	0.12
B11021-B11023	4097	220	8	0.071	2.08	0.01	0.07	0.06	0.16	0.09	0.19	0.11	0.22
B11022-B11023	331	21	8	0.001	0.30	0.00	0.11	0.00	0.22	0.00	0.27	0.00	0.31
B11023-B11024	913	249	8	0.010	0.79	0.01	0.07	0.06	0.16	0.09	0.19	0.12	0.22
B11024-B11025	4382	450	8	0.080	2.21	0.01	0.05	0.06	0.12	0.09	0.14	0.12	0.16
B11025-B11026	4229	237	8	0.097	2.43	0.01	0.06	0.07	0.12	0.09	0.13	0.13	0.16
B11026-B11028	4225	132	8	0.097	2.43	0.02	0.06	0.08	0.13	0.09	0.14	0.13	0.16
B11027-B11026	3066	351	6	0.007	0.31	0.00	0.06	0.00	0.10	0.00	0.09	0.00	0.11
B11028-B11030	4224	342	8	0.079	2.20	0.02	0.06	0.08	0.13	0.09	0.14	0.13	0.17
B11029-B11030	4223	378	8	0.005	0.56	0.00	0.05	0.00	0.09	0.00	0.07	0.00	0.08
B11030-B11037	4222	39	8	0.092	2.37	0.02	0.07	0.09	0.15	0.09	0.15	0.14	0.18
B11031-B11032	4221	119	8	0.020	1.09	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B11032-B11033	640	98	8	0.113	2.63	0.00	0.02	0.00	0.03	0.01	0.05	0.01	0.05
B11033-B11035	636	166	8	0.021	1.12	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
B11034-B11035	631	331	8	0.006	0.60	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
B11035-B11036	257	322	8	0.170	3.22	0.00	0.03	0.01	0.05	0.01	0.04	0.02	0.05
B11036-B11037	254	328	8	0.142	2.94	0.00	0.06	0.02	0.11	0.01	0.10	0.02	0.13
B11037-B11040	7368	412	8	0.060	1.91	0.03	0.09	0.11	0.18	0.11	0.17	0.17	0.22
B11038-B11039	623	250	8	0.006	0.60	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.06
B11039-B11043	6865	152	8	0.005	0.55	0.00	0.07	0.00	0.13	0.00	0.12	0.01	0.16
B11040-B11043	612	64	8	0.033	1.41	0.03	0.10	0.12	0.20	0.11	0.19	0.17	0.24
B11041-B11042	1158	5	8	0.152	3.04	0.00	0.01	0.00	0.01	0.01	0.04	0.01	0.04
B11042-B11043	3039	492	8	0.136	2.88	0.00	0.06	0.00	0.11	0.01	0.11	0.01	0.14
B11043-B11046	2764	186	8	0.036	1.49	0.03	0.10	0.13	0.20	0.12	0.19	0.19	0.24
B11044-B11045	3455	163	6	0.099	1.14	0.00	0.03	0.00	0.03	0.00	0.01	0.00	0.01
B11045-B11046	2763	251	6	0.084	1.05	0.00	0.08	0.00	0.16	0.00	0.13	0.00	0.18
B11046-B11047	2762	159	8	0.035	1.46	0.03	0.10	0.14	0.21	0.12	0.20	0.20	0.25
B11047-B11048	2761	329	8	0.028	1.32	0.03	0.13	0.14	0.29	0.12	0.25	0.20	0.34
B11048-B11049	2760	284	8	0.044	1.64	0.09	0.17	0.46	0.37	0.31	0.30	0.62	0.44
B11049-B11050	2759	297	8	0.038	1.52	0.09	0.16	0.46	0.37	0.31	0.30	0.63	0.44
B11050-B11051	2758	378	8	0.051	1.76	0.09	0.18	0.47	0.41	0.31	0.33	0.63	0.49
B11051-B11055	2757	234	8	0.019	1.06	0.09	0.20	0.47	0.48	0.32	0.38	0.64	0.57
B11052-B11053	2756	342	8	0.080	2.21	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B11053-B11054	2755	343	8	0.073	2.11	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.04
B11054-B11055	2956	128	8	0.088	2.32	0.00	0.12	0.01	0.27	0.01	0.21	0.01	0.32
B11055-B11056	2955	116	8	0.017	1.03	0.09	0.20	0.48	0.48	0.33	0.39	0.66	0.58
B11056-B11057	2954	193	8	0.019	1.06	0.09	0.20	0.49	0.47	0.33	0.38	0.66	0.56
B11057-B11061	2953	157	8	0.022	1.15	0.10	0.21	0.49	0.48	0.34	0.39	0.67	0.59
B11058-B11059	3270	273	8	0.081	2.22	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
B11059-B11060	910	334	8	0.057	1.87	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.04
B11060-B11061	908	338	8	0.059	1.90	0.00	0.12	0.01	0.28	0.00	0.22	0.01	0.34
B11061-B11062	907	233	8	0.016	0.98	0.10	0.21	0.50	0.50	0.34	0.41	0.69	0.61
B11062-B11113	906	349	8	0.018	1.04	0.10	0.21	0.51	0.50	0.35	0.39	0.69	0.59
B11063-B11064	905	265	8	0.007	0.66	0.00	0.24	0.00	0.25	0.00	0.25	0.00	0.26
B11064-B11065	904	71	8	0.017	1.03	0.01	0.73	0.01	0.74	0.01	0.74	0.01	0.74
B11065-B11066	903	14	8	0.107	2.55	0.00	0.52	0.00	0.52	0.00	0.52	0.01	0.53
B11066-B11067	902	265	8	0.019	1.07	0.00	0.03	0.00	0.05	0.00	0.04	0.01	0.05
B11067-B11068	901	332	8	0.043	1.62	0.00	0.05	0.01	0.08	0.00	0.06	0.01	0.09
B11068-B11084	900	324	8	0.004	0.49	0.00	0.06	0.01	0.12	0.00	0.07	0.01	0.12
B11069-B11070	899	337	8	0.004	0.47	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
B11070-B11084	898	314	8	0.075	2.15	0.00	0.04	0.01	0.08	0.00	0.04	0.00	0.08
B11071-B11072	835	160	8	0.055	1.84	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B11072-B11076	897	227	8	0.078	2.18	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B11073-B11074	1190	291	8	0.006	0.58	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B11074-B11075	896	176	8	0.073	2.10	0.00	0.02	0.01	0.04	0.00	0.01	0.00	0.03
B11075-B11076	895	175	8	0.089	2.33	0.00	0.03	0.01	0.05	0.00	0.02	0.01	0.04
B11076-B11082	894	206	8	0.127	2.78	0.00	0.03	0.02	0.07	0.00	0.03	0.01	0.06
B11077-B11078	893	300	8	0.033	1.42	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.02
B11078-B11082	892	185	8	0.110	2.59	0.00	0.02	0.00	0.05	0.00	0.02	0.00	0.05
B11079-B11080	1364	235	6	0.053	0.84	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B11080-B11081	1311	195	6	0.014	0.43	0.00	0.03	0.00	0.06	0.00	0.05	0.00	0.07
B11081-B11082	891	259	6	0.013	0.41	0.00	0.04	0.00	0.09	0.00	0.05	0.00	0.09
B11082-B11083	890	170	8	0.112	2.61	0.01	0.03	0.03	0.07	0.01	0.03	0.03	0.07
B11083-B11084	889	83	8	0.205	3.54	0.01	0.04	0.03	0.10	0.01	0.04	0.03	0.10
B11084-B11087	888	341	8	0.046	1.68	0.01	0.06	0.06	0.14	0.01	0.06	0.06	0.14
B11085-B11086	887	302	8	0.004	0.49	0.00	0.03	0.00	0.04	0.00	0.01	0.00	0.03
B11086-B11087	2952	409	8	0.021	1.13	0.00	0.05	0.00	0.10	0.00	0.04	0.00	0.10
B11087-B11092	2951	211	8	0.032	1.40	0.01	0.10	0.07	0.22	0.01	0.09	0.07	0.22
B11088.A0-B11088	2949	30	8	0.009	0.76	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B11088-B11089	2950	400	8	0.080	2.21	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
B11089-B11092	2948	413	8	0.060	1.92	0.00	0.08	0.01	0.17	0.00	0.07	0.01	0.16
B11090-B11091	2947	318	6	0.003	0.20	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.05
B11091-B11092	2946	397	6	0.003	0.19	0.00	0.11	0.00	0.24	0.00	0.10	0.00	0.23
B11092-B11094	203	256	8	0.005	0.53	0.02	0.14	0.10	0.32	0.02	0.13	0.09	0.31
B11094-B11097	666	86	8	0.003	0.41	0.02	0.15	0.10	0.33	0.02	0.14	0.10	0.32
B11095-B11096	3454	163	8	0.030	1.34	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B11096-B11097	2945	349	8	0.052	1.78	0.00	0.09	0.00	0.17	0.00	0.09	0.01	0.17
B11097-B11099	2944	319	8	0.005	0.55	0.02	0.15	0.11	0.33	0.02	0.15	0.11	0.32
B11098-B11099	1767	76	8	0.002	0.35	0.00	0.10	0.00	0.24	0.00	0.11	0.00	0.23
B11099-B11100	1766	324	8	0.003	0.46	0.03	0.16	0.12	0.35	0.03	0.16	0.11	0.34
B11100-B11106.A0	59	366	8	0.004	0.49	0.03	0.17	0.12	0.38	0.03	0.17	0.12	0.37
B11101-B11102	1765	115	8	0.009	0.73	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B11102-B11104	1764	206	8	0.098	2.45	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B11103-B11104	1818	11	8	20.204	35.11	0.00	0.50	0.01	0.50	0.00	0.50	0.00	0.50
B11104-B11105	1763	145	8	0.004	0.49	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.03
B11105-B11106	1762	334	8	0.004	0.50	0.00	0.09	0.00	0.20	0.00	0.08	0.00	0.19
B11106.A0-B11106	94	93	8	0.002	0.38	0.03	0.17	0.13	0.38	0.03	0.17	0.12	0.37
B11106-B11110	1761	124	8	0.005	0.53	0.03	0.16	0.14	0.35	0.03	0.16	0.13	0.34
B11107-B11108	7582	168	8	0.005	0.55	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B11108-B11109	1876	361	8	0.009	0.72	0.00	0.03	0.00	0.05	0.00	0.02	0.00	0.04

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B11109-B11110	1875	234	8	0.074	2.12	0.00	0.10	0.01	0.20	0.00	0.09	0.01	0.20
B11110-B11111	1874	136	8	0.005	0.53	0.03	0.17	0.15	0.38	0.03	0.17	0.14	0.37
B11111-B11112	1873	349	8	0.004	0.49	0.03	0.14	0.15	0.32	0.03	0.14	0.14	0.31
B11112-B11113	16	352	8	0.032	1.41	0.03	0.16	0.16	0.37	0.03	0.23	0.15	0.40
B11113-B11117	1872	372	8	0.027	1.29	0.13	0.22	0.67	0.52	0.38	0.37	0.85	0.60
B11114-B11115	188	309	6	0.020	0.52	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B11115-B11116	1871	53	6	0.119	1.25	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B11116-B11117.A0	B11116-B11117.A0	233	6	0.090	1.09	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.04
B11117.A0-B11117	B11117.A0-B11117	30	6	0.264	1.86	0.00	0.16	0.01	0.37	0.00	0.26	0.01	0.42
B11117-B11118	1870	317	8	0.027	1.27	0.13	0.22	0.68	0.52	0.38	0.37	0.86	0.60
B11118-B11119.C0	7484	128	8	0.026	1.27	0.13	0.22	0.69	0.52	0.38	0.37	0.86	0.60
B11119.A0-B11119.B0	1877	300	8	0.119	2.70	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B11119.B0-B11119.C0	1526	272	8	0.100	2.46	0.00	0.12	0.00	0.28	0.00	0.20	0.00	0.32
B11119.C0-B11119	7191	206	8	0.027	1.28	0.13	0.22	0.69	0.53	0.38	0.37	0.87	0.60
B11119-B11120	1869	288	8	0.027	1.29	0.14	0.23	0.70	0.54	0.38	0.38	0.87	0.61
B11120-B11133	1868	96	10	0.016	1.77	0.14	0.19	0.70	0.44	0.38	0.32	0.88	0.50
B11121-B11122	1867	22	8	0.012	0.86	0.00	0.03	0.00	0.03	0.01	0.13	0.01	0.13
B11122-B11123	1866	301	8	0.007	0.67	0.00	0.03	0.00	0.04	0.05	0.15	0.05	0.15
B11123-B11124	1865	335	8	0.073	2.11	0.00	0.03	0.01	0.05	0.05	0.11	0.05	0.11
B11124-B11125	1864	106	8	0.073	2.11	0.00	0.04	0.01	0.06	0.05	0.12	0.05	0.12
B11125-B11126	1863	319	8	0.036	1.48	0.01	0.05	0.01	0.08	0.05	0.13	0.05	0.14
B11126-B11130	1862	392	8	0.025	1.24	0.01	0.08	0.02	0.14	0.05	0.19	0.05	0.21
B11127-B11128	1861	70	8	0.013	0.89	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B11128-B11129	1860	281	8	0.177	3.28	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B11129-B11130	1859	291	8	0.065	1.99	0.00	0.07	0.01	0.12	0.00	0.14	0.01	0.15
B11130-B11131	1858	521	8	0.004	0.49	0.01	0.09	0.03	0.15	0.06	0.19	0.07	0.21
B11131-B11132	1857	213	8	0.033	1.41	0.01	0.09	0.04	0.18	0.06	0.21	0.07	0.24
B11132-B11133	1856	147	8	0.002	0.35	0.01	0.18	0.04	0.40	0.06	0.35	0.08	0.48
B11133-B11134	1855	186	10	0.017	1.84	0.15	0.19	0.75	0.45	0.44	0.34	0.95	0.52
B11134-B10008	1477	176	10	0.016	1.77	0.15	0.20	0.75	0.47	0.44	0.35	0.95	0.54
B11143-B11094	179	321	6	0.005	0.25	0.00	0.13	0.00	0.26	0.00	0.12	0.00	0.25
B12002-B12003	1816	4	8	0.002	0.35	0.00	0.07	0.00	0.17	0.00	0.21	0.00	0.24
B12003.A0-B12003.B0	7902	214	8	0.145	2.98	0.00	0.01	0.00	0.02	0.01	0.06	0.01	0.06
B12003.B0-B12003.C0	7903	65	8	0.125	2.76	0.00	0.01	0.00	0.03	0.02	0.07	0.02	0.07
B12003.C0-B12003.D0	7904	135	8	0.095	2.40	0.00	0.02	0.00	0.04	0.02	0.08	0.02	0.08
B12003.D0-B12003.E0	7905	166	8	0.047	1.69	0.00	0.02	0.01	0.05	0.02	0.10	0.03	0.10
B12003.E0-B12003.F0	7906	84	8	0.019	1.06	0.00	0.03	0.01	0.06	0.02	0.10	0.03	0.11
B12003.F0-B12003.G0	7907	43	8	0.025	1.23	0.00	0.03	0.01	0.06	0.02	0.09	0.03	0.10
B12003.G0-B12003.K0	7908	99	8	0.042	1.61	0.00	0.03	0.01	0.06	0.02	0.10	0.03	0.10
B12003.H0-B12003.I0	7897	43	8	0.043	1.63	0.00	0.01	0.00	0.01	0.01	0.04	0.01	0.04
B12003.I0-B12003.J0	7898	59	8	0.074	2.12	0.00	0.08	0.00	0.10	0.01	0.15	0.01	0.15
B12003.J0-B12003.K0	7899	73	8	0.001	0.24	0.00	0.09	0.00	0.12	0.01	0.18	0.01	0.18
B12003.K0-B12003.L0	7900	303	8	0.034	1.43	0.00	0.03	0.01	0.07	0.03	0.10	0.04	0.11
B12003.L0-B12003.N0	7901	35	8	0.065	1.99	0.00	0.04	0.02	0.10	0.03	0.13	0.04	0.14
B12003.M0-B12003.N0	7890	130	8	0.006	0.62	0.00	0.03	0.00	0.09	0.01	0.13	0.01	0.14
B12003.MA-B12003.MB	B12003.MA-B12003.MB	240	8	0.058	1.88	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B12003.MB-B12003.MC	B12003.MB-B12003.MC	60	8	0.010	0.80	0.00	0.01	0.00	0.04	0.00	0.03	0.00	0.05
B12003.MC-B12003.M0	B12003.MC-B12003.M0	16	8	0.020	1.10	0.00	0.02	0.00	0.05	0.00	0.07	0.01	0.08
B12003.N0-B12003.O0	7891	60	8	0.008	0.70	0.00	0.05	0.02	0.13	0.04	0.17	0.05	0.19
B12003.O0-B12003.P0	7892	88	8	0.007	0.66	0.00	0.06	0.02	0.13	0.05	0.18	0.06	0.20
B12003.P0-B12003.Q0	7893	91	8	0.007	0.66	0.00	0.05	0.03	0.12	0.05	0.16	0.06	0.18
B12003.Q0-B12003.Y0	7894	9	8	0.026	1.26	0.00	0.06	0.03	0.14	0.05	0.17	0.06	0.20
B12003.R0-B12003.S0	7438	275	8	0.068	2.03	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.01
B12003.S0-B12003.T0	7439	37	8	0.108	2.57	0.00	0.01	0.00	0.03	0.00	0.00	0.00	0.03
B12003.T0-B12003.U0	7440	138	8	0.016	0.99	0.00	0.04	0.02	0.08	0.03	0.10	0.04	0.12
B12003.TA-B12003.TB	7430	89	8	0.149	3.01	0.00	0.01	0.00	0.01	0.01	0.05	0.01	0.05
B12003.TB-B12003.TC	7431	168	8	0.132	2.83	0.00	0.01	0.00	0.02	0.01	0.05	0.01	0.05
B12003.TC-B12003.TD	7435	291	8	0.090	2.34	0.00	0.02	0.00	0.04	0.01	0.08	0.01	0.08
B12003.TD-B12003.TE	7436	149	8	0.033	1.42	0.00	0.03	0.01	0.07	0.03	0.13	0.03	0.14
B12003.TE-B12003.T0	7437	281	8	0.005	0.55	0.00	0.04	0.01	0.09	0.03	0.16	0.03	0.16
B12003.U0-B12003.V0	7441	82	8	0.105	2.53	0.00	0.03	0.02	0.06	0.03	0.08	0.04	0.09
B12003.V0-B12003.W0	7442	89	8	0.107	2.55	0.00	0.03	0.02	0.06	0.03	0.08	0.04	0.09
B12003.W0-B12003.X0	7443	74	8	0.092	2.37	0.00	0.03	0.02	0.07	0.03	0.08	0.04	0.10
B12003.X0-B12003.Y0	7889	70	8	0.069	2.05	0.00	0.03	0.02	0.07	0.03	0.09	0.04	0.10
B12003.Y0-B12003.Z0	7895	34	8	0.010	0.80	0.01	0.06	0.05	0.15	0.08	0.18	0.10	0.21
B12003.Z0-B12003	7896	255	8	0.043	1.63	0.01	0.05	0.05	0.12	0.08	0.15	0.10	0.17
B12003-B12004	1854	203	8	0.012	0.84	0.01	0.06	0.05	0.16	0.08	0.19	0.11	0.22
B12004-B12006	1853	196	8	0.030	1.35	0.01	0.07	0.06	0.17	0.08	0.20	0.11	0.24
B12005-B12006	1815	5	8	0.002	0.35	0.00	0.08	0.00	0.20	0.00	0.23	0.00	0.28
B12006-B12008	1852	23	8	0.006	0.59	0.01	0.07	0.06	0.18	0.08	0.21	0.11	0.24
B12007-B12008	1814	3	8	0.002	0.35	0.00	0.06	0.00	0.14	0.00	0.16	0.00	0.19
B12008-B12009	1760	164	8	0.032	1.40	0.01	0.06	0.06	0.13	0.08	0.15	0.11	0.18
B12009-B12010	1759	235	8	0.070	2.06	0.01	0.05	0.06	0.13	0.08	0.15	0.12	0.17
B12010-B12011	1758	273	8	0.050	1.75	0.01	0.06	0.07	0.13	0.09	0.16	0.12	0.18
B12011-B12012	1757	300	8	0.050	1.74	0.01	0.07	0.07	0.15	0.09	0.17	0.13	0.20
B12012-B12013	1756	358	8	0.026	1.25	0.01	0.08	0.07	0.17	0.10	0.19	0.13	0.23
B12013-B12014	1755	334	8	0.027	1.29	0.01	0.07	0.08	0.16	0.10	0.18	0.14	0.22
B12014-B12015	2943	313	8	0.048	1.71	0.01	0.06	0.08	0.15	0.10	0.16	0.15	0.19
B12015-B12016	2942	319	8	0.071	2.08	0.02	0.07	0.09	0.16	0.11	0.18	0.15	0.21
B12016-B12017	2941	155	8	0.024	1.20	0.02	0.08	0.09	0.19	0.11	0.21	0.16	0.25
B12017-B12030	2940	156	8	0.022	1.15	0.02	0.09	0.09	0.19	0.11	0.19	0.16	0.24
B12018-B12019	2939	341	8	0.035	1.45	0.00	0.03	0.00	0.04	0.01	0.06	0.01	0.06
B12019-B12020	5546	346	8	0.040	1.56	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.08
B12020-B12021	3402	345	8	0.026	1.27	0.01	0.05	0.01	0.07	0.02	0.07	0.02	0.08
B12021-B12024	5228	231	8	0.054	1.82	0.01	0.05	0.02	0.08	0.02	0.07	0.02	0.09
B12022-B12023	2938	306	6	1.016	3.66	0.00	0.53	0.00	0.54	0.00	0.53	0.00	0.53
B12023-B12024	393	423	6	0.032	0.65	0.00	0.07	0.01	0.10	0.00	0.07	0.01	0.10
B12024-B12025	5096	117	8	0.056	1.85	0.01	0.06	0.03	0.10	0.02	0.08	0.03	0.10
B12025-B12028	2937	288	8	0.030	1.36	0.01	0.07	0.03	0.12	0.02	0.09	0.04	0.12
B12026-B12027	2936	186	6	0.008	0.33	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B12027-B12028	2935	227	6	0.066	0.93	0.00	0.06	0.00	0.10	0.00	0.07	0.00	0.10
B12028-B12029	2934	64	8	0.031	1.37	0.01	0.07	0.04	0.11	0.02	0.08	0.04	0.11
B12029-B12030	2932	352	8	0.068	2.03	0.01	0.07	0.04	0.14	0.02	0.12	0.04	0.16
B12030-B12031.C0	2163	323	8	0.066	2.01	0.03	0.09	0.14	0.19	0.13	0.18	0.21	0.23
B12031.A0-B12031.B0	7824	130	8	0.076	2.15	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
B12031.B0-B12031.C0	7823	160	8	0.084	2.26	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.02
B12031.C0-B12031	2164	61	8	0.041	1.57	0.03	0.10	0.15	0.22	0.13	0.20	0.21	0.26
B12031-B12043	2931	70	8	0.030	1.35	0.03	0.11	0.15	0.23	0.13	0.21	0.21	0.27
B12032-B12033	2930	3	8	0.002	0.35	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.05
B12033-B12035	2929	130	8	0.034	1.44	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B12034-B12035	2261	197	8	0.084	2.26	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B12035-B12036	2260	51	8	0.037	1.50	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.04
B12036-B12037	2259	152	8	0.100	2.46	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B12037-B12038	2258	213	8	0.037	1.51	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B12038-B12039	2257	136	8	0.083	2.25	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
B12039-B12040	2161	82	8	0.015	0.97	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
B12040-B12042	2160	225	8	0.076	2.16	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B12042-B12043	2159	256	8	0.019	1.06	0.00	0.08	0.02	0.16	0.00	0.13	0.02	0.18
B12043-B12063	2158	176	8	0.032	1.39	0.04	0.11	0.17	0.25	0.13	0.22	0.23	0.30
B12044-B12045	5446	158	8	0.431	5.13	0.00	0.01	0.00	0.01	0.01	0.03	0.01	0.03
B12045-B12046	2157	59	8	0.448	5.23	0.00	0.01	0.00	0.02	0.01	0.03	0.01	0.03
B12046-B12047.A0	4315	141	8	0.382	4.83	0.00	0.01	0.00	0.03	0.01	0.03	0.01	0.03
B12047-B12047.A0	3240	183	8	0.117	2.67	0.00	0.02	0.00	0.04	0.01	0.05	0.01	0.05
B12047-B12048	2156	307	8	0.042	1.61	0.00	0.03	0.01	0.08	0.01	0.09	0.01	0.11
B12048-B12049	2155	289	8	0.005	0.56	0.00	0.03	0.01	0.08	0.02	0.10	0.02	0.12
B12049-B12050	2154	281	8	0.153	3.06	0.00	0.02	0.01	0.06	0.06	0.12	0.07	0.13
B12050-B12051	2153	144	8	0.039	1.53	0.00	0.02	0.02	0.08	0.06	0.14	0.07	0.15
B12051-B12106	2152	151	8	0.035	1.46	0.00	0.02	0.02	0.08	0.06	0.13	0.07	0.14
B12052-B12056	2151	300	8	0.088	2.32	0.00	0.02	0.03	0.08	0.07	0.12	0.08	0.13
B12055-B12103	B12055-B12103	108	8	0.102	2.50	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B12056-B12057	1589	279	8	0.062	1.94	0.00	0.03	0.03	0.09	0.07	0.13	0.08	0.14
B12057-B12058	1588	296	8	0.063	1.96	0.00	0.04	0.04	0.12	0.07	0.16	0.09	0.18
B12058-B12062	1587	264	8	0.015	0.95	0.00	0.04	0.04	0.13	0.07	0.16	0.09	0.19
B12062-B12063	2927	337	8	0.064	1.98	0.00	0.07	0.05	0.19	0.07	0.18	0.10	0.24
B12063-B12064	2926	294	8	0.038	1.52	0.04	0.17	0.23	0.41	0.17	0.35	0.34	0.52
B12064-B12086	2925	90	8	0.003	0.39	0.04	0.22	0.23	0.53	0.18	0.44	0.35	0.67
B12065-B12066	2924	310	8	0.036	1.48	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B12066-B12067	2923	498	8	0.040	1.57	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B12067-B12068	2922	205	8	0.114	2.64	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B12068-B12070	2324	56	8	0.111	2.60	0.00	0.03	0.02	0.06	0.00	0.03	0.01	0.06
B12069-B12070	4411	151	8	0.005	0.55	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.05
B12070-B12071	3793	131	8	0.114	2.63	0.01	0.04	0.02	0.08	0.01	0.05	0.02	0.08
B12071-B12072	2921	231	8	0.022	1.16	0.01	0.05	0.02	0.09	0.01	0.05	0.02	0.09
B12072-B12073	2920	282	8	0.039	1.54	0.01	0.05	0.02	0.10	0.01	0.05	0.02	0.10
B12073-B12074	2919	251	8	0.020	1.10	0.01	0.06	0.03	0.11	0.01	0.06	0.03	0.11
B12074-B12075	2918	224	8	0.022	1.17	0.01	0.06	0.03	0.11	0.01	0.05	0.03	0.10
B12075-B12076	2917	237	8	0.046	1.68	0.01	0.05	0.04	0.10	0.01	0.05	0.03	0.09
B12076-B12086	2916	168	8	0.101	2.48	0.01	0.13	0.04	0.30	0.01	0.22	0.04	0.35
B12077-B12079	2915	283	8	0.007	0.67	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
B12078-B12079	2914	240	8	0.009	0.74	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.07
B12079-B12080	2913	301	8	0.005	0.53	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
B12080-B12081	2912	182	8	0.082	2.23	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B12082-B12083	2910	120	8	0.004	0.52	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
B12083-B12084	4943	111	8	0.018	1.04	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
B12084-B12085	5487	143	8	0.263	4.00	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.05
B12085-B12081	2911	134	8	0.134	2.86	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B12085-B12086	2909	334	8	0.098	2.45	0.00	0.12	0.02	0.29	0.01	0.22	0.02	0.34
B12086-B12087	2908	191	8	0.007	0.64	0.06	0.18	0.30	0.41	0.19	0.32	0.41	0.49
B12087-B12088	2907	374	8	0.033	1.41	0.06	0.15	0.30	0.35	0.19	0.27	0.41	0.41
B12088-B11048	7264	396	8	0.016	1.00	0.06	0.16	0.31	0.37	0.19	0.30	0.42	0.44
B12094-B12062	B12094-B12062	108	8	0.017	1.02	0.00	0.02	0.01	0.09	0.00	0.09	0.01	0.12
B12095-B12094	B12095-B12094	180	8	0.159	3.11	0.00	0.00	0.01	0.05	0.00	0.04	0.01	0.06
B12096-B12095	B12096-B12095	185	8	0.162	3.14	0.00	0.00	0.01	0.03	0.00	0.03	0.01	0.04
B12097-B12096	B12097-B12096	165	8	0.165	3.17	0.00	0.00	0.00	0.03	0.00	0.03	0.01	0.04
B12098-B12097	B12098-B12097	72	8	0.173	3.25	0.00	0.00	0.00	0.02	0.00	0.03	0.01	0.03
B12099-B12098	B12099-B12098	68	8	0.156	3.09	0.00	0.00	0.00	0.02	0.00	0.03	0.01	0.03
B12100-B12099	B12100-B12099	68	8	0.109	2.58	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.03
B12101-B12100	B12101-B12100	63	8	0.057	1.87	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.03
B12102-B12055	B12102-B12055	85	8	0.094	2.40	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
B12103-B12104	B12103-B12104	176	8	0.057	1.87	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.05
B12104-B12105	B12104-B12105	127	8	0.007	0.63	0.00	0.02	0.00	0.06	0.00	0.02	0.00	0.06
B12105-B12106	B12105-B12106	103	8	0.015	0.97	0.00	0.01	0.01	0.05	0.00	0.03	0.01	0.06
B12105-B12106	CDT-48	34	8	0.041	1.59	0.00	0.02	0.01	0.06	0.00	0.07	0.01	0.09
B13001-B13002	2958	150	6	0.094	1.11	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
B13002-B13003	2906	316	6	0.148	1.39	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
B13003-B13005	2905	373	6	0.030	0.63	0.00	0.05	0.01	0.07	0.00	0.03	0.00	0.06
B13004-B13005	2957	148	8	0.002	0.35	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B13005-B13006	2364	217	8	0.106	2.54	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.05
B13006-B13007	2204	184	8	0.057	1.86	0.01	0.04	0.02	0.07	0.00	0.03	0.01	0.06
B13007-B13012	2205	281	8	0.057	1.87	0.01	0.05	0.02	0.08	0.00	0.04	0.02	0.08
B13008-B13009	7654	291	8	0.035	1.46	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B13009-B13010	2201	352	8	0.133	2.85	0.00	0.03	0.01	0.05	0.00	0.02	0.01	0.04
B13010-B13011	2202	148	8	0.048	1.72	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
B13011-B13012	2363	97	8	0.011	0.82	0.00	0.05	0.01	0.09	0.00	0.04	0.01	0.09
B13012-B13013	2362	144	8	0.058	1.87	0.01	0.06	0.04	0.10	0.01	0.05	0.03	0.10
B13013-B13026	2361	323	8	0.040	1.55	0.01	0.08	0.04	0.15	0.01	0.07	0.03	0.14
B13014-B13015	2193	190	8	0.003	0.45	0.00	0.20	0.00	0.20	0.00	0.21	0.00	0.22
B13015-B13016	2194	77	8	0.009	0.75	0.01	0.70	0.01	0.70	0.01	0.70	0.01	0.70
B13016-B13017	2195	195	8	0.005	0.55	0.00	0.51	0.01	0.52	0.01	0.51	0.01	0.52
B13017-B13018	2360	150	8	0.190	3.41	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
B13018-B13019	2359	258	8	0.070	2.07	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
B13019-B13020	2196	250	8	0.011	0.82	0.00	0.06	0.01	0.11	0.00	0.06	0.01	0.10
B13020.A0-B13020.B0	2197	136	8	0.060	1.92	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B13020.B0-B13020.C0	2198	380	8	0.010	0.78	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B13020.C0-B13020	2199	91	8	0.078	2.18	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.08
B13020-B13024	2200	265	8	0.012	0.84	0.01	0.07	0.03	0.12	0.01	0.07	0.02	0.11
B13021-B13022	2203	135	8	0.007	0.65	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
B13022-B13023	2358	219	8	0.059	1.89	0.00	0.03	0.00	0.04	0.01	0.04	0.01	0.04
B13023-B13024	2357	337	8	0.076	2.15	0.01	0.05	0.01	0.08	0.01	0.05	0.01	0.08
B13024-B13025	2356	86	8	0.048	1.71	0.01	0.07	0.04	0.11	0.01	0.07	0.04	0.11
B13025-B13026	2355	272	8	0.048	1.72	0.02	0.09	0.05	0.15	0.02	0.08	0.04	0.14
B13026-B13222.A0	2354	248	8	0.024	1.21	0.03	0.10	0.09	0.18	0.02	0.09	0.08	0.17
B13028-B13029	1539	212	8	0.002	0.35	0.00	0.06	0.00	0.07	0.01	0.11	0.01	0.11
B13029-B13030	2352	182	8	0.002	0.35	0.00	0.06	0.00	0.08	0.01	0.10	0.01	0.11
B13030-B13032	2351	43	8	0.008	0.71	0.00	0.10	0.01	0.15	0.01	0.18	0.01	0.19
B13031-B13032	1540	191	6	0.003	0.21	0.00	0.14	0.00	0.18	0.01	0.24	0.01	0.25
B13032-B13033	1537	134	8	0.000	0.02	0.00	0.11	0.01	0.17	0.02	0.21	0.02	0.22
B13033-B13034	1538	209	8	0.003	0.42	0.00	0.08	0.01	0.14	0.02	0.16	0.02	0.18
B13034.A0-B13034.B0	2959	242	8	0.010	0.78	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
B13034.B0-B13034.C0	2960	130	8	0.114	2.63	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.05
B13034.C0-B13034.D0	2961	51	8	0.196	3.46	0.00	0.02	0.01	0.03	0.01	0.04	0.01	0.05
B13034.D0-B13034	1536	186	8	0.170	3.22	0.00	0.06	0.01	0.10	0.01	0.11	0.02	0.13
B13034-B13035	1543	345	8	0.005	0.54	0.01	0.07	0.02	0.12	0.03	0.13	0.04	0.15
B13035.A0-B13035.B0	1541	228	8	0.063	1.95	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
B13035.B0-B13035	1542	128	8	0.156	3.08	0.00	0.03	0.00	0.06	0.00	0.05	0.00	0.06
B13035-B13036	1544	58	8	0.086	2.29	0.01	0.05	0.03	0.08	0.03	0.08	0.05	0.10
B13036-B13037	1545	214	8	0.103	2.50	0.01	0.05	0.04	0.09	0.03	0.08	0.05	0.10
B13037-B13038	1546	339	8	0.089	2.33	0.01	0.06	0.04	0.10	0.03	0.09	0.05	0.12
B13038-B13043	1547	175	8	0.033	1.42	0.01	0.07	0.04	0.12	0.03	0.10	0.06	0.14
B13039-B13040	2350	278	6	0.079	1.02	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B13040-B13041	1548	159	6	0.047	0.78	0.00	0.05	0.00	0.07	0.00	0.04	0.00	0.06
B13041-B13042	1549	246	8	0.010	0.78	0.00	0.04	0.01	0.06	0.00	0.03	0.00	0.06
B13042-B13043	1550	268	8	0.031	1.38	0.00	0.05	0.01	0.09	0.00	0.07	0.01	0.10
B13043-B13222.B0	1551	321	8	0.046	1.67	0.02	0.07	0.06	0.14	0.04	0.11	0.07	0.15

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B13053-B13054	3461	288	6	0.216	1.69	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B13054-B13055	2344	247	6	0.102	1.16	0.00	0.52	0.00	0.52	0.00	0.52	0.00	0.52
B13055-B13056.D0	1248	126	8	0.007	0.66	0.00	0.53	0.01	0.54	0.01	0.53	0.01	0.54
B13056.A0-B13056.BA	7193	79	8	0.030	1.34	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B13056.B0-B13056.C0	1249	237	8	0.172	3.24	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B13056.BA-B13056.B0	7194	87	8	0.104	2.52	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B13056.C0-B13056.D0	1250	80	8	0.026	1.26	0.00	0.04	0.01	0.07	0.00	0.05	0.01	0.07
B13056.D0-B13056	1251	96	8	0.024	1.21	0.01	0.05	0.02	0.08	0.01	0.05	0.02	0.08
B13056.E0-B13056	8318	65	8	0.004	0.49	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B13056-B13222.I0	2343	305	8	0.055	1.84	0.01	0.04	0.02	0.08	0.01	0.05	0.02	0.08
B13059.A0-B13059	7653	121	8	0.055	1.83	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B13059-B13060	2342	190	8	0.055	1.83	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
B13060-B13061	2904	215	8	0.004	0.52	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
B13061-B13063	2903	166	8	0.078	2.18	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
B13062-B13063	2902	156	8	0.004	0.49	0.00	0.04	0.00	0.06	0.00	0.07	0.00	0.07
B13063-B13076	2695	350	8	0.011	0.82	0.01	0.07	0.02	0.11	0.01	0.11	0.02	0.13
B13073-B13074	2694	252	8	0.073	2.12	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.06
B13074-B13075	2693	320	8	0.011	0.81	0.00	0.03	0.00	0.05	0.01	0.08	0.01	0.08
B13075-B13076	2692	123	8	0.066	2.01	0.00	0.05	0.01	0.09	0.02	0.09	0.02	0.11
B13076-B13077	2691	111	8	0.017	1.01	0.01	0.06	0.03	0.11	0.03	0.10	0.04	0.13
B13077-B13078	2690	217	8	0.070	2.07	0.01	0.05	0.03	0.09	0.03	0.08	0.04	0.10
B13078-B13079	2689	220	8	0.070	2.06	0.01	0.05	0.03	0.09	0.03	0.09	0.05	0.11
B13079-B13080	2687	200	8	0.061	1.92	0.01	0.07	0.04	0.12	0.03	0.11	0.05	0.14
B13080-B13081	2686	263	8	0.016	0.98	0.01	0.08	0.04	0.15	0.03	0.14	0.05	0.17
B13081-B13082	2685	251	8	0.011	0.83	0.01	0.08	0.04	0.15	0.04	0.14	0.06	0.17
B13082-B13083	2684	189	8	0.020	1.10	0.01	0.08	0.05	0.15	0.04	0.14	0.06	0.18
B13083-B13084	2683	198	8	0.014	0.92	0.01	0.07	0.05	0.14	0.04	0.13	0.07	0.16
B13084-B13088	2847	153	8	0.061	1.93	0.01	0.06	0.05	0.11	0.04	0.10	0.07	0.13
B13085-B13086	1055	170	8	0.005	0.57	0.00	0.03	0.00	0.04	0.00	0.07	0.00	0.07
B13086-B13087	2846	211	8	0.004	0.52	0.00	0.05	0.00	0.07	0.01	0.10	0.01	0.10
B13087-B13088	2845	355	8	0.003	0.45	0.00	0.06	0.01	0.10	0.01	0.11	0.01	0.13
B13088-B13089	2844	187	8	0.098	2.44	0.02	0.06	0.07	0.12	0.06	0.11	0.09	0.14
B13089-B13090	2843	140	8	0.079	2.19	0.02	0.07	0.07	0.13	0.06	0.12	0.09	0.15
B13090-B13222.K0	1054	337	8	0.047	1.69	0.02	0.15	0.07	0.29	0.06	0.21	0.10	0.32
B13097-B13098	2842	129	8	0.078	2.18	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B13098-B13222.O0	B13098-B13222.O0	188	8	0.068	2.04	0.00	0.11	0.00	0.22	0.00	0.14	0.00	0.23
B13102-B13103	1058	107	6	0.048	0.79	0.00	0.06	0.00	0.09	0.00	0.10	0.00	0.12
B13103.A0-B13103.B0	1131	225	8	0.117	2.67	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
B13103.B0-B13103.C0	789	353	8	0.051	1.77	0.00	0.03	0.00	0.04	0.02	0.07	0.02	0.07
B13103.C0-B13103.I0	788	179	8	0.071	2.07	0.00	0.13	0.01	0.22	0.02	0.25	0.02	0.28
B13103.D0-B13103.E0	1137	104	8	0.044	1.64	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B13103.E0-B13103.G0	1136	202	8	0.060	1.92	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B13103.F0-B13103.G0	1135	70	8	0.073	2.11	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B13103.G0-B13103.H0	1134	204	8	0.074	2.12	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.05
B13103.H0-B13103.I0	1132	190	8	0.119	2.70	0.00	0.14	0.01	0.22	0.01	0.24	0.01	0.27
B13103.I0-B13103	787	367	8	0.000	0.01	0.01	0.15	0.02	0.25	0.03	0.27	0.04	0.31
B13103-B13105	B13103-B13105	399	8	0.022	1.17	0.01	0.09	0.03	0.14	0.03	0.15	0.05	0.18
B13104-B13105.A0	1057	295	8	0.157	3.10	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
B13105.A0-B13105	B13105.A0-B13105	162	8	0.121	2.72	0.01	0.08	0.01	0.11	0.01	0.12	0.01	0.13
B13105-B13106	B13105-B13106	378	8	0.009	0.74	0.02	0.11	0.05	0.18	0.06	0.19	0.08	0.22
B13106-B13109	2838	351	8	0.009	0.74	0.02	0.13	0.06	0.22	0.06	0.24	0.08	0.28
B13107-B13108	1056	154	8	0.125	2.77	0.00	0.01	0.00	0.02	0.01	0.04	0.01	0.04
B13108-B13109	B13108-B13109	270	8	0.264	4.01	0.00	0.08	0.00	0.14	0.01	0.16	0.01	0.19
B13109-B13110	1529	249	8	0.004	0.51	0.02	0.12	0.07	0.20	0.08	0.22	0.10	0.25
B13110-B13111	1528	279	8	0.047	1.69	0.02	0.08	0.07	0.14	0.08	0.15	0.11	0.17
B13111-B13113	B13111-B13113	386	8	0.058	1.88	0.02	0.54	0.07	0.57	0.08	0.57	0.12	0.58
B13112-B13113	B13112-B13113	154	8	0.041	1.57	0.00	0.51	0.00	0.51	0.00	0.52	0.00	0.52
B13113-B13114	B13113-B13114	15	8	0.366	4.73	0.03	0.62	0.08	0.71	0.09	0.72	0.13	0.76
B13114-B13115	B13114-B13115	550	8	0.002	0.34	0.02	0.16	0.08	0.28	0.09	0.29	0.13	0.35
B13115-B13116	2107	126	8	0.060	1.91	0.02	0.08	0.09	0.15	0.09	0.16	0.13	0.19
B13116-B13119	2106	377	8	0.038	1.52	0.02	0.09	0.09	0.17	0.09	0.18	0.14	0.22
B13117-B13118	733	112	8	0.165	3.17	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B13118-B13119	732	250	8	0.117	2.68	0.00	0.06	0.00	0.11	0.01	0.12	0.01	0.13
B13119-B13126	2105	213	8	0.030	1.36	0.03	0.10	0.10	0.18	0.10	0.18	0.15	0.22
B13120-B13122	734	170	8	0.015	0.94	0.00	0.51	0.00	0.52	0.01	0.52	0.01	0.52
B13121-B13122	735	72	8	0.037	1.51	0.00	0.51	0.00	0.52	0.00	0.52	0.00	0.52
B13122-B13123	1813	48	8	0.061	1.93	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
B13123-B13124	2104	221	8	0.064	1.98	0.00	0.03	0.01	0.05	0.01	0.05	0.01	0.06
B13124-B13125	2103	239	8	0.059	1.90	0.00	0.04	0.01	0.06	0.01	0.06	0.02	0.07
B13125-B13126	2102	384	8	0.049	1.73	0.00	0.07	0.01	0.12	0.02	0.12	0.02	0.14
B13126-B13222.R0	2101	96	8	0.056	1.84	0.03	0.18	0.12	0.36	0.12	0.28	0.18	0.40
B13127-B13128	739	318	8	0.133	2.85	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.03
B13128-B13133	740	267	8	0.023	1.20	0.00	0.04	0.00	0.07	0.00	0.03	0.00	0.06
B13129-B13130	2100	146	6	0.211	1.67	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
B13130-B13131	2099	147	6	0.196	1.60	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.03
B13131-B13132.C0	1064	67	6	0.166	1.48	0.00	0.03	0.00	0.05	0.00	0.02	0.00	0.04
B13132.A0-B13132.B0	1145	72	8	0.191	3.41	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
B13132.AA-B13132.AB	7195	129	8	0.163	3.16	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
B13132.AB-B13132.A0	7196	20	8	0.157	3.09	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
B13132.B0-B13132.C0	1149	135	8	0.103	2.50	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B13132.C0-B13132	1253	34	6	0.142	1.37	0.00	0.04	0.01	0.07	0.00	0.03	0.01	0.06
B13132-B13133	2098	369	6	0.089	1.08	0.00	0.06	0.01	0.10	0.00	0.04	0.01	0.09
B13133-B13137	2097	244	8	0.029	1.34	0.01	0.06	0.02	0.11	0.00	0.05	0.02	0.10
B13134-B13135	2096	48	8	0.031	1.38	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B13135-B13136	2095	218	8	0.169	3.21	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B13136-B13137	2094	350	8	0.114	2.64	0.00	0.05	0.01	0.08	0.00	0.04	0.00	0.08
B13137-B13138	738	351	8	0.014	0.92	0.01	0.08	0.04	0.15	0.01	0.06	0.03	0.14
B13138-B13139	2093	369	8	0.010	0.78	0.01	0.08	0.04	0.14	0.01	0.06	0.04	0.13
B13139-B13143	2092	343	8	0.038	1.52	0.01	0.07	0.05	0.13	0.01	0.05	0.04	0.12
B13140-B13141	437	340	8	0.053	1.80	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.05
B13141-B13142	2091	106	8	0.006	0.58	0.00	0.03	0.00	0.06	0.00	0.04	0.01	0.06
B13142-B13143.A0	934	239	8	0.034	1.45	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.05
B13143.A0-B13143	937	246	8	0.035	1.46	0.00	0.06	0.01	0.10	0.00	0.05	0.01	0.10
B13143-B13222.R0	2090	110	8	0.036	1.48	0.02	0.18	0.07	0.35	0.01	0.23	0.06	0.36
B13147-B13148	2089	4	8	0.283	4.16	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02
B13148-B13222.V0	2835	258	8	0.030	1.36	0.00	0.12	0.00	0.24	0.00	0.18	0.00	0.27
B13150-B13222.W0	2833	413	8	0.040	1.57	0.00	0.13	0.00	0.25	0.00	0.18	0.00	0.27
B13153-B13222.Y0	2832	292	8	0.063	1.96	0.00	0.14	0.00	0.27	0.01	0.21	0.01	0.30
B13155.A0-B13222.Z0	3320	162	6	0.098	1.13	0.00	0.18	0.00	0.35	0.00	0.26	0.00	0.38
B13156-B13157	1138	233	8	0.007	0.64	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.06
B13157-B13158	2828	51	8	0.003	0.42	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
B13158-B13160	2827	245	8	0.076	2.15	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.06
B13159-B13160	2826	231	8	0.039	1.55	0.01	0.05	0.01	0.06	0.01	0.07	0.01	0.07
B13160-B13165	2825	158	8	0.076	2.16	0.01	0.06	0.02	0.08	0.02	0.08	0.02	0.09
B13161-B13162	2824	78	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.08	0.00	0.08
B13162-B13163	1139	163	8	0.004	0.49	0.00	0.06	0.00	0.07	0.01	0.09	0.01	0.09
B13163-B13164	725	226	8	0.004	0.50	0.00	0.06	0.01	0.09	0.01	0.11	0.01	0.11

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B13164-B13165	2823	67	8	0.004	0.50	0.00	0.06	0.01	0.09	0.01	0.11	0.01	0.11
B13165-B13166	2822	451	8	0.061	1.94	0.01	0.07	0.03	0.11	0.04	0.13	0.05	0.14
B13166-B13173.A0	7989	165	8	0.015	0.97	0.01	0.08	0.04	0.13	0.05	0.15	0.06	0.17
B13168-B13170	727	240	8	0.065	1.99	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
B13169-B13170	2821	375	6	0.031	0.64	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.07
B13170-B13173.E0	7211	136	8	0.046	1.67	0.00	0.04	0.01	0.07	0.01	0.07	0.02	0.09
B13173.A0-B13173.B0	729	265	8	0.017	1.03	0.01	0.09	0.04	0.14	0.05	0.16	0.06	0.18
B13173.B0-B13173.C0	2829	223	8	0.011	0.81	0.01	0.09	0.04	0.16	0.05	0.17	0.07	0.20
B13173.C0-B13173.D0	7991	141	8	0.011	0.84	0.01	0.08	0.04	0.14	0.05	0.15	0.07	0.18
B13173.D0-B13173	7992	168	8	0.032	1.39	0.01	0.08	0.04	0.14	0.05	0.15	0.07	0.18
B13173.E0-B13173.F0	7212	104	8	0.012	0.85	0.00	0.05	0.01	0.08	0.01	0.09	0.02	0.11
B13173.F0-B13173.G0	7213	91	8	0.012	0.86	0.00	0.04	0.01	0.07	0.01	0.08	0.02	0.09
B13173.G0-B13173	7987	156	8	0.052	1.78	0.00	0.06	0.01	0.11	0.01	0.11	0.02	0.14
B13173-B13174	730	329	8	0.023	1.17	0.02	0.10	0.06	0.17	0.07	0.18	0.10	0.21
B13174-B13208	2820	430	8	0.016	0.99	0.02	0.17	0.07	0.30	0.08	0.30	0.11	0.37
B13179.A0-B13179.B0	7197	86	8	0.178	3.29	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
B13179.B0-B13179.C0	7198	160	8	0.011	0.82	0.00	0.03	0.00	0.04	0.00	0.05	0.01	0.05
B13179.C0-B13179.D0	7199	209	8	0.139	2.91	0.00	0.03	0.01	0.05	0.01	0.06	0.01	0.06
B13179.D0-B13179.E0	7200	85	8	0.028	1.30	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.08
B13179.E0-B13179	7202	40	8	0.023	1.18	0.00	0.04	0.01	0.06	0.01	0.07	0.02	0.07
B13179-B13180	3436	163	8	0.066	2.01	0.00	0.04	0.01	0.05	0.01	0.06	0.02	0.07
B13180-B13197	1534	259	8	0.097	2.43	0.01	0.07	0.01	0.12	0.02	0.12	0.02	0.14
B13181-B13182	1533	387	8	0.072	2.09	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
B13182-B13183	1532	292	8	0.024	1.22	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.07
B13183-B13184	590	366	8	0.031	1.37	0.00	0.04	0.01	0.07	0.01	0.07	0.02	0.09
B13184-B13185	1898	206	8	0.028	1.31	0.01	0.04	0.02	0.08	0.02	0.07	0.02	0.09
B13185-B13186	2793	280	8	0.061	1.93	0.01	0.04	0.02	0.07	0.02	0.07	0.03	0.09
B13186-B13188	538	279	8	0.087	2.30	0.01	0.04	0.02	0.08	0.02	0.07	0.03	0.09
B13187-B13188	1897	215	8	0.175	3.27	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
B13188-B13190	537	63	8	0.087	2.31	0.01	0.05	0.03	0.08	0.03	0.08	0.04	0.10
B13189-B13190	536	171	6	0.019	0.50	0.00	0.05	0.00	0.08	0.01	0.09	0.01	0.10
B13190-B13191	535	244	8	0.090	2.34	0.01	0.07	0.03	0.13	0.03	0.13	0.05	0.16
B13191-B13192	534	119	8	0.005	0.58	0.01	0.10	0.04	0.18	0.04	0.18	0.06	0.22
B13192-B13196	168	469	8	0.004	0.49	0.01	0.12	0.04	0.22	0.04	0.21	0.06	0.26
B13193-B13194	167	198	8	0.151	3.04	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
B13194-B13195	931	151	8	0.175	3.27	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
B13195-B13196	930	200	8	0.131	2.83	0.00	0.08	0.01	0.14	0.01	0.14	0.01	0.16
B13196-B13197	550	148	8	0.004	0.50	0.02	0.12	0.06	0.21	0.05	0.21	0.08	0.25
B13197-B13198	549	292	8	0.018	1.06	0.02	0.10	0.08	0.18	0.07	0.17	0.11	0.21
B13198-B13208	547	428	8	0.030	1.35	0.03	0.17	0.08	0.30	0.08	0.28	0.12	0.36
B13199-B13200	546	199	8	0.031	1.36	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B13200-B13201	545	111	8	0.031	1.37	0.00	0.04	0.01	0.05	0.00	0.03	0.00	0.04
B13201-B13203	544	180	8	0.030	1.34	0.01	0.06	0.01	0.09	0.00	0.05	0.01	0.07
B13202-B13203	543	278	8	0.019	1.07	0.00	0.06	0.00	0.07	0.00	0.05	0.00	0.06
B13203-B13204	542	320	8	0.007	0.66	0.01	0.09	0.02	0.12	0.01	0.08	0.01	0.11
B13204-B13205	541	69	8	0.008	0.71	0.01	0.10	0.02	0.14	0.01	0.09	0.02	0.13
B13205-B13206	540	187	8	0.004	0.50	0.01	0.12	0.03	0.16	0.01	0.10	0.02	0.15
B13206-B13207	539	344	8	0.004	0.49	0.02	0.12	0.03	0.17	0.01	0.12	0.03	0.16
B13207-B13208	814	140	8	0.004	0.50	0.02	0.18	0.04	0.31	0.02	0.26	0.03	0.34
B13211.B0-B13211.C0	B13211.B0-B13211.C0	102	8	0.012	0.85	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.05
B13211.C0-B13211.E0	B13211.C0-B13211.E0	189	8	0.011	0.82	0.00	0.02	0.00	0.04	0.00	0.05	0.00	0.05
B13211.D0-B13211.E0	B13211.D0-B13211.E0	79	8	0.014	1.18	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
B13211.E0-B13211.F0	B13211.E0-B13211.F0	131	8	0.093	2.38	0.00	0.15	0.01	0.26	0.01	0.24	0.01	0.31
B13211.F0-B13211	813	313	8	0.004	0.50	0.07	0.22	0.21	0.39	0.18	0.36	0.29	0.47
B13211.F0-B13211	CDT-49	102	8	0.004	0.51	0.07	0.25	0.20	0.45	0.17	0.42	0.27	0.54
B13211-B13213	811	69	8	0.016	0.99	0.07	0.24	0.21	0.43	0.18	0.40	0.29	0.52
B13212-B13213	810	224	8	0.004	0.47	0.00	0.16	0.00	0.29	0.01	0.30	0.01	0.38
B13213-B13214	809	216	8	0.003	0.40	0.07	0.27	0.22	0.50	0.19	0.47	0.30	0.61
B13214-B13215	808	157	8	0.005	0.54	0.07	0.26	0.22	0.47	0.20	0.45	0.31	0.59
B13215-B13217	807	200	8	0.003	0.45	0.07	0.27	0.22	0.49	0.21	0.46	0.32	0.60
B13216-B13217	806	299	8	0.047	1.70	0.00	0.14	0.00	0.24	0.00	0.23	0.00	0.29
B13217-B13218	805	99	8	0.004	0.51	0.07	0.22	0.23	0.39	0.21	0.37	0.32	0.47
B13218-B13219	804	373	8	0.023	1.19	0.07	0.16	0.23	0.29	0.22	0.28	0.34	0.35
B13219-B13222	803	273	8	0.034	1.43	0.07	0.33	0.23	0.64	0.23	0.53	0.35	0.67
B13220-B13221	802	147	6	0.050	0.81	0.00	0.03	0.00	0.03	0.01	0.06	0.01	0.06
B13221-B13222	801	41	6	0.081	1.03	0.00	0.35	0.00	0.52	0.01	0.53	0.01	0.53
B13222.A0-B13222.C0	2353	146	8	0.037	1.49	0.03	0.12	0.10	0.22	0.02	0.12	0.09	0.21
B13222.B0-B13222.C0	B13222.B0-B13222.C0	200	8	0.031	1.37	0.02	0.11	0.06	0.20	0.04	0.14	0.07	0.21
B13222.C0-B13222.D0	B13222.C0-B13222.D0	354	8	0.019	1.08	0.05	0.15	0.16	0.28	0.06	0.17	0.16	0.28
B13222.D0-B13222.F0	B13222.D0-B13222.F0	210	8	0.013	0.90	0.05	0.16	0.17	0.30	0.06	0.18	0.17	0.30
B13222.E0-B13222.F0	2347	327	8	0.070	2.07	0.00	0.09	0.00	0.16	0.00	0.10	0.00	0.16
B13222.F0-B13222.G0	B13222.F0-B13222.G0	313	8	0.013	0.90	0.05	0.16	0.18	0.30	0.06	0.18	0.18	0.30
B13222.G0-B13222.H0	B13222.G0-B13222.H0	204	8	0.016	0.99	0.05	0.16	0.18	0.30	0.06	0.17	0.18	0.30
B13222.H0-B13222.J0	B13222.H0-B13222.J0	157	8	0.014	0.93	0.05	0.16	0.18	0.30	0.06	0.17	0.18	0.30
B13222.I0-B13222.J0	15	238	8	0.050	1.75	0.01	0.10	0.02	0.19	0.01	0.11	0.02	0.18
B13222.J0-B13222.K0	790	89	8	0.022	1.16	0.06	0.19	0.21	0.37	0.07	0.23	0.21	0.38
B13222.K0-B13222.L0	B13222.K0-B13222.L0	243	8	0.008	0.71	0.08	0.21	0.29	0.42	0.13	0.28	0.31	0.44
B13222.L0-B13222.M0	B13222.L0-B13222.M0	166	8	0.013	0.90	0.08	0.20	0.29	0.40	0.13	0.26	0.31	0.42
B13222.M0-B13222.N0	B13222.M0-B13222.N0	221	8	0.012	0.85	0.08	0.20	0.29	0.40	0.13	0.26	0.32	0.41
B13222.N0-B13222.O0	B13222.N0-B13222.O0	248	8	0.015	0.96	0.08	0.20	0.30	0.40	0.13	0.26	0.32	0.42
B13222.O0-B13222.P0	B13222.O0-B13222.P0	219	8	0.011	0.82	0.08	0.21	0.30	0.43	0.13	0.27	0.33	0.44
B13222.P0-B13222.Q0	B13222.P0-B13222.Q0	251	8	0.010	0.80	0.08	0.22	0.31	0.45	0.13	0.28	0.33	0.46
B13222.Q0-B13222.R0	B13222.Q0-B13222.R0	352	8	0.009	0.72	0.08	0.25	0.31	0.51	0.13	0.34	0.33	0.54
B13222.R0-B13222.S0	B13222.R0-B13222.S0	276	10	0.008	1.25	0.13	0.22	0.50	0.44	0.26	0.31	0.57	0.48
B13222.S0-B13222.T0	B13222.S0-B13222.T0	203	10	0.008	1.26	0.13	0.22	0.51	0.44	0.26	0.31	0.58	0.48
B13222.T0-B13222.U0	B13222.T0-B13222.U0	171	10	0.008	1.28	0.13	0.21	0.51	0.41	0.26	0.29	0.58	0.44
B13222.U0-B13222.V0	B13222.U0-B13222.V0	139	10	0.014	1.67	0.13	0.19	0.51	0.38	0.27	0.27	0.58	0.41
B13222.V0-B13222.W0	2834	130	10	0.014	1.70	0.13	0.19	0.52	0.38	0.27	0.27	0.59	0.41
B13222.W0-B13222.X0	3302	307	10	0.013	1.64	0.13	0.19	0.53	0.39	0.27	0.27	0.60	0.42
B13222.X0-B13222.Y0	3311	236	10	0.014	1.66	0.13	0.20	0.53	0.41	0.28	0.29	0.61	0.44
B13222.Y0-B13222.Z0	2831	59	10	0.010	1.43	0.14	0.20	0.54	0.42	0.28	0.30	0.62	0.45
B13222.Z0-B13222	1846	79	10	0.012	1.56	0.14	0.30	0.54	0.60	0.29	0.46	0.63	0.69
B13222-B13229	1996	194	12	0.002	0.63	0.21	0.29	0.78	0.57	0.52	0.46	0.98	0.67
B13223-B13224	3333	130	8	0.039	1.53	0.00	0.03	0.00	0.03	0.01	0.07	0.01	0.07
B13224-B13227	3049	208	8	0.008	0.68	0.00	0.04	0.00	0.05	0.01	0.08	0.01	0.08
B13225-B13226	1995	130	8	0.093	2.38	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
B13226-B13227	1994	21	8	0.121	2.72	0.00	0.02	0.00	0.03	0.01	0.05	0.01	0.05
B13227-B13228	1993	221	8	0.097	2.44	0.00	0.03	0.01	0.05	0.02	0.07	0.02	0.07
B13228-B13229	1992	96	8	0.053	1.80	0.00	0.20	0.01	0.39	0.02	0.33	0.03	0.46
B13229-B13230	1991	72	12	0.006	1.06	0.22	0.27	0.80	0.55	0.55	0.44	1.01	0.65
B13230-B13231	1990	335	12	0.003	0.73	0.22	0.28	0.80	0.58	0.55	0.47	1.02	0.68
B13231.A0-B13231	7110	75	8	0.005	0.55	0.00	0.21	0.00	0.51	0.01	0.38	0.01	0.65
B13231-B08022	2767	314	12	0.004	0.90	0.22	0.33	0.81	0.69	0.57	0.58	1.04	0.81
B13242-B13222.C0	B13242-B13222.C0	30	8	0.041	1.58	0.00	0.08	0.00	0.14	0.00	0.09	0.00	0.14
B14001-B14002	1989	88	8	0.058	1.89	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B14002-B14004	1988	155	8	0.104	2.52	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.04
B14004-B14005	1987	262	8	0.035	1.46	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B14005-B14006.CH	7636	50	8	0.152	3.05	0.00	0.05	0.01	0.11	0.00	0.06	0.01	0.11
B14006.A0-B14006.B0	1256	334	8	0.033	1.42	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B14006.AA-B14006.A0	2117	23	8	0.002	0.33	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.03
B14006.B0-B14006.C0	1257	287	8	0.066	2.01	0.00	0.04	0.01	0.08	0.00	0.05	0.01	0.08
B14006.C0-B14006.D0	B14006.C0-B14006.D0	33	8	0.045	1.66	0.01	0.06	0.04	0.12	0.01	0.07	0.04	0.12
B14006.CA-B14006.CB	7641	300	8	0.069	2.05	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
B14006.CB-B14006.CD	7642	308	8	0.005	0.55	0.00	0.05	0.01	0.10	0.00	0.06	0.01	0.10
B14006.CC-B14006.CD	7643	120	8	0.174	3.25	0.00	0.03	0.00	0.06	0.00	0.04	0.00	0.06
B14006.CD-B14006.CE	7640	184	8	0.005	0.55	0.00	0.07	0.01	0.13	0.00	0.08	0.01	0.13
B14006.CE-B14006.CF	7639	315	8	0.003	0.41	0.00	0.07	0.02	0.14	0.01	0.08	0.02	0.14
B14006.CF-B14006.CG	7635	259	8	0.005	0.56	0.00	0.06	0.02	0.13	0.01	0.07	0.02	0.13
B14006.CG-B14006.CH	7638	59	8	0.013	0.88	0.00	0.07	0.02	0.14	0.01	0.08	0.02	0.14
B14006.CH-B14006.C0	7637	114	8	0.005	0.57	0.01	0.07	0.03	0.14	0.01	0.08	0.03	0.14
B14006.D0-B14006	B14006.D0-B14006	124	8	0.026	1.25	0.01	0.07	0.04	0.15	0.01	0.08	0.05	0.15
B14006-B14008	1986	111	8	0.011	0.80	0.01	0.07	0.05	0.15	0.01	0.08	0.05	0.15
B14007-B14008	1985	236	8	0.045	1.67	0.00	0.04	0.00	0.07	0.00	0.04	0.00	0.07
B14008-B14013	2111	217	8	0.037	1.50	0.01	0.08	0.05	0.16	0.01	0.09	0.05	0.16
B14009-B14010	1984	106	8	0.047	1.69	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.02
B14010-B14011	1983	184	8	0.071	2.08	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.03
B14011-B14012	2962	197	8	0.026	1.27	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.05
B14012.A0-B14012	443	73	8	0.035	1.47	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B14012-B14013	2113	234	8	0.050	1.74	0.00	0.06	0.01	0.12	0.00	0.07	0.01	0.12
B14013-B14014	2112	190	8	0.010	0.78	0.01	0.09	0.06	0.20	0.02	0.11	0.07	0.20
B14014-B14015	1982	250	8	0.011	0.82	0.01	0.08	0.07	0.18	0.02	0.10	0.07	0.18
B14015-B14016	1597	232	8	0.022	1.16	0.01	0.08	0.07	0.17	0.02	0.09	0.07	0.17
B14016-B14018	1596	245	8	0.025	1.24	0.01	0.08	0.07	0.17	0.02	0.09	0.08	0.17
B14017-B14018	1595	226	8	0.074	2.12	0.00	0.04	0.00	0.09	0.00	0.05	0.00	0.09
B14018-B14019	1594	351	8	0.027	1.27	0.01	0.07	0.08	0.16	0.02	0.09	0.08	0.17
B14019-B14020	2233	248	8	0.038	1.53	0.01	0.07	0.08	0.16	0.02	0.08	0.08	0.16
B14020-B14026	2963	195	8	0.040	1.56	0.01	0.08	0.09	0.19	0.02	0.10	0.09	0.19
B14021-B14022	1593	288	8	0.027	1.29	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B14022-B14023	1525	299	8	0.095	2.41	0.00	0.02	0.00	0.04	0.00	0.04	0.01	0.05
B14023-B14024	1524	348	8	0.070	2.07	0.00	0.02	0.01	0.04	0.01	0.04	0.01	0.05
B14024-B14025	1523	318	8	0.225	3.70	0.00	0.03	0.01	0.07	0.01	0.05	0.02	0.08
B14025-B14026	1522	62	8	0.013	0.90	0.00	0.07	0.02	0.15	0.01	0.09	0.02	0.16
B14026-B14027	1521	116	8	0.018	1.06	0.02	0.09	0.11	0.21	0.03	0.12	0.11	0.22
B14027-B14028	1520	349	8	0.019	1.08	0.02	0.09	0.11	0.22	0.03	0.12	0.11	0.22
B14028-B14031	1519	248	8	0.018	1.04	0.02	0.10	0.11	0.23	0.03	0.13	0.12	0.24
B14029-B14030	1518	120	8	0.050	1.74	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B14030-B14031	816	333	8	0.068	2.04	0.00	0.06	0.00	0.13	0.00	0.08	0.00	0.14
B14031-B14032	800	104	8	0.018	1.05	0.02	0.09	0.12	0.20	0.04	0.11	0.13	0.21
B14032-B14033	799	137	8	0.076	2.15	0.02	0.07	0.12	0.16	0.04	0.09	0.13	0.17
B14033-B14034	798	233	8	0.088	2.32	0.02	0.07	0.12	0.16	0.04	0.09	0.13	0.17
B14034-B14111.I0	797	223	8	0.078	2.19	0.02	0.12	0.13	0.25	0.04	0.20	0.14	0.28
B14035-B14036	431	144	8	0.026	1.25	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
B14036-B14038	2241	126	8	0.008	0.72	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.05
B14037-B14038	428	157	6	0.002	0.16	0.00	0.04	0.00	0.05	0.00	0.10	0.00	0.10
B14038-B14039	427	219	8	0.096	2.41	0.00	0.03	0.01	0.04	0.01	0.05	0.01	0.05
B14039-B14041	796	295	8	0.134	2.86	0.00	0.04	0.01	0.07	0.01	0.07	0.02	0.08
B14040-B14041	429	197	8	0.015	0.95	0.00	0.03	0.00	0.05	0.00	0.07	0.00	0.07
B14041-B14044	795	232	8	0.020	1.11	0.01	0.05	0.02	0.08	0.02	0.08	0.03	0.10
B14042-B14043	2240	64	8	0.080	2.21	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02
B14043-B14044	724	261	8	0.091	2.35	0.00	0.03	0.00	0.05	0.00	0.06	0.00	0.06
B14044-B14052	723	303	8	0.077	2.17	0.01	0.07	0.03	0.14	0.03	0.15	0.04	0.18
B14045-B14046	722	335	8	0.002	0.35	0.00	0.04	0.00	0.06	0.01	0.10	0.01	0.10
B14046-B14048	721	212	8	0.002	0.35	0.00	0.04	0.00	0.09	0.01	0.11	0.01	0.13
B14047-B14048	2239	211	8	0.004	0.52	0.00	0.04	0.00	0.07	0.00	0.09	0.00	0.10
B14048-B14049	720	210	8	0.006	0.60	0.00	0.04	0.01	0.08	0.02	0.10	0.02	0.11
B14049-B14050	719	254	8	0.034	1.45	0.00	0.04	0.01	0.08	0.02	0.09	0.02	0.11
B14050-B14051	718	200	8	0.014	0.92	0.00	0.06	0.02	0.12	0.02	0.14	0.03	0.16
B14051-B14052	717	222	8	0.003	0.45	0.00	0.09	0.02	0.18	0.03	0.19	0.04	0.23
B14052-B14067	716	439	8	0.006	0.59	0.01	0.11	0.05	0.20	0.06	0.21	0.08	0.25
B14053-B14054	559	14	8	0.037	1.50	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B14054-B14057	715	341	8	0.099	2.46	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
B14055-B14056	714	70	8	0.064	1.97	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
B14056-B14057	713	7	8	0.177	3.29	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B14057-B14067	794	445	8	0.032	1.40	0.00	0.07	0.01	0.13	0.01	0.13	0.01	0.16
B14058-B14059	2235	195	8	0.090	2.34	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B14059-B14061	793	313	8	0.050	1.75	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
B14060-B14061	2236	129	6	0.102	1.16	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
B14061-B14063	856	134	8	0.052	1.78	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.07
B14062-B14063	2237	184	8	0.102	2.49	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
B14063-B14065	855	375	8	0.028	1.30	0.00	0.07	0.01	0.12	0.01	0.11	0.02	0.14
B14064-B14066	2238	210	8	0.094	2.39	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
B14065-B14066	854	254	8	0.003	0.44	0.01	0.08	0.02	0.13	0.02	0.12	0.03	0.15
B14066-B14067	853	334	8	0.028	1.30	0.01	0.08	0.03	0.15	0.02	0.15	0.04	0.18
B14067-B14068	852	238	8	0.024	1.22	0.03	0.11	0.11	0.20	0.10	0.20	0.15	0.24
B14068-B14070	851	299	8	0.024	1.21	0.03	0.12	0.11	0.22	0.11	0.22	0.16	0.27
B14069-B14070	430	238	8	0.111	2.60	0.00	0.07	0.00	0.13	0.01	0.14	0.01	0.16
B14070-B14075	850	162	8	0.014	0.93	0.03	0.13	0.12	0.25	0.12	0.24	0.17	0.30
B14071-B14073	849	155	8	0.065	1.99	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B14072-B14073	848	253	8	0.040	1.55	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
B14073-B14074	847	202	8	0.122	2.73	0.00	0.03	0.01	0.05	0.01	0.06	0.01	0.06
B14074-B14075	846	101	8	0.022	1.15	0.00	0.09	0.01	0.16	0.01	0.16	0.02	0.19
B14075-B14076	845	162	8	0.014	0.94	0.04	0.14	0.13	0.25	0.13	0.25	0.19	0.31
B14076-B14080	844	336	8	0.015	0.95	0.04	0.14	0.14	0.27	0.13	0.26	0.20	0.32
B14077-B14078	712	228	8	0.029	1.33	0.00	0.03	0.00	0.03	0.01	0.05	0.01	0.05
B14078-B14079	325	344	8	0.118	2.68	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.08
B14079-B14080	324	59	8	0.010	0.79	0.00	0.10	0.01	0.18	0.02	0.19	0.02	0.22
B14080-B14089	323	350	8	0.014	0.91	0.04	0.18	0.15	0.34	0.15	0.34	0.22	0.42
B14081-B14083	1531	214	6	0.002	0.16	0.00	0.07	0.00	0.08	0.01	0.16	0.01	0.16
B14082-B14083	1530	7	8	0.002	0.35	0.00	0.05	0.00	0.07	0.00	0.11	0.00	0.12
B14083-B14085	1785	89	8	0.002	0.35	0.00	0.05	0.00	0.07	0.01	0.11	0.01	0.11
B14084-B14085	1784	297	8	0.026	1.27	0.00	0.03	0.00	0.04	0.01	0.07	0.01	0.07
B14085-B14088	1783	342	8	0.031	1.38	0.00	0.07	0.01	0.15	0.02	0.19	0.03	0.22
B14086-B14087	2819	273	8	0.042	1.60	0.00	0.03	0.00	0.04	0.02	0.08	0.02	0.08
B14087-B14088	2818	267	8	0.015	0.96	0.00	0.07	0.01	0.14	0.02	0.19	0.02	0.22
B14088-B14089	2817	130	8	0.001	0.25	0.01	0.16	0.02	0.31	0.04	0.35	0.05	0.43
B14089-B14100	2816	210	8	0.006	0.58	0.05	0.18	0.18	0.34	0.20	0.36	0.28	0.43
B14091-B14092	2815	200	6	0.007	0.30	0.00	0.07	0.01	0.11	0.01	0.12	0.01	0.13
B14092-B14094.F0	8327	17	8	0.008	0.69	0.00	0.05	0.01	0.09	0.01	0.10	0.01	0.11
B14093-B14094.F0	2813	174	8	0.119	2.70	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02
B14094.A0-B14094.B0	8323	205	8	0.053	1.80	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
B14094.B0-B14094.C0	8328	180	8	0.056	1.86	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.06
B14094.C0-B14094.D0	8329	47	8	0.012	0.86	0.00	0.04	0.01	0.07	0.01	0.08	0.01	0.09
B14094.D0-B14094.E0	8330	226	8	0.008	0.71	0.00	0.04	0.01	0.07	0.01	0.08	0.01	0.09
B14094.E0-B14094.F0	8331	69	8	0.031	1.37	0.00	0.04	0.01	0.06	0.01	0.07	0.02	0.08

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B14094.F0-B14094	8326	163	8	0.019	1.09	0.01	0.06	0.02	0.10	0.03	0.10	0.04	0.12
B14094-B14095	2812	368	8	0.036	1.49	0.01	0.06	0.03	0.10	0.03	0.10	0.04	0.12
B14095-B14097	2810	261	8	0.028	1.30	0.01	0.06	0.03	0.11	0.03	0.11	0.05	0.13
B14096-B14097	433	152	6	0.004	0.24	0.00	0.54	0.00	0.57	0.01	0.58	0.01	0.59
B14097-B14098	2809	104	8	0.031	1.38	0.01	0.07	0.04	0.12	0.04	0.12	0.05	0.14
B14098-B14100	2808	284	8	0.025	1.24	0.01	0.11	0.04	0.21	0.04	0.21	0.06	0.25
B14099-B14100	434	105	8	0.009	0.75	0.00	0.09	0.00	0.16	0.00	0.17	0.00	0.20
B14100-B14101	2807	222	8	0.025	1.23	0.06	0.20	0.23	0.39	0.24	0.40	0.35	0.49
B14101-B14102	2806	154	8	0.004	0.49	0.06	0.25	0.23	0.50	0.25	0.52	0.35	0.65
B14102-B14103	435	126	8	0.003	0.44	0.06	0.26	0.23	0.51	0.25	0.53	0.35	0.67
B14103-B14104	436	97	8	0.004	0.47	0.06	0.25	0.23	0.50	0.25	0.52	0.36	0.65
B14104-B14105	438	170	8	0.004	0.49	0.07	0.24	0.24	0.45	0.25	0.47	0.36	0.58
B14105-B14106	439	202	8	0.013	0.88	0.07	0.15	0.24	0.27	0.25	0.28	0.36	0.34
B14106-B14107	440	127	8	0.486	5.45	0.07	0.13	0.24	0.24	0.25	0.25	0.37	0.30
B14107-B14111.A0	8006	32	10	0.011	1.48	0.07	0.15	0.24	0.27	0.27	0.29	0.38	0.34
B14111.A0-B14111.B0	8007	133	10	0.011	1.47	0.07	0.15	0.24	0.28	0.27	0.29	0.38	0.35
B14111.B0-B14111.C0	8008	80	10	0.011	1.47	0.07	0.15	0.24	0.28	0.27	0.29	0.38	0.35
B14111.C0-B14111.D0	8009	39	10	0.011	1.46	0.07	0.15	0.25	0.28	0.27	0.29	0.38	0.35
B14111.D0-B14111.E0	7094	39	10	0.011	1.47	0.07	0.15	0.25	0.28	0.27	0.30	0.38	0.36
B14111.E0-B14111.F0	7095	209	10	0.009	1.33	0.07	0.15	0.25	0.29	0.27	0.31	0.38	0.37
B14111.F0-B14111.G0	7096	178	10	0.009	1.33	0.07	0.15	0.25	0.30	0.27	0.31	0.39	0.37
B14111.G0-B14111.H0	7097	84	10	0.009	1.33	0.07	0.15	0.25	0.28	0.27	0.30	0.39	0.36
B14111.H0-B14111.I0	7098	48	10	0.015	1.74	0.07	0.13	0.25	0.26	0.31	0.27	0.42	0.33
B14111.I0-B14111.M0	7099	125	10	0.033	2.56	0.09	0.17	0.38	0.32	0.35	0.30	0.56	0.38
B14111.J0-B14111.K0	7102	141	10	0.010	1.42	0.00	0.08	0.00	0.08	0.03	0.10	0.03	0.10
B14111.K0-B14111.L0	7103	291	10	0.010	1.42	0.06	0.12	0.06	0.12	0.03	0.08	0.03	0.08
B14111.L0-B14111.M0	7101	27	10	0.058	3.42	0.06	0.16	0.07	0.24	0.03	0.21	0.03	0.26
B14111.M0-B14111	7100	96	10	0.010	1.42	0.15	0.24	0.45	0.44	0.38	0.41	0.59	0.54
B14111-B14154	2802	341	8	0.007	0.65	0.15	0.33	0.45	0.61	0.40	0.55	0.61	0.75
B14113-B14114	2800	324	8	0.080	2.21	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
B14114-B14115	2799	358	8	0.050	1.75	0.00	0.03	0.01	0.05	0.01	0.05	0.01	0.06
B14115-B14116	2798	359	8	0.031	1.38	0.00	0.03	0.01	0.07	0.01	0.05	0.01	0.08
B14116-B14119	2797	352	8	0.026	1.25	0.00	0.04	0.01	0.10	0.01	0.07	0.02	0.11
B14117-B14118	2796	166	8	0.189	3.40	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02
B14118-B14119	2795	164	8	0.162	3.14	0.00	0.03	0.00	0.07	0.00	0.05	0.00	0.08
B14119-B14121	2753	63	8	0.011	0.81	0.00	0.04	0.02	0.10	0.01	0.07	0.03	0.11
B14120-B14121	2234	121	8	0.020	1.11	0.00	0.02	0.00	0.04	0.00	0.04	0.00	0.05
B14121-B14122	2752	242	8	0.107	2.56	0.00	0.04	0.03	0.08	0.01	0.06	0.03	0.09
B14122-B14123	2751	158	8	0.033	1.43	0.00	0.05	0.03	0.11	0.01	0.07	0.03	0.12
B14123-B14124	2750	124	8	0.015	0.95	0.00	0.05	0.03	0.13	0.01	0.08	0.04	0.14
B14124-B14130.A0	B14124-B14130.A0	33	8	0.010	0.79	0.00	0.05	0.03	0.14	0.01	0.09	0.04	0.15
B14125-B14126	2749	179	8	0.010	0.77	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B14126-B14127	2748	360	8	0.010	0.78	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
B14127-B14128	2747	309	8	0.026	1.26	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B14128-B14129	2746	352	8	0.072	2.09	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B14129-B14130	2745	351	8	0.097	2.43	0.01	0.04	0.02	0.09	0.00	0.05	0.02	0.09
B14130.A0-B14130	B14130.A0-B14130	30	8	0.011	0.83	0.00	0.05	0.03	0.13	0.01	0.08	0.04	0.14
B14130-B14131	2744	273	8	0.043	1.62	0.01	0.06	0.05	0.13	0.02	0.07	0.06	0.13
B14131-B14144	2743	358	8	0.041	1.58	0.01	0.09	0.06	0.20	0.02	0.11	0.06	0.20
B14132-B14134	2742	86	8	0.083	2.25	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
B14133-B14134	2741	165	8	0.022	1.15	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B14134-B14135	2740	152	8	0.042	1.60	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.05
B14135-B14136	2739	309	8	0.035	1.46	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
B14136-B14138	2738	284	8	0.080	2.21	0.00	0.04	0.01	0.06	0.01	0.04	0.01	0.06
B14137-B14138	2736	195	8	0.037	1.50	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B14138-B14140	2735	333	8	0.070	2.07	0.01	0.05	0.02	0.08	0.01	0.05	0.02	0.08
B14139-B14140	2734	190	8	0.043	1.62	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
B14140-B14141	2733	214	8	0.063	1.96	0.01	0.06	0.03	0.10	0.01	0.07	0.03	0.10
B14141-B14142	2732	364	8	0.020	1.10	0.01	0.07	0.03	0.12	0.01	0.08	0.03	0.12
B14142-B14143	2731	97	8	0.017	1.02	0.01	0.10	0.04	0.16	0.01	0.10	0.04	0.16
B14143-B14144	2730	113	8	0.004	0.49	0.01	0.12	0.04	0.23	0.01	0.13	0.04	0.22
B14144-B14145	2729	200	8	0.010	0.78	0.02	0.11	0.10	0.21	0.03	0.12	0.10	0.22
B14145-B14153	2728	186	8	0.050	1.74	0.02	0.09	0.11	0.17	0.03	0.10	0.11	0.17
B14146-B14147	2727	193	8	0.073	2.11	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B14147-B14150	1981	228	8	0.050	1.74	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
B14148-B14150	1980	176	8	0.004	0.47	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.07
B14150-B14152	1979	95	8	0.004	0.49	0.00	0.07	0.01	0.11	0.00	0.08	0.01	0.11
B14151-B14152	1978	245	8	0.116	2.66	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
B14152-B14153	1977	163	8	0.004	0.49	0.01	0.08	0.02	0.15	0.01	0.09	0.02	0.15
B14153-B14154	1976	303	8	0.059	1.90	0.03	0.21	0.13	0.39	0.04	0.31	0.13	0.44
B14154-B14155	7995	358	10	0.007	1.20	0.18	0.27	0.58	0.51	0.44	0.43	0.74	0.59
B14155-B14156	1974	347	10	0.006	1.14	0.18	0.25	0.59	0.47	0.44	0.40	0.75	0.54
B14156-B14172	1973	333	10	0.016	1.77	0.19	0.22	0.61	0.40	0.47	0.34	0.77	0.45
B14157-B14159	1972	128	8	0.028	1.30	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
B14158-B14159	1971	176	8	0.012	0.85	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B14159-B14161	1970	277	8	0.024	1.22	0.00	0.06	0.01	0.09	0.00	0.06	0.01	0.08
B14160-B14161	1969	258	8	0.005	0.53	0.00	0.06	0.00	0.08	0.00	0.05	0.00	0.07
B14161-B14164	2726	124	8	0.007	0.66	0.01	0.09	0.02	0.13	0.01	0.08	0.01	0.12
B14162-B14163	2725	175	8	0.005	0.55	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B14163-B14164	2724	166	8	0.007	0.64	0.00	0.08	0.01	0.10	0.00	0.07	0.00	0.09
B14164-B14165	2723	115	8	0.006	0.59	0.01	0.10	0.03	0.15	0.01	0.09	0.02	0.13
B14165-B14166	2722	151	8	0.008	0.68	0.01	0.09	0.03	0.13	0.01	0.08	0.02	0.12
B14166-B14168	2721	68	8	0.032	1.40	0.02	0.09	0.03	0.13	0.01	0.08	0.03	0.12
B14167-B14168	2720	119	8	0.003	0.42	0.00	0.07	0.00	0.09	0.00	0.06	0.00	0.08
B14168-B14169	2719	109	8	0.007	0.67	0.02	0.12	0.04	0.17	0.01	0.11	0.03	0.16
B14169-B14170	2718	248	8	0.006	0.59	0.02	0.10	0.04	0.14	0.01	0.09	0.03	0.13
B14170-B14171	2716	74	8	0.114	2.63	0.02	0.07	0.04	0.10	0.02	0.06	0.04	0.09
B14171-B14172	2715	76	8	0.066	2.01	0.02	0.17	0.04	0.29	0.02	0.24	0.04	0.32
B14172-B14238	2714	79	12	0.017	2.98	0.21	0.22	0.66	0.38	0.49	0.31	0.81	0.42
B14173-B14174	2713	141	8	0.048	1.71	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B14174-B14176	1754	326	8	0.047	1.69	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
B14175-B14176	1753	153	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
B14176-B14177	1752	183	8	0.027	1.29	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
B14177-B14179	1850	187	8	0.030	1.35	0.01	0.06	0.02	0.08	0.01	0.07	0.02	0.09
B14178-B14179	1849	187	8	0.040	1.56	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.06
B14179-B14181	1848	286	8	0.030	1.35	0.01	0.07	0.02	0.10	0.02	0.08	0.03	0.10
B14180-B14181	1847	90	8	0.014	0.92	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
B14181-B14182	1770	258	8	0.030	1.35	0.01	0.07	0.03	0.10	0.02	0.08	0.03	0.10
B14182-B14184	6893	152	8	0.057	1.86	0.01	0.06	0.03	0.09	0.02	0.08	0.04	0.10
B14183-B14184	6892	38	8	0.080	2.21	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
B14184-B14204	6891	225	8	0.076	2.16	0.02	0.09	0.04	0.14	0.02	0.11	0.04	0.15
B14185-B14187	6890	173	8	0.004	0.49	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.07
B14186-B14187	6889	256	8	0.022	1.15	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.07
B14187-B14188	7581	306	8	0.004	0.49	0.00	0.08	0.01	0.11	0.01	0.10	0.01	0.12
B14188-B14189	7580	318	8	0.004	0.50	0.01	0.07	0.01	0.10	0.01	0.09	0.02	0.11
B14189-B14192	7579	268	8	0.040	1.56	0.01	0.06	0.02	0.09	0.01	0.08	0.02	0.10
B14190-B14191	7578	291	8	0.020	1.11	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B14191-B14192	7577	219	8	0.040	1.56	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
B14192-B14196	7576	274	8	0.036	1.48	0.01	0.08	0.03	0.12	0.02	0.10	0.04	0.13
B14193-B14194	7575	206	8	0.048	1.71	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B14194-B14195	7574	181	8	0.040	1.56	0.00	0.03	0.00	0.05	0.00	0.04	0.01	0.05
B14195-B14196	7573	159	8	0.039	1.55	0.00	0.06	0.01	0.10	0.01	0.08	0.01	0.10
B14196-B14198	7572	266	8	0.020	1.11	0.02	0.09	0.05	0.14	0.03	0.11	0.05	0.14
B14197-B14198	7571	290	8	0.045	1.65	0.00	0.05	0.00	0.08	0.00	0.07	0.00	0.08
B14198-B14199	7570	256	8	0.044	1.64	0.02	0.08	0.06	0.13	0.04	0.11	0.06	0.14
B14199-B14201	7569	223	8	0.036	1.48	0.02	0.12	0.06	0.19	0.04	0.16	0.07	0.20
B14200-B14201	7568	135	8	0.051	1.76	0.00	0.08	0.00	0.13	0.00	0.11	0.00	0.14
B14201-B14202	7567	78	8	0.004	0.50	0.02	0.16	0.07	0.26	0.04	0.21	0.08	0.27
B14202-B14203	7566	152	8	0.004	0.49	0.03	0.13	0.07	0.20	0.05	0.17	0.08	0.22
B14203-B14204	7565	298	8	0.050	1.74	0.03	0.10	0.07	0.17	0.05	0.13	0.08	0.17
B14204-B14205	7564	198	8	0.032	1.40	0.04	0.12	0.11	0.20	0.07	0.16	0.13	0.21
B14205-B14206	7563	339	8	0.030	1.35	0.04	0.13	0.12	0.21	0.07	0.17	0.13	0.22
B14206-B14228	7543	180	8	0.018	1.05	0.04	0.17	0.12	0.27	0.07	0.21	0.13	0.28
B14207-B14208	7542	38	8	0.030	1.35	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
B14208-B14209	557	39	8	0.025	1.22	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
B14209-B14210	7541	145	8	0.036	1.48	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B14210-B14211	7540	69	8	0.016	0.98	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B14211-B14222	7539	462	8	0.048	1.71	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.06
B14212-B14213	7538	308	8	0.034	1.44	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B14213-B14214	7537	175	8	0.040	1.56	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
B14214-B14218	7536	46	8	0.041	1.57	0.01	0.06	0.01	0.08	0.01	0.05	0.01	0.07
B14215-B14216	7535	54	8	0.013	0.90	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B14216-B14217	7278	43	8	0.010	0.77	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
B14217-B14218	7277	91	8	0.015	0.95	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.06
B14218-B14219	7276	48	8	0.010	0.78	0.01	0.07	0.02	0.10	0.01	0.07	0.01	0.09
B14219-B14220	7275	148	8	0.013	0.88	0.01	0.06	0.02	0.09	0.01	0.06	0.01	0.08
B14220-B14221	3281	37	8	0.033	1.43	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.10
B14221-B14222	3280	128	8	0.004	0.50	0.01	0.08	0.02	0.12	0.01	0.08	0.02	0.11
B14222-B14223	3279	46	8	0.081	2.23	0.02	0.08	0.04	0.11	0.01	0.07	0.03	0.10
B14223-B14224	3278	251	8	0.015	0.95	0.02	0.50	0.04	0.55	0.02	0.50	0.03	0.54
B14224-B14227	3277	189	8	0.003	0.41	0.02	0.52	0.04	0.56	0.02	0.51	0.04	0.54
B14225-B14226	3276	494	8	0.014	0.93	0.02	0.09	0.02	0.09	0.01	0.07	0.01	0.07
B14226-B14227	3275	161	8	0.058	1.89	0.03	0.10	0.04	0.12	0.03	0.09	0.03	0.10
B14227.A0-B14228	3274	116	8	0.009	0.72	0.05	0.20	0.09	0.27	0.05	0.20	0.07	0.26
B14227-B14227.A0	7113	128	8	0.060	1.92	0.05	0.15	0.09	0.19	0.04	0.14	0.07	0.17
B14228-B14235	3273	76	8	0.018	1.03	0.10	0.20	0.21	0.29	0.12	0.21	0.20	0.28
B14229-B14230	3272	147	8	0.055	1.84	0.01	0.07	0.01	0.07	0.00	0.03	0.00	0.03
B14230-B14232	3271	154	8	0.030	1.35	0.01	0.09	0.02	0.10	0.00	0.04	0.00	0.05
B14231-B14232	3269	154	8	0.007	0.64	0.00	0.07	0.00	0.08	0.00	0.04	0.00	0.05
B14232-B14233	2710	355	8	0.017	1.01	0.02	0.08	0.02	0.09	0.00	0.04	0.01	0.06
B14233-B14234	2709	56	8	0.242	3.85	0.02	0.08	0.03	0.09	0.01	0.05	0.01	0.06
B14234-B14235	2708	43	8	0.017	1.03	0.02	0.14	0.03	0.19	0.01	0.13	0.02	0.17
B14235-B14236	2707	302	8	0.038	1.52	0.12	0.20	0.24	0.29	0.13	0.21	0.22	0.28
B14236-B14237	2706	354	8	0.022	1.16	0.12	0.24	0.25	0.35	0.13	0.25	0.23	0.34
B14237-B14238	2705	321	10	0.007	1.15	0.12	0.26	0.25	0.42	0.13	0.32	0.23	0.44
B14238-B14239	2704	78	12	0.010	2.29	0.33	0.27	0.91	0.46	0.61	0.37	1.05	0.50
B14239-B14274	2703	296	12	0.009	2.17	0.33	0.24	0.92	0.40	0.61	0.32	1.05	0.43
B14240-B14250	2702	126	8	0.014	0.92	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B14250-B14251	2701	80	8	0.014	0.93	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
B14251-B14252	2700	118	8	0.004	0.49	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
B14252-B14254	2699	217	8	0.025	1.23	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
B14253-B14254	1833	296	8	0.026	1.26	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B14254-B14257	1832	243	8	0.054	1.82	0.01	0.05	0.02	0.08	0.01	0.05	0.01	0.08
B14255-B14256	1831	260	8	0.049	1.73	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B14256-B14257	1830	321	8	0.023	1.19	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
B14257-B14258	1829	64	8	0.042	1.61	0.01	0.06	0.03	0.10	0.01	0.06	0.03	0.09
B14258-B14260	1828	162	8	0.045	1.65	0.01	0.08	0.03	0.12	0.01	0.08	0.03	0.11
B14259-B14260	1827	305	8	0.034	1.44	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.08
B14260-B14261	1826	122	8	0.014	0.94	0.02	0.09	0.04	0.14	0.02	0.09	0.04	0.14
B14261-B14264	1825	105	8	0.014	0.94	0.02	0.10	0.04	0.15	0.02	0.10	0.04	0.14
B14262-B14263	1824	235	8	0.016	0.99	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B14263-B14264	1823	326	8	0.029	1.33	0.00	0.07	0.01	0.10	0.00	0.07	0.01	0.10
B14264-B14267	1822	231	8	0.020	1.10	0.02	0.09	0.05	0.14	0.02	0.09	0.05	0.14
B14265-B14266	1821	69	8	0.037	1.51	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B14266-B14267	1820	230	8	0.040	1.56	0.00	0.05	0.00	0.08	0.00	0.05	0.00	0.07
B14267-B14271	1812	51	8	0.060	1.91	0.02	0.09	0.06	0.14	0.03	0.09	0.06	0.14
B14268-B14269	1811	213	8	0.004	0.50	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B14269-B14270	1810	245	8	0.027	1.29	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
B14270-B14271	1809	213	8	0.033	1.42	0.00	0.07	0.01	0.11	0.00	0.07	0.01	0.11
B14271-B14274	1808	145	8	0.030	1.35	0.03	0.20	0.08	0.32	0.03	0.24	0.07	0.33
B14272.A0-B14272	7273	323	8	0.048	1.72	0.00	0.05	0.00	0.05	0.00	0.02	0.00	0.02
B14272-B14273	7274	351	8	0.060	1.91	0.03	0.10	0.03	0.11	0.00	0.02	0.00	0.05
B14273-B14274	7272	359	8	0.013	0.88	0.03	0.21	0.03	0.31	0.00	0.20	0.01	0.29
B14274-B14275	7271	47	15	0.029	7.13	0.39	0.19	1.04	0.32	0.65	0.25	1.14	0.34
B14275-B14276	7270	44	15	0.006	3.34	0.39	0.23	1.04	0.38	0.65	0.30	1.14	0.40
B14276-B14277	7269	121	15	0.007	3.37	0.39	0.23	1.04	0.38	0.65	0.30	1.14	0.40
B14277-B14278	7268	107	15	0.007	3.37	0.39	0.23	1.04	0.38	0.65	0.30	1.15	0.40
B14278-B14279	7267	96	15	0.007	3.40	0.39	0.23	1.04	0.38	0.65	0.29	1.15	0.40
B14279-B14280	7266	184	15	0.007	3.50	0.42	0.23	1.08	0.38	0.65	0.29	1.15	0.40
B14280-B14281	7265	142	15	0.007	3.50	0.42	0.24	1.08	0.39	0.65	0.30	1.16	0.40
B14281-B14282	7263	169	15	0.007	3.48	0.42	0.21	1.08	0.34	0.71	0.28	1.20	0.36
B14282-B14300	7262	189	15	0.019	5.83	0.42	0.19	1.09	0.30	0.75	0.25	1.24	0.32
B14283-B14284	7261	125	8	0.020	1.11	0.01	0.06	0.01	0.06	0.01	0.08	0.01	0.08
B14284-B14286.A0	7114	253	8	0.014	0.92	0.01	0.08	0.01	0.08	0.02	0.11	0.02	0.11
B14285-B14286	7260	106	8	0.010	0.78	0.00	0.04	0.00	0.05	0.00	0.07	0.00	0.07
B14286.A0-B14286	935	86	8	0.014	0.92	0.01	0.08	0.02	0.10	0.03	0.13	0.03	0.13
B14286-B14292	7259	212	8	0.010	0.78	0.01	0.13	0.02	0.15	0.03	0.18	0.03	0.19
B14287-B14288	936	95	8	0.058	1.88	0.00	0.06	0.00	0.06	0.01	0.07	0.01	0.07
B14288-B14289	7258	172	8	0.020	1.11	0.02	0.09	0.02	0.10	0.02	0.11	0.02	0.11
B14289-B14290	7257	199	8	0.015	0.96	0.02	0.09	0.02	0.10	0.02	0.10	0.02	0.10
B14290-B14291	7256	163	8	0.054	1.81	0.02	0.08	0.03	0.09	0.03	0.11	0.03	0.11
B14291-B14292	7190	164	8	0.029	1.32	0.02	0.13	0.03	0.15	0.05	0.18	0.05	0.18
B14292-B14293	7187	129	8	0.009	0.73	0.04	0.16	0.06	0.19	0.08	0.22	0.09	0.22
B14293-B14298	7175	303	8	0.012	0.85	0.04	0.25	0.06	0.30	0.08	0.30	0.09	0.31
B14294-B14296	7532	66	8	0.072	2.10	0.00	0.05	0.00	0.05	0.00	0.03	0.00	0.03
B14295-B14296	7527	200	8	0.021	1.14	0.03	0.09	0.03	0.10	0.01	0.06	0.01	0.06
B14296-B14297	7525	277	8	0.071	2.08	0.03	0.08	0.03	0.09	0.01	0.05	0.01	0.06
B14297-B14298	6868	39	8	0.060	1.92	0.03	0.22	0.03	0.25	0.01	0.21	0.02	0.24
B14298-B14299	6864	407	8	0.002	0.36	0.07	0.24	0.10	0.29	0.09	0.26	0.10	0.28
B14299-B14300	6858	265	8	0.065	1.99	0.07	0.24	0.11	0.36	0.09	0.30	0.10	0.38
B14300-B14321	CDT-38	24	16	0.021	7.11	0.50	0.20	1.20	0.33	0.85	0.27	1.36	0.35
B14307-B14091	432	135	6	0.030	0.63	0.00	0.05	0.00	0.08	0.00	0.09	0.01	0.10
B14308-B14307	B14308-B14307	158	8	0.038	1.52	0.00	0.02	0.00	0.04	0.00	0.04	0.00	0.04
B14309-B14308	B14309-B14308	88	8	0.149	3.01	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B14310-B14311	B14310-B14311	227	8	0.010	0.79	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B14311-B14006.CA	B14311-B14006.CA	25	8	0.073	2.10	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B14319-B08154	B14319-B08154	191	16	0.004	3.15	0.50	0.28	1.22	0.48	0.85	0.42	1.38	0.54
B14320-B08156	CDT-40	382	16	0.005	3.50	0.50	0.24	1.21	0.38	0.85	0.32	1.36	0.41
B14321-B14320	CDT-39	53	16	0.008	4.31	0.50	0.24	1.20	0.39	0.85	0.32	1.36	0.42
B15001.A0-B15001	7111	78	8	0.007	0.63	0.04	0.23	0.04	0.23	0.07	0.31	0.07	0.31
B15001.B0-B15001.C0	3640	144	8	0.005	0.55	0.03	0.15	0.03	0.15	0.05	0.19	0.05	0.19
B15001.C0-B15001.D0	8259	116	8	0.021	1.14	0.03	0.14	0.04	0.14	0.05	0.19	0.05	0.19
B15001.D0-B15001	8260	78	8	0.007	0.63	0.03	0.22	0.04	0.23	0.08	0.32	0.08	0.32
B15001-B15002	7520	429	8	0.004	0.49	0.07	0.22	0.08	0.23	0.14	0.31	0.14	0.31
B15002-B15009	7513	355	8	0.035	1.45	0.08	0.16	0.08	0.18	0.14	0.22	0.14	0.22
B15003-B15006	7502	160	8	0.010	0.78	0.00	0.05	0.00	0.06	0.01	0.10	0.01	0.10
B15004-B15005	7498	245	8	0.035	1.46	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B15005-B15006	7491	240	8	0.056	1.84	0.01	0.06	0.01	0.08	0.01	0.08	0.01	0.09
B15006-B15007	7488	147	8	0.010	0.77	0.01	0.06	0.02	0.09	0.02	0.10	0.02	0.11
B15007-B15008	7224	262	8	0.041	1.59	0.01	0.06	0.02	0.08	0.02	0.08	0.02	0.09
B15008-B15009	7219	304	8	0.042	1.61	0.01	0.12	0.03	0.14	0.02	0.15	0.03	0.16
B15009-B15010.C0	3296	221	8	0.040	1.56	0.09	0.15	0.12	0.18	0.17	0.21	0.17	0.21
B15010.A0-B15010.B0	7428	140	8	0.000	0.09	0.00	0.09	0.00	0.09	0.00	0.07	0.00	0.07
B15010.B0-B15010.C0	3295	296	8	0.027	1.28	0.00	0.09	0.00	0.10	0.01	0.11	0.01	0.12
B15010.C0-B15010	3297	147	8	0.078	2.19	0.09	0.15	0.13	0.17	0.17	0.19	0.18	0.20
B15010-B15011	7447	375	8	0.067	2.02	0.11	0.18	0.15	0.21	0.17	0.22	0.18	0.23
B15011-B15072	7031	241	8	0.028	1.31	0.12	0.22	0.16	0.28	0.17	0.26	0.18	0.29
B15012-B15072	7410	86	8	0.010	0.78	0.00	0.13	0.00	0.17	0.00	0.15	0.00	0.18
B15013-B15014	7394	386	8	0.031	1.39	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
B15014-B15017	7384	283	8	0.004	0.48	0.00	0.08	0.01	0.12	0.00	0.07	0.01	0.11
B15015-B15016	7376	57	8	0.033	1.41	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
B15016-B15017	7367	316	8	0.034	1.43	0.00	0.06	0.00	0.09	0.00	0.05	0.00	0.08
B15017-B15018	7362	146	8	0.004	0.50	0.01	0.10	0.02	0.15	0.01	0.09	0.02	0.13
B15018-B15019	7351	158	8	0.004	0.50	0.01	0.10	0.02	0.14	0.01	0.08	0.02	0.13
B15019.A0-B15019	7346	120	8	0.102	2.49	0.00	0.05	0.00	0.07	0.00	0.04	0.00	0.06
B15019-B15022	558	226	8	0.013	0.90	0.01	0.09	0.03	0.13	0.01	0.08	0.02	0.12
B15020-B15021	7327	448	8	0.082	2.23	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15021-B15027	3	197	8	0.065	1.99	0.00	0.06	0.01	0.09	0.00	0.05	0.01	0.08
B15022-B15025	6886	181	8	0.011	0.82	0.01	0.08	0.03	0.13	0.01	0.07	0.03	0.11
B15023-B15024	6879	231	8	0.008	0.70	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15024-B15025	7314	277	8	0.066	2.00	0.00	0.05	0.01	0.07	0.00	0.04	0.00	0.06
B15025-B15026	7173	382	8	0.059	1.90	0.02	0.07	0.05	0.11	0.01	0.06	0.04	0.10
B15026-B15027	7164	160	8	0.079	2.20	0.02	0.08	0.05	0.12	0.02	0.07	0.04	0.11
B15027-B15059	7156	214	8	0.056	1.85	0.03	0.11	0.07	0.17	0.02	0.11	0.05	0.16
B15028-B15029	6604	379	8	0.018	1.04	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B15029-B15030	6596	201	8	0.040	1.56	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.05
B15030-B15031	7145	401	8	0.056	1.85	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.07
B15031-B15039	3077	358	8	0.033	1.41	0.01	0.07	0.02	0.09	0.01	0.07	0.02	0.09
B15032-B15033	3069	275	8	0.027	1.28	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B15033-B15035	3061	319	8	0.027	1.28	0.00	0.05	0.01	0.06	0.01	0.05	0.01	0.06
B15034-B15035	2465	88	8	0.004	0.48	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
B15035-B15038	2457	225	8	0.036	1.47	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
B15036-B15037	2451	207	8	0.037	1.51	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B15037-B15038	7140	99	8	0.042	1.61	0.00	0.05	0.01	0.06	0.01	0.05	0.01	0.06
B15038-B15039	7134	261	8	0.081	2.22	0.01	0.06	0.03	0.09	0.02	0.07	0.03	0.09
B15039-B15042	2116	17	8	0.116	2.66	0.03	0.08	0.06	0.11	0.03	0.08	0.05	0.11
B15040-B15041	7124	171	8	0.049	1.73	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B15041-B15042	7019	312	8	0.018	1.03	0.00	0.06	0.01	0.09	0.01	0.07	0.01	0.09
B15042-B15043	7010	204	8	0.081	2.22	0.03	0.08	0.07	0.12	0.04	0.09	0.07	0.12
B15043-B15056	6108	135	8	0.077	2.16	0.03	0.09	0.07	0.13	0.04	0.10	0.07	0.13
B15044-B15045	6099	278	8	0.020	1.10	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B15045-B15050	177	300	8	0.020	1.10	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.09
B15046-B15047	6092	307	8	0.019	1.08	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B15047-B15049	6085	341	8	0.028	1.31	0.01	0.05	0.01	0.06	0.00	0.05	0.01	0.06
B15048-B15049	6434	145	8	0.014	0.93	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B15049-B15050	2171	265	8	0.060	1.91	0.01	0.07	0.02	0.10	0.01	0.07	0.02	0.09
B15050-B15051	2169	359	8	0.020	1.11	0.02	0.09	0.04	0.12	0.02	0.09	0.03	0.11
B15051-B15052	2492	195	8	0.041	1.59	0.02	0.09	0.04	0.12	0.02	0.09	0.04	0.11
B15052-B15065	6426	233	8	0.041	1.59	0.03	0.08	0.05	0.12	0.03	0.08	0.05	0.11
B15053.A0-B15053	1768	104	8	0.023	1.19	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B15053-B15052	6418	172	8	0.020	1.10	0.00	0.06	0.00	0.09	0.00	0.07	0.00	0.08
B15054-B15055	6411	355	8	0.034	1.44	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
B15055-B15056	6403	238	8	0.020	1.09	0.00	0.07	0.01	0.10	0.01	0.08	0.01	0.10
B15056-B15058	6394	174	8	0.061	1.93	0.04	0.10	0.08	0.14	0.05	0.11	0.08	0.14
B15057-B15058	6387	91	8	0.036	1.49	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
B15058-B15059	6997	164	8	0.075	2.14	0.04	0.12	0.09	0.18	0.05	0.12	0.09	0.17
B15059-B15062	6989	197	8	0.044	1.64	0.07	0.19	0.16	0.29	0.07	0.19	0.15	0.28
B15060-B15061	2983	200	8	0.009	0.72	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
B15061-B15062	6982	287	8	0.055	1.83	0.00	0.12	0.00	0.20	0.00	0.13	0.00	0.19
B15062-B15063	6973	301	8	0.006	0.61	0.07	0.21	0.17	0.34	0.07	0.22	0.16	0.32
B15063-B15064	6967	311	8	0.012	0.87	0.07	0.20	0.17	0.31	0.07	0.20	0.16	0.30
B15064-B15068	6641	186	8	0.010	0.80	0.07	0.22	0.18	0.35	0.08	0.23	0.16	0.34
B15065-B15067	6330	224	8	0.100	2.47	0.03	0.08	0.06	0.11	0.03	0.08	0.05	0.11
B15066-B15067	6324	322	8	0.023	1.17	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
B15067-B15068	5939	187	8	0.093	2.38	0.03	0.16	0.07	0.25	0.03	0.17	0.06	0.24
B15068-B15069	5933	188	8	0.010	0.78	0.10	0.25	0.25	0.40	0.11	0.27	0.23	0.39
B15069-B15070	5924	127	8	0.010	0.77	0.10	0.22	0.25	0.35	0.12	0.24	0.25	0.34
B15070-B15071	5917	352	8	0.035	1.45	0.10	0.18	0.25	0.28	0.12	0.19	0.25	0.28
B15071-B15072	5910	235	8	0.039	1.53	0.10	0.20	0.26	0.30	0.12	0.23	0.26	0.31
B15072-B15073	6463	302	8	0.055	1.83	0.22	0.31	0.42	0.43	0.29	0.35	0.44	0.44
B15073-B15112	6457	108	12	0.005	1.58	0.22	0.23	0.42	0.32	0.29	0.27	0.45	0.33
B15074-B15075	6057	459	8	0.049	1.73	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15075-B15077	6050	264	8	0.052	1.77	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.08
B15076-B15077	6040	213	8	0.004	0.49	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
B15077-B15078	6033	343	8	0.006	0.58	0.00	0.05	0.01	0.10	0.00	0.05	0.01	0.09
B15078-B15079	6023	99	8	0.048	1.72	0.01	0.05	0.02	0.08	0.01	0.05	0.02	0.08
B15079-B15080	6443	242	8	0.025	1.24	0.01	0.05	0.02	0.09	0.01	0.05	0.02	0.09
B15080-B15081	6436	160	8	0.048	1.70	0.01	0.05	0.02	0.09	0.01	0.05	0.02	0.09
B15081-B15082	6351	197	8	0.025	1.24	0.01	0.05	0.03	0.10	0.01	0.05	0.03	0.09
B15082-B15091	6078	170	8	0.060	1.91	0.01	0.06	0.03	0.11	0.01	0.07	0.03	0.11
B15083-B15084	1047	322	8	0.019	1.07	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.05
B15084-B15085	1038	340	8	0.027	1.27	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
B15085-B15086	1030	58	8	0.068	2.04	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.06
B15086-B15089	6070	70	8	0.072	2.10	0.01	0.05	0.01	0.08	0.01	0.06	0.01	0.08
B15087-B15088	3294	15	8	0.010	0.78	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.03
B15088-B15089	3292	115	8	0.010	0.78	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
B15089-B15090	6953	166	8	0.015	0.95	0.01	0.06	0.02	0.09	0.01	0.07	0.02	0.09
B15090-B15091	6944	51	8	0.041	1.58	0.01	0.06	0.02	0.10	0.01	0.08	0.02	0.11
B15091-B15093	6843	162	8	0.036	1.49	0.02	0.08	0.05	0.13	0.02	0.09	0.05	0.13
B15092-B15093	6063	235	8	0.044	1.63	0.00	0.05	0.00	0.08	0.00	0.05	0.00	0.08
B15093-B15095	6059	181	8	0.042	1.60	0.02	0.08	0.06	0.14	0.03	0.09	0.06	0.13

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B15094-B15093	6342	244	8	0.016	0.99	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.08
B15095-B15097	6335	85	8	0.050	1.74	0.02	0.10	0.07	0.17	0.03	0.11	0.07	0.17
B15096-B15097	6584	242	8	0.004	0.49	0.00	0.08	0.00	0.12	0.00	0.09	0.00	0.12
B15097-B15106	6578	151	8	0.010	0.78	0.02	0.13	0.07	0.22	0.03	0.15	0.07	0.22
B15098-B15106	6572	180	8	0.004	0.51	0.00	0.09	0.00	0.14	0.00	0.10	0.00	0.14
B15099-B15101	6237	161	8	0.025	1.24	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B15100-B15101	6319	109	8	0.011	0.83	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B15101-B15102	6314	264	8	0.028	1.31	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
B15102-B15104	6229	150	8	0.102	2.49	0.00	0.06	0.01	0.09	0.01	0.07	0.01	0.09
B15103-B15104	6226	200	8	0.021	1.14	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
B15104-B15105	6218	214	8	0.004	0.49	0.01	0.09	0.02	0.14	0.01	0.10	0.02	0.13
B15105-B15106	6211	144	8	0.004	0.49	0.01	0.12	0.02	0.19	0.01	0.13	0.02	0.19
B15106-B15107	6201	135	8	0.014	0.92	0.04	0.12	0.10	0.20	0.04	0.14	0.10	0.20
B15107-B15108	6196	297	8	0.042	1.60	0.04	0.12	0.10	0.21	0.04	0.14	0.10	0.21
B15108-B15109	6563	307	8	0.011	0.81	0.04	0.15	0.11	0.25	0.04	0.16	0.11	0.25
B15109-B15110	6841	351	8	0.010	0.78	0.04	0.19	0.11	0.29	0.04	0.16	0.11	0.26
B15110-B15111	1128	500	8	0.010	0.78	0.08	0.18	0.15	0.26	0.04	0.16	0.11	0.23
B15111-B15112	588	248	8	0.064	1.97	0.08	0.22	0.16	0.32	0.11	0.26	0.17	0.33
B15112-B15243	6376	117	12	0.018	3.10	0.29	0.23	0.59	0.33	0.40	0.27	0.62	0.34
B15113-B15114	6367	258	8	0.005	0.54	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
B15114-B15127	762	480	8	0.012	0.87	0.01	0.05	0.01	0.08	0.01	0.06	0.01	0.08
B15115-B15117	6310	151	8	0.064	1.97	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B15116-B15117	6303	253	8	0.005	0.54	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
B15117-B15114	6360	186	8	0.007	0.65	0.00	0.06	0.01	0.09	0.01	0.07	0.01	0.09
B15118-B15120	6296	205	8	0.013	0.87	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B15119-B15120	6628	167	8	0.013	0.91	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
B15120-B15121	5880	364	8	0.029	1.32	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
B15121-B15122	6272	151	8	0.032	1.39	0.01	0.05	0.02	0.08	0.01	0.06	0.02	0.08
B15122-B15123	2698	294	8	0.045	1.65	0.01	0.06	0.02	0.08	0.01	0.07	0.02	0.08
B15123-B15126	3260	294	8	0.056	1.85	0.01	0.07	0.03	0.10	0.02	0.08	0.03	0.10
B15124-B15125	3258	407	8	0.056	1.85	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B15125-B15126	3248	135	8	0.056	1.85	0.00	0.06	0.01	0.08	0.01	0.07	0.01	0.08
B15126-B15131	2025	223	8	0.039	1.55	0.02	0.07	0.04	0.11	0.03	0.09	0.04	0.12
B15127-B15128	6836	333	8	0.084	2.27	0.01	0.05	0.02	0.08	0.01	0.06	0.02	0.08
B15128-B15131	753	391	8	0.033	1.42	0.01	0.06	0.03	0.11	0.01	0.08	0.03	0.11
B15129-B15130	2481	214	8	0.019	1.06	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B15130-B15131	5151	351	8	0.055	1.83	0.00	0.05	0.00	0.08	0.00	0.05	0.00	0.08
B15131-B15144	B15131-B15144	196	8	0.125	2.76	0.03	0.09	0.08	0.15	0.04	0.11	0.09	0.15
B15133-B15134	5126	191	8	0.031	1.36	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B15134-B15135	6825	65	8	0.055	1.84	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15135-B15136	1678	141	8	0.084	2.26	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
B15136-B15143	1662	173	8	0.064	1.98	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.07
B15137-B15139	6823	304	8	0.010	0.78	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
B15138-B15139	4570	128	8	0.046	1.68	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
B15139-B15140	4241	141	8	0.010	0.78	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.09
B15140-B15142	6802	192	8	0.010	0.78	0.01	0.08	0.01	0.10	0.01	0.08	0.01	0.10
B15141-B15142	6785	182	8	0.054	1.82	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07
B15142-B15143	6768	238	8	0.011	0.80	0.01	0.08	0.02	0.11	0.01	0.09	0.02	0.11
B15143-B15144	3286	161	8	0.041	1.58	0.02	0.10	0.04	0.15	0.02	0.11	0.03	0.14
B15144-B15158	6751	357	8	0.056	1.85	0.05	0.13	0.14	0.20	0.07	0.14	0.14	0.20
B15145-B15146	6734	153	8	0.015	0.96	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15146-B15147	6015	401	8	0.020	1.10	0.00	0.04	0.01	0.06	0.00	0.04	0.00	0.05
B15147-B15148	2021	276	8	0.032	1.40	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
B15148-B15149	1652	121	8	0.032	1.39	0.01	0.05	0.02	0.08	0.01	0.05	0.01	0.07
B15149.A0-B15149	1635	47	8	0.034	1.44	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B15149-B15150	3466	254	8	0.040	1.55	0.01	0.06	0.02	0.08	0.01	0.06	0.02	0.08
B15150-B15153	3467	380	8	0.031	1.37	0.01	0.06	0.02	0.10	0.01	0.06	0.02	0.09
B15151.A0-B15151.B0	7586	124	8	0.000	0.02	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.06
B15151.B0-B15151	3468	153	8	0.029	1.32	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B15151-B15152	4139	168	8	0.017	1.03	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.06
B15152.A0-B15152	7112	52	6	0.002	0.16	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.08
B15152-B15155	6716	283	8	0.019	1.09	0.01	0.07	0.01	0.10	0.01	0.08	0.01	0.10
B15153-B15156	6699	189	8	0.028	1.30	0.01	0.11	0.03	0.17	0.01	0.11	0.03	0.16
B15154-B15155	3287	84	8	0.004	0.47	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.07
B15155-B15156	6682	85	8	0.005	0.53	0.01	0.12	0.02	0.18	0.01	0.13	0.02	0.17
B15156-B15157	4845	362	8	0.004	0.50	0.02	0.12	0.05	0.19	0.02	0.13	0.05	0.18
B15157-B15158	6282	234	8	0.028	1.31	0.02	0.12	0.06	0.18	0.03	0.13	0.05	0.18
B15158-B15159	6672	98	8	0.057	1.86	0.08	0.21	0.20	0.34	0.10	0.23	0.20	0.33
B15159-B15162	555	95	8	0.004	0.50	0.08	0.26	0.21	0.44	0.10	0.30	0.20	0.43
B15160-B15161	6656	325	8	0.008	0.70	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
B15161-B15162	6149	80	8	0.004	0.50	0.00	0.15	0.01	0.25	0.00	0.17	0.01	0.25
B15162-B15163	554	346	8	0.005	0.58	0.08	0.27	0.21	0.44	0.10	0.30	0.21	0.44
B15163-B15175	786	340	8	0.004	0.49	0.08	0.29	0.22	0.49	0.10	0.33	0.22	0.49
B15164-B15144	553	180	8	0.061	1.92	0.01	0.08	0.01	0.12	0.01	0.09	0.01	0.12
B15165-B15164	552	335	8	0.045	1.66	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
B15166-B15165	551	270	8	0.014	0.92	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
B15166-B15167	785	230	8	0.034	1.45	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B15167-B15172	784	335	8	0.073	2.12	0.00	0.06	0.01	0.08	0.01	0.06	0.01	0.08
B15168-B15169	783	176	8	0.005	0.55	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
B15169-B15170	782	269	8	0.005	0.56	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
B15170-B15171	781	314	8	0.019	1.07	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
B15171-B15172	780	140	8	0.045	1.65	0.01	0.07	0.02	0.10	0.01	0.07	0.02	0.09
B15172-B15173	779	177	8	0.027	1.28	0.01	0.06	0.03	0.09	0.02	0.07	0.03	0.09
B15173-B15174	778	50	8	0.384	4.84	0.02	0.05	0.04	0.07	0.02	0.05	0.03	0.07
B15174-B15175	777	39	8	0.095	2.41	0.02	0.18	0.04	0.30	0.02	0.20	0.04	0.30
B15175-B15176	776	104	8	0.004	0.49	0.10	0.31	0.26	0.53	0.12	0.35	0.26	0.52
B15176-B15201	1509	183	8	0.004	0.49	0.10	0.26	0.26	0.43	0.12	0.29	0.26	0.43
B15177-B15179	774	306	8	0.071	2.07	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B15178-B15179	773	225	8	0.040	1.56	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
B15179-B15180	772	197	8	0.092	2.37	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.06
B15180-B15182	771	125	8	0.055	1.83	0.01	0.05	0.01	0.07	0.01	0.05	0.02	0.07
B15181-B15182	2334	7	8	0.002	0.35	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
B15182-B15183	770	212	8	0.048	1.71	0.01	0.06	0.02	0.09	0.01	0.07	0.02	0.09
B15183.A0-B15183	2333	6	8	0.002	0.35	0.00	0.06	0.00	0.09	0.00	0.07	0.00	0.09
B15183-B15185	769	349	8	0.016	0.99	0.01	0.07	0.02	0.10	0.01	0.08	0.02	0.10
B15184-B15185	2332	6	8	0.002	0.35	0.00	0.06	0.00	0.10	0.00	0.07	0.00	0.10
B15185-B15199	3291	350	8	0.022	1.16	0.01	0.09	0.03	0.14	0.02	0.10	0.03	0.14
B15186.A0-B15186	767	99	8	0.030	1.34	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B15186-B15187	768	212	8	0.035	1.46	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
B15187-B15188	766	51	8	0.035	1.47	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
B15188-B15189	765	52	8	0.037	1.49	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
B15189-B15191	764	235	8	0.026	1.25	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.08
B15190-B15191	763	145	8	0.046	1.67	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
B15191-B15193	760	375	8	0.013	0.90	0.01	0.08	0.02	0.12	0.01	0.09	0.02	0.11
B15192-B15193	759	230	8	0.047	1.69	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.08
B15193-B15196	1515	184	8	0.008	0.72	0.01	0.10	0.03	0.15	0.02	0.11	0.03	0.14
B15194-B15195	1517	208	8	0.037	1.50	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B15195-B15196	1516	188	8	0.037	1.49	0.00	0.07	0.01	0.10	0.00	0.08	0.01	0.10
B15196-B15197	1514	101	8	0.013	0.90	0.02	0.08	0.04	0.12	0.02	0.08	0.04	0.11
B15197-B15198	1513	68	8	0.249	3.90	0.02	0.06	0.04	0.09	0.02	0.07	0.04	0.09
B15198-B15199	1512	139	8	0.048	1.71	0.02	0.09	0.04	0.14	0.02	0.10	0.04	0.14
B15199-B15200	1511	349	8	0.022	1.16	0.03	0.14	0.08	0.21	0.04	0.15	0.07	0.21
B15200-B15201	1510	111	8	0.006	0.60	0.03	0.18	0.08	0.29	0.04	0.20	0.08	0.28
B15201-B15202	1508	355	8	0.040	1.56	0.13	0.19	0.35	0.31	0.16	0.21	0.34	0.31
B15202-B15215	841	383	8	0.052	1.77	0.13	0.20	0.35	0.32	0.16	0.22	0.34	0.32
B15203-B15204	5282	115	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
B15204-B15207	1472	265	8	0.010	0.78	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
B15205-B15206	6555	203	8	0.029	1.34	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B15206-B15207	6538	119	8	0.023	1.19	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
B15207-B15208	1471	186	8	0.023	1.18	0.00	0.05	0.01	0.08	0.01	0.06	0.01	0.08
B15208.A0-B15208	3288	101	8	0.034	1.45	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
B15208-B15209	286	258	8	0.023	1.18	0.01	0.07	0.02	0.11	0.01	0.07	0.02	0.10
B15209-B15210	1470	135	8	0.007	0.65	0.01	0.08	0.02	0.13	0.01	0.09	0.02	0.13
B15210-B15213	1467	245	8	0.010	0.78	0.01	0.07	0.03	0.12	0.01	0.08	0.02	0.11
B15211-B15212	1469	385	8	0.025	1.23	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B15212-B15213	1468	135	8	0.016	0.98	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.08
B15213-B15214	843	162	8	0.048	1.72	0.01	0.06	0.04	0.10	0.02	0.07	0.04	0.10
B15214-B15215	842	159	8	0.090	2.35	0.01	0.13	0.04	0.22	0.02	0.15	0.04	0.21
B15215.A0-B15216	839	344	10	0.013	1.63	0.15	0.23	0.40	0.38	0.18	0.25	0.39	0.37
B15215-B15215.A0	840	113	8	0.040	1.56	0.15	0.23	0.40	0.38	0.18	0.26	0.39	0.38
B15216-B15217	838	296	10	0.006	1.09	0.15	0.25	0.40	0.42	0.18	0.28	0.39	0.42
B15217-B15238	1463	147	10	0.006	1.09	0.15	0.27	0.41	0.45	0.18	0.31	0.40	0.45
B15218-B15219	837	159	8	0.100	2.47	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
B15219-B15220	836	237	8	0.065	1.98	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B15220-B15221	834	77	8	0.058	1.88	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
B15221-B15222	833	61	8	0.029	1.33	0.00	0.04	0.01	0.06	0.01	0.04	0.01	0.06
B15222-B15223	832	78	8	0.040	1.57	0.00	0.04	0.01	0.06	0.01	0.04	0.01	0.06
B15223-B15224	831	386	8	0.046	1.68	0.01	0.05	0.01	0.08	0.01	0.06	0.01	0.07
B15224-B15235	749	69	8	0.021	1.13	0.01	0.09	0.02	0.12	0.01	0.12	0.02	0.13
B15225-B15226	830	34	8	0.007	0.67	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B15226-B15227	372	154	8	0.008	0.70	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
B15227-B15228	371	234	8	0.033	1.42	0.00	0.08	0.00	0.08	0.00	0.10	0.00	0.10
B15228-B15229	370	344	8	0.042	1.61	0.05	0.11	0.05	0.12	0.09	0.15	0.09	0.15
B15229-B15230	369	97	8	0.108	2.57	0.05	0.10	0.06	0.10	0.10	0.13	0.10	0.13
B15230-B15233	367	123	8	0.111	2.60	0.05	0.10	0.06	0.11	0.10	0.14	0.10	0.14
B15231-B15232	368	219	8	0.090	2.35	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
B15232-B15233.A0	3289	244	8	0.161	3.13	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B15233.A0-B15233	3290	57	8	0.039	1.55	0.00	0.07	0.01	0.08	0.00	0.09	0.01	0.09
B15233-B15234	366	75	8	0.073	2.12	0.05	0.12	0.07	0.14	0.10	0.17	0.10	0.17
B15234-B15235	750	122	8	0.028	1.30	0.05	0.13	0.07	0.15	0.10	0.18	0.10	0.18
B15235-B15236	1466	38	8	0.054	1.82	0.06	0.13	0.09	0.16	0.11	0.17	0.12	0.18
B15236-B15237	1465	165	8	0.043	1.62	0.06	0.15	0.09	0.18	0.11	0.20	0.12	0.21
B15237-B15238	1464	129	8	0.019	1.06	0.06	0.27	0.09	0.40	0.11	0.33	0.12	0.41
B15238-B15239	1462	296	10	0.006	1.10	0.21	0.32	0.50	0.50	0.29	0.38	0.52	0.51
B15239-B15240	1461	241	10	0.006	1.10	0.25	0.27	0.54	0.41	0.35	0.32	0.56	0.42
B15240-B15241	1460	105	10	0.045	2.99	0.25	0.21	0.55	0.32	0.35	0.25	0.57	0.32
B15241-B15242	1459	225	10	0.027	2.34	0.25	0.20	0.55	0.30	0.35	0.24	0.57	0.31
B15242-B15243	1458	64	10	0.065	3.62	0.25	0.24	0.55	0.35	0.35	0.28	0.57	0.36
B15243-V33136	2984	119	12	0.031	4.08	0.54	0.29	1.14	0.43	0.76	0.34	1.19	0.44
B15244-B15245	1457	249	8	0.017	1.03	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B15245-B15246	1456	75	8	0.041	1.58	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B15246-B15247	1455	245	8	0.040	1.57	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
B15247-B15251	1451	382	8	0.075	2.15	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B15248-B15250	1454	228	8	0.133	2.85	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B15249-B15250	1453	195	8	0.075	2.14	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B15250-B15251	1452	85	8	0.087	2.31	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
B15252-B15253	1450	276	8	0.024	1.22	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
B15253-B15254	1449	384	8	0.004	0.49	0.00	0.07	0.01	0.09	0.00	0.06	0.01	0.08
B15254-B15257	1446	95	8	0.010	0.76	0.01	0.07	0.01	0.10	0.00	0.06	0.01	0.09
B15255-B15256	1448	176	8	0.107	2.56	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B15256-B15257	1447	116	8	0.107	2.55	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.06
B15257-B15259	1445	362	8	0.018	1.04	0.01	0.08	0.02	0.11	0.01	0.07	0.02	0.10
B15258-B15259	1444	359	8	0.022	1.15	0.00	0.05	0.00	0.08	0.00	0.05	0.00	0.07
B15259-B15260	1195	197	8	0.013	0.88	0.01	0.10	0.03	0.17	0.01	0.11	0.03	0.18
B15260-B15251	1196	331	8	0.040	1.56	0.00	0.08	0.02	0.15	0.00	0.09	0.02	0.16
B15260-B15263	2114	463	8	0.007	0.65	0.02	0.10	0.06	0.18	0.03	0.12	0.07	0.19
B15261-B15262	1194	157	8	0.034	1.44	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B15262-B15263	1193	80	8	0.062	1.94	0.00	0.05	0.00	0.08	0.00	0.05	0.00	0.09
B15263-B15267	2115	112	8	0.046	1.68	0.02	0.08	0.07	0.14	0.03	0.10	0.08	0.15
B15264-B15265	1192	190	8	0.097	2.43	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
B15265-B15266	1191	193	8	0.112	2.62	0.00	0.01	0.00	0.03	0.01	0.05	0.01	0.05
B15266-B15267	1189	188	8	0.059	1.91	0.00	0.05	0.01	0.09	0.01	0.08	0.01	0.11
B15267-B15270	1185	239	8	0.046	1.67	0.02	0.08	0.08	0.16	0.04	0.11	0.09	0.18
B15268-B15269	1187	226	8	0.037	1.50	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B15269-B15270	1186	96	8	0.122	2.73	0.00	0.06	0.01	0.10	0.00	0.07	0.00	0.11
B15270-B15278	1396	426	8	0.029	1.33	0.02	0.12	0.09	0.22	0.04	0.14	0.10	0.24
B15271-B15272	1184	312	8	0.041	1.57	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
B15272-B15273	1181	129	8	0.072	2.09	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.04
B15273-B15275	1188	165	8	0.071	2.08	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
B15274-B15275	1180	96	8	0.010	0.78	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
B15275-B15277	1399	130	8	0.052	1.78	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
B15276.A0-B15276	2986	243	8	0.039	1.55	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
B15276-B15277	1400	299	8	0.073	2.11	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
B15277-B15278	1397	241	8	0.044	1.64	0.01	0.10	0.02	0.18	0.01	0.11	0.02	0.18
B15278-B15279	1395	469	8	0.012	0.85	0.03	0.12	0.12	0.22	0.05	0.14	0.13	0.23
B15279-B15280	1394	342	8	0.067	2.03	0.03	0.09	0.12	0.17	0.05	0.11	0.14	0.18
B15280-B15297	180	267	8	0.055	1.84	0.03	0.16	0.13	0.29	0.05	0.17	0.14	0.30
B15282-B15283	1392	159	8	0.013	0.88	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B15283-B15284	1391	55	8	0.022	1.16	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
B15284-B15281	1390	158	8	0.084	2.27	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
B15284-B15285	1389	153	8	0.044	1.64	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
B15285-B15286	1388	269	8	0.030	1.35	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
B15286-B15287	1387	386	8	0.027	1.28	0.01	0.09	0.02	0.13	0.01	0.09	0.02	0.12
B15287-B15288	1386	396	8	0.005	0.53	0.01	0.09	0.03	0.12	0.01	0.09	0.02	0.11
B15288-B15294	1380	159	8	0.177	3.29	0.02	0.52	0.03	0.54	0.02	0.53	0.03	0.53
B15289-B15290	1385	241	8	0.025	1.23	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.04
B15290-B15293	1382	373	8	0.030	1.35	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
B15291-B15292	1384	200	8	0.020	1.11	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
B15292-B15293	1383	276	8	0.016	0.99	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
B15293-B15294	1381	230	8	0.168	3.20	0.01	0.52	0.02	0.53	0.01	0.52	0.02	0.53
B15294-B15295	1379	144	8	0.139	2.91	0.03	0.55	0.06	0.58	0.03	0.55	0.06	0.57
B15295-B15296	1378	154	8	0.024	1.21	0.03	0.11	0.06	0.16	0.03	0.11	0.06	0.16
B15296-B15297	1377	56	8	0.019	1.09	0.03	0.17	0.07	0.29	0.03	0.18	0.06	0.29
B15297-B15298	1376	362	8	0.007	0.65	0.07	0.19	0.20	0.33	0.07	0.20	0.21	0.34

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B15298-B15299	1375	300	15	0.013	4.81	0.07	0.09	0.20	0.15	0.07	0.09	0.21	0.15
B15299-B15303	1374	296	15	0.010	4.18	0.07	0.08	0.21	0.15	0.07	0.09	0.22	0.15
B15300-B15301	1371	150	8	0.007	0.65	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
B15301-B15302	1372	80	8	0.011	0.81	0.01	0.08	0.02	0.13	0.01	0.08	0.02	0.12
B15302-B15303	1373	258	8	0.008	0.69	0.01	0.12	0.03	0.19	0.01	0.12	0.02	0.19
B15303-B15304	1341	306	15	0.025	6.59	0.08	0.07	0.25	0.13	0.08	0.08	0.25	0.13
B15304-B15329	1340	294	15	0.041	8.43	0.08	0.08	0.25	0.14	0.08	0.08	0.26	0.14
B15305-B15301	1723	235	8	0.021	1.12	0.01	0.07	0.02	0.10	0.01	0.07	0.02	0.10
B15306-B15305	1370	264	8	0.013	0.90	0.01	0.06	0.01	0.09	0.01	0.06	0.01	0.08
B15307-B15306	1369	226	8	0.095	2.41	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
B15308-B15307	1368	281	8	0.075	2.14	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15309-B15308	1367	139	8	0.118	2.68	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
B15310.A0-B15312	1360	197	8	0.114	2.64	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
B15310-B15310.A0	1356	210	8	0.000	0.02	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
B15311-B15312	1359	209	8	0.024	1.22	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B15312-B15313	1361	221	8	0.118	2.69	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
B15313-B15318	1366	185	8	0.080	2.21	0.00	0.04	0.01	0.07	0.01	0.05	0.01	0.07
B15314-B15315	1357	338	8	0.032	1.39	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
B15315-B15316	1362	201	8	0.061	1.93	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
B15316-B15317	1363	274	8	0.029	1.32	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
B15317-B15318	1365	199	8	0.071	2.09	0.01	0.05	0.02	0.07	0.01	0.05	0.01	0.07
B15318-B15329	1339	220	8	0.078	2.18	0.01	0.11	0.03	0.19	0.01	0.12	0.03	0.20
B15319-B15320	1355	299	8	0.090	2.34	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B15320-B15321	1354	293	8	0.050	1.75	0.00	0.03	0.00	0.06	0.00	0.05	0.01	0.07
B15321-B15322	1338	173	8	0.012	0.87	0.00	0.03	0.01	0.06	0.01	0.04	0.01	0.06
B15322-B15326	1769	52	8	0.466	5.33	0.00	0.02	0.01	0.04	0.01	0.03	0.01	0.05
B15323-B15324	1353	305	8	0.020	1.11	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
B15324-B15325	1352	437	8	0.020	1.10	0.00	0.02	0.00	0.05	0.00	0.03	0.00	0.05
B15325-B15326	178	270	8	0.084	2.26	0.00	0.02	0.01	0.05	0.00	0.03	0.01	0.05
B15326-B15327	1724	119	8	0.318	4.40	0.00	0.03	0.02	0.06	0.01	0.04	0.03	0.06
B15327-B15328.C0	2997	21	8	0.119	2.70	0.00	0.03	0.03	0.07	0.01	0.04	0.03	0.07
B15328.A0-B15328.B0	2988	269	8	0.051	1.77	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
B15328.B0-B15328.D0	2998	172	8	0.012	0.86	0.00	0.04	0.01	0.07	0.00	0.04	0.00	0.06
B15328.C0-B15328.D0	2996	33	8	0.007	0.67	0.00	0.05	0.03	0.11	0.01	0.07	0.03	0.11
B15328.D0-B15328.H0	2995	101	8	0.158	3.10	0.01	0.04	0.03	0.09	0.01	0.05	0.04	0.09
B15328.E0-B15328.F0	2989	220	8	0.008	0.71	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
B15328.F0-B15328.G0	2991	136	8	0.009	0.75	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
B15328.G0-B15328.H0	2992	70	8	0.013	0.89	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.08
B15328.H0-B15328.I0	2994	95	8	0.074	2.13	0.01	0.05	0.04	0.09	0.01	0.06	0.04	0.09
B15328.I0-B15328	2993	64	8	0.132	2.84	0.01	0.07	0.04	0.15	0.01	0.08	0.04	0.15
B15328-B15329	1337	96	8	0.004	0.49	0.01	0.14	0.05	0.25	0.01	0.15	0.05	0.26
B15329-B15330	1336	498	15	0.024	6.45	0.10	0.08	0.34	0.15	0.11	0.09	0.34	0.15
B15330-V33169	2999	94	15	0.056	9.90	0.10	0.07	0.35	0.13	0.11	0.08	0.35	0.13
Splitted conduit	CDT-22	22	8	0.020	1.11	0.21	0.28	0.55	0.48	0.59	0.50	0.80	0.60
V01001-V01002	2892	348	8	0.025	1.24	0.01	0.08	0.01	0.08	0.01	0.10	0.01	0.10
V01002-V01003	2891	197	8	0.005	0.55	0.01	0.09	0.01	0.11	0.02	0.12	0.02	0.12
V01003.A0-V01004	2889	93	8	0.000	0.03	0.01	0.16	0.02	0.19	0.02	0.19	0.02	0.20
V01003-V01003.A0	2890	133	8	0.009	0.73	0.01	0.15	0.02	0.17	0.02	0.18	0.02	0.19
V01004-V01005	2888	50	8	0.007	0.63	0.02	0.15	0.03	0.17	0.02	0.15	0.03	0.17
V01005-V01006	2887	163	8	0.002	0.36	0.02	0.15	0.03	0.18	0.02	0.16	0.03	0.17
V01006-V01007	2886	190	8	0.007	0.67	0.02	0.13	0.03	0.15	0.02	0.13	0.03	0.15
V01007-V01023	2885	204	8	0.007	0.65	0.02	0.22	0.03	0.28	0.03	0.23	0.03	0.27
V01008-V01010	3371	126	8	0.033	1.42	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V01009-V01010	2058	210	8	0.006	0.60	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V01010-V01011	2057	184	8	0.031	1.38	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.04
V01011-V01014	3369	311	8	0.043	1.62	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
V01012-V01014	3370	217	6	0.011	0.38	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.06
V01013-V01014	3127	367	8	0.002	0.39	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V01014-V01015	2031	372	8	0.039	1.55	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.07
V01015-V01016.K0	2056	221	8	0.065	2.00	0.01	0.12	0.02	0.18	0.01	0.12	0.02	0.17
V01016.A0-V01016.D0	3130	114	8	0.057	1.86	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
V01016.AA-V01016.AB	3124	101	8	0.034	1.45	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V01016.AB-V01016.A0	3128	171	8	0.021	1.14	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V01016.B0-V01016.C0	3126	239	8	0.054	1.81	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V01016.C0-V01016.D0	3125	301	8	0.041	1.58	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V01016.D0-V01016.E0	3129	342	8	0.037	1.50	0.01	0.06	0.01	0.10	0.01	0.06	0.01	0.09
V01016.E0-V01016.G0	3131	44	8	0.005	0.54	0.01	0.08	0.02	0.13	0.01	0.08	0.02	0.12
V01016.F0-V01016.G0	3132	278	8	0.069	2.06	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.07
V01016.G0-V01016.H0	3133	185	8	0.006	0.61	0.01	0.09	0.02	0.14	0.01	0.09	0.02	0.14
V01016.H0-V01016.I0	2030	360	8	0.003	0.42	0.01	0.12	0.02	0.17	0.01	0.11	0.02	0.16
V01016.I0-V01016.J0	3487	354	8	0.005	0.56	0.03	0.16	0.04	0.20	0.02	0.13	0.03	0.17
V01016.J0-V01016.K0	3486	351	8	0.005	0.56	0.03	0.19	0.05	0.25	0.02	0.16	0.04	0.22
V01016.K0-V01016	3359	155	8	0.004	0.49	0.04	0.16	0.08	0.23	0.03	0.14	0.07	0.20
V01016-V01017	2048	327	8	0.034	1.45	0.04	0.12	0.08	0.17	0.03	0.11	0.07	0.16
V01017-V01019	2035	316	8	0.029	1.32	0.04	0.12	0.09	0.17	0.04	0.13	0.08	0.17
V01018-V01019	2045	304	6	0.006	0.27	0.01	0.58	0.01	0.61	0.02	0.59	0.02	0.62
V01019-V01020	2044	237	8	0.040	1.57	0.05	0.12	0.10	0.17	0.06	0.14	0.10	0.17
V01020-V01021.C0	3360	25	8	0.044	1.63	0.05	0.13	0.10	0.18	0.07	0.15	0.11	0.18
V01021.A0-V01021.B0	3374	77	8	0.005	0.57	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V01021.B0-V01021.C0	3373	300	8	0.005	0.55	0.01	0.11	0.01	0.14	0.01	0.12	0.01	0.14
V01021.C0-V01021	3375	190	8	0.039	1.55	0.06	0.14	0.12	0.19	0.08	0.17	0.12	0.20
V01021-V01022	3379	282	8	0.038	1.53	0.06	0.13	0.12	0.18	0.10	0.17	0.14	0.19
V01022-V01023	2884	219	8	0.066	2.00	0.07	0.21	0.13	0.28	0.10	0.24	0.14	0.29
V01023-V01024	2883	306	8	0.004	0.51	0.10	0.31	0.17	0.41	0.11	0.32	0.18	0.41
V01024-V01050	2882	327	8	0.004	0.48	0.10	0.35	0.18	0.54	0.11	0.40	0.18	0.56
V01028.A0-V01028	7605	35	8	1.471	9.47	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V01028-V01030	2053	108	8	0.037	1.50	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V01029-V01030	2047	344	8	0.080	2.21	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V01030.A0-V01030.B0	1704	249	8	0.098	2.45	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V01030.B0-V01030.C0	1705	324	8	0.055	1.84	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V01030.C0-V01030.E0	1706	223	8	0.011	0.82	0.01	0.06	0.01	0.08	0.00	0.05	0.01	0.06
V01030.E0-V01030.F0	1707	257	8	0.051	1.76	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.05
V01030.F0-V01030	1708	32	8	0.156	3.08	0.01	0.05	0.02	0.07	0.01	0.05	0.01	0.07
V01030-V01031	2052	192	8	0.031	1.38	0.01	0.07	0.03	0.10	0.01	0.07	0.02	0.09
V01031-V01034	2050	201	8	0.022	1.16	0.01	0.07	0.03	0.11	0.01	0.08	0.02	0.11
V01032-V01033	2046	200	6	0.053	0.84	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V01033-V01034	2049	260	6	0.081	1.03	0.00	0.06	0.00	0.09	0.00	0.08	0.00	0.10
V01034-V01035	2034	187	8	0.027	1.29	0.01	0.08	0.03	0.12	0.02	0.09	0.03	0.12
V01035-V01036	2043	196	8	0.022	1.15	0.02	0.10	0.04	0.14	0.02	0.11	0.04	0.14
V01036-V01037	2042	217	8	0.010	0.80	0.02	0.13	0.04	0.20	0.03	0.16	0.04	0.20
V01037-V01041	2041	66	8	0.003	0.40	0.02	0.15	0.04	0.21	0.03	0.18	0.05	0.22
V01038-V01039	2055	171	8	0.083	2.25	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V01039-V01040	2033	222	8	0.070	2.06	0.02	0.08	0.02	0.09	0.02	0.10	0.02	0.10
V01040-V01041	2040	240	8	0.023	1.18	0.03	0.12	0.03	0.14	0.04	0.15	0.04	0.15
V01041-V01042	3484	295	8	0.021	1.14	0.05	0.15	0.08	0.20	0.07	0.19	0.09	0.21
V01042-V01045	3485	281	8	0.011	0.81	0.05	0.18	0.08	0.23	0.08	0.21	0.09	0.24
V01043-V01044	2039	277	8	0.020	1.11	0.02	0.08	0.02	0.09	0.00	0.05	0.00	0.05

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V01044-V01045	2038	212	8	0.020	1.09	0.02	0.14	0.02	0.17	0.00	0.12	0.01	0.15
V01045-V01046	2037	48	8	0.011	0.82	0.07	0.20	0.10	0.25	0.08	0.22	0.11	0.25
V01046-V01048	2036	227	8	0.008	0.70	0.07	0.23	0.11	0.29	0.08	0.26	0.11	0.29
V01047-V01048.E0	3362	99	8	0.052	1.77	0.01	0.06	0.01	0.06	0.00	0.06	0.00	0.06
V01048.A0-V01048.B0	3367	91	8	0.045	1.66	0.01	0.06	0.01	0.06	0.02	0.07	0.02	0.07
V01048.B0-V01048.C0	3366	81	8	0.078	2.19	0.01	0.05	0.01	0.05	0.02	0.06	0.02	0.06
V01048.C0-V01048.D0	3365	60	8	0.126	2.77	0.01	0.13	0.01	0.14	0.02	0.16	0.02	0.16
V01048.D0-V01048.E0	3364	51	8	0.000	0.03	0.01	0.14	0.01	0.15	0.02	0.18	0.02	0.18
V01048.E0-V01048	3368	45	8	0.063	1.96	0.02	0.16	0.02	0.19	0.03	0.19	0.03	0.20
V01048-V01049	2032	281	8	0.009	0.74	0.09	0.20	0.13	0.24	0.12	0.23	0.14	0.25
V01049-V01050	3378	264	8	0.065	2.00	0.09	0.27	0.14	0.42	0.12	0.33	0.15	0.44
V01052-V01056	2881	174	10	0.010	1.42	0.75	0.43	1.50	0.72	1.05	0.52	1.60	0.73
V01053-V01054	3382	192	8	0.008	0.69	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.05
V01054-V01055	3381	203	8	0.008	0.70	0.00	0.04	0.00	0.05	0.00	0.05	0.01	0.06
V01055.A0-V01055	4033	22	8	0.002	0.35	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.05
V01055-V01056	3380	111	8	0.058	1.88	0.00	0.21	0.01	0.30	0.01	0.24	0.01	0.31
V01056-V01061	7553	190	10	0.072	3.81	0.76	0.40	1.51	0.57	1.05	0.48	1.61	0.59
V01061-V32153	7335	373	24	0.004	9.00	0.81	0.20	1.64	0.29	1.20	0.25	1.80	0.30
V01062-V32175	7026	313	36	0.012	46.67	6.67	0.31	13.68	0.46	11.80	0.43	16.33	0.52
V02001-V02002	3383	37	8	0.019	1.08	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V02002-V02003	2673	338	8	0.009	0.72	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V02003-V02006	2674	338	8	0.022	1.15	0.01	0.07	0.01	0.10	0.01	0.08	0.01	0.10
V02004-V02005	2681	184	6	0.003	0.20	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V02005-V02006	2660	360	6	0.048	0.79	0.00	0.08	0.00	0.11	0.00	0.10	0.01	0.12
V02006-V02008	2661	180	8	0.006	0.61	0.01	0.07	0.02	0.10	0.01	0.08	0.02	0.10
V02008-V02011	2662	273	8	0.105	2.53	0.01	0.07	0.02	0.11	0.01	0.08	0.02	0.11
V02009-V02010	2668	333	8	0.052	1.79	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V02010-V02011	2670	323	8	0.098	2.45	0.00	0.07	0.01	0.10	0.00	0.07	0.01	0.09
V02011-V02014	2669	259	8	0.033	1.41	0.03	0.20	0.07	0.28	0.03	0.20	0.07	0.27
V02012.A0-V02012.B0	2893	356	8	0.034	1.44	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V02012.B0-V02012.C0	2897	102	8	0.108	2.57	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V02012.C0-V02012.E0	2895	168	8	0.080	2.21	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V02012.D0-V02012.E0	2894	266	8	0.077	2.16	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V02012.E0-V02012.H0	2896	215	8	0.043	1.62	0.01	0.06	0.01	0.09	0.01	0.06	0.01	0.08
V02012.F0-V02012.G0	2899	141	8	0.150	3.02	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V02012.G0-V02012.H0	2900	157	8	0.025	1.22	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.07
V02012.H0-V02012.L0	2898	151	8	0.010	0.78	0.01	0.07	0.02	0.10	0.01	0.07	0.02	0.10
V02012.I0-V02012.J0	2658	134	8	0.065	1.99	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V02012.J0-V02012.K0	2656	308	8	0.062	1.95	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V02012.K0-V02012.L0	2666	80	8	0.122	2.72	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.06
V02012.L0-V02012	V02012.L0-V02012	138	8	0.048	1.71	0.01	0.06	0.03	0.09	0.01	0.06	0.03	0.09
V02012.M0-V02012.N0	2657	187	6	0.045	0.77	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V02012.N0-V02012.O0	2901	300	6	0.062	0.90	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.05
V02012.O0-V02012.P0	2663	206	6	0.027	0.60	0.00	0.05	0.01	0.07	0.00	0.04	0.00	0.07
V02012.P0-V02012	2664	28	6	0.025	0.57	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.07
V02012-V02013	4034	113	8	0.099	2.45	0.02	0.53	0.04	0.54	0.02	0.53	0.04	0.54
V02013-V02011	2672	96	8	0.017	1.02	0.02	0.55	0.04	0.58	0.02	0.55	0.04	0.58
V02014-V02020.G0	V02014-V02020.G0	16	8	0.003	0.44	0.03	0.21	0.08	0.29	0.04	0.22	0.07	0.28
V02015-V02016	3393	195	8	0.007	0.65	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V02016-V02017	3391	350	8	0.050	1.75	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V02017-V02018	3386	257	8	0.093	2.38	0.01	0.03	0.01	0.04	0.01	0.03	0.01	0.04
V02018-V02019	3385	24	8	0.207	3.55	0.01	0.03	0.01	0.05	0.01	0.03	0.01	0.05
V02019-V02020	3387	51	8	0.073	2.11	0.01	0.10	0.01	0.15	0.01	0.10	0.01	0.15
V02020.A0-V02020.B0	2676	117	8	0.064	1.97	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V02020.B0-V02020.D0	2671	267	8	0.086	2.29	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V02020.C0-V02020.D0	2678	124	8	0.038	1.52	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V02020.D0-V02020	2679	274	8	0.088	2.31	0.00	0.09	0.01	0.15	0.00	0.10	0.01	0.14
V02020.E0-V02020.F0	V02020.E0-V02020.F0	286	8	0.100	2.47	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V02020.F0-V02020.G0	V02020.F0-V02020.G0	273	8	0.100	2.47	0.00	0.08	0.01	0.11	0.00	0.08	0.01	0.11
V02020.G0-V02020	V02020.G0-V02020	201	8	0.020	1.12	0.04	0.14	0.09	0.22	0.04	0.15	0.08	0.21
V02020-V02025.C0	3392	177	8	0.012	0.85	0.05	0.15	0.11	0.23	0.05	0.16	0.10	0.22
V02021-V02022	2682	341	6	0.050	0.81	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V02022-V02024	4035	129	8	0.052	1.77	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V02023-V02024	3397	88	6	0.065	0.92	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V02024-V02025.A0	3395	323	6	0.059	0.88	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.09
V02025.A0-V02025.B0	3390	124	6	0.024	0.56	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.09
V02025.B0-V02025.C0	3388	120	6	0.127	1.29	0.01	0.12	0.01	0.18	0.01	0.12	0.01	0.17
V02025.C0-V02025	3389	158	8	0.029	1.34	0.05	0.14	0.13	0.22	0.06	0.15	0.12	0.21
V02025-V02026	3396	183	8	0.022	1.16	0.05	0.16	0.13	0.24	0.06	0.17	0.12	0.24
V02026-V02028	3644	193	8	0.014	0.92	0.05	0.16	0.13	0.25	0.06	0.18	0.13	0.25
V02027-V02028	3641	52	6	0.104	1.17	0.00	0.11	0.00	0.17	0.00	0.14	0.00	0.18
V02028-V02031.D0	V02028-V02031.D0	162	8	0.017	1.03	0.05	0.16	0.13	0.25	0.07	0.18	0.13	0.24
V02029-V02030	3669	257	6	0.096	1.12	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V02030-V02031	3671	245	6	0.108	1.19	0.00	0.11	0.00	0.16	0.00	0.12	0.01	0.16
V02031.A0-V02031.B0	V02031.A0-V02031.B0	10	8	0.092	2.37	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.01
V02031.B0-V02031.C0	V02031.B0-V02031.C0	316	8	0.092	2.37	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V02031.C0-V02031.D0	V02031.C0-V02031.D0	292	8	0.092	2.37	0.00	0.09	0.01	0.14	0.00	0.10	0.01	0.14
V02031.D0-V02031	V02031.D0-V02031	155	8	0.020	1.11	0.06	0.15	0.14	0.23	0.07	0.16	0.14	0.23
V02031-V02032	3674	188	8	0.040	1.56	0.06	0.13	0.15	0.21	0.08	0.15	0.15	0.21
V02032-V02039	3666	192	8	0.039	1.55	0.06	0.15	0.15	0.24	0.08	0.17	0.15	0.24
V02033-V02037	3645	380	6	0.036	0.69	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.04
V02034-V02035	3647	24	6	0.021	0.52	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.05
V02035-V02037	8193	215	6	0.068	0.95	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V02037-V02039	3650	210	6	0.135	1.33	0.00	0.12	0.00	0.20	0.00	0.14	0.01	0.20
V02038-V02039	3659	50	6	0.104	1.17	0.00	0.12	0.00	0.18	0.00	0.14	0.00	0.18
V02039-V02040	3660	229	8	0.019	1.08	0.06	0.17	0.16	0.27	0.08	0.19	0.16	0.27
V02040-V02051	3661	226	8	0.015	0.97	0.06	0.21	0.16	0.34	0.09	0.24	0.17	0.34
V02041-V02042	3663	213	6	0.060	0.89	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V02042-V02043	3664	320	6	0.052	0.83	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V02043-V02045	3675	137	8	0.032	1.40	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V02044-V02045	3672	320	6	0.063	0.91	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V02045-V02050	3667	340	8	0.054	1.82	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
V02046-V02048	3670	228	6	0.090	1.09	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V02047-V02048	3658	128	8	0.039	1.54	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V02048-V02049	3673	272	8	0.043	1.62	0.00	0.03	0.00	0.04	0.00	0.04	0.01	0.05
V02049-V02050	3668	191	8	0.060	1.92	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V02050-V02051	3662	123	8	0.143	2.95	0.01	0.14	0.03	0.23	0.02	0.17	0.03	0.23
V02051-V02054	3665	152	8	0.008	0.70	0.08	0.18	0.20	0.29	0.10	0.21	0.20	0.29
V02052-V02053	3676	395	8	0.019	1.07	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V02053-V02054	3688	168	8	0.114	2.64	0.00	0.07	0.01	0.11	0.00	0.08	0.01	0.11
V02054-V02055	3689	21	8	0.120	2.70	0.08	0.25	0.21	0.38	0.11	0.29	0.21	0.39
V02055-V02057	3690	37	8	0.000	0.04	0.08	0.31	0.21	0.48	0.11	0.36	0.21	0.48
V02057-V02063	3692	219	8	0.008	0.70	0.08	0.24	0.21	0.39	0.11	0.28	0.21	0.39
V02058-V02062	8198	217	8	0.015	0.97	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.04
V02059-V02062	3651	321	6	0.073	0.98	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V02060-V02061	3655	241	6	0.074	0.99	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V02061-V02062	3652	136	6	0.078	1.01	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V02062.A0-V02062.C0	3656	271	8	0.030	1.36	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V02062.AA-V02062.AB	7054	145	8	0.034	1.44	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V02062.AB-V02062.AC	7055	159	8	0.013	0.88	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V02062.AC-V02062.AD	7056	133	8	0.059	1.90	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.04
V02062.AD-V02062.AE	7057	107	8	0.028	1.31	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V02062.AE-V02062.A0	7058	49	8	0.033	1.42	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V02062.B0-V02062.C0	3657	102	8	0.021	1.13	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V02062.C0-V02062	3653	262	8	0.067	2.02	0.01	0.05	0.02	0.07	0.01	0.05	0.01	0.07
V02062-V02063	3654	198	8	0.082	2.24	0.01	0.15	0.03	0.24	0.01	0.17	0.03	0.24
V02063-V02065	3683	124	8	0.008	0.71	0.09	0.25	0.24	0.41	0.13	0.29	0.24	0.41
V02064-V02065	3684	248	8	0.098	2.44	0.00	0.14	0.00	0.22	0.01	0.17	0.01	0.22
V02065-V02068	3686	291	8	0.008	0.70	0.10	0.25	0.25	0.40	0.13	0.29	0.25	0.40
V02066.A0-V02066.B0	3693	283	6	0.020	0.51	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V02066.B0-V02066.E0	3694	309	6	0.030	0.63	0.01	0.08	0.01	0.09	0.00	0.05	0.00	0.07
V02066.C0-V02066.D0	3704	279	6	0.020	0.52	0.01	0.08	0.01	0.09	0.00	0.03	0.00	0.04
V02066.D0-V02066.E0	3695	92	6	0.017	0.47	0.01	0.09	0.01	0.10	0.00	0.05	0.00	0.06
V02066.E0-V02066	3679	105	6	0.069	0.95	0.02	0.11	0.02	0.12	0.01	0.07	0.01	0.09
V02066-V02068	3680	179	8	0.017	1.02	0.02	0.17	0.02	0.25	0.01	0.17	0.01	0.23
V02067-V02068	3687	179	8	0.025	1.24	0.01	0.15	0.01	0.22	0.00	0.16	0.00	0.21
V02068-V02069	3682	195	8	0.016	0.98	0.12	0.22	0.28	0.33	0.15	0.24	0.27	0.32
V02069-V02070	3700	70	8	0.052	1.78	0.12	0.28	0.29	0.42	0.15	0.30	0.27	0.41
V02070-V02072	4036	86	8	0.003	0.41	0.12	0.30	0.29	0.46	0.15	0.34	0.27	0.45
V02071-V02072	3699	173	6	0.020	0.51	0.01	0.21	0.01	0.29	0.02	0.24	0.02	0.29
V02072-V02073	3701	183	8	0.023	1.18	0.14	0.24	0.31	0.36	0.18	0.27	0.30	0.35
V02073-V02075	3702	91	8	0.021	1.13	0.16	0.26	0.32	0.37	0.19	0.28	0.31	0.37
V02074-V02075	3703	209	6	0.023	0.55	0.00	0.17	0.00	0.25	0.00	0.20	0.00	0.25
V02075-V02077	3698	214	8	0.018	1.06	0.16	0.28	0.32	0.40	0.19	0.30	0.31	0.38
V02076-V02077	3705	200	6	0.006	0.27	0.03	0.32	0.03	0.39	0.03	0.32	0.03	0.36
V02077-V02079.A0	V02077-V02079.A0	115	8	0.019	1.09	0.22	0.32	0.39	0.44	0.23	0.34	0.34	0.41
V02078-V02079	3715	193	6	0.019	0.51	0.00	0.20	0.00	0.27	0.01	0.25	0.01	0.29
V02079.A0-V02079	V02079.A0-V02079	146	8	0.015	0.97	0.22	0.30	0.39	0.41	0.26	0.33	0.37	0.40
V02079-V02080	3716	281	8	0.031	1.37	0.22	0.31	0.39	0.42	0.27	0.34	0.38	0.41
V02086.A0-V02086	7812	143	8	0.050	1.74	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V02086-V02087.D0	3677	264	8	0.019	1.08	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V02087.A0-V02087.B0	3696	85	6	0.009	0.35	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V02087.B0-V02087.C0	3697	154	6	0.025	0.58	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V02087.C0-V02087.D0	3685	277	6	0.031	0.64	0.00	0.07	0.01	0.08	0.00	0.06	0.00	0.08
V02087.D0-V02087	3678	85	8	0.020	1.11	0.01	0.06	0.01	0.08	0.01	0.05	0.01	0.07
V02087-V02090	3681	321	8	0.020	1.11	0.01	0.06	0.01	0.08	0.01	0.08	0.01	0.10
V02088-V02089	3714	102	6	0.064	0.92	0.00	0.02	0.00	0.02	0.00	0.06	0.00	0.06
V02089-V02090	3713	350	6	0.058	0.88	0.00	0.05	0.00	0.07	0.01	0.11	0.01	0.11
V02090-V02091	3707	225	8	0.029	1.34	0.01	0.06	0.02	0.10	0.04	0.13	0.04	0.14
V02091-V02092	3708	346	8	0.019	1.07	0.01	0.06	0.02	0.10	0.05	0.13	0.05	0.14
V02092-V02106	3717	45	8	0.042	1.59	0.01	0.07	0.03	0.11	0.05	0.16	0.05	0.17
V02093-V02096	3720	336	8	0.014	0.94	0.02	0.11	0.04	0.15	0.07	0.19	0.08	0.20
V02094-V02095	3727	79	8	0.009	0.76	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.05
V02095-V02096	3725	349	8	0.011	0.80	0.00	0.01	0.00	0.02	0.00	0.06	0.01	0.06
V02106-V02093	3719	214	8	0.009	0.73	0.01	0.10	0.03	0.14	0.06	0.20	0.07	0.21
V03001-V03002	3929	244	8	0.007	0.64	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V03002-V03003	3927	349	8	0.007	0.65	0.00	0.13	0.00	0.17	0.00	0.13	0.00	0.16
V03003-V03009.AA	9	309	8	0.000	0.01	0.01	0.13	0.01	0.17	0.00	0.12	0.01	0.16
V03006-V03007.B0	8	252	8	0.074	2.12	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V03007.A0-V03008.A0	7699	189	8	0.020	1.10	0.00	0.05	0.01	0.08	0.01	0.07	0.01	0.08
V03007.AA-V03007.A0	7555	323	8	0.061	1.93	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V03007.B0-V03007.A0	7556	45	8	0.084	2.26	0.00	0.52	0.00	0.53	0.00	0.53	0.01	0.53
V03008.A0-V03009.A0	7700	172	8	0.007	0.65	0.00	0.07	0.01	0.11	0.01	0.09	0.01	0.11
V03009.A0-V03011.A0	7701	76	8	0.008	0.72	0.01	0.10	0.03	0.15	0.01	0.13	0.03	0.16
V03009.AA-V03009.A0	3903	42	8	0.105	2.53	0.01	0.06	0.01	0.09	0.01	0.07	0.01	0.09
V03011.A0-V03017.A0	7704	105	8	0.005	0.57	0.01	0.09	0.03	0.13	0.03	0.13	0.04	0.15
V03011.AA-V03011.A0	7703	98	8	0.036	1.48	0.00	0.07	0.00	0.11	0.01	0.12	0.01	0.13
V03011.AB-V03011.AA	7702	292	8	0.030	1.36	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
V03015-V03017	3905	325	6	0.050	0.81	0.00	0.10	0.00	0.15	0.00	0.13	0.00	0.15
V03016-V03017	3906	173	8	0.002	0.38	0.00	0.08	0.00	0.12	0.00	0.10	0.00	0.12
V03017.A0-V03017	7705	220	8	0.055	1.83	0.01	0.09	0.03	0.14	0.03	0.13	0.04	0.16
V03017-V03019	3907	320	8	0.005	0.55	0.02	0.13	0.04	0.21	0.03	0.18	0.05	0.22
V03018-V03019	3897	172	8	0.004	0.48	0.00	0.09	0.00	0.13	0.00	0.11	0.00	0.13
V03019-V03020	3861	344	8	0.004	0.49	0.02	0.14	0.05	0.22	0.04	0.18	0.06	0.23
V03020-V03049	3862	301	8	0.005	0.57	0.02	0.15	0.06	0.23	0.04	0.17	0.06	0.22
V03023.A0-V03023.B0	3935	247	8	0.008	0.69	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.04
V03023.B0-V03023.D0	3936	128	8	0.009	0.76	0.00	0.10	0.01	0.14	0.00	0.11	0.00	0.14
V03023.D0-V03023.G0	3921	195	8	0.004	0.48	0.02	0.16	0.05	0.24	0.03	0.16	0.05	0.22
V03023.E0-V03023.F0	3919	296	8	0.010	0.78	0.02	0.09	0.02	0.09	0.00	0.03	0.00	0.03
V03023.F0-V03023.G0	3920	60	8	0.192	3.42	0.02	0.12	0.02	0.15	0.00	0.09	0.00	0.12
V03023.G0-V03023.J0	3922	93	8	0.006	0.60	0.04	0.20	0.08	0.27	0.03	0.17	0.06	0.24
V03023.H0-V03023.I0	3923	50	8	0.012	0.84	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V03023.I0-V03023.J0	3924	111	8	0.138	2.90	0.00	0.12	0.00	0.16	0.00	0.11	0.00	0.14
V03023.J0-V03023	3925	148	8	0.003	0.45	0.04	0.21	0.08	0.29	0.03	0.18	0.06	0.25
V03023.K0-V03023.L0	3930	301	8	0.008	0.71	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V03023.L0-V03023	3931	58	8	0.240	3.82	0.00	0.11	0.01	0.15	0.00	0.10	0.00	0.13
V03023-V03041.D0	3918	242	8	0.005	0.56	0.05	0.20	0.09	0.27	0.04	0.17	0.07	0.23
V03025-V03026	3928	80	8	0.009	0.73	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
V03026-V03041.D0	3912	60	8	0.129	2.80	0.00	0.10	0.00	0.14	0.00	0.09	0.00	0.12
V03027-V03041.D0	3911	187	8	0.036	1.48	0.00	0.11	0.00	0.14	0.00	0.09	0.00	0.12
V03032.A0-V03032.B0	5951	137	8	0.031	1.38	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V03032.B0-V03032.C0	5953	96	8	0.083	2.25	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03032.C0-V03032	5952	335	8	0.029	1.33	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
V03032.D0-V03032	3926	102	6	0.067	0.94	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.06
V03032.DA-V03032.D0	962	62	8	0.060	1.91	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V03032-V03041.C0	7709	232	8	0.054	1.82	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.08
V03038-V03039	3859	172	6	0.043	0.75	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V03039-V03041	3855	236	6	0.010	0.36	0.00	0.16	0.00	0.22	0.00	0.14	0.00	0.20
V03040-V03041	3856	173	6	0.068	0.95	0.00	0.14	0.00	0.20	0.00	0.13	0.00	0.18
V03041.A0-V03041.B0	7710	330	8	0.040	1.55	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V03041.B0-V03041.C0	7711	283	8	0.021	1.13	0.00	0.05	0.01	0.08	0.00	0.06	0.00	0.07
V03041.C0-V03041.F0	7713	315	8	0.020	1.10	0.01	0.14	0.02	0.20	0.01	0.13	0.02	0.18
V03041.D0-V03041.E0	7714	77	8	0.007	0.67	0.05	0.19	0.10	0.26	0.04	0.16	0.08	0.23
V03041.E0-V03041.F0	7716	103	8	0.007	0.64	0.05	0.20	0.10	0.29	0.04	0.18	0.08	0.25
V03041.F0-V03041.H0	7715	88	8	0.007	0.65	0.06	0.21	0.13	0.30	0.05	0.19	0.10	0.26
V03041.G0-V03041.H0	7712	173	8	0.027	1.29	0.00	0.11	0.00	0.15	0.00	0.11	0.00	0.14
V03041.H0-V03041.I0	7717	60	8	0.011	0.80	0.07	0.16	0.13	0.23	0.05	0.15	0.11	0.21
V03041.I0-V03041	3858	267	8	0.069	2.05	0.07	0.16	0.13	0.22	0.05	0.14	0.11	0.20
V03041-V03048	3857	320	8	0.012	0.86	0.07	0.23	0.14	0.33	0.06	0.21	0.12	0.30
V03042-V03043	3854	223	8	0.082	2.24	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V03043-V03046	3851	249	8	0.102	2.50	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03044-V03045	3848	147	8	0.145	2.97	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
V03045-V03046	3849	350	8	0.073	2.11	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03046-V03047	3852	59	8	0.101	2.48	0.01	0.06	0.01	0.09	0.01	0.07	0.01	0.09

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V03047-V03048	3853	350	8	0.004	0.49	0.01	0.18	0.02	0.26	0.01	0.17	0.02	0.24
V03048-V03049	3863	47	8	0.004	0.48	0.08	0.22	0.17	0.31	0.07	0.21	0.14	0.29
V03049-V03054	3843	351	8	0.056	1.85	0.10	0.18	0.23	0.27	0.11	0.19	0.20	0.26
V03050-V03051	3847	110	8	0.062	1.95	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V03051-V03052	3842	185	8	0.046	1.67	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03052-V03053	3844	317	8	0.048	1.71	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.04
V03053-V03054	3845	29	8	0.488	5.46	0.00	0.11	0.01	0.17	0.00	0.12	0.01	0.16
V03054-V03055	3846	272	8	0.022	1.16	0.11	0.24	0.24	0.36	0.11	0.24	0.22	0.34
V03055-V03060	3836	173	8	0.010	0.77	0.11	0.23	0.25	0.34	0.11	0.23	0.22	0.33
V03056-V03058	3838	94	8	0.004	0.48	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03057-V03058	3833	88	8	0.004	0.49	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03058-V03059	3834	210	8	0.181	3.32	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03059-V03060	3837	153	8	0.065	1.99	0.00	0.11	0.01	0.16	0.00	0.11	0.01	0.15
V03060-V03061	3828	223	8	0.036	1.49	0.12	0.41	0.26	0.61	0.12	0.42	0.23	0.57
V03061-V03064	3829	162	8	0.000	0.02	0.12	0.46	0.26	0.69	0.12	0.47	0.23	0.65
V03062-V03063	3825	256	8	0.119	2.70	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V03063-V03064	3827	265	8	0.157	3.09	0.00	0.15	0.00	0.24	0.00	0.16	0.00	0.22
V03064-V03065	3830	211	8	0.007	0.66	0.12	0.33	0.27	0.50	0.12	0.33	0.24	0.47
V03065-V03072	3165	226	8	0.004	0.49	0.12	0.28	0.27	0.42	0.12	0.28	0.24	0.40
V03066-V03070	3172	260	8	0.004	0.47	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V03067-V03068	3826	231	8	0.119	2.70	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V03068-V03069	3832	176	8	0.011	0.82	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V03069-V03070	3173	265	8	0.010	0.78	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V03070-V03071.A0	3164	109	8	0.288	4.19	0.01	0.11	0.01	0.14	0.01	0.11	0.01	0.14
V03071.A0-V03071	5947	71	8	0.000	0.03	0.01	0.12	0.02	0.16	0.01	0.13	0.02	0.16
V03071-V03072	5954	101	8	0.027	1.29	0.01	0.13	0.02	0.19	0.01	0.13	0.02	0.18
V03072-V03073	3167	125	8	0.042	1.60	0.13	0.19	0.29	0.29	0.13	0.20	0.26	0.28
V03073-V03080	3170	124	8	0.041	1.58	0.13	0.60	0.29	0.65	0.14	0.60	0.26	0.64
V03074-V03076	3839	289	8	0.068	2.03	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03075-V03076	3841	211	8	0.023	1.19	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03076-V03077	3840	280	8	0.114	2.64	0.00	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V03077-V03080	3166	351	8	0.050	1.75	0.01	0.52	0.01	0.53	0.01	0.52	0.01	0.53
V03078-V03079	3162	254	8	0.004	0.49	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.04
V03079-V03080	3163	350	8	0.025	1.24	0.00	0.52	0.00	0.52	0.00	0.52	0.00	0.52
V03080-V03111	3171	160	8	0.011	0.83	0.14	0.62	0.32	0.68	0.15	0.62	0.29	0.67
V03081-V03082	3908	236	8	0.029	1.34	0.00	0.22	0.00	0.23	0.00	0.22	0.00	0.23
V03082-V03083	3899	298	8	0.001	0.23	0.00	0.23	0.00	0.24	0.00	0.23	0.00	0.24
V03083-V03086.B0	V03083-V03086.B0	300	8	0.057	1.86	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
V03085.A0-V03085	3904	185	8	0.031	1.37	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V03085-V03086	3894	311	8	0.059	1.90	0.00	0.05	0.01	0.06	0.00	0.05	0.01	0.06
V03086.A0-V03086.B0	V03086.A0-V03086.B0	99	8	0.015	0.95	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.06
V03086.B0-V03086.C0	V03086.B0-V03086.C0	65	8	0.007	0.66	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.08
V03086.C0-V03086	V03086.C0-V03086	300	8	0.066	2.01	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
V03086-V03088	3895	247	8	0.041	1.58	0.01	0.06	0.03	0.09	0.01	0.06	0.02	0.09
V03087-V03088	3896	36	6	0.002	0.16	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.08
V03088-V03096	3872	336	8	0.050	1.75	0.01	0.10	0.03	0.15	0.01	0.10	0.03	0.15
V03089.A0-V03089	3892	238	8	0.043	1.63	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V03089.AA-V03089.A0	V03089.AA-V03089.A0	2	8	0.037	1.50	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02
V03089-V03090	4040	244	8	0.059	1.90	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03090-V03095	3873	184	8	0.048	1.71	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V03091-V03092	3866	102	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V03092-V03093	3864	293	8	0.075	2.14	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V03093-V03094	3868	183	8	0.011	0.84	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V03094-V03095.D0	3869	20	8	0.636	6.23	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.04
V03095.A0-V03095.B0	3865	351	8	0.085	2.28	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V03095.B0-V03095.C0	3880	120	8	0.004	0.50	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V03095.C0-V03095.D0	3871	59	8	0.005	0.56	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
V03095.D0-V03095	3870	164	8	0.074	2.12	0.01	0.06	0.02	0.09	0.01	0.06	0.02	0.08
V03095-V03096	3876	126	8	0.020	1.10	0.01	0.11	0.03	0.16	0.01	0.11	0.03	0.15
V03096-V03099	3877	281	8	0.011	0.83	0.03	0.10	0.07	0.15	0.03	0.10	0.06	0.14
V03097-V03098	3879	341	8	0.048	1.72	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03098-V03099	3874	232	8	0.076	2.16	0.00	0.04	0.01	0.06	0.00	0.05	0.01	0.06
V03099-V03100	3878	9	8	0.394	4.90	0.03	0.10	0.08	0.15	0.03	0.10	0.07	0.14
V03100-V03104	3875	299	8	0.012	0.86	0.03	0.14	0.08	0.21	0.03	0.14	0.07	0.20
V03101-V03102	3881	99	8	0.000	0.02	0.01	0.12	0.01	0.12	0.00	0.02	0.00	0.02
V03102-V03103	3882	318	8	0.086	2.29	0.01	0.06	0.01	0.07	0.00	0.03	0.00	0.04
V03103-V03104	3883	270	8	0.014	0.92	0.01	0.11	0.01	0.15	0.00	0.09	0.01	0.13
V03104-V03108	3884	287	8	0.013	0.89	0.05	0.18	0.10	0.26	0.04	0.17	0.08	0.24
V03105-V03106	3887	180	8	0.018	1.06	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03106-V03107	3891	61	8	0.130	2.82	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V03107-V03108	3890	291	8	0.013	0.89	0.00	0.12	0.00	0.17	0.00	0.12	0.01	0.16
V03108-V03109	3178	54	8	0.006	0.60	0.05	0.17	0.11	0.25	0.04	0.17	0.09	0.24
V03109-V03110	3176	180	8	0.019	1.06	0.05	0.15	0.11	0.22	0.05	0.14	0.09	0.20
V03110-V03111	3177	80	8	0.019	1.07	0.05	0.19	0.11	0.29	0.05	0.19	0.10	0.27
V03111-V03112	4039	70	8	0.040	1.56	0.19	0.26	0.43	0.39	0.19	0.26	0.39	0.37
V03112-V03113	3174	190	8	0.023	1.18	0.19	0.28	0.44	0.43	0.19	0.28	0.39	0.40
V03113-V03114	3175	179	8	0.020	1.09	0.19	0.31	0.44	0.48	0.19	0.31	0.39	0.45
V03114-V03115	3824	136	8	0.011	0.81	0.19	0.34	0.44	0.53	0.20	0.34	0.39	0.50
V03115-V03128	3154	217	8	0.010	0.78	0.19	0.38	0.44	0.64	0.20	0.40	0.39	0.59
V03116-V03117	3888	256	8	0.038	1.53	0.00	0.02	0.00	0.02	0.01	0.06	0.01	0.06
V03117.A0-V03117.B0	3886	184	8	0.036	1.48	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V03117.B0-V03117	3889	192	8	0.053	1.80	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V03117-V03118	3160	349	8	0.082	2.24	0.00	0.04	0.01	0.06	0.02	0.07	0.02	0.08
V03118.A0-V03118	7053	308	8	0.012	0.85	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.07
V03118-V03129	3159	215	8	0.037	1.51	0.01	0.25	0.02	0.42	0.02	0.28	0.03	0.42
V03121.A0-V03121	7669	239	8	0.045	1.65	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V03121.B0-V03121	3168	299	8	0.067	2.02	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.04
V03121-V03124	1965	279	8	0.064	1.98	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V03122-V03123	1964	223	8	0.066	2.01	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V03123-V03124	1966	221	8	0.079	2.19	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.06
V03124-V03125	1967	47	8	0.067	2.02	0.01	0.04	0.02	0.07	0.02	0.06	0.02	0.07
V03125-V03126	1962	150	8	0.064	1.97	0.01	0.06	0.02	0.09	0.02	0.09	0.02	0.11
V03126-V03127	3156	276	8	0.007	0.64	0.01	0.07	0.02	0.12	0.02	0.11	0.03	0.14
V03127-V03128	3157	69	8	0.007	0.63	0.01	0.25	0.02	0.43	0.02	0.28	0.03	0.41
V03128-V03129	3155	266	8	0.004	0.52	0.20	0.44	0.46	0.75	0.22	0.47	0.42	0.71
V03129-V03130	1945	347	8	0.005	0.58	0.21	0.34	0.49	0.57	0.24	0.37	0.46	0.55
V03130-V03131	1946	209	8	0.047	1.69	0.21	0.39	0.49	0.61	0.24	0.41	0.47	0.59
V03131-V03149	1947	61	8	0.000	0.03	0.21	0.39	0.49	0.60	0.24	0.42	0.47	0.59
V03138-V03137	1960	53	8	0.017	1.02	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V03138-V03139	1961	62	8	0.047	1.69	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
V03139-V03145	1948	157	8	0.079	2.19	0.00	0.07	0.00	0.09	0.01	0.10	0.01	0.10
V03140-V03141	3153	154	8	0.025	1.23	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V03141-V03143	3158	37	8	0.028	1.32	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.03
V03142-V03143	7517	77	8	0.025	1.22	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.03
V03143-V03144	1963	130	8	0.008	0.70	0.00	0.04	0.00	0.07	0.00	0.02	0.00	0.04
V03144-V03145	1955	227	8	0.037	1.50	0.02	0.10	0.03	0.12	0.00	0.09	0.00	0.10
V03145-V03148	1956	173	8	0.010	0.78	0.03	0.34	0.03	0.40	0.04	0.37	0.04	0.41

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V03146-V03147	1943	270	8	0.044	1.65	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
V03147-V03148	1944	265	8	0.028	1.31	0.00	0.28	0.00	0.35	0.00	0.30	0.00	0.35
V03148-V03149	1906	75	8	0.003	0.40	0.03	0.39	0.04	0.51	0.04	0.42	0.05	0.51
V03149-V03150	1905	175	8	0.062	1.95	0.24	0.25	0.53	0.38	0.28	0.28	0.51	0.38
V03150-V03154.A0	1951	90	12	0.021	3.31	0.24	0.18	0.54	0.27	0.30	0.20	0.53	0.27
V03151-V03152	1957	129	8	0.017	1.02	0.00	0.02	0.00	0.02	0.01	0.05	0.01	0.05
V03152-V03153.C0	1958	136	8	0.127	2.78	0.00	0.10	0.00	0.13	0.01	0.14	0.01	0.15
V03153.A0-V03153.C0	1949	249	8	0.154	3.06	0.00	0.10	0.00	0.13	0.00	0.13	0.00	0.14
V03153.B0-V03153.C0	1959	141	8	0.136	2.88	0.00	0.09	0.00	0.12	0.00	0.13	0.00	0.14
V03153.C0-V03153	1950	217	8	0.000	0.09	0.00	0.11	0.01	0.16	0.01	0.17	0.01	0.19
V03153-V03154	1952	55	12	0.016	2.94	0.01	0.12	0.01	0.17	0.03	0.15	0.03	0.19
V03154.A0-V03154.B0	1953	99	12	0.020	3.29	0.24	0.18	0.54	0.27	0.30	0.20	0.53	0.27
V03154.B0-V03154	1954	30	12	0.023	3.48	0.24	0.19	0.54	0.28	0.30	0.21	0.53	0.28
V03154-V03155	3501	334	12	0.015	2.83	0.25	0.20	0.56	0.30	0.33	0.23	0.56	0.30
V03155-V03156	3496	76	12	0.016	2.90	0.25	0.20	0.57	0.30	0.33	0.23	0.57	0.30
V03156-V03157	3489	277	12	0.015	2.85	0.25	0.20	0.57	0.30	0.35	0.24	0.58	0.31
V03157-V03158	3490	236	12	0.015	2.84	0.26	0.21	0.58	0.31	0.36	0.24	0.59	0.31
V03158-V03161	3491	127	12	0.015	2.77	0.26	0.22	0.58	0.33	0.36	0.25	0.60	0.33
V03159-V03160	3141	182	8	0.018	1.06	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.02
V03160-V03161	3492	203	8	0.011	0.80	0.00	0.17	0.00	0.27	0.00	0.20	0.00	0.27
V03161-V03166.A0	3151	190	12	0.011	2.36	0.26	0.24	0.59	0.37	0.36	0.28	0.60	0.37
V03162.A0-V03162	3152	239	8	0.004	0.52	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03162-V03163	1942	362	8	0.016	0.98	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03163-V03164	3495	350	8	0.061	1.93	0.00	0.02	0.01	0.05	0.00	0.04	0.01	0.05
V03164-V03165	3488	351	8	0.065	1.99	0.00	0.02	0.01	0.05	0.01	0.05	0.02	0.06
V03165-V03166.A0	3493	146	8	0.084	2.26	0.00	0.20	0.01	0.32	0.01	0.25	0.02	0.33
V03166.A0-V03166	3150	160	12	0.006	1.84	0.26	0.26	0.60	0.42	0.37	0.32	0.62	0.43
V03166.B0-V03166	3149	413	8	0.006	0.59	0.00	0.22	0.00	0.35	0.01	0.28	0.01	0.39
V03166-V03167	3147	396	8	0.010	0.79	0.26	0.39	0.61	0.64	0.38	0.48	0.64	0.66
V03167-V03191	3148	322	8	0.013	0.88	0.26	0.38	0.62	0.62	0.38	0.46	0.65	0.64
V03168.A0-V03168.B0	V03168.A0-V03168.B0	149	8	0.088	2.32	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V03168.B0-V03168.C0	V03168.B0-V03168.C0	64	8	0.033	1.42	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V03168.C0-V03168	V03168.C0-V03168	53	8	0.009	0.74	0.00	0.02	0.00	0.04	0.00	0.04	0.00	0.05
V03168-V03172	3730	314	8	0.007	0.64	0.00	0.04	0.00	0.07	0.00	0.06	0.00	0.09
V03169.A0-V03169	3831	4	6	7.622	10.01	0.00	0.51	0.00	0.51	0.00	0.52	0.00	0.52
V03169-V03170	3734	241	6	0.118	1.25	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V03170-V03171	3731	31	6	0.095	1.12	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V03171-V03172	3732	146	6	0.169	1.49	0.00	0.05	0.00	0.08	0.01	0.08	0.01	0.10
V03172-V03173	3733	332	8	0.004	0.51	0.00	0.05	0.01	0.11	0.01	0.09	0.01	0.13
V03173-V03175	3737	95	8	0.003	0.43	0.00	0.07	0.01	0.13	0.01	0.10	0.02	0.15
V03174.A0-V03174.B0	3134	178	8	0.007	0.64	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V03174.B0-V03174.C0	3749	122	8	0.059	1.89	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V03174.C0-V03174.D0	3739	67	8	0.108	2.56	0.00	0.02	0.01	0.03	0.00	0.03	0.01	0.03
V03174.D0-V03174	3735	103	8	0.137	2.89	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V03174-V03175	3736	257	8	0.065	1.99	0.00	0.05	0.01	0.09	0.01	0.07	0.01	0.11
V03175-V03176	3738	267	8	0.006	0.59	0.01	0.06	0.02	0.12	0.01	0.09	0.03	0.14
V03176-V03182	3740	250	8	0.026	1.27	0.01	0.06	0.03	0.11	0.01	0.09	0.03	0.12
V03177-V03180	3744	182	8	0.071	2.08	0.00	0.02	0.00	0.03	0.01	0.05	0.01	0.05
V03178.A0-V03178.B0	3135	96	8	0.154	3.06	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V03178.B0-V03178.C0	3747	204	8	0.002	0.35	0.00	0.07	0.00	0.09	0.00	0.09	0.00	0.10
V03178.C0-V03178	3748	102	8	0.002	0.36	0.00	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V03178-V03179	3746	20	8	0.079	2.20	0.00	0.03	0.01	0.05	0.01	0.04	0.01	0.05
V03179-V03180	3745	339	8	0.039	1.55	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.06
V03180-V03181	3743	349	8	0.082	2.24	0.01	0.05	0.01	0.06	0.02	0.07	0.02	0.08
V03181-V03182	3741	312	8	0.086	2.29	0.02	0.07	0.03	0.10	0.04	0.10	0.04	0.11
V03182-V03183	3742	243	8	0.064	1.98	0.02	0.11	0.06	0.17	0.05	0.16	0.08	0.20
V03183-V03184	3136	361	8	0.005	0.55	0.02	0.14	0.06	0.22	0.05	0.19	0.08	0.25
V03184-V03187	3138	106	8	0.007	0.65	0.02	0.15	0.06	0.24	0.05	0.21	0.08	0.27
V03185.A0-V03185.B0	3504	269	8	0.103	2.51	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V03185.B0-V03185.D0	3494	294	8	0.083	2.24	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.06
V03185.C0-V03185.D0	4038	3	8	0.002	0.35	0.00	0.05	0.00	0.07	0.00	0.07	0.00	0.07
V03185.D0-V03185.F0	3502	119	8	0.017	1.02	0.01	0.05	0.01	0.07	0.01	0.09	0.01	0.09
V03185.E0-V03185.F0	3503	165	8	0.098	2.45	0.00	0.04	0.00	0.05	0.02	0.08	0.02	0.08
V03185.F0-V03185.G0	3143	225	8	0.020	1.12	0.01	0.07	0.01	0.09	0.03	0.10	0.03	0.11
V03185.G0-V03185	3142	310	8	0.033	1.43	0.02	0.07	0.03	0.09	0.03	0.09	0.03	0.10
V03185-V03186	3137	300	8	0.057	1.86	0.02	0.08	0.03	0.10	0.03	0.10	0.04	0.11
V03186-V03187	3139	125	8	0.022	1.17	0.02	0.13	0.03	0.19	0.03	0.17	0.04	0.21
V03187-V03188	3140	195	8	0.007	0.63	0.04	0.18	0.10	0.27	0.08	0.24	0.12	0.31
V03188-V03189	3144	167	8	0.005	0.56	0.04	0.19	0.10	0.29	0.08	0.25	0.13	0.33
V03189-V03190	3145	145	8	0.005	0.56	0.04	0.17	0.10	0.27	0.08	0.24	0.13	0.30
V03190-V03191	3146	290	8	0.010	0.79	0.04	0.16	0.10	0.24	0.08	0.21	0.13	0.27
V03192-V03194	V03192-V03194	35	8	0.061	1.93	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V03193-V03194	V03193-V03194	213	8	0.013	0.91	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V03194-V03195	V03194-V03195	96	8	0.060	1.91	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V03195-V03198	V03195-V03198	119	8	0.067	2.01	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03196-V03197	V03196-V03197	118	8	0.023	1.18	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V03197-V03198	V03197-V03198	89	8	0.027	1.29	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V03198-V03199	V03198-V03199	54	8	0.067	2.03	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V03199-V03200	V03199-V03200	185	8	0.037	1.50	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
V03200-V03202	V03200-V03202	329	8	0.011	0.84	0.01	0.06	0.01	0.09	0.01	0.07	0.01	0.09
V03201-V03202	V03201-V03202	29	8	0.059	1.89	0.00	0.04	0.00	0.06	0.01	0.06	0.01	0.07
V03202-V03203	V03202-V03203	144	8	0.016	0.98	0.01	0.13	0.02	0.19	0.01	0.16	0.02	0.19
V03203-V03207	V03203-V03207	81	8	0.000	0.03	0.01	0.13	0.02	0.19	0.01	0.15	0.02	0.19
V03204-V03205	V03204-V03205	96	8	0.102	2.49	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V03205-V03206	V03205-V03206	86	8	0.097	2.44	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V03206-V03207	V03206-V03207	99	8	0.027	1.27	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
V03207-V03208	V03207-V03208	48	8	0.028	1.31	0.01	0.07	0.03	0.11	0.02	0.09	0.03	0.11
V03208-V03210	V03208-V03210	310	8	0.013	0.90	0.01	0.08	0.03	0.13	0.02	0.10	0.03	0.13
V03209-V03210	V03209-V03210	216	8	0.044	1.64	0.00	0.05	0.00	0.08	0.00	0.07	0.00	0.08
V03210-V03211	V03210-V03211	142	8	0.011	0.82	0.01	0.09	0.03	0.14	0.02	0.11	0.04	0.14
V03211-V03212	V03211-V03212	122	8	0.011	0.83	0.01	0.09	0.04	0.14	0.02	0.12	0.04	0.15
V03212-V03213	V03212-V03213	139	8	0.011	0.82	0.02	0.09	0.04	0.14	0.02	0.11	0.04	0.15
V03213-V03215	V03213-V03215	87	8	0.017	1.01	0.02	0.08	0.04	0.13	0.02	0.10	0.04	0.13
V03214-V03215	V03214-V03215	235	8	0.149	3.01	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.07
V03215-V03216.A0	V03215-V03216.A0	55	8	0.040	1.57	0.02	0.09	0.04	0.14	0.03	0.11	0.05	0.14
V03216.A0-V03216	V03216.A0-V03216	163	8	0.014	0.91	0.02	0.08	0.04	0.13	0.03	0.10	0.05	0.13
V03216-V03023.D0	V03216-V03023.D0	91	8	0.077	2.16	0.02	0.10	0.05	0.16	0.03	0.13	0.05	0.17
V04001-V04002	173	159	8	0.107	2.56	0.00	0.01	0.00	0.02	0.00	0.05	0.00	0.05
V04002-V04004	3751	231	8	0.106	2.55	0.00	0.04	0.00	0.04	0.03	0.08	0.03	0.08
V04003-V04004	3752	259	6	0.032	0.64	0.00	0.06	0.00	0.06	0.00	0.07	0.00	0.07
V04004-V04005	172	69	8	0.107	2.55	0.02	0.06	0.02	0.07	0.03	0.08	0.03	0.08
V04005-V04006	170	264	8	0.077	2.17	0.02	0.07	0.02	0.08	0.03	0.09	0.03	0.10
V04006-V04007	3754	271	8	0.038	1.52	0.02	0.08	0.03	0.09	0.04	0.11	0.04	0.11
V04007-V04011	3756	258	8	0.042	1.60	0.02	0.10	0.03	0.13	0.04	0.14	0.04	0.15
V04008-V04009.Q0	V04008-V04009.Q0	136	8	0.051	1.76	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V04009.Q0-V04009	V04009.Q0-V04009	115	8	0.061	1.94	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V04009-V04010	7519	303	8	0.082	2.24	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.05

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V04010-V04011	3750	129	8	0.068	2.04	0.00	0.08	0.01	0.10	0.01	0.11	0.01	0.12
V04011-V04018	169	11	8	0.009	0.74	0.02	0.11	0.04	0.15	0.05	0.16	0.05	0.17
V04012-V04014.A0	4042	81	8	0.005	0.54	0.00	0.31	0.00	0.31	0.01	0.34	0.01	0.34
V04013-V04014	4006	240	8	0.123	2.74	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V04014.A0-V04014	7429	36	8	0.043	1.63	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
V04014-V04015	4043	355	8	0.021	1.14	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.08
V04015-V04016	3753	352	8	0.017	1.00	0.00	0.04	0.01	0.07	0.01	0.07	0.02	0.08
V04016-V04017	171	354	8	0.053	1.81	0.01	0.04	0.01	0.06	0.01	0.06	0.02	0.07
V04017-V04018	3755	291	8	0.117	2.67	0.01	0.07	0.02	0.10	0.02	0.10	0.02	0.12
V04018-V04019	3184	345	8	0.032	1.40	0.03	0.11	0.06	0.16	0.06	0.16	0.08	0.18
V04019-V04023	3180	350	8	0.020	1.11	0.03	0.14	0.07	0.21	0.07	0.21	0.09	0.24
V04020-V04021	3185	139	8	0.072	2.09	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V04021-V04022	3183	294	8	0.140	2.92	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V04022-V04023	3181	66	8	0.060	1.91	0.00	0.10	0.01	0.14	0.00	0.14	0.01	0.16
V04023-V04024	3182	293	8	0.005	0.57	0.04	0.17	0.08	0.25	0.08	0.25	0.10	0.29
V04024-V04025	4045	308	8	0.005	0.55	0.04	0.18	0.08	0.28	0.08	0.27	0.11	0.32
V04025-V04026	4046	121	8	0.004	0.46	0.04	0.19	0.08	0.28	0.08	0.27	0.11	0.33
V04026-V04031	4047	98	8	0.005	0.54	0.04	0.17	0.08	0.26	0.08	0.24	0.11	0.30
V04028.B0-V04028.C0	454	85	8	0.106	2.54	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01
V04028.C0-V04028.D0	7078	106	8	0.114	2.64	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V04028.D0-V04030.C0	7674	332	8	0.083	2.25	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V04029-V04030	4048	193	8	0.008	0.71	0.00	0.03	0.00	0.06	0.00	0.06	0.00	0.07
V04030.A0-V04030.B0	3169	166	6	0.126	1.29	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V04030.B0-V04030.C0	7676	146	6	0.043	0.75	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
V04030.C0-V04030	4044	312	8	0.075	2.14	0.00	0.04	0.01	0.08	0.01	0.07	0.01	0.09
V04030-V04031	3179	140	8	0.006	0.58	0.00	0.10	0.01	0.17	0.01	0.15	0.02	0.20
V04031-V32158	7392	197	8	0.010	0.78	0.04	0.15	0.10	0.24	0.09	0.22	0.13	0.28
V04033-V04034	4031	171	8	0.053	1.80	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.06
V04034-V04035	4020	257	8	0.008	0.69	0.00	0.04	0.00	0.06	0.01	0.07	0.01	0.07
V04035-V04038	4024	107	8	0.014	0.93	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.07
V04036-V04037	4030	178	8	0.023	1.17	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V04037-V04038	4021	172	8	0.017	1.00	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.06
V04038-V04039	4025	206	8	0.046	1.68	0.01	0.05	0.01	0.07	0.01	0.07	0.02	0.08
V04039-V04040	4007	271	8	0.021	1.14	0.01	0.07	0.02	0.10	0.01	0.09	0.02	0.10
V04040-V04041	4014	273	8	0.010	0.79	0.01	0.07	0.02	0.11	0.01	0.09	0.02	0.11
V04041-V04042	4015	353	8	0.027	1.28	0.01	0.06	0.03	0.09	0.02	0.08	0.03	0.10
V04042-V04043	4010	243	8	0.062	1.95	0.01	0.08	0.03	0.12	0.02	0.10	0.03	0.12
V04043-V04044	4012	206	8	0.010	0.78	0.02	0.09	0.03	0.13	0.02	0.10	0.04	0.13
V04044-V04060	3940	350	8	0.047	1.69	0.02	0.12	0.04	0.18	0.03	0.14	0.04	0.18
V04045-V04046	4022	342	8	0.023	1.18	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V04046-V04047	4026	308	8	0.020	1.10	0.00	0.04	0.01	0.06	0.00	0.05	0.01	0.06
V04047-V04048	4027	299	8	0.020	1.11	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.08
V04048-V04049	4008	300	8	0.014	0.91	0.01	0.08	0.02	0.11	0.01	0.09	0.01	0.11
V04049-V04050	4016	205	8	0.004	0.49	0.01	0.10	0.02	0.14	0.01	0.11	0.02	0.14
V04050-V04055	4017	318	8	0.004	0.50	0.01	0.12	0.02	0.18	0.01	0.13	0.02	0.17
V04051-V04052	4023	269	8	0.004	0.49	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V04052-V04054	4028	252	8	0.004	0.49	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
V04053-V04054	4029	60	8	0.004	0.49	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V04054-V04055	4009	264	8	0.073	2.10	0.01	0.09	0.01	0.13	0.01	0.10	0.01	0.13
V04055-V04056	4018	348	8	0.004	0.50	0.02	0.11	0.04	0.16	0.02	0.12	0.04	0.16
V04056-V04057	4019	235	8	0.040	1.56	0.02	0.09	0.04	0.13	0.02	0.10	0.04	0.13
V04057-V04058	4011	311	8	0.023	1.19	0.02	0.09	0.05	0.13	0.03	0.10	0.05	0.13
V04058-V04059	4013	165	8	0.050	1.75	0.02	0.08	0.05	0.12	0.03	0.09	0.05	0.12
V04059-V04060	3987	318	8	0.048	1.70	0.03	0.13	0.06	0.19	0.03	0.15	0.05	0.19
V04060-V04061	4004	322	8	0.011	0.81	0.04	0.14	0.10	0.21	0.06	0.16	0.10	0.21
V04061-V04062	4000	220	8	0.052	1.78	0.05	0.11	0.11	0.16	0.06	0.13	0.11	0.16
V04062-V04063	3991	328	8	0.063	1.95	0.05	0.11	0.11	0.16	0.06	0.12	0.11	0.16
V04063-V04064	3995	151	8	0.086	2.29	0.05	0.09	0.11	0.13	0.07	0.10	0.11	0.13
V04064-V04078	3997	51	8	0.516	5.61	0.05	0.53	0.11	0.55	0.07	0.54	0.12	0.55
V04065-V04066	3988	238	8	0.073	2.11	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V04066-V04068	4005	157	8	0.013	0.88	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V04067-V04068	3989	189	8	0.048	1.72	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V04068-V04069	4001	145	8	0.115	2.65	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V04069-V04071	4002	226	8	0.015	0.96	0.01	0.07	0.01	0.10	0.01	0.09	0.01	0.11
V04070-V04071	3992	107	8	0.002	0.35	0.00	0.06	0.00	0.08	0.00	0.08	0.00	0.09
V04071-V04072	4003	375	8	0.005	0.54	0.01	0.07	0.02	0.10	0.01	0.08	0.02	0.10
V04072-V04076	3993	218	8	0.069	2.05	0.01	0.06	0.02	0.09	0.01	0.07	0.02	0.09
V04073-V04074	3990	159	8	0.070	2.07	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V04074-V04075	3994	283	8	0.102	2.49	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V04075-V04076	3999	163	8	0.076	2.15	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
V04076-V04077	3996	188	8	0.044	1.65	0.01	0.06	0.03	0.09	0.02	0.07	0.03	0.09
V04077-V04078	3998	169	8	0.141	2.94	0.01	0.53	0.04	0.54	0.02	0.53	0.04	0.54
V04078-V04079	3937	223	8	0.007	0.67	0.06	0.56	0.15	0.60	0.09	0.57	0.15	0.60
V04079-V04080	3938	61	8	0.057	1.87	0.06	0.17	0.15	0.26	0.09	0.19	0.16	0.26
V04080-V04081	3939	226	8	0.009	0.76	0.06	0.18	0.15	0.28	0.09	0.21	0.16	0.28
V04081-V32162	7399	290	8	0.023	1.19	0.06	0.43	0.16	0.62	0.09	0.57	0.16	0.62
V04087-V04028.B0	V04087-V04028.B0	65	8	5.533	18.37	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
V05001-V05006	4072	368	12	0.005	1.69	0.31	0.30	0.54	0.40	0.32	0.30	0.53	0.39
V05002-V05004	3186	379	8	0.012	0.86	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.08
V05004.A0-V05004.B0	1743	293	8	0.093	2.38	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V05004.B0-V05004.C0	3194	30	8	0.034	1.43	0.00	0.04	0.01	0.05	0.00	0.03	0.00	0.04
V05004.C0-V05004.D0	3195	177	8	0.073	2.11	0.01	0.05	0.01	0.06	0.00	0.04	0.01	0.05
V05004.D0-V05004.M0	4052	203	8	0.023	1.19	0.01	0.11	0.01	0.13	0.01	0.09	0.01	0.11
V05004.E0-V05004.G0	1745	207	8	0.018	1.05	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V05004.F0-V05004.G0	1197	102	8	0.010	0.78	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V05004.G0-V05004.I0	1744	229	8	0.065	1.99	0.01	0.06	0.01	0.07	0.01	0.05	0.01	0.06
V05004.GA-V05004.G0	1198	133	8	0.065	1.99	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V05004.I0-V05004.J0	4053	139	8	0.060	1.92	0.02	0.09	0.03	0.10	0.01	0.07	0.02	0.09
V05004.IB-V05004.IC	V05004.IB-V05004.IC	137	8	0.109	2.58	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.01
V05004.IC-V05004.ID	V05004.IC-V05004.ID	72	8	0.109	2.58	0.00	0.03	0.01	0.03	0.00	0.01	0.00	0.02
V05004.ID-V05004.IE	V05004.ID-V05004.IE	37	8	0.109	2.58	0.00	0.03	0.01	0.04	0.00	0.01	0.00	0.02
V05004.IE-V05004.IF	V05004.IE-V05004.IF	65	8	0.100	2.47	0.00	0.04	0.01	0.05	0.00	0.03	0.00	0.04
V05004.IF-V05004.I0	3196	110	8	0.010	0.78	0.00	0.06	0.01	0.08	0.00	0.05	0.01	0.06
V05004.J0-V05004.K0	3188	45	8	0.014	0.91	0.02	0.10	0.03	0.12	0.01	0.08	0.02	0.10
V05004.K0-V05004.L0	3189	33	8	0.019	1.07	0.02	0.09	0.03	0.11	0.01	0.07	0.02	0.09
V05004.L0-V05004.M0	3190	39	8	0.037	1.50	0.02	0.12	0.03	0.15	0.01	0.10	0.02	0.12
V05004.M0-V05004.N0	3191	99	8	0.006	0.58	0.03	0.15	0.05	0.19	0.02	0.13	0.03	0.16
V05004.N0-V05004.O0	3192	25	8	0.006	0.60	0.03	0.15	0.05	0.19	0.02	0.14	0.03	0.17
V05004.O0-V05004	3193	33	8	0.007	0.66	0.03	0.14	0.05	0.17	0.03	0.14	0.04	0.16
V05004-V05005	3187	237	8	0.014	0.92	0.03	0.13	0.05	0.16	0.03	0.13	0.05	0.15
V05005-V05006	3197	175	8	0.023	1.19	0.04	0.29	0.07	0.38	0.04	0.29	0.06	0.37
V05006-V05007	4058	384	12	0.006	1.81	0.35	0.29	0.62	0.39	0.36	0.29	0.59	0.38
V05007-V05012	4061	382	12	0.008	2.03	0.35	0.29	0.62	0.39	0.36	0.29	0.60	0.38
V05008-V05011	1738	225	8	0.057	1.87	0.02	0.11	0.02	0.11	0.01	0.10	0.01	0.10
V05009-V05010	3198	265	8	0.008	0.71	0.00	0.06	0.00	0.06	0.02	0.12	0.02	0.12
V05010-V05011	4059	273	8	0.008	0.70	0.02	0.13	0.02	0.13	0.03	0.14	0.03	0.14
V05011-V05012	4062	183	8	0.016	1.00	0.04	0.29	0.05	0.37	0.05	0.30	0.05	0.36

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V05012-V05013	1731	345	12	0.008	2.03	0.39	0.30	0.68	0.40	0.41	0.30	0.65	0.39
V05013-V05024	3769	345	12	0.008	2.04	0.39	0.33	0.68	0.44	0.41	0.33	0.65	0.42
V05014-V05015	1737	247	8	0.041	1.57	0.00	0.03	0.00	0.03	0.01	0.05	0.01	0.05
V05015-V05016	1739	81	8	0.030	1.34	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.05
V05016-V05017	1740	73	8	0.075	2.14	0.01	0.07	0.01	0.08	0.01	0.06	0.01	0.07
V05017-V05018	1741	88	8	0.008	0.71	0.01	0.10	0.02	0.11	0.01	0.09	0.01	0.09
V05018-V05019	1742	208	8	0.008	0.70	0.01	0.10	0.02	0.11	0.01	0.10	0.01	0.10
V05019-V05020	1734	210	8	0.008	0.70	0.01	0.13	0.02	0.14	0.01	0.11	0.02	0.12
V05020-V05021	1735	214	8	0.010	0.77	0.04	0.12	0.04	0.14	0.02	0.10	0.02	0.10
V05021-V05022	1728	262	8	0.114	2.63	0.04	0.42	0.05	0.44	0.03	0.40	0.03	0.41
V05022-V05023	3767	53	8	0.008	0.70	0.04	0.43	0.05	0.44	0.03	0.40	0.03	0.41
V05023-V05024	3770	84	8	0.100	2.47	0.04	0.31	0.06	0.41	0.03	0.30	0.03	0.38
V05024-V05025	3765	322	12	0.005	1.64	0.44	0.36	0.74	0.48	0.44	0.36	0.69	0.46
V05025-V05036	3758	325	12	0.005	1.69	0.44	0.31	0.75	0.41	0.44	0.31	0.70	0.40
V05026.A0-V05026	1726	128	8	0.022	1.15	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V05026-V05027	2064	168	8	0.010	0.79	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V05027-V05028	1725	89	8	0.011	0.83	0.00	0.05	0.01	0.06	0.01	0.06	0.01	0.07
V05028-V05030	2063	95	8	0.012	0.86	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V05029-V05030	2062	81	8	0.023	1.19	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V05030-V05031.B0	2059	249	8	0.093	2.38	0.00	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V05031.A0-V05031.B0	2060	137	6	0.026	0.59	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V05031.B0-V05031	3783	129	8	0.091	2.35	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V05031-V05032	4049	190	8	0.083	2.25	0.01	0.05	0.02	0.07	0.01	0.06	0.02	0.07
V05032-V05033	4050	98	8	0.038	1.52	0.01	0.06	0.02	0.08	0.01	0.07	0.02	0.08
V05033-V05034	3766	330	8	0.057	1.87	0.01	0.06	0.02	0.08	0.02	0.07	0.02	0.09
V05035-V05036	3760	65	8	0.006	0.60	0.02	0.25	0.03	0.33	0.02	0.25	0.04	0.33
V05036-V05037	3761	342	12	0.019	3.13	0.45	0.34	0.78	0.46	0.46	0.34	0.74	0.45
V05037-V05041.A0	1429	122	12	0.003	1.22	0.45	0.39	0.79	0.52	0.46	0.39	0.74	0.50
V05038-V05039	1437	48	8	0.188	3.39	0.00	0.02	0.00	0.02	0.01	0.05	0.01	0.05
V05039-V05040	1432	312	8	0.025	1.24	0.00	0.51	0.00	0.52	0.01	0.51	0.01	0.53
V05040-V05041	1433	28	8	0.013	0.88	0.03	0.72	0.06	0.81	0.03	0.72	0.03	0.80
V05041.A0-V05041.B0	1430	192	14	0.005	2.39	0.45	0.35	0.79	0.46	0.46	0.35	0.74	0.45
V05041.B0-V05041	1434	132	14	0.001	1.32	0.45	0.33	0.79	0.44	0.46	0.33	0.75	0.43
V05041-V05046	1425	241	12	0.010	2.26	0.46	0.35	0.80	0.47	0.46	0.35	0.76	0.46
V05042-V05043	1436	32	8	0.003	0.44	0.01	0.08	0.01	0.08	0.00	0.05	0.00	0.05
V05043-V05044	1438	305	8	0.005	0.55	0.01	0.06	0.01	0.07	0.01	0.07	0.01	0.07
V05044-V05103	1426	300	8	0.037	1.50	0.01	0.21	0.01	0.27	0.01	0.23	0.01	0.29
V05046-V05047	175	222	12	0.004	1.46	0.46	0.38	0.80	0.52	0.46	0.38	0.76	0.58
V05047-V05048	FM13	113	12	0.005	1.56	0.46	0.37	0.81	0.49	0.46	0.36	0.77	0.82
V05048-V05091.A0	7378	152	12	0.006	1.82	0.46	0.27	0.81	0.68	0.46	0.53	0.77	1.00
V05051-V05052	4076	166	8	0.030	1.36	0.09	0.59	0.17	0.62	0.09	0.59	0.16	0.62
V05052-V05057	4055	252	8	0.010	0.78	0.09	0.62	0.18	0.67	0.09	0.64	0.17	0.68
V05057-V05058	4060	267	8	0.010	0.76	0.09	0.25	0.19	0.35	0.13	0.29	0.22	0.37
V05058-V05059.A0	4056	276	8	0.010	0.78	0.11	0.22	0.20	0.30	0.13	0.25	0.22	0.32
V05059.A0-V05059	4057	25	8	0.041	1.58	0.11	0.20	0.20	0.28	0.14	0.23	0.22	0.29
V05059-V05060	1727	117	8	0.015	0.96	0.11	0.26	0.20	0.36	0.14	0.28	0.22	0.37
V05060-V05068	1732	179	8	0.007	0.65	0.12	0.29	0.22	0.39	0.14	0.32	0.22	0.40
V05061.A0-V05061.B0	7076	24	8	0.014	0.94	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V05061.B0-V05061	7077	244	8	0.012	0.85	0.00	0.04	0.00	0.04	0.01	0.06	0.01	0.06
V05061-V05062	4068	191	8	0.026	1.25	0.00	0.06	0.01	0.07	0.01	0.07	0.01	0.07
V05062-V05063	4065	347	8	0.021	1.13	0.02	0.11	0.02	0.12	0.01	0.11	0.01	0.11
V05063-V05064	4066	180	8	0.015	0.97	0.05	0.19	0.05	0.21	0.05	0.20	0.05	0.20
V05064-V05066	4067	241	8	0.004	0.49	0.05	0.17	0.06	0.19	0.06	0.19	0.06	0.19
V05065.A0-V05065	4069	139	8	2.007	11.06	0.00	0.00	0.01	0.50	0.04	0.54	0.04	0.54
V05065-V05066	4064	283	8	0.126	2.78	0.00	0.05	0.00	0.06	0.04	0.12	0.04	0.12
V05066-V05067	1729	355	8	0.067	2.03	0.05	0.12	0.06	0.14	0.09	0.17	0.09	0.17
V05067-V05068	1730	350	8	0.025	1.23	0.05	0.22	0.07	0.27	0.10	0.26	0.10	0.29
V05068-V05069	1733	82	8	0.014	0.93	0.18	0.32	0.29	0.42	0.23	0.37	0.32	0.44
V05069-V05075	3771	334	8	0.008	0.68	0.18	0.37	0.29	0.49	0.23	0.43	0.32	0.51
V05070-V05071	3782	116	8	0.048	1.70	0.00	0.00	0.00	0.01	0.01	0.05	0.01	0.05
V05071-V05072	3777	170	8	0.075	2.14	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.05
V05072.A0-V05072.B0	7670	113	8	0.031	1.37	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.01
V05072.B0-V05072	7671	218	8	0.017	1.03	0.01	0.07	0.01	0.08	0.00	0.02	0.00	0.04
V05072-V05073	3779	84	8	0.041	1.59	0.01	0.07	0.02	0.08	0.01	0.07	0.01	0.08
V05073.A0-V05073.B0	3781	63	8	0.068	2.03	0.00	0.02	0.00	0.02	0.02	0.07	0.02	0.07
V05073.B0-V05073.C0	3778	100	8	0.064	1.97	0.00	0.04	0.00	0.05	0.02	0.08	0.02	0.08
V05073.C0-V05073	3780	111	8	0.051	1.76	0.01	0.07	0.01	0.08	0.03	0.09	0.03	0.09
V05073-V05074.B0	3774	185	6	0.064	0.92	0.02	0.11	0.03	0.13	0.03	0.14	0.04	0.14
V05074.A0-V05074	3775	21	6	0.051	0.82	0.00	0.07	0.00	0.08	0.00	0.09	0.00	0.09
V05074.B0-V05074	3776	120	8	0.061	1.93	0.03	0.10	0.05	0.11	0.05	0.12	0.05	0.13
V05074.BA-V05074.BB	7672	97	8	0.083	2.25	0.01	0.06	0.01	0.06	0.02	0.08	0.02	0.08
V05074.BB-V05074.B0	7673	259	8	0.021	1.14	0.01	0.08	0.01	0.09	0.02	0.10	0.02	0.10
V05074-V05075	3768	299	8	0.034	1.44	0.03	0.25	0.05	0.32	0.05	0.30	0.06	0.34
V05075-V05076	3772	199	8	0.007	0.66	0.21	0.38	0.34	0.50	0.29	0.45	0.38	0.54
V05076-V05077	3764	139	8	0.008	0.71	0.21	0.40	0.35	0.53	0.29	0.47	0.38	0.57
V05077-V05078	3757	330	8	0.005	0.56	0.21	0.50	0.35	0.66	0.29	0.59	0.39	0.71
V05078-V05079	3762	29	8	0.000	0.05	0.21	0.50	0.35	0.66	0.29	0.59	0.39	0.71
V05079-V05080	1439	392	8	0.006	0.60	0.21	0.37	0.35	0.50	0.29	0.44	0.39	0.53
V05080-V05102	1435	363	8	0.015	0.96	0.21	0.52	0.35	0.71	0.29	0.63	0.39	0.72
V05081-V05083	1172	131	8	0.031	1.37	0.01	0.07	0.01	0.07	0.01	0.06	0.01	0.06
V05082-V05083	1174	53	8	0.020	1.09	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.05
V05083-V05084	1175	95	8	0.019	1.07	0.01	0.08	0.02	0.09	0.01	0.07	0.01	0.07
V05084-V05087	1176	38	8	0.017	1.03	0.01	0.08	0.02	0.09	0.01	0.07	0.01	0.08
V05085-V05086	1177	137	8	0.006	0.59	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V05086-V05087	1178	109	8	0.006	0.61	0.00	0.07	0.01	0.08	0.01	0.07	0.01	0.07
V05087-V05088	1179	41	8	0.029	1.33	0.02	0.08	0.02	0.09	0.01	0.07	0.02	0.07
V05088-V05092	1162	152	8	0.076	2.16	0.02	0.07	0.02	0.08	0.01	0.06	0.02	0.06
V05089-V05091	1170	85	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V05090-V05091	1171	60	8	0.010	0.77	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V05091.A0-V30072	7379	12	12	0.075	6.32	0.46	0.59	1.23	0.94	1.05	0.87	1.14	1.00
V05091-V05092	1163	141	8	0.010	0.79	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V05092-V05093	1164	57	8	0.103	2.50	0.02	0.07	0.03	0.08	0.02	0.06	0.02	0.07
V05093-V05097	1165	106	8	0.068	2.04	0.02	0.07	0.03	0.08	0.02	0.07	0.02	0.07
V05094-V05096	1173	91	8	0.007	0.65	0.00	0.05	0.00	0.05	0.00	0.03	0.00	0.04
V05095-V05096	1441	60	8	0.010	0.77	0.00	0.06	0.00	0.06	0.00	0.03	0.00	0.04
V05096-V05097	1169	102	8	0.007	0.66	0.00	0.06	0.01	0.07	0.00	0.05	0.00	0.06
V05097-V05098	1442	36	8	0.231	3.76	0.03	0.07	0.04	0.08	0.03	0.08	0.04	0.09
V05098-V05099	1443	255	8	0.079	2.20	0.03	0.12	0.04	0.15	0.05	0.16	0.05	0.16
V05099-V05100	1161	370	8	0.004	0.50	0.03	0.16	0.04	0.21	0.05	0.22	0.05	0.24
V05100-V05101	1440	388	8	0.004	0.49	0.03	0.15	0.05	0.20	0.05	0.21	0.06	0.23
V05101-V05102	1431	88	8	0.001	0.20	0.03	0.25	0.05	0.31	0.05	0.32	0.07	0.35
V05102-V05103	1427	112	8	0.001	0.23	0.24	0.54	0.41	0.75	0.34	0.66	0.46	0.76
V05103-V05104	FM4	123	8	0.012	0.87	0.25	0.37	0.42	0.50	0.34	0.45	0.48	0.54
V05104-V05105	1424	263	10	0.007	1.21	0.25	0.38	0.42	0.50	0.34	0.45	0.48	0.72
V05105-V05106	7380	201	10	0.002	0.59	0.25	0.30	0.43	0.40	0.34	0.36	0.49	1.00
V05106-V30073	7381	13	10	0.121	4.93	0.25	0.58	0.43	0.60	0.34	0.59	0.76	1.00
V05114-V05035	3759	325	8	0.048	1.70	0.02	0.09	0.03	0.12	0.02	0.10	0.03	0.13

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V06001-V06002	593	210	8	0.122	2.73	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
V06002-V06003	594	185	8	0.081	2.22	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V06003.A0-V06003	1002	20	8	0.002	0.35	0.00	0.05	0.00	0.06	0.01	0.09	0.01	0.09
V06003-V06004.A0	7073	292	8	0.043	1.63	0.02	0.07	0.02	0.08	0.01	0.07	0.02	0.07
V06004.A0-V06004	7074	25	8	0.053	1.80	0.02	0.09	0.02	0.11	0.02	0.09	0.02	0.10
V06004-V06005	4081	116	8	0.006	0.60	0.02	0.12	0.02	0.13	0.02	0.11	0.02	0.12
V06005-V06008	4082	130	8	0.008	0.72	0.02	0.17	0.03	0.20	0.02	0.17	0.02	0.20
V06006-V06007	4078	22	8	0.012	0.87	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V06007-V06008	4079	231	8	0.090	2.34	0.00	0.13	0.00	0.15	0.00	0.13	0.00	0.15
V06008-V06009	4080	245	8	0.001	0.30	0.02	0.18	0.03	0.21	0.02	0.18	0.03	0.20
V06009-V06017	4086	94	8	0.010	0.78	0.02	0.21	0.04	0.27	0.02	0.21	0.03	0.25
V06010-V06011	4084	225	6	0.003	0.20	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.07
V06011-V06014	4090	351	6	0.005	0.25	0.00	0.12	0.01	0.15	0.00	0.11	0.00	0.13
V06012-V06013	4091	254	8	0.016	0.99	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V06013-V06014	4092	199	8	0.072	2.10	0.00	0.08	0.01	0.10	0.00	0.07	0.01	0.09
V06014-V06015	4085	306	6	0.003	0.21	0.01	0.17	0.02	0.21	0.01	0.15	0.01	0.19
V06015-V06016	4087	98	6	0.004	0.23	0.01	0.13	0.02	0.17	0.01	0.12	0.02	0.15
V06016-V06017	4088	299	6	0.061	0.90	0.01	0.25	0.02	0.32	0.01	0.24	0.02	0.29
V06017-V06024	4089	279	6	0.002	0.16	0.04	0.33	0.06	0.43	0.04	0.33	0.06	0.40
V06018-V06019	7534	238	8	0.006	0.62	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V06019-V06096.A0	7726	363	8	0.067	2.02	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V06024-V06040	4164	168	8	0.004	0.50	0.04	0.20	0.07	0.26	0.04	0.20	0.06	0.24
V06025-V06027	2384	207	8	0.010	0.77	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V06026-V06027	2386	235	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V06027-V06028	2382	293	8	0.048	1.70	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V06028-V06029	2383	216	8	0.027	1.27	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.07
V06029-V06030	2376	201	8	0.025	1.23	0.01	0.06	0.02	0.08	0.01	0.06	0.01	0.08
V06030-V06031	2369	337	8	0.027	1.29	0.01	0.07	0.02	0.10	0.01	0.07	0.02	0.09
V06031-V06038	4168	381	8	0.020	1.12	0.01	0.09	0.03	0.13	0.01	0.09	0.02	0.12
V06032-V06033	2367	185	8	0.021	1.14	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V06033-V06034	2365	316	8	0.018	1.06	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V06034-V06037	4171	225	8	0.067	2.03	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V06035-V06036	1907	268	8	0.075	2.14	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V06036-V06037	1908	192	8	0.015	0.96	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V06037-V06038	4169	274	8	0.080	2.21	0.01	0.08	0.02	0.11	0.01	0.07	0.02	0.10
V06038-V06039.A0	4170	246	8	0.019	1.09	0.03	0.11	0.06	0.15	0.02	0.10	0.05	0.14
V06039.A0-V06039.AA	7728	313	8	0.028	1.32	0.03	0.11	0.06	0.15	0.03	0.10	0.05	0.14
V06039.AA-V06096.G0	7729	42	8	0.027	1.29	0.03	0.11	0.06	0.15	0.03	0.10	0.05	0.14
V06040-V06096.H0	V06040-V06096.H0	321	8	0.004	0.48	0.04	0.18	0.07	0.24	0.04	0.18	0.06	0.23
V06042-V06045	1909	200	8	0.004	0.52	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.07
V06043-V06045	1910	365	8	0.004	0.48	0.00	0.05	0.00	0.05	0.00	0.06	0.00	0.07
V06044-V06045	2284	341	8	0.004	0.48	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V06045-V06046	2282	284	8	0.059	1.90	0.01	0.06	0.01	0.08	0.01	0.08	0.02	0.10
V06046-V06047.A0	2283	194	8	0.012	0.86	0.01	0.17	0.02	0.22	0.02	0.20	0.03	0.25
V06047.A0-V06047	2280	185	8	0.000	0.06	0.01	0.17	0.02	0.23	0.02	0.20	0.03	0.25
V06047-V06049	2279	168	8	0.016	1.00	0.01	0.08	0.03	0.12	0.02	0.10	0.03	0.13
V06049-V06056	2276	213	8	0.016	0.98	0.02	0.09	0.03	0.13	0.02	0.10	0.04	0.14
V06050-V06051	1916	141	8	0.007	0.63	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V06051.A0-V06051.B0	1911	157	8	0.004	0.52	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V06051.B0-V06051.C0	1912	169	8	0.004	0.52	0.00	0.06	0.00	0.07	0.00	0.05	0.00	0.06
V06051.C0-V06051	1917	134	8	0.004	0.50	0.00	0.06	0.01	0.09	0.00	0.05	0.00	0.08
V06051-V06054	2271	132	8	0.005	0.53	0.00	0.08	0.01	0.11	0.00	0.07	0.01	0.09
V06052-V06053	1918	95	8	0.005	0.56	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V06053-V06054	2272	127	8	0.004	0.50	0.00	0.07	0.00	0.09	0.00	0.06	0.00	0.08
V06054-V06055	2277	357	8	0.005	0.52	0.01	0.09	0.02	0.12	0.01	0.07	0.01	0.10
V06055-V06056	2337	49	8	0.008	0.71	0.01	0.09	0.02	0.13	0.01	0.08	0.02	0.12
V06056-V06058	2273	265	8	0.030	1.36	0.03	0.10	0.06	0.14	0.03	0.11	0.06	0.15
V06057-V06058	2274	287	8	0.075	2.14	0.00	0.06	0.00	0.09	0.00	0.06	0.00	0.08
V06058-V06059	2269	83	8	0.030	1.34	0.03	0.10	0.06	0.14	0.03	0.11	0.06	0.15
V06059-V06067	2264	269	8	0.040	1.55	0.03	0.10	0.06	0.15	0.03	0.11	0.07	0.15
V06060-V06061	2387	337	8	0.011	0.82	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.05
V06061-V06063	2388	247	8	0.050	1.75	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.04
V06062-V06063	2262	69	8	0.007	0.66	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V06063-V06064	2385	339	8	0.333	4.50	0.01	0.52	0.01	0.52	0.01	0.51	0.01	0.52
V06064-V06066	2270	200	8	0.572	5.91	0.01	0.53	0.02	0.54	0.01	0.53	0.02	0.54
V06065-V06066	2263	241	8	0.050	1.75	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V06066-V06067	2265	229	8	0.056	1.85	0.01	0.08	0.03	0.12	0.01	0.09	0.02	0.12
V06067-V06068	2266	265	8	0.054	1.81	0.04	0.15	0.09	0.22	0.05	0.16	0.09	0.22
V06068-V06069	2267	183	8	0.005	0.53	0.05	0.23	0.10	0.33	0.05	0.24	0.10	0.33
V06069-V06070	2268	248	8	0.002	0.39	0.05	0.23	0.10	0.34	0.06	0.25	0.10	0.34
V06070-V06071	4177	252	8	0.005	0.56	0.05	0.20	0.11	0.29	0.06	0.22	0.11	0.29
V06071-V06072	4172	271	8	0.009	0.73	0.06	0.16	0.11	0.23	0.06	0.17	0.11	0.23
V06072-V06074	4175	50	8	0.055	1.83	0.06	0.12	0.12	0.17	0.06	0.13	0.11	0.17
V06073-V06074	4176	184	6	0.006	0.28	0.00	0.11	0.00	0.14	0.00	0.11	0.00	0.14
V06074-V06075	4173	188	8	0.056	1.85	0.06	0.12	0.12	0.17	0.07	0.13	0.12	0.17
V06075-V06089	4174	175	8	0.056	1.84	0.06	0.14	0.12	0.19	0.07	0.14	0.12	0.19
V06076-V06077	2377	93	6	0.049	0.80	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V06077-V06080	2380	26	6	0.061	0.90	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V06078-V06079	2379	179	8	0.035	1.46	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V06079-V06080	2381	99	8	0.008	0.69	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V06080-V06081	2378	322	6	0.063	0.91	0.01	0.06	0.01	0.08	0.00	0.06	0.01	0.07
V06081-V06083	2375	231	6	0.043	0.75	0.01	0.11	0.01	0.13	0.01	0.10	0.01	0.12
V06082-V06083	2374	141	6	0.005	0.26	0.00	0.09	0.00	0.11	0.00	0.09	0.00	0.10
V06083-V06084	2372	194	8	0.004	0.50	0.01	0.11	0.02	0.14	0.01	0.09	0.01	0.12
V06084-V06086	2373	175	8	0.006	0.59	0.01	0.09	0.02	0.11	0.01	0.08	0.02	0.10
V06085-V06086	2368	91	6	0.055	0.85	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.06
V06086-V06088	2371	223	8	0.041	1.58	0.01	0.09	0.02	0.12	0.01	0.08	0.02	0.11
V06087-V06088	2370	159	6	0.070	0.96	0.00	0.10	0.00	0.12	0.00	0.08	0.00	0.10
V06088-V06089	4179	190	8	0.006	0.61	0.02	0.13	0.03	0.18	0.01	0.13	0.02	0.17
V06089-V06090	4181	74	8	0.049	1.73	0.08	0.14	0.16	0.20	0.08	0.15	0.15	0.20
V06090-V06091	4180	253	8	0.060	1.91	0.08	0.18	0.16	0.26	0.08	0.19	0.15	0.25
V06091-V06094	4182	41	8	0.008	0.70	0.08	0.26	0.16	0.37	0.09	0.26	0.15	0.35
V06092-V06093	4183	120	6	0.033	0.66	0.01	0.13	0.01	0.14	0.00	0.05	0.00	0.05
V06093-V06094	4184	120	6	0.004	0.23	0.01	0.28	0.02	0.36	0.00	0.22	0.00	0.29
V06094-V06095	591	159	8	0.004	0.52	0.09	0.34	0.18	0.48	0.09	0.33	0.16	0.45
V06095-V06096	592	251	8	0.002	0.37	0.10	0.31	0.18	0.44	0.09	0.31	0.16	0.41
V06096.A0-V06096.B0	7725	350	8	0.057	1.87	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.07
V06096.B0-V06096.C0	7724	335	8	0.022	1.16	0.00	0.04	0.01	0.07	0.01	0.06	0.01	0.08
V06096.C0-V06096.E0	7723	347	8	0.047	1.70	0.01	0.05	0.02	0.08	0.01	0.06	0.02	0.08
V06096.E0-V06096.F0	7719	156	8	0.042	1.61	0.01	0.05	0.02	0.08	0.01	0.06	0.02	0.09
V06096.F0-V06096.G0	7718	43	8	0.032	1.39	0.01	0.08	0.02	0.13	0.01	0.09	0.02	0.12
V06096.G0-V06096.H0	7727	284	8	0.039	1.54	0.04	0.13	0.09	0.19	0.04	0.13	0.08	0.18
V06096.H0-V06096	7720	224	8	0.046	1.67	0.09	0.20	0.17	0.27	0.08	0.19	0.15	0.25
V06096-V06097	4185	207	10	0.027	2.35	0.19	0.25	0.35	0.35	0.18	0.24	0.32	0.32
V06097-V06098	4186	312	10	0.004	0.94	0.19	0.31	0.36	0.44	0.18	0.31	0.32	0.42
V06098-V06099	597	311	10	0.005	0.96	0.19	0.25	0.36	0.35	0.19	0.25	0.33	0.34
V06099-V06100	598	300	10	0.032	2.53	0.19	0.22	0.37	0.31	0.19	0.22	0.34	0.30

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V06100-V06101	596	301	10	0.009	1.34	0.19	0.42	0.37	0.57	0.19	0.42	0.34	0.55
V06101-V06102.A0	7797	148	10	0.000	0.04	0.19	0.40	0.37	0.54	0.19	0.40	0.35	0.52
V06102.A0-V06102	7798	100	10	0.021	2.05	0.19	0.19	0.37	0.27	0.19	0.19	0.35	0.26
V06102-V05051	V06102-V05051	295	8	0.014	0.92	0.09	0.19	0.17	0.27	0.09	0.20	0.16	0.26
V06102-V07064	NEWPIPE-DWG-3961	53	10	0.013	1.60	0.10	0.20	0.21	0.27	0.11	0.20	0.19	0.26
V06117-V07080	V06117-V07080	329	8	0.058	1.88	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
V06118-V06049	2278	198	8	0.004	0.51	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.08
V07001-V07002	3015	90	8	0.036	1.47	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.03
V07002-V07003	3009	234	8	0.030	1.36	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V07003-V07005	3010	264	8	0.040	1.57	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V07004-V07005	3012	320	8	0.043	1.62	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V07006-V07007.E0	7047	129	8	0.029	1.33	0.03	0.10	0.04	0.13	0.02	0.09	0.04	0.12
V07007.A0-V07007.B0	7051	122	8	0.085	2.28	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V07007.B0-V07007.C0	7052	210	8	0.049	1.72	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V07007.C0-V07007.D0	7050	165	8	0.044	1.63	0.00	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V07007.D0-V07007.E0	7662	79	8	0.010	0.77	0.01	0.08	0.01	0.11	0.01	0.07	0.01	0.10
V07007.E0-V07007	7413	72	8	0.037	1.50	0.03	0.11	0.06	0.13	0.02	0.09	0.05	0.12
V07007-V07009	3949	372	8	0.033	1.42	0.03	0.11	0.06	0.14	0.03	0.10	0.05	0.13
V07008-V07009	3950	226	8	0.032	1.39	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.09
V07009-V07011	3952	269	8	0.034	1.44	0.04	0.11	0.07	0.15	0.03	0.10	0.06	0.14
V07010-V07011	4219	226	8	0.016	0.97	0.00	0.08	0.00	0.09	0.00	0.07	0.00	0.09
V07011-V07015	4194	285	8	0.040	1.56	0.04	0.12	0.07	0.16	0.03	0.11	0.07	0.15
V07012-V07013	3944	182	8	0.083	2.26	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V07013-V07014	4191	175	8	0.044	1.64	0.00	0.05	0.01	0.05	0.00	0.04	0.00	0.05
V07014-V07015	4195	321	8	0.024	1.21	0.01	0.09	0.01	0.12	0.01	0.08	0.01	0.11
V07015-V07028	4215	155	8	0.034	1.43	0.05	0.20	0.09	0.26	0.04	0.18	0.08	0.25
V07016-V07018	4220	83	6	0.010	0.36	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.08
V07017-V07018	3951	344	6	0.032	0.65	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.05
V07018-V07019	3008	163	8	0.043	1.62	0.01	0.06	0.01	0.07	0.01	0.05	0.01	0.06
V07019-V07026.I0	3945	301	8	0.024	1.21	0.01	0.09	0.01	0.11	0.01	0.08	0.01	0.10
V07022-V07026.J0	4192	185	8	0.013	0.89	0.00	0.52	0.00	0.52	0.00	0.52	0.00	0.52
V07024-V07025	3946	264	6	0.034	0.67	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V07025-V07026	3948	162	6	0.053	0.84	0.00	0.13	0.01	0.16	0.01	0.13	0.01	0.16
V07026.A0-V07026.C0	8211	233	8	0.007	0.66	0.00	0.05	0.00	0.05	0.00	0.01	0.00	0.03
V07026.B0-V07026.C0	8210	157	8	0.008	0.68	0.00	0.05	0.00	0.05	0.00	0.01	0.00	0.03
V07026.C0-V07026.E0	8212	219	8	0.007	0.66	0.01	0.09	0.01	0.11	0.00	0.01	0.00	0.06
V07026.D0-V07026.E0	8209	153	8	0.007	0.65	0.00	0.05	0.00	0.06	0.00	0.01	0.00	0.04
V07026.E0-V07026.F0	8213	121	8	0.007	0.67	0.01	0.09	0.02	0.11	0.00	0.06	0.01	0.09
V07026.F0-V07026.G0	8214	110	8	0.008	0.68	0.01	0.09	0.02	0.12	0.01	0.10	0.02	0.12
V07026.G0-V07026.H0	8215	157	8	0.008	0.68	0.01	0.09	0.02	0.12	0.02	0.11	0.02	0.12
V07026.H0-V07026.I0	8216	50	8	0.007	0.67	0.01	0.10	0.02	0.13	0.02	0.11	0.02	0.13
V07026.I0-V07026.J0	8217	161	8	0.020	1.12	0.03	0.55	0.04	0.57	0.03	0.55	0.04	0.56
V07026.J0-V07026	3947	79	8	0.012	0.85	0.03	0.58	0.05	0.60	0.03	0.58	0.04	0.60
V07026-V07027	4216	154	8	0.007	0.66	0.03	0.16	0.06	0.20	0.04	0.16	0.05	0.20
V07027-V07028	4217	219	8	0.006	0.62	0.03	0.21	0.06	0.28	0.04	0.21	0.06	0.27
V07028-V07032	4218	125	8	0.006	0.60	0.09	0.23	0.15	0.30	0.08	0.21	0.14	0.29
V07029-V07030	3942	126	8	0.011	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V07030-V07031	4196	236	8	0.054	1.81	0.00	0.04	0.01	0.05	0.00	0.05	0.00	0.05
V07031-V07032	3941	241	8	0.025	1.23	0.01	0.12	0.01	0.16	0.01	0.12	0.01	0.15
V07032-V07036	4200	287	8	0.024	1.21	0.09	0.20	0.17	0.26	0.08	0.19	0.15	0.25
V07033-V07034	4197	350	6	0.067	0.94	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.05
V07034-V07036	4201	300	6	0.017	0.47	0.01	0.17	0.01	0.23	0.00	0.16	0.01	0.21
V07035-V07036	4204	275	6	0.009	0.34	0.00	0.17	0.00	0.21	0.00	0.16	0.00	0.20
V07036-V07046	4205	252	8	0.022	1.15	0.10	0.45	0.18	0.58	0.09	0.43	0.16	0.55
V07037-V07038	4202	309	6	0.021	0.52	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.08
V07038-V07039	4206	234	6	0.007	0.30	0.01	0.10	0.01	0.12	0.01	0.11	0.01	0.11
V07039-V07040	4207	200	6	0.007	0.30	0.01	0.11	0.01	0.13	0.01	0.12	0.01	0.13
V07040-V07041	4208	95	6	0.007	0.30	0.01	0.12	0.01	0.15	0.01	0.13	0.01	0.14
V07041-V07046	4209	320	6	0.008	0.32	0.01	0.53	0.02	0.58	0.01	0.51	0.02	0.57
V07042-V07043	3943	141	8	0.008	0.68	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V07043-V07044	4198	300	6	0.062	0.90	0.00	0.06	0.01	0.07	0.01	0.06	0.01	0.07
V07044-V07045	4203	210	6	0.046	0.78	0.01	0.08	0.01	0.09	0.01	0.08	0.01	0.09
V07045-V07046	4210	295	8	0.016	0.99	0.01	0.38	0.01	0.48	0.01	0.37	0.01	0.46
V07046-V07047	4211	117	8	0.000	0.16	0.13	0.42	0.22	0.54	0.12	0.41	0.20	0.52
V07047-V07049.D0	V07047-V07049.D0	31	8	0.101	2.48	0.13	0.22	0.22	0.30	0.12	0.22	0.20	0.28
V07049.B0-V07049.C0	V07049.B0-V07049.C0	216	8	0.023	1.18	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V07049.C0-V07049.D0	V07049.C0-V07049.D0	60	8	0.022	1.16	0.00	0.17	0.01	0.22	0.01	0.16	0.01	0.21
V07049.D0-V07049	V07049.D0-V07049	19	8	0.007	0.67	0.13	0.29	0.23	0.39	0.12	0.28	0.21	0.37
V07049-V07052	4213	137	8	0.011	0.80	0.13	0.25	0.23	0.34	0.12	0.25	0.21	0.32
V07050-V07051	4193	102	8	0.005	0.57	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V07051-V07052	4214	133	8	0.005	0.55	0.00	0.14	0.00	0.18	0.00	0.14	0.00	0.17
V07052-V07053	4199	124	8	0.023	1.19	0.13	0.23	0.24	0.31	0.13	0.23	0.21	0.30
V07053-V07054	603	302	8	0.020	1.11	0.13	0.26	0.24	0.35	0.13	0.25	0.22	0.33
V07054-V07064	604	290	8	0.012	0.87	0.16	0.28	0.27	0.37	0.13	0.27	0.23	0.36
V07055.A0-V07055	1004	80	8	0.002	0.35	0.00	0.06	0.00	0.06	0.01	0.12	0.01	0.12
V07055-V07056	600	207	8	0.007	0.67	0.00	0.06	0.01	0.07	0.01	0.09	0.01	0.10
V07056-V07059	607	300	8	0.036	1.47	0.01	0.10	0.01	0.11	0.03	0.15	0.03	0.15
V07057-V07058	599	299	8	0.032	1.41	0.00	0.04	0.00	0.05	0.01	0.07	0.01	0.07
V07058-V07059	606	361	8	0.043	1.63	0.01	0.10	0.01	0.11	0.03	0.14	0.03	0.15
V07059-V07060	608	328	8	0.007	0.65	0.03	0.14	0.04	0.17	0.06	0.20	0.06	0.22
V07060-V07063	609	325	8	0.007	0.65	0.03	0.15	0.04	0.17	0.06	0.20	0.07	0.21
V07061.A0-V07061	1003	55	6	0.009	0.34	0.02	0.16	0.02	0.16	0.01	0.15	0.01	0.15
V07061-V07062	601	328	6	0.005	0.26	0.02	0.17	0.02	0.18	0.01	0.16	0.01	0.16
V07062-V07063	4188	98	6	0.004	0.23	0.02	0.19	0.02	0.21	0.01	0.20	0.02	0.22
V07063-V07064	602	325	8	0.020	1.10	0.05	0.21	0.07	0.27	0.08	0.23	0.10	0.28
V07064-V05001	4074	205	12	0.033	4.17	0.31	0.24	0.54	0.32	0.32	0.24	0.53	0.31
V07078-V07006	3011	93	8	0.099	2.46	0.01	0.08	0.02	0.09	0.01	0.07	0.02	0.09
V07078-V07006	CDT-50	154	8	0.039	1.54	0.01	0.08	0.01	0.10	0.01	0.06	0.01	0.09
V07079-V07078	V07079-V07078	244	8	0.030	1.35	0.00	0.04	0.01	0.06	0.01	0.04	0.01	0.06
V07080-V07079	V07080-V07079	42	8	0.011	0.82	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V08001-V08002	5656	182	6	0.089	1.08	0.00	0.07	0.00	0.07	0.00	0.08	0.00	0.08
V08002-V08004	5408	235	6	0.003	0.20	0.00	0.09	0.00	0.10	0.00	0.10	0.00	0.10
V08004.A0-V08004	7248	261	6	0.093	1.10	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V08004-V08007	5407	214	6	0.064	0.92	0.01	0.08	0.01	0.10	0.01	0.10	0.01	0.11
V08007-V08166	V08007-V08166	116	8	0.028	1.30	0.01	0.07	0.02	0.09	0.02	0.11	0.03	0.11
V08010-V08017.C0	5369	240	6	0.001	0.13	0.00	0.05	0.00	0.05	0.00	0.13	0.00	0.13
V08011-V08017.C0	7283	25	8	0.021	1.13	0.00	0.03	0.00	0.04	0.01	0.08	0.01	0.08
V08016-V08017	5360	245	6	0.032	0.65	0.00	0.37	0.00	0.45	0.01	0.54	0.01	0.54
V08017.A0-V08017.D0	7082	170	8	0.011	0.82	0.00	0.05	0.00	0.06	0.01	0.10	0.01	0.10
V08017.B0-V08017.D0	7690	320	8	0.077	2.17	0.00	0.05	0.00	0.06	0.02	0.10	0.02	0.10
V08017.C0-V08017.D0	7284	129	8	0.006	0.62	0.00	0.05	0.00	0.07	0.01	0.12	0.01	0.12
V08017.D0-V08017.E0	7081	287	8	0.018	1.04	0.01	0.06	0.01	0.09	0.04	0.14	0.04	0.14
V08017.E0-V08017.I0	7281	93	8	0.014	0.92	0.01	0.07	0.02	0.10	0.04	0.15	0.04	0.15
V08017.F0-V08017.G0	7233	351	8	0.011	0.82	0.00	0.04	0.00	0.05	0.00	0.07	0.00	0.07
V08017.G0-V08017.I0	7285	131	8	0.017	1.02	0.01	0.06	0.01	0.08	0.02	0.12	0.02	0.12
V08017.H0-V08017.I0	7083	110	8	0.067	2.02	0.00	0.04	0.00	0.05	0.02	0.11	0.02	0.11
V08017.I0-V08017	7282	190	8	0.035	1.45	0.01	0.31	0.03	0.38	0.07	0.51	0.08	0.52

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V08017.J0-V08017	5362	46	8	0.045	1.65	0.01	0.31	0.02	0.38	0.04	0.48	0.04	0.49
V08017-V08023	1026	186	8	0.001	0.29	0.03	0.31	0.06	0.39	0.12	0.51	0.13	0.52
V08023-V08072.A0	5370	90	8	0.071	2.08	0.03	0.09	0.06	0.13	0.12	0.19	0.13	0.20
V08032-V08033	1022	397	6	0.002	0.15	0.00	0.11	0.00	0.12	0.03	0.31	0.03	0.31
V08033-V08037	1021	87	10	0.002	0.64	0.01	0.10	0.01	0.10	0.04	0.16	0.04	0.16
V08034-V08035	5357	37	6	0.410	2.32	0.04	0.57	0.04	0.57	0.01	0.55	0.01	0.55
V08035-V08036	5358	202	6	0.072	0.97	0.05	0.17	0.05	0.17	0.02	0.13	0.02	0.13
V08036-V08037	1020	39	6	0.030	0.63	0.05	0.19	0.05	0.20	0.03	0.19	0.03	0.19
V08037-V08134	1019	290	6	0.033	0.66	0.06	0.20	0.06	0.21	0.08	0.25	0.08	0.25
V08038-V08039	1120	184	6	0.057	0.86	0.00	0.05	0.00	0.05	0.03	0.11	0.03	0.11
V08039-V08040	4771	210	6	0.110	1.20	0.03	0.11	0.03	0.11	0.03	0.11	0.03	0.11
V08040-V08042	4815	221	6	0.095	1.12	0.03	0.13	0.03	0.13	0.03	0.13	0.03	0.13
V08041-V08042	4814	228	6	0.070	0.96	0.01	0.10	0.01	0.11	0.01	0.11	0.01	0.11
V08042-V08043	5655	91	6	0.066	0.93	0.04	0.12	0.04	0.12	0.04	0.12	0.04	0.12
V08043-V08044	1264	315	6	0.417	2.34	0.04	0.54	0.04	0.55	0.05	0.55	0.05	0.55
V08044-V08045	1018	54	6	1.785	4.85	0.04	0.56	0.05	0.56	0.05	0.57	0.05	0.57
V08045-V08049	1017	262	6	0.006	0.28	0.01	0.11	0.01	0.12	0.01	0.15	0.01	0.15
V08045-V08137	7358	162	8	0.065	1.99	0.03	0.18	0.04	0.20	0.04	0.24	0.04	0.24
V08046-V08047	5404	179	6	0.039	0.72	0.00	0.04	0.00	0.04	0.00	0.08	0.00	0.08
V08047-V08048	5403	202	6	0.060	0.89	0.00	0.05	0.01	0.06	0.02	0.12	0.02	0.12
V08048-V08049	1263	248	6	0.054	0.84	0.01	0.08	0.01	0.09	0.03	0.15	0.03	0.15
V08049-V08136	7796	155	8	0.046	1.68	0.02	0.15	0.02	0.17	0.05	0.22	0.05	0.22
V08060-V08061	5350	48	6	0.129	1.30	0.00	0.05	0.00	0.06	0.01	0.07	0.01	0.07
V08061-V08138	7805	144	6	0.129	1.30	0.01	0.08	0.01	0.08	0.02	0.09	0.02	0.09
V08072.A0-V08072.B0	5371	77	8	0.025	1.23	0.03	0.10	0.06	0.15	0.13	0.21	0.13	0.22
V08072.B0-V08072.C0	5372	86	8	0.030	1.34	0.03	0.10	0.06	0.14	0.13	0.21	0.13	0.21
V08072.C0-V08074.A0	7721	224	18	0.011	7.00	1.68	0.35	2.89	0.47	2.77	0.46	3.44	0.52
V08072.CA-V08072.CB	7744	99	8	0.023	1.19	0.00	0.49	0.00	0.50	0.00	0.50	0.00	0.50
V08072.CB-V08072.CD	7747	273	18	0.004	4.19	1.65	0.45	2.82	0.61	2.63	0.59	3.27	0.68
V08072.CD-V08072.CE	7749	185	18	0.003	3.70	1.65	0.40	2.83	0.56	2.64	0.53	3.29	0.62
V08072.CE-V08072.CF	7750	19	18	0.012	7.46	1.65	0.38	2.83	0.52	2.64	0.50	3.29	0.57
V08072.CF-V08072.C0	7751	149	18	0.005	4.61	1.65	0.37	2.83	0.50	2.65	0.48	3.30	0.55
V08074.A0-V08129	7730	54	24	0.006	11.30	1.68	0.30	2.90	0.40	2.77	0.39	3.44	0.44
V08077.B0-V08118.A0	7786	63	8	0.006	0.58	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
V08077.C0-V08077.B0	7788	111	8	0.009	0.76	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02
V08081-V08084	4813	465	6	0.058	0.87	0.00	0.05	0.00	0.06	0.01	0.07	0.01	0.07
V08082-V08083	6261	97	6	0.067	0.94	0.00	0.05	0.00	0.05	0.01	0.06	0.01	0.06
V08083-V08084	4812	226	6	0.060	0.89	0.01	0.06	0.01	0.07	0.01	0.08	0.01	0.08
V08084-V08085	4827	47	8	0.079	2.20	0.01	0.06	0.02	0.07	0.02	0.08	0.02	0.08
V08085-V08089	5654	378	6	0.043	0.76	0.01	0.12	0.02	0.14	0.03	0.17	0.03	0.17
V08086-V08087	4810	305	6	0.073	0.98	0.01	0.06	0.01	0.06	0.01	0.08	0.01	0.08
V08087-V08088	5653	208	6	0.089	1.08	0.01	0.08	0.01	0.09	0.02	0.11	0.02	0.11
V08088-V08089	5402	339	6	0.020	0.51	0.01	0.12	0.01	0.14	0.02	0.17	0.02	0.17
V08089-V08090	1261	327	6	0.046	0.77	0.03	0.14	0.04	0.16	0.07	0.21	0.07	0.21
V08090-V08112	7695	74	8	0.037	1.50	0.03	0.10	0.05	0.12	0.08	0.16	0.09	0.16
V08091-V08092	4770	137	8	0.087	2.31	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V08092-V08093	5607	268	8	0.034	1.44	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V08093-V08094	5608	147	8	0.014	0.91	0.01	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V08094-V08095	4809	38	8	0.011	0.82	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
V08095-V08103	5652	234	8	0.095	2.40	0.01	0.06	0.01	0.08	0.01	0.07	0.02	0.08
V08096-V08103	5401	321	6	0.004	0.23	0.00	0.09	0.00	0.11	0.00	0.11	0.00	0.12
V08097-V08098	5400	154	8	0.004	0.51	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V08098-V08099	5399	132	8	0.004	0.48	0.00	0.07	0.01	0.08	0.00	0.07	0.00	0.08
V08099-V08100	5398	196	8	0.004	0.50	0.01	0.09	0.01	0.10	0.01	0.08	0.01	0.09
V08100-V08102	5397	85	8	0.005	0.54	0.01	0.10	0.01	0.11	0.01	0.09	0.01	0.11
V08101-V08102	5651	103	8	0.070	2.07	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07
V08102-V08103	5396	91	8	0.006	0.62	0.01	0.09	0.02	0.11	0.02	0.10	0.02	0.12
V08103-V08104	1260	211	8	0.050	1.75	0.02	0.08	0.04	0.10	0.03	0.10	0.04	0.11
V08104-V08105	1009	238	8	0.052	1.78	0.02	0.12	0.04	0.15	0.04	0.14	0.05	0.16
V08105-V08109	1276	321	6	0.006	0.28	0.03	0.21	0.05	0.28	0.04	0.30	0.05	0.33
V08106-V08107	5348	182	6	0.033	0.66	0.00	0.05	0.00	0.06	0.00	0.10	0.00	0.10
V08107-V08108	5346	97	6	0.006	0.28	0.00	0.05	0.00	0.07	0.01	0.14	0.01	0.14
V08108-V08109	1275	236	6	0.050	0.81	0.00	0.13	0.00	0.17	0.03	0.25	0.03	0.26
V08109-V08110	5347	140	6	0.006	0.29	0.03	0.23	0.05	0.31	0.08	0.37	0.09	0.40
V08110-V08111	5349	129	6	0.006	0.29	0.03	0.16	0.05	0.22	0.08	0.26	0.09	0.28
V08111-V08113	7554	46	8	0.284	4.17	0.03	0.10	0.06	0.12	0.10	0.16	0.11	0.17
V08112-V08113	7696	389	8	0.037	1.49	0.03	0.12	0.05	0.14	0.08	0.19	0.09	0.19
V08113-V08147	7697	87	8	0.054	1.81	0.07	0.48	0.11	0.58	0.18	0.61	0.19	0.61
V08114-V08115.A0	7886	159	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.06	0.00	0.06
V08115.A0-V08115	7887	38	8	0.014	0.94	0.00	0.03	0.00	0.05	0.03	0.13	0.03	0.13
V08115-V08116	7885	240	8	0.011	0.81	0.00	0.04	0.00	0.05	0.03	0.13	0.03	0.13
V08116-V08117	7884	136	8	0.011	0.83	0.00	0.04	0.01	0.06	0.03	0.13	0.03	0.13
V08117-V08119.A0	7883	73	8	0.010	0.78	0.00	0.04	0.01	0.07	0.03	0.13	0.03	0.13
V08118.A0-V08118	7785	100	8	0.014	0.91	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.04
V08118-V08119	7784	106	8	0.002	0.35	0.00	0.02	0.00	0.07	0.00	0.07	0.00	0.10
V08119.A0-V08119	7781	90	8	0.012	0.87	0.00	0.04	0.01	0.08	0.03	0.13	0.03	0.14
V08119-V08123	7783	105	8	0.008	0.70	0.00	0.04	0.01	0.09	0.03	0.14	0.03	0.15
V08123.A0-V08123	7780	41	8	0.008	0.69	0.00	0.02	0.00	0.05	0.00	0.08	0.00	0.08
V08123-V08124	7782	93	8	0.008	0.68	0.00	0.04	0.01	0.09	0.03	0.13	0.03	0.14
V08124-V08161	7779	96	8	0.022	1.16	0.00	0.52	0.01	0.54	0.03	0.56	0.04	0.56
V08126-V08157	7772	99	8	0.050	1.75	0.00	0.50	0.00	0.50	0.01	0.53	0.01	0.53
V08127-V08128	7731	101	8	0.011	0.84	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01
V08128-V08129	7732	25	8	0.336	4.52	0.00	0.34	0.00	0.50	0.00	0.49	0.00	0.51
V08129-V08130	7753	319	24	0.003	7.63	1.68	0.30	2.90	0.40	2.78	0.39	3.44	0.44
V08130-V08132.B0	7754	151	24	0.005	9.96	1.68	0.31	2.91	0.42	2.78	0.41	3.45	0.46
V08132.B0-V08132	7802	97	24	0.002	5.75	1.68	0.33	2.91	0.44	2.88	0.43	3.54	0.48
V08132-V08133	7803	214	24	0.003	8.36	1.68	0.31	2.92	0.42	2.88	0.41	3.54	0.47
V08133.A0-V08133	7757	16	6	0.021	0.53	0.00	0.00	0.00	0.00	0.01	0.09	0.01	0.09
V08133-V08142	7801	270	24	0.003	7.76	1.68	0.32	2.92	0.43	2.89	0.44	3.56	0.49
V08134-V08135	8319	72	6	0.025	0.57	0.06	0.24	0.06	0.25	0.09	0.30	0.09	0.30
V08135-V08136	7357	342	8	0.007	0.65	0.06	0.21	0.06	0.23	0.09	0.28	0.09	0.28
V08136-V08137	1273	261	8	0.007	0.64	0.07	0.25	0.09	0.28	0.14	0.35	0.14	0.35
V08137-V08140	1272	213	8	0.007	0.64	0.10	0.28	0.13	0.32	0.19	0.38	0.19	0.38
V08138-V08140	7804	81	8	0.041	1.57	0.01	0.18	0.01	0.20	0.02	0.23	0.02	0.23
V08139-V08140	7808	395	8	0.010	0.80	0.00	0.16	0.00	0.18	0.00	0.22	0.00	0.22
V08140-V08141	7809	196	8	0.011	0.81	0.12	0.21	0.15	0.23	0.21	0.28	0.21	0.28
V08141-V08142	7807	27	8	0.236	3.80	0.12	0.56	0.16	0.57	0.23	0.58	0.23	0.58
V08142-V08143.A0	7795	53	24	0.003	8.00	1.80	0.34	3.08	0.45	3.12	0.46	3.79	0.51
V08143.A0-V08143.B0	7794	74	24	0.002	6.35	1.80	0.33	3.08	0.44	3.12	0.45	3.79	0.50
V08143.B0-V08143	7793	140	24	0.003	8.30	1.80	0.35	3.09	0.46	3.12	0.47	3.79	0.52
V08143-V08144	7792	103	24	0.001	4.33	1.80	0.34	3.09	0.45	3.12	0.45	3.79	0.50
V08144.A0-V08144	7756	20	8	0.840	7.16	0.00	0.45	0.00	0.50	0.00	0.50	0.00	0.50
V08144-V08146	7255	233	24	0.004	9.19	1.80	0.31	3.09	0.41	3.13	0.41	3.81	0.46
V08145-V08146	7755	98	8	0.010	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V08146-V08147	7254	386	24	0.003	8.58	1.80	0.30	3.10	0.39	3.14	0.40	3.83	0.44
V08147-V08153	7698	50	24	0.006	11.31	1.86	0.28	3.22	0.37	3.33	0.38	4.03	0.42
V08153-V29147	12	32	24	0.005	10.66	1.86	0.28	3.22	0.38	3.33	0.38	4.03	0.43

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V08154-V29142	7768	247	27	0.004	12.08	3.30	0.35	6.88	0.54	6.20	0.50	8.49	0.61
V08155-V08154	7769	243	27	0.004	12.03	3.30	0.36	6.87	0.54	6.17	0.51	8.46	0.62
V08156-V08155	7770	161	27	0.004	12.72	3.29	0.35	6.87	0.53	6.17	0.50	8.45	0.61
V08157-V08156	7771	82	27	0.005	14.47	3.29	0.34	6.86	0.51	6.17	0.48	8.45	0.58
V08158-V08157	7774	148	27	0.004	12.84	3.29	0.34	6.86	0.51	6.16	0.48	8.44	0.58
V08159-V08158	7776	243	27	0.004	12.25	3.30	0.35	6.85	0.52	6.16	0.49	8.43	0.60
V08160-V08159	7778	83	27	0.005	14.42	3.29	0.34	6.85	0.52	6.15	0.49	8.43	0.59
V08161-V08160	7777	35	27	0.008	18.22	3.29	0.32	6.85	0.48	6.15	0.45	8.42	0.55
V08162-V08161	7791	40	27	0.008	17.90	3.29	0.30	6.83	0.45	6.12	0.42	8.39	0.52
V08163-V08162	FM2	390	27	0.008	17.82	3.29	0.29	6.82	0.44	6.12	0.41	8.38	0.49
V08166-V08017.J0	V08166-V08017.J0	232	8	0.022	1.16	0.01	0.07	0.02	0.09	0.04	0.11	0.04	0.12
V08168-V08007	V08168-V08007	274	8	0.008	0.68	0.00	0.06	0.00	0.07	0.01	0.09	0.01	0.09
V09002-V09003.A0	632	125	6	0.008	0.32	0.00	0.18	0.01	0.20	0.01	0.24	0.01	0.24
V09003.A0-V09003	629	127	6	0.000	0.03	0.01	0.22	0.01	0.24	0.02	0.29	0.02	0.29
V09003-V09004	626	337	8	0.005	0.57	0.01	0.09	0.02	0.10	0.02	0.13	0.02	0.13
V09004-V09007	627	28	8	0.043	1.62	0.01	0.18	0.02	0.20	0.03	0.25	0.03	0.25
V09005-V09006	255	30	6	0.014	0.43	0.00	0.06	0.00	0.06	0.00	0.07	0.00	0.07
V09006-V09007	625	300	6	0.008	0.32	0.01	0.09	0.01	0.09	0.01	0.10	0.01	0.10
V09007-V09008	628	322	8	0.001	0.24	0.02	0.20	0.03	0.23	0.05	0.27	0.05	0.27
V09008-V09010	634	254	8	0.028	1.31	0.04	0.17	0.05	0.18	0.07	0.16	0.07	0.17
V09009-V09010	633	316	8	0.005	0.55	0.08	0.24	0.08	0.25	0.01	0.14	0.01	0.14
V09010-V09011	619	267	8	0.026	1.26	0.13	0.21	0.14	0.22	0.08	0.17	0.09	0.18
V09011-V09012	620	267	10	0.027	2.34	0.13	0.16	0.15	0.17	0.09	0.13	0.10	0.14
V09012-V09013	618	247	10	0.036	2.69	0.14	0.16	0.16	0.17	0.09	0.13	0.10	0.14
V09013-V09027	613	301	10	0.034	2.59	0.14	0.18	0.17	0.20	0.10	0.16	0.11	0.17
V09014-V09015	624	141	6	0.066	0.93	0.00	0.05	0.00	0.06	0.01	0.07	0.01	0.07
V09015-V09016	258	242	6	0.074	0.99	0.01	0.07	0.01	0.08	0.01	0.09	0.01	0.09
V09016.A0-V09016	818	41	8	0.002	0.35	0.00	0.05	0.00	0.05	0.01	0.08	0.01	0.08
V09016-V09017	259	121	8	0.077	2.16	0.02	0.53	0.02	0.53	0.02	0.53	0.02	0.53
V09017-V09018	256	109	8	0.020	1.11	0.02	0.57	0.02	0.58	0.03	0.59	0.03	0.59
V09018.A0-V09018	253	422	6	0.068	0.95	0.00	0.11	0.00	0.13	0.01	0.14	0.01	0.14
V09018-V09020	252	217	8	0.008	0.69	0.02	0.10	0.03	0.11	0.04	0.12	0.04	0.13
V09019-V09020	249	231	8	0.051	1.77	0.01	0.05	0.01	0.05	0.01	0.06	0.01	0.06
V09020-V09021	250	44	8	0.331	4.50	0.03	0.53	0.04	0.53	0.05	0.54	0.05	0.54
V09021-V09023	251	154	8	0.051	1.76	0.03	0.57	0.04	0.58	0.05	0.59	0.05	0.59
V09022-V09023	248	423	6	0.036	0.69	0.00	0.12	0.00	0.14	0.01	0.16	0.01	0.16
V09023-V09025	622	218	6	0.017	0.47	0.04	0.19	0.05	0.23	0.06	0.25	0.06	0.26
V09024.A0-V09024	621	184	8	0.051	1.76	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V09024-V09025	247	279	8	0.017	1.03	0.01	0.10	0.01	0.12	0.01	0.13	0.01	0.13
V09025-V09026	614	346	8	0.017	1.02	0.05	0.14	0.07	0.17	0.08	0.18	0.09	0.19
V09026-V09027	615	42	8	0.029	1.34	0.05	0.19	0.07	0.22	0.08	0.21	0.10	0.22
V09027-V09029	616	121	12	0.019	3.18	0.19	0.16	0.24	0.18	0.18	0.16	0.21	0.17
V09028.A0-V09028	5353	44	8	0.001	0.24	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V09028-V09029	611	428	6	0.051	0.82	0.00	0.18	0.00	0.20	0.00	0.18	0.00	0.19
V09029-V09032.A0	1154	100	12	0.023	3.50	0.20	0.17	0.25	0.19	0.19	0.16	0.22	0.18
V09030.A0-V09030	5354	86	8	0.001	0.21	0.00	0.06	0.00	0.06	0.00	0.04	0.00	0.04
V09030-V09031	3045	148	6	0.086	1.06	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.05
V09031-V09032	3044	280	6	0.040	0.73	0.01	0.23	0.01	0.26	0.01	0.22	0.01	0.23
V09032.A0-V09032	1156	120	12	0.017	2.96	0.20	0.18	0.25	0.21	0.19	0.18	0.22	0.19
V09032-V09035	1155	121	12	0.013	2.60	0.20	0.18	0.26	0.21	0.20	0.18	0.23	0.20
V09033.A0-V09033	7533	25	8	0.002	0.35	0.00	0.03	0.00	0.03	0.00	0.06	0.00	0.06
V09033-V09034	3046	250	8	0.011	0.82	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V09034-V09035	1157	256	8	0.033	1.42	0.00	0.15	0.01	0.17	0.01	0.16	0.01	0.17
V09035-V09046	3040	290	12	0.018	3.11	0.21	0.23	0.28	0.27	0.21	0.23	0.24	0.25
V09040-V09042	617	119	8	0.004	0.51	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V09041.A0-V09041	5945	23	8	0.005	0.53	0.00	0.04	0.00	0.04	0.01	0.08	0.01	0.08
V09041-V09042	5946	223	6	0.005	0.25	0.00	0.07	0.00	0.08	0.01	0.12	0.01	0.12
V09042-V09045.A0	3041	108	8	0.006	0.61	0.00	0.06	0.01	0.08	0.01	0.09	0.01	0.10
V09043.A0-V09043	7427	43	8	0.002	0.34	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V09043-V09045	3038	232	6	0.019	0.50	0.00	0.10	0.00	0.12	0.00	0.12	0.00	0.13
V09044.A0-V09044	5957	24	8	0.004	0.46	0.00	0.02	0.00	0.02	0.01	0.08	0.01	0.08
V09044-V09045	7624	224	6	0.006	0.27	0.00	0.10	0.00	0.12	0.01	0.15	0.01	0.16
V09045.A0-V09045	3043	112	8	0.006	0.60	0.01	0.08	0.01	0.11	0.01	0.12	0.01	0.13
V09045-V09046	3042	120	8	0.005	0.53	0.01	0.27	0.02	0.32	0.02	0.29	0.03	0.32
V09046-V09049.H0	V09046-V09049.H0	151	12	0.003	1.24	0.22	0.29	0.30	0.33	0.23	0.29	0.27	0.32
V09049.B0-V09049.D0	V09049.B0-V09049.D0	48	8	0.012	0.86	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.01
V09049.C0-V09049.D0	V09049.C0-V09049.D0	69	8	0.012	0.84	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.02
V09049.D0-V09049.E0	V09049.D0-V09049.E0	178	8	0.011	0.80	0.00	0.06	0.00	0.07	0.00	0.00	0.00	0.03
V09049.E0-V09049.G0	V09049.E0-V09049.G0	178	8	0.011	0.80	0.02	0.10	0.02	0.11	0.00	0.05	0.00	0.07
V09049.F0-V09049.G0	V09049.F0-V09049.G0	219	8	0.010	0.80	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V09049.G0-V09049.H0	V09049.G0-V09049.H0	115	8	0.010	0.80	0.02	0.27	0.02	0.31	0.01	0.26	0.02	0.29
V09049.H0-V09049	V09049.H0-V09049	140	12	0.004	1.38	0.24	0.28	0.33	0.32	0.24	0.28	0.29	0.31
V09049-V09050.A0	3034	224	15	0.003	2.41	0.24	0.22	0.33	0.25	0.24	0.22	0.29	0.24
V09050.A0-V09050	3030	231	15	0.003	2.40	0.24	0.19	0.33	0.22	0.25	0.19	0.30	0.21
V09050-V09054	3022	284	15	0.014	4.90	0.25	0.41	0.36	0.47	0.28	0.44	0.33	0.47
V09051-V09052	3036	460	8	0.006	0.58	0.01	0.08	0.01	0.09	0.00	0.07	0.00	0.07
V09052-V09053	3031	455	8	0.011	0.83	0.01	0.54	0.01	0.55	0.01	0.54	0.01	0.55
V09053-V09050	3029	182	8	0.006	0.58	0.02	0.65	0.04	0.67	0.02	0.65	0.03	0.67
V09054-V09061	7742	236	18	0.002	2.93	0.25	0.39	0.36	0.46	0.29	0.44	0.35	0.48
V09056-V09057	3033	318	18	0.002	3.16	1.38	0.51	2.39	0.71	2.28	0.69	2.84	0.83
V09057-V09058	3027	449	18	0.001	2.62	1.38	0.44	2.40	0.61	2.29	0.59	2.85	0.69
V09058.A0-V09058.C0	3032	389	8	0.006	0.61	0.00	0.03	0.00	0.05	0.01	0.11	0.01	0.11
V09058.B0-V09058.C0	4322	30	8	0.044	1.65	0.00	0.03	0.00	0.04	0.01	0.09	0.01	0.09
V09058.C0-V09058.E0	3026	340	8	0.006	0.61	0.00	0.04	0.00	0.06	0.02	0.09	0.02	0.09
V09058.D0-V09058.E0	3025	21	8	0.024	1.20	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V09058.E0-V09058	3024	11	8	0.300	4.27	0.01	0.39	0.02	0.52	0.02	0.51	0.03	0.53
V09058-V09059.B0	3023	120	18	0.008	6.00	1.39	0.42	2.43	0.56	2.32	0.55	2.89	0.62
V09059.B0-V09059	3020	330	18	0.001	2.36	1.39	0.36	2.43	0.49	2.32	0.47	2.89	0.54
V09059-V09061	7743	132	18	0.036	12.92	1.40	0.22	2.45	0.30	2.33	0.29	2.91	0.32
V09061-V09062	7745	65	18	0.047	14.71	1.65	0.26	2.82	0.34	2.62	0.33	3.26	0.37
V09062-V08072.CB	7746	87	18	0.018	9.12	1.65	0.36	2.82	0.49	2.62	0.47	3.26	0.54
V09067-V09002	V09067-V09002	157	8	0.011	0.83	0.00	0.05	0.00	0.06	0.01	0.07	0.01	0.07
V1	V1	470	36	0.004	28.73	7.51	0.32	16.02	0.49	13.05	0.43	18.88	0.54
V10001.A0-V10001	4323	48	8	0.002	0.35	0.00	0.06	0.00	0.06	0.01	0.11	0.01	0.11
V10001.B0-V10001	4324	42	8	0.002	0.35	0.01	0.10	0.01	0.10	0.01	0.13	0.01	0.13
V10001-V10002	915	140	8	0.005	0.54	0.01	0.11	0.01	0.11	0.02	0.13	0.02	0.13
V10002-V10003	914	351	8	0.004	0.49	0.02	0.15	0.02	0.16	0.02	0.15	0.02	0.16
V10003-V10006	4395	345	8	0.004	0.50	0.03	0.14	0.03	0.15	0.03	0.14	0.03	0.15
V10004-V10006	4093	110	8	0.183	3.34	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V10005-V10006	4394	196	8	0.003	0.45	0.00	0.06	0.00	0.07	0.00	0.08	0.00	0.08
V10006-V10007	4393	250	8	0.048	1.71	0.03	0.09	0.04	0.10	0.03	0.09	0.04	0.11
V10007-V10008	4392	268	8	0.061	1.93	0.03	0.09	0.04	0.10	0.03	0.09	0.05	0.11
V10008-V10017	4391	224	8	0.063	1.97	0.03	0.10	0.05	0.12	0.04	0.11	0.05	0.13
V10009-V10010	4099	217	8	0.027	1.29	0.00	0.03	0.00	0.03	0.02	0.08	0.02	0.08
V10010-V10011	4098	268	8	0.071	2.09	0.00	0.04	0.01	0.05	0.02	0.08	0.02	0.08
V10011-V10012	4096	247	8	0.033	1.41	0.01	0.05	0.01	0.06	0.02	0.09	0.02	0.09
V10012-V10014	4095	350	8	0.036	1.48	0.01	0.06	0.01	0.08	0.03	0.10	0.03	0.11

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V10014-V10015	4390	348	8	0.016	1.00	0.01	0.08	0.02	0.10	0.03	0.12	0.03	0.13
V10015-V10016	4389	350	8	0.016	1.00	0.01	0.07	0.02	0.10	0.03	0.11	0.04	0.12
V10016-V10017	4094	137	8	0.037	1.49	0.01	0.09	0.03	0.12	0.03	0.11	0.04	0.13
V10017-V10018	376	187	8	0.055	1.84	0.05	0.11	0.08	0.14	0.06	0.13	0.10	0.16
V10018-V10019	375	185	8	0.051	1.76	0.05	0.12	0.08	0.15	0.06	0.14	0.10	0.17
V10019-V10079	912	275	8	0.039	1.54	0.05	0.19	0.09	0.26	0.07	0.25	0.10	0.30
V10020.A0-V10020	4233	128	8	0.051	1.76	0.00	0.02	0.00	0.02	0.00	0.08	0.00	0.08
V10020-V10021	4425	176	8	0.040	1.57	0.00	0.03	0.00	0.04	0.08	0.16	0.08	0.16
V10021-V10023	639	318	8	0.046	1.68	0.00	0.05	0.01	0.06	0.12	0.20	0.12	0.20
V10022-V10023	4424	171	8	0.059	1.89	0.00	0.04	0.00	0.05	0.00	0.13	0.00	0.13
V10023-V10025	4421	254	8	0.020	1.10	0.01	0.07	0.01	0.10	0.12	0.25	0.12	0.25
V10024-V10025	4387	181	8	0.061	1.93	0.00	0.05	0.00	0.07	0.00	0.15	0.00	0.15
V10025-V10026	4388	145	8	0.014	0.92	0.01	0.06	0.02	0.09	0.12	0.20	0.12	0.20
V10026-V10027	4131	38	8	0.159	3.12	0.01	0.05	0.02	0.07	0.13	0.16	0.13	0.16
V10027-V10029	4396	127	8	0.055	1.84	0.01	0.08	0.02	0.11	0.13	0.24	0.13	0.24
V10028-V10029	4397	89	8	0.108	2.56	0.00	0.06	0.00	0.08	0.00	0.16	0.00	0.16
V10029-V10031	4129	89	8	0.007	0.64	0.01	0.10	0.03	0.13	0.13	0.28	0.13	0.28
V10030-V10031	4130	195	8	0.004	0.49	0.00	0.07	0.00	0.09	0.00	0.15	0.00	0.15
V10031-V10038	4128	213	8	0.017	1.01	0.02	0.10	0.03	0.14	0.13	0.24	0.13	0.24
V10032-V10033	1080	242	8	0.045	1.65	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V10033-V10035	1079	204	8	0.014	0.92	0.00	0.06	0.01	0.07	0.01	0.07	0.01	0.08
V10034-V10035	1076	216	8	0.020	1.09	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V10035-V10036	1078	164	8	0.010	0.78	0.01	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V10036-V10037	4399	30	8	0.030	1.35	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.07
V10037-V10038	4400	121	8	0.030	1.35	0.01	0.08	0.02	0.11	0.01	0.15	0.02	0.16
V10038-V10049	1074	104	8	0.021	1.12	0.03	0.14	0.05	0.19	0.14	0.28	0.15	0.29
V10039-V10041	4423	351	8	0.009	0.76	0.00	0.05	0.00	0.06	0.01	0.09	0.01	0.09
V10040-V10041	4422	349	8	0.047	1.70	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.07
V10041-V10044	4386	264	8	0.011	0.81	0.00	0.06	0.01	0.08	0.02	0.09	0.02	0.10
V10042-V10043	1082	301	8	0.090	2.34	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V10043-V10044	1081	101	8	0.063	1.96	0.01	0.05	0.01	0.06	0.01	0.06	0.01	0.07
V10044-V10047	1083	300	8	0.049	1.72	0.01	0.07	0.02	0.10	0.02	0.10	0.03	0.11
V10045-V10046	1085	64	8	0.128	2.80	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V10046-V10047	1084	308	8	0.081	2.22	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V10047-V10048	1075	173	8	0.022	1.15	0.02	0.09	0.03	0.12	0.03	0.12	0.04	0.13
V10048-V10049	817	190	8	0.019	1.08	0.02	0.13	0.04	0.18	0.03	0.22	0.04	0.24
V10049-V10051	4127	248	8	0.013	0.88	0.05	0.14	0.09	0.20	0.18	0.27	0.19	0.28
V10050-V10051	4126	167	8	0.033	1.42	0.00	0.07	0.00	0.09	0.00	0.12	0.00	0.13
V10051-V10053	4125	180	8	0.047	1.70	0.05	0.12	0.10	0.17	0.18	0.23	0.20	0.24
V10052-V10053	4124	316	8	0.032	1.39	0.00	0.08	0.00	0.11	0.00	0.13	0.00	0.14
V10053-V10054	4123	167	8	0.040	1.56	0.05	0.16	0.11	0.22	0.18	0.29	0.20	0.31
V10054-V10056	4122	84	8	0.009	0.75	0.06	0.17	0.11	0.24	0.19	0.31	0.21	0.33
V10055-V10056	4115	307	8	0.044	1.64	0.00	0.09	0.00	0.12	0.00	0.15	0.00	0.16
V10056-V10058	4121	270	8	0.024	1.20	0.06	0.15	0.12	0.21	0.19	0.27	0.21	0.28
V10057-V10058	4116	255	8	0.202	3.51	0.01	0.58	0.03	0.61	0.03	0.63	0.03	0.64
V10058-V10060	4120	60	8	0.028	1.30	0.06	0.17	0.13	0.23	0.19	0.29	0.22	0.31
V10059-V10060	4119	131	8	0.042	1.60	0.00	0.10	0.00	0.14	0.00	0.17	0.00	0.18
V10060-V10061	4118	273	8	0.014	0.91	0.07	0.19	0.13	0.27	0.20	0.33	0.22	0.35
V10061-V10078	4114	206	8	0.011	0.81	0.07	0.20	0.14	0.29	0.20	0.33	0.23	0.36
V10062-V10063	4101	188	8	0.037	1.51	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V10063-V10065	4100	336	8	0.045	1.65	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V10064.A0-V10064.B0	4107	172	8	0.076	2.15	0.00	0.10	0.00	0.11	0.00	0.10	0.00	0.10
V10064.B0-V10064	4106	165	8	0.000	0.02	0.00	0.11	0.01	0.13	0.00	0.11	0.01	0.12
V10064-V10065	4105	234	8	0.019	1.08	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.07
V10065-V10066	4104	164	8	0.022	1.16	0.01	0.09	0.02	0.12	0.01	0.09	0.02	0.11
V10066-V10068	4108	231	8	0.004	0.51	0.01	0.11	0.02	0.15	0.01	0.11	0.02	0.14
V10067-V10068	4111	141	8	0.063	1.97	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.08
V10068-V10069	4110	107	8	0.006	0.58	0.01	0.10	0.03	0.14	0.02	0.11	0.03	0.13
V10069-V10070	4109	277	8	0.015	0.97	0.02	0.09	0.03	0.12	0.02	0.09	0.03	0.11
V10070-V10075	4112	127	8	0.034	1.44	0.02	0.08	0.04	0.11	0.02	0.09	0.03	0.11
V10071-V10072	919	166	8	0.052	1.78	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
V10072-V10073	918	229	8	0.054	1.81	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
V10073.A0-V10073	1006	56	8	0.002	0.35	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V10073-V10074	917	61	8	0.190	3.40	0.00	0.10	0.01	0.12	0.01	0.12	0.01	0.13
V10074-V10075	1008	135	8	0.000	0.02	0.01	0.12	0.01	0.16	0.01	0.15	0.01	0.17
V10075-V10077	1007	61	8	0.056	1.85	0.02	0.08	0.05	0.11	0.03	0.09	0.05	0.11
V10076-V10077	4113	227	6	0.019	0.49	0.00	0.07	0.00	0.09	0.00	0.08	0.00	0.09
V10077-V10078	916	137	8	0.082	2.24	0.03	0.14	0.05	0.20	0.03	0.21	0.05	0.23
V10078-V10079	4381	322	8	0.017	1.00	0.10	0.24	0.19	0.33	0.23	0.35	0.28	0.39
V10079-V10082	911	253	10	0.012	1.54	0.15	0.21	0.29	0.29	0.29	0.30	0.38	0.34
V10081-V10082	373	197	6	0.048	0.80	0.00	0.20	0.00	0.27	0.00	0.27	0.00	0.30
V10082-V10097.A0	374	135	10	0.012	1.53	0.15	0.24	0.29	0.33	0.30	0.33	0.39	0.39
V10083-V10084	4403	216	8	0.004	0.49	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V10084-V10086	4402	300	8	0.008	0.72	0.00	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V10085-V10086	4401	160	8	0.050	1.75	0.00	0.52	0.01	0.52	0.00	0.52	0.01	0.52
V10086-V10087	1096	323	8	0.031	1.37	0.00	0.07	0.01	0.09	0.00	0.08	0.01	0.09
V10087-V10090.B0	1089	254	8	0.002	0.35	0.01	0.10	0.01	0.13	0.01	0.11	0.01	0.13
V10090.A0-V10090.B0	4383	238	8	0.014	0.93	0.01	0.08	0.01	0.09	0.01	0.10	0.01	0.10
V10090.B0-V10090	1090	74	8	0.013	0.90	0.01	0.09	0.02	0.12	0.03	0.12	0.03	0.13
V10090-V10091	1091	196	8	0.011	0.82	0.02	0.09	0.03	0.11	0.03	0.11	0.03	0.12
V10091-V10092	1092	172	8	0.030	1.36	0.02	0.08	0.03	0.11	0.03	0.11	0.03	0.11
V10092-V10097.B0	1095	124	8	0.025	1.24	0.02	0.22	0.03	0.29	0.03	0.29	0.04	0.33
V10093-V10094	4408	295	8	0.031	1.36	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V10094-V10095	4407	158	8	0.047	1.69	0.00	0.04	0.01	0.04	0.01	0.04	0.01	0.05
V10095-V10096	4406	241	8	0.081	2.22	0.01	0.04	0.01	0.05	0.01	0.05	0.01	0.06
V10096-V10097	4413	135	8	0.063	1.96	0.01	0.15	0.01	0.20	0.01	0.20	0.02	0.22
V10097.A0-V10097.B0	1093	160	10	0.005	1.01	0.16	0.27	0.30	0.38	0.30	0.38	0.39	0.43
V10097.B0-V10097	1088	70	10	0.006	1.07	0.18	0.24	0.33	0.33	0.33	0.32	0.43	0.37
V10097-V10100	1087	194	12	0.018	3.13	0.18	0.18	0.35	0.25	0.34	0.25	0.45	0.28
V10098-V10099	4405	115	8	0.017	1.00	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V10099-V10100	4404	89	8	0.057	1.86	0.00	0.16	0.00	0.22	0.00	0.22	0.00	0.25
V10100-V10101	1086	299	12	0.009	2.22	0.19	0.20	0.36	0.27	0.35	0.27	0.45	0.30
V10101-V10104.A0	4385	176	12	0.010	2.35	0.19	0.21	0.36	0.28	0.35	0.27	0.46	0.30
V10102.B0-V10102	333	114	8	0.021	1.13	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V10102-V10103	332	186	8	0.024	1.22	0.00	0.04	0.00	0.05	0.01	0.10	0.01	0.10
V10103-V10104	330	53	8	0.014	0.93	0.00	0.19	0.01	0.25	0.05	0.29	0.05	0.31
V10104.A0-V10104.B0	4384	71	12	0.010	2.28	0.23	0.22	0.41	0.29	0.36	0.28	0.47	0.32
V10104.B0-V10104	326	105	12	0.008	2.10	0.24	0.22	0.41	0.29	0.37	0.28	0.47	0.32
V10104-V10105	329	251	12	0.010	2.32	0.24	0.22	0.42	0.29	0.41	0.29	0.51	0.33
V10105-V10106	328	174	12	0.009	2.21	0.25	0.22	0.43	0.29	0.43	0.30	0.53	0.33
V10106-V10108	327	133	12	0.010	2.33	0.25	0.23	0.43	0.30	0.44	0.30	0.54	0.34
V10107-V10108	4453	252	8	0.006	0.60	0.01	0.23	0.01	0.28	0.01	0.28	0.01	0.30
V10108-V10109	4452	240	12	0.009	2.18	0.26	0.22	0.45	0.29	0.45	0.28	0.55	0.32
V10109-V10110	4445	230	12	0.020	3.25	0.26	0.19	0.45	0.25	0.45	0.25	0.56	0.28
V10110-V10132	4446	85	12	0.024	3.57	0.26	0.19	0.46	0.25	0.46	0.25	0.56	0.28
V10111-V10113.A0	4232	200	8	0.135	2.87	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V10112-V10113	4230	333	8	0.015	0.95	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V10113.A0-V10113	4231	86	8	0.069	2.05	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V10113-V10115	4228	65	8	0.069	2.04	0.01	0.04	0.01	0.06	0.01	0.06	0.02	0.07
V10114-V10115	4227	225	6	0.012	0.39	0.00	0.07	0.00	0.08	0.00	0.08	0.00	0.08
V10115-V10116	4226	197	8	0.069	2.05	0.01	0.06	0.02	0.08	0.02	0.08	0.02	0.09
V10116.A0-V10116	4418	256	8	0.020	1.12	0.00	0.06	0.00	0.07	0.00	0.07	0.00	0.07
V10116-V10118	4417	260	8	0.032	1.39	0.02	0.08	0.03	0.10	0.03	0.10	0.03	0.11
V10117-V10118	4420	322	8	0.041	1.59	0.00	0.06	0.00	0.07	0.01	0.08	0.01	0.08
V10118-V10119	4416	141	8	0.031	1.38	0.02	0.10	0.04	0.13	0.04	0.12	0.04	0.14
V10119-V10121	4437	61	8	0.014	0.91	0.02	0.11	0.04	0.14	0.04	0.14	0.05	0.16
V10120-V10121	4438	248	8	0.010	0.80	0.00	0.08	0.00	0.10	0.00	0.09	0.00	0.10
V10121-V10123	4439	103	8	0.015	0.97	0.03	0.12	0.04	0.15	0.04	0.16	0.05	0.17
V10122-V10123	4436	223	8	0.055	1.84	0.00	0.07	0.00	0.09	0.01	0.12	0.01	0.12
V10123-V10124	4432	237	8	0.013	0.90	0.03	0.15	0.05	0.20	0.06	0.22	0.07	0.23
V10124-V10125	4433	117	8	0.004	0.50	0.04	0.17	0.06	0.22	0.07	0.25	0.08	0.27
V10125-V10126	4434	76	8	0.006	0.63	0.04	0.16	0.06	0.20	0.08	0.23	0.09	0.24
V10126-V10127	4427	203	8	0.009	0.76	0.04	0.16	0.06	0.20	0.08	0.23	0.09	0.25
V10127-V10130	4426	215	8	0.007	0.65	0.04	0.16	0.06	0.21	0.09	0.25	0.10	0.26
V10128-V10129	4430	1	6	327.195	65.60	0.00	0.55	0.00	0.55	0.01	0.56	0.01	0.56
V10129-V10130	4431	257	6	0.008	0.32	0.01	0.16	0.01	0.19	0.01	0.23	0.01	0.23
V10130-V10131	4429	362	8	0.011	0.82	0.04	0.16	0.08	0.21	0.10	0.25	0.11	0.26
V10131-V10132	4448	71	8	0.011	0.82	0.05	0.23	0.08	0.30	0.11	0.33	0.12	0.35
V10132-V10141.D0	4447	43	12	0.024	3.59	0.31	0.30	0.54	0.40	0.57	0.41	0.69	0.46
V10133-V10139	4454	60	8	0.036	1.49	0.00	0.06	0.00	0.09	0.00	0.07	0.00	0.08
V10135-V10136	4455	58	8	0.011	0.83	0.00	0.03	0.00	0.03	0.00	0.07	0.00	0.07
V10136-V10137	4456	178	8	0.009	0.74	0.01	0.07	0.01	0.08	0.01	0.08	0.01	0.08
V10137-V10138	4325	94	6	0.060	0.89	0.02	0.13	0.02	0.13	0.02	0.13	0.02	0.13
V10138-V10139	4457	240	8	0.012	0.86	0.02	0.12	0.03	0.13	0.03	0.13	0.03	0.13
V10139-V10140	4458	100	8	0.010	0.80	0.02	0.11	0.03	0.12	0.03	0.12	0.03	0.12
V10140-V10141	4261	43	8	0.024	1.21	0.02	0.48	0.03	0.56	0.03	0.55	0.03	0.56
V10141.A0-V10141.B0	4440	403	15	0.004	2.63	0.69	0.34	1.21	0.46	1.23	0.46	1.51	0.52
V10141.B0-V10141.CA	4441	403	15	0.005	3.08	0.69	0.60	1.22	0.72	1.23	0.72	1.52	0.75
V10141.C0-V10141.D0	4444	213	15	0.008	3.62	0.73	0.31	1.29	0.43	1.30	0.43	1.60	0.48
V10141.CA-V10141.C0	4442	69	15	0.009	3.96	0.69	0.60	1.23	0.71	1.23	0.71	1.52	0.73
V10141.D0-V10141.E0	4449	132	15	0.012	4.59	1.04	0.45	1.83	0.65	1.87	0.64	2.29	0.75
V10141.E0-V10141	4460	409	15	0.003	2.12	1.24	0.52	2.15	0.75	2.10	0.74	2.60	0.86
V10141-V10142.A0	4260	311	18	0.003	3.94	1.26	0.42	2.19	0.58	2.13	0.56	2.64	0.64
V10142.A0-V10142	4262	123	18	0.002	2.70	1.28	0.40	2.23	0.55	2.16	0.54	2.68	0.61
V10142-V10143.A0	4265	35	18	0.006	5.08	1.28	0.36	2.23	0.49	2.16	0.48	2.69	0.55
V10143.A0-V10143	4266	416	18	0.004	4.55	1.31	0.44	2.27	0.61	2.21	0.60	2.74	0.70
V10143-V09056	4267	132	18	0.001	2.21	1.31	0.49	2.28	0.69	2.21	0.67	2.74	0.80
V10148-V10133	4451	346	8	0.006	0.63	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02
V11001-V11002	3787	219	6	0.052	0.83	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V11002-V11004	3786	302	6	0.014	0.43	0.00	0.08	0.00	0.09	0.00	0.09	0.00	0.10
V11004-V11005	3788	304	8	0.006	0.59	0.01	0.08	0.01	0.10	0.01	0.09	0.01	0.10
V11005-V11010	4615	333	8	0.005	0.53	0.01	0.08	0.01	0.11	0.01	0.10	0.01	0.11
V11006-V11007	4614	325	6	0.080	1.03	0.00	0.15	0.00	0.17	0.00	0.15	0.00	0.16
V11007-V11011	4618	254	6	0.000	0.01	0.01	0.20	0.01	0.24	0.01	0.21	0.01	0.23
V11008-V11009	4619	225	8	0.006	0.63	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.06
V11009-V11010	1398	107	8	0.003	0.45	0.00	0.07	0.00	0.10	0.00	0.09	0.00	0.11
V11010-V11011	4616	36	8	0.006	0.58	0.01	0.09	0.02	0.13	0.02	0.11	0.02	0.13
V11011-V11013	4613	406	8	0.015	0.94	0.02	0.09	0.03	0.13	0.02	0.11	0.03	0.13
V11012-V11013	7531	138	6	0.063	0.91	0.00	0.07	0.00	0.09	0.00	0.09	0.00	0.10
V11013-V11014	4601	401	8	0.022	1.17	0.02	0.09	0.04	0.12	0.03	0.10	0.04	0.13
V11014-V11015	4588	290	8	0.037	1.49	0.02	0.10	0.05	0.14	0.03	0.12	0.05	0.14
V11015-V11048	4587	181	8	0.012	0.85	0.02	0.23	0.05	0.30	0.03	0.25	0.05	0.29
V11016-V11017	4704	294	8	0.032	1.39	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V11017-V11018	3784	237	8	0.010	0.78	0.00	0.05	0.01	0.06	0.00	0.05	0.01	0.06
V11018-V11019	4701	280	8	0.022	1.16	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
V11019-V11023	4692	353	8	0.026	1.25	0.01	0.08	0.02	0.11	0.01	0.08	0.01	0.11
V11020-V11022	4702	122	8	0.031	1.37	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11021-V11022	4703	145	8	0.010	0.79	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11022-V11023	4693	144	8	0.005	0.55	0.00	0.08	0.01	0.11	0.00	0.09	0.01	0.11
V11023-V11024	4695	258	8	0.005	0.55	0.01	0.11	0.03	0.16	0.01	0.12	0.02	0.15
V11024-V11029	4696	254	8	0.005	0.55	0.02	0.11	0.03	0.15	0.02	0.11	0.03	0.14
V11025-V11026	4699	173	8	0.021	1.13	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V11026-V11028	4691	352	8	0.042	1.60	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
V11027-V11028	4697	127	8	0.019	1.08	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V11028-V11029	4698	247	8	0.048	1.70	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.09
V11029-V11031	4611	164	8	0.036	1.48	0.02	0.09	0.05	0.13	0.02	0.09	0.04	0.12
V11030-V11031	4612	140	8	0.012	0.85	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.07
V11031-V11033	4689	148	8	0.040	1.57	0.03	0.09	0.05	0.13	0.03	0.09	0.05	0.12
V11032-V11033	4690	165	8	0.014	0.92	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V11033-V11034	4681	309	8	0.040	1.57	0.03	0.11	0.06	0.16	0.03	0.11	0.05	0.15
V11034-V11036	4683	261	8	0.014	0.92	0.03	0.12	0.06	0.17	0.03	0.12	0.06	0.16
V11035-V11036	4684	184	8	0.012	0.86	0.00	0.08	0.00	0.10	0.00	0.08	0.00	0.09
V11036-V11037	4620	368	8	0.026	1.26	0.04	0.13	0.07	0.18	0.04	0.13	0.06	0.17
V11037-V11038	4621	266	8	0.012	0.85	0.04	0.15	0.08	0.20	0.04	0.14	0.07	0.18
V11038-V11045	4626	348	8	0.022	1.16	0.06	0.19	0.10	0.24	0.04	0.17	0.07	0.21
V11039-V11040	4623	161	8	0.008	0.70	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V11040-V11043	4685	325	8	0.014	0.92	0.00	0.09	0.00	0.09	0.00	0.09	0.00	0.09
V11041-V11043	4686	199	8	0.040	1.56	0.00	0.08	0.00	0.08	0.00	0.08	0.00	0.08
V11043-V11044	4688	301	8	0.025	1.23	0.04	0.14	0.05	0.15	0.05	0.15	0.05	0.15
V11044-V11045	4625	320	8	0.025	1.24	0.06	0.19	0.07	0.22	0.07	0.19	0.07	0.20
V11045-V11046	8172	242	8	0.020	1.10	0.12	0.49	0.18	0.58	0.11	0.47	0.14	0.52
V11046-V11047	8173	187	8	0.000	0.02	0.14	0.46	0.19	0.55	0.13	0.45	0.16	0.49
V11047-V11048.A0	4589	47	8	0.080	2.21	0.14	0.15	0.20	0.18	0.14	0.15	0.17	0.17
V11048.A0-V11048	4591	22	8	0.255	3.95	0.14	0.24	0.20	0.29	0.14	0.24	0.17	0.28
V11048-V11051	4590	262	8	0.008	0.69	0.16	0.29	0.25	0.36	0.18	0.31	0.22	0.35
V11051-V11052	4593	44	6	0.045	0.77	0.16	0.39	0.25	0.50	0.20	0.44	0.24	0.50
V11052-V11054	4592	168	6	0.012	0.39	0.16	0.41	0.25	0.52	0.21	0.47	0.25	0.52
V11053.A0-V11054	4596	449	6	0.009	0.34	0.00	0.21	0.00	0.25	0.02	0.28	0.02	0.29
V11054-V11055	4604	167	8	0.023	1.20	0.17	0.31	0.26	0.39	0.24	0.38	0.28	0.42
V11055-V11089	2328	229	8	0.006	0.58	0.17	0.38	0.26	0.50	0.25	0.48	0.29	0.53
V11056-V11057	4609	322	8	0.027	1.29	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V11057-V11059	4605	350	8	0.032	1.39	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V11058-V11059	4606	56	8	0.007	0.66	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11059-V11060	4602	190	8	0.057	1.87	0.01	0.07	0.02	0.09	0.01	0.07	0.01	0.08
V11060-V11062	4579	239	8	0.010	0.76	0.01	0.08	0.02	0.10	0.01	0.08	0.02	0.09
V11061-V11062	2232	65	8	0.058	1.88	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V11062-V11063	2231	145	8	0.032	1.39	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.10
V11063-V11064	2230	200	8	0.011	0.80	0.01	0.11	0.03	0.15	0.02	0.11	0.02	0.14
V11064-V11065	4599	315	8	0.004	0.49	0.02	0.13	0.03	0.17	0.02	0.13	0.03	0.16
V11065-V11075.A0	4600	156	8	0.004	0.50	0.02	0.13	0.03	0.18	0.02	0.15	0.03	0.18
V11066-V11067	4608	150	8	0.007	0.64	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11067-V11068	4607	350	8	0.010	0.78	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11068-V11069	4586	350	8	0.056	1.84	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V11069-V11070	4583	128	8	0.050	1.75	0.01	0.06	0.01	0.08	0.01	0.08	0.01	0.09

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V11070-V11072	4582	145	8	0.010	0.78	0.01	0.07	0.02	0.10	0.02	0.10	0.02	0.11
V11071-V11072	4584	125	8	0.013	0.88	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.06
V11072-V11073	4581	151	8	0.018	1.04	0.01	0.07	0.02	0.09	0.02	0.09	0.02	0.10
V11073-V11074	4580	347	8	0.029	1.34	0.01	0.08	0.02	0.11	0.02	0.09	0.03	0.11
V11074-V11075	4492	173	8	0.016	0.98	0.01	0.13	0.03	0.19	0.02	0.17	0.03	0.20
V11075.A0-V11075	2330	133	8	0.004	0.50	0.02	0.16	0.04	0.22	0.03	0.20	0.04	0.23
V11075-V11089	2329	205	8	0.004	0.49	0.04	0.29	0.07	0.39	0.06	0.36	0.08	0.41
V11076-V11078	4499	198	8	0.010	0.77	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V11077-V11078	4500	141	8	0.005	0.55	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V11078-V11079	4501	158	8	0.007	0.64	0.00	0.07	0.01	0.08	0.00	0.06	0.01	0.07
V11079-V11081	4497	161	8	0.007	0.64	0.01	0.08	0.01	0.10	0.00	0.10	0.01	0.11
V11080-V11081	4496	239	8	0.018	1.05	0.00	0.06	0.00	0.07	0.02	0.13	0.02	0.13
V11081-V11082	4495	171	8	0.007	0.65	0.01	0.14	0.02	0.16	0.03	0.17	0.03	0.17
V11082-V11083	2326	241	8	0.005	0.53	0.04	0.14	0.04	0.15	0.03	0.13	0.03	0.13
V11083-V11084	2321	78	8	0.173	3.25	0.04	0.09	0.05	0.10	0.03	0.08	0.04	0.09
V11084.A0-V11084	2322	318	8	0.021	1.12	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.06
V11084-V11085	2320	300	8	0.060	1.92	0.04	0.09	0.05	0.11	0.03	0.09	0.04	0.10
V11085-V11087	2319	301	8	0.077	2.17	0.04	0.26	0.05	0.30	0.03	0.25	0.04	0.27
V11086-V11087	4494	151	6	0.005	0.27	0.00	0.28	0.00	0.33	0.00	0.28	0.00	0.31
V11087-V11088.A0	4493	49	8	0.003	0.40	0.04	0.26	0.06	0.31	0.03	0.26	0.05	0.28
V11088.A0-V11088	2327	301	8	0.050	1.75	0.04	0.11	0.06	0.14	0.04	0.12	0.05	0.13
V11088-V11089	4274	349	8	0.029	1.32	0.04	0.26	0.06	0.34	0.05	0.31	0.06	0.35
V11089-V11090	4275	348	8	0.009	0.74	0.25	0.41	0.40	0.54	0.36	0.51	0.44	0.58
V11090-V11091	4276	299	8	0.008	0.68	0.25	0.45	0.41	0.61	0.38	0.59	0.46	0.68
V11091-V11092	939	310	8	0.005	0.57	0.25	0.41	0.41	0.55	0.41	0.56	0.49	0.63
V11092-V11121	940	368	10	0.011	1.52	0.25	0.27	0.41	0.36	0.43	0.37	0.51	0.40
V11093-V11095	2323	99	8	0.010	0.79	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11094-V11095	2318	330	8	0.082	2.23	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V11095-V11098	2315	325	8	0.022	1.16	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.07
V11096-V11097	2313	189	8	0.045	1.65	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V11097-V11098	2316	343	8	0.027	1.29	0.01	0.05	0.01	0.06	0.01	0.06	0.01	0.06
V11098-V11099	2314	157	8	0.079	2.20	0.01	0.07	0.02	0.08	0.02	0.07	0.02	0.08
V11099-V11100	2312	91	8	0.047	1.69	0.02	0.07	0.03	0.09	0.02	0.07	0.03	0.09
V11100-V11101	2311	91	8	0.058	1.87	0.02	0.08	0.03	0.10	0.02	0.08	0.03	0.10
V11101-V11105	961	237	8	0.035	1.45	0.02	0.09	0.03	0.12	0.02	0.10	0.03	0.12
V11102-V11103	2310	291	8	0.025	1.24	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V11103-V11104	2309	324	8	0.043	1.62	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.06
V11104-V11105	960	351	8	0.021	1.14	0.01	0.09	0.02	0.11	0.01	0.09	0.01	0.10
V11105-V11109	955	350	8	0.038	1.52	0.03	0.11	0.06	0.15	0.04	0.12	0.06	0.15
V11106-V11107	4272	376	8	0.003	0.46	0.00	0.53	0.00	0.53	0.00	0.53	0.00	0.53
V11107-V11108	4271	346	8	0.004	0.47	0.01	0.52	0.01	0.53	0.01	0.53	0.01	0.53
V11108-V11109	957	349	8	0.089	2.33	0.01	0.09	0.02	0.11	0.02	0.10	0.02	0.12
V11109-V11111	952	243	8	0.030	1.36	0.05	0.13	0.08	0.17	0.06	0.14	0.08	0.17
V11110.A0-V11110	7561	35	8	0.002	0.35	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V11110-V11111	951	471	8	0.036	1.49	0.00	0.08	0.00	0.11	0.00	0.09	0.00	0.10
V11111-V11116	948	106	8	0.030	1.36	0.05	0.15	0.09	0.19	0.06	0.16	0.09	0.19
V11112-V11113	954	356	8	0.015	0.95	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V11113-V11114	947	368	8	0.014	0.92	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.08
V11114-V11115	946	130	8	0.007	0.65	0.01	0.09	0.01	0.12	0.01	0.10	0.01	0.11
V11115-V11116	945	359	8	0.005	0.55	0.01	0.13	0.02	0.17	0.01	0.14	0.02	0.16
V11116-V11119	950	121	8	0.024	1.21	0.06	0.16	0.12	0.22	0.08	0.18	0.11	0.22
V11117-V11118	958	227	8	0.018	1.04	0.00	0.04	0.00	0.05	0.01	0.07	0.01	0.07
V11118-V11119	949	347	8	0.034	1.45	0.01	0.11	0.01	0.14	0.02	0.14	0.02	0.16
V11119-V11120	941	230	8	0.024	1.21	0.07	0.16	0.13	0.22	0.10	0.19	0.14	0.23
V11120-V11121.A0	942	136	8	0.032	1.40	0.08	0.18	0.14	0.25	0.11	0.23	0.15	0.26
V11121.A0-V11121	943	80	8	0.010	0.79	0.08	0.33	0.14	0.45	0.13	0.45	0.16	0.50
V11121.B0-V11121	5172	75	8	0.033	1.41	0.02	0.73	0.04	0.81	0.03	0.81	0.03	0.85
V11121-V11122	4270	387	10	0.007	1.15	0.33	0.36	0.56	0.49	0.57	0.50	0.68	0.55
V11122-V11123	4268	345	12	0.006	1.72	0.34	0.26	0.58	0.34	0.65	0.37	0.77	0.40
V11123-V10141.A0	3790	308	15	0.021	6.01	0.35	0.26	0.59	0.35	0.67	0.36	0.79	0.40
V12001-V12003	6605	195	8	0.006	0.61	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V12002-V12003	6606	72	8	0.188	3.38	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V12003-V12004	218	158	8	0.046	1.68	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V12004-V12005	6607	295	8	0.007	0.66	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.06
V12005-V12007	7153	135	8	0.085	2.27	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.05
V12006-V12007	6608	167	6	0.171	1.50	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V12007-V12008	7154	127	8	0.103	2.50	0.01	0.05	0.02	0.06	0.01	0.05	0.01	0.06
V12008-V12013	6280	266	8	0.098	2.45	0.01	0.06	0.02	0.08	0.01	0.06	0.02	0.07
V12009-V12011	7155	125	6	0.159	1.45	0.00	0.06	0.00	0.06	0.00	0.04	0.00	0.04
V12010-V12011	6756	85	6	0.003	0.20	0.00	0.07	0.00	0.07	0.00	0.04	0.00	0.04
V12011-V12012	2019	298	6	0.022	0.54	0.01	0.07	0.01	0.07	0.00	0.05	0.00	0.05
V12012-V12013	6279	179	6	0.137	1.34	0.01	0.07	0.01	0.09	0.00	0.06	0.01	0.08
V12013-V12015	6684	235	8	0.076	2.16	0.02	0.07	0.04	0.09	0.02	0.07	0.03	0.08
V12014-V12015	7157	148	6	0.196	1.61	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.07
V12015-V12018	3973	181	8	0.074	2.13	0.02	0.08	0.04	0.10	0.02	0.07	0.03	0.09
V12016-V12017	7158	163	8	0.117	2.68	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V12017-V12018	3971	161	8	0.053	1.80	0.00	0.06	0.01	0.07	0.00	0.05	0.00	0.06
V12018-V12020	1565	96	8	0.075	2.14	0.03	0.08	0.05	0.11	0.02	0.07	0.04	0.10
V12019-V12020	3970	246	8	0.171	3.23	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V12020-V12021	5263	182	8	0.076	2.15	0.03	0.09	0.05	0.12	0.03	0.08	0.04	0.11
V12021-V12022	1119	420	8	0.043	1.62	0.03	0.12	0.06	0.17	0.03	0.11	0.05	0.15
V12022.B0-V12022	5894	399	8	0.011	0.83	0.01	0.10	0.01	0.13	0.00	0.09	0.00	0.11
V12022-V12023	4768	254	8	0.011	0.81	0.04	0.15	0.07	0.20	0.03	0.13	0.06	0.18
V12023-V12038	6258	295	8	0.012	0.84	0.04	0.14	0.08	0.20	0.03	0.13	0.06	0.18
V12024-V12025	7160	321	6	0.058	0.87	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V12025-V12026	7161	274	8	0.097	2.43	0.00	0.03	0.00	0.04	0.01	0.04	0.01	0.04
V12026-V12027	6683	33	8	0.106	2.54	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.04
V12027-V12028	6681	175	8	0.122	2.73	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.06
V12028-V12029	3969	78	8	0.033	1.42	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V12029-V12034	6189	139	8	0.079	2.20	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
V12030-V12031	7159	149	6	0.217	1.69	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V12031-V12032	6278	120	6	0.199	1.62	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V12032-V12034	4970	255	6	0.088	1.08	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V12033-V12034	7162	218	8	0.092	2.36	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V12034-V12037	1118	265	8	0.076	2.16	0.01	0.07	0.03	0.09	0.02	0.08	0.03	0.09
V12035-V12037	1117	371	8	0.032	1.40	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07
V12036-V12037	7163	161	8	0.049	1.72	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.07
V12037-V12038	4767	373	8	0.051	1.76	0.02	0.11	0.04	0.15	0.03	0.11	0.04	0.14
V12038-V21195	7166	35	8	0.039	1.55	0.06	0.38	0.12	0.54	0.06	0.43	0.11	0.55
V12039-V12040	7167	433	8	0.007	0.65	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.06
V12040.A0-V12040	7165	230	8	0.003	0.43	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V12040-V12041	6257	96	8	0.014	0.92	0.00	0.05	0.01	0.08	0.01	0.06	0.01	0.08
V12041-V12057	7168	298	8	0.006	0.62	0.00	0.11	0.01	0.15	0.01	0.12	0.01	0.15
V12042-V12043	7309	227	8	0.167	3.19	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V12043-V12044	4969	172	8	0.053	1.80	0.00	0.04	0.01	0.04	0.00	0.03	0.00	0.04
V12044-V12045.B0	5262	78	8	0.094	2.40	0.01	0.05	0.01	0.06	0.00	0.05	0.01	0.05
V12045.A0-V12045.B0	6137	219	8	0.063	1.96	0.01	0.06	0.01	0.06	0.01	0.06	0.01	0.06

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V12045.B0-V12045	1116	258	8	0.096	2.42	0.02	0.07	0.02	0.08	0.02	0.07	0.02	0.08
V12045-V12048	4489	247	8	0.050	1.74	0.02	0.08	0.03	0.10	0.02	0.09	0.03	0.10
V12046-V12047	7310	365	8	0.018	1.04	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V12047-V12048	7311	310	8	0.043	1.62	0.00	0.07	0.01	0.08	0.01	0.07	0.01	0.08
V12048-V12055	4766	205	8	0.031	1.37	0.02	0.09	0.04	0.12	0.03	0.10	0.04	0.12
V12049-V12050	7312	180	8	0.102	2.50	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V12050-V12051	6136	61	8	0.098	2.45	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V12051-V12053	6172	251	8	0.041	1.58	0.01	0.04	0.01	0.05	0.01	0.05	0.01	0.05
V12052-V12053	7313	111	6	0.161	1.45	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V12053-V12054	1115	49	6	0.127	1.29	0.01	0.06	0.01	0.07	0.01	0.07	0.01	0.07
V12054-V12055	4765	141	6	0.109	1.20	0.01	0.09	0.01	0.12	0.01	0.10	0.01	0.12
V12055-V12057	7169	222	8	0.053	1.80	0.03	0.13	0.06	0.17	0.04	0.14	0.06	0.17
V12057-V12059	7170	143	10	0.007	1.17	0.04	0.13	0.08	0.17	0.05	0.14	0.08	0.17
V12058-V12059	7316	133	8	0.122	2.73	0.00	0.09	0.00	0.12	0.00	0.09	0.00	0.11
V12059-V12060	7171	196	10	0.009	1.31	0.04	0.13	0.08	0.17	0.05	0.13	0.08	0.17
V12060-V12066	7172	159	10	0.008	1.28	0.05	0.14	0.09	0.18	0.05	0.15	0.08	0.18
V12061-V12062	7174	205	6	0.030	0.63	0.01	0.07	0.01	0.07	0.01	0.08	0.01	0.08
V12062-V12063	4968	179	6	0.091	1.09	0.01	0.11	0.01	0.12	0.01	0.11	0.01	0.11
V12063-V12064	6187	162	6	0.006	0.28	0.01	0.12	0.01	0.13	0.01	0.12	0.01	0.12
V12064-V12065	6135	147	6	0.113	1.22	0.02	0.09	0.02	0.10	0.02	0.09	0.02	0.10
V12065-V12066	1114	351	6	0.116	1.24	0.03	0.18	0.03	0.22	0.03	0.18	0.03	0.21
V12066-V12067	4808	304	10	0.014	1.68	0.08	0.13	0.12	0.17	0.08	0.13	0.11	0.16
V12067-V12068	5650	396	10	0.044	2.98	0.08	0.13	0.13	0.17	0.08	0.14	0.12	0.17
V12068-V12112.D0	7688	142	10	0.010	1.41	0.08	0.16	0.13	0.20	0.09	0.17	0.13	0.20
V12069.A0-V12069.B0	4967	81	6	0.009	0.35	0.00	0.08	0.00	0.08	0.00	0.07	0.00	0.07
V12069.B0-V12070	V12069.B0-V12070	259	6	0.030	0.63	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.06
V12070-V12071	1113	358	6	0.100	1.15	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.05
V12071-V12072.A0	7317	18	8	0.459	5.29	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.05
V12072.A0-V12072	7318	241	8	0.031	1.37	0.01	0.09	0.02	0.10	0.01	0.08	0.01	0.09
V12072-V12073	6256	36	8	0.006	0.58	0.01	0.09	0.02	0.11	0.01	0.08	0.02	0.09
V12073-V12074	4807	174	6	0.075	1.00	0.02	0.11	0.03	0.12	0.01	0.09	0.02	0.11
V12074-V12081	4826	42	6	0.041	0.73	0.02	0.12	0.03	0.14	0.02	0.11	0.02	0.12
V12075-V12076	6878	63	8	0.028	1.31	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V12076-V12078	4488	150	8	0.084	2.27	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V12077-V12078	7319	241	6	0.106	1.18	0.01	0.06	0.01	0.07	0.00	0.05	0.00	0.05
V12078-V12080	4764	199	8	0.086	2.29	0.01	0.06	0.01	0.07	0.01	0.05	0.01	0.06
V12079-V12080	6850	118	8	0.047	1.69	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V12080-V12081	4806	116	8	0.040	1.57	0.01	0.08	0.02	0.10	0.01	0.07	0.01	0.08
V12081-V12112.A0	7286	25	8	0.054	1.82	0.04	0.11	0.05	0.13	0.03	0.10	0.04	0.11
V12087-V12088	7323	116	6	0.026	0.58	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V12088-V12089	7324	308	6	0.057	0.87	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.06
V12089-V12090	7325	194	6	0.039	0.71	0.01	0.08	0.01	0.10	0.01	0.08	0.01	0.09
V12090-V12091	7326	180	6	0.014	0.43	0.01	0.10	0.01	0.12	0.01	0.09	0.01	0.10
V12091-V12097	4487	214	6	0.031	0.63	0.01	0.10	0.02	0.12	0.01	0.09	0.01	0.10
V12092-V12093	6888	129	6	0.058	0.87	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V12093-V12095	7320	21	6	0.026	0.59	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V12094-V12095	7322	85	6	0.089	1.08	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V12095-V12096	7321	132	6	0.076	1.00	0.00	0.05	0.01	0.06	0.00	0.05	0.01	0.05
V12096-V12097	1112	182	6	0.111	1.21	0.01	0.08	0.01	0.10	0.01	0.08	0.01	0.08
V12097-V12098	5770	237	6	0.057	0.87	0.02	0.11	0.03	0.13	0.02	0.10	0.02	0.11
V12098-V12112.K0	7236	180	8	0.075	2.14	0.03	0.09	0.04	0.10	0.02	0.09	0.03	0.10
V12099-V12100	6883	126	8	0.005	0.57	0.00	0.06	0.00	0.07	0.00	0.03	0.00	0.03
V12100-V12101	6884	90	8	0.008	0.70	0.01	0.10	0.01	0.11	0.00	0.08	0.00	0.09
V12101.A0-V12101.B0	5958	119	6	0.110	1.20	0.01	0.05	0.01	0.05	0.00	0.05	0.00	0.05
V12101.B0-V12101.C0	6881	91	8	0.094	2.39	0.01	0.04	0.01	0.04	0.01	0.05	0.01	0.05
V12101.C0-V12101	6882	152	8	0.058	1.87	0.01	0.08	0.01	0.09	0.01	0.10	0.01	0.10
V12101-V12112.O0	6885	185	8	0.008	0.69	0.02	0.09	0.02	0.10	0.02	0.10	0.02	0.10
V12105-V12106	6887	166	6	0.030	0.63	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V12106-V12108	4824	302	6	0.031	0.64	0.00	0.06	0.01	0.07	0.00	0.05	0.00	0.05
V12108-V12112.U0	7708	28	8	0.014	0.93	0.01	0.07	0.01	0.08	0.01	0.05	0.01	0.06
V12112.A0-V12112.B0	7287	23	8	0.025	1.24	0.04	0.11	0.05	0.13	0.03	0.10	0.04	0.11
V12112.B0-V12112.C0	7292	300	8	0.064	1.98	0.04	0.11	0.05	0.13	0.03	0.10	0.04	0.12
V12112.C0-V12112.F0	7235	135	8	0.021	1.14	0.04	0.22	0.06	0.28	0.04	0.22	0.05	0.27
V12112.D0-V12112.E0	7280	30	8	0.016	0.98	0.08	0.19	0.14	0.25	0.09	0.21	0.13	0.25
V12112.E0-V12112.F0	7288	195	8	0.015	0.95	0.08	0.25	0.14	0.33	0.09	0.27	0.13	0.32
V12112.F0-V12112.G0	7289	350	8	0.005	0.56	0.12	0.31	0.20	0.41	0.13	0.34	0.18	0.40
V12112.G0-V12112.H0	7290	298	8	0.005	0.57	0.12	0.31	0.20	0.41	0.15	0.35	0.20	0.41
V12112.H0-V12112.I0	V12112.H0-V12112.I0	99	8	0.006	0.60	0.12	0.30	0.20	0.39	0.16	0.35	0.21	0.41
V12112.I0-V12112.J0	V12112.I0-V12112.J0	55	8	0.007	0.63	0.12	0.30	0.20	0.40	0.16	0.36	0.22	0.42
V12112.J0-V12112.R0	V12112.J0-V12112.R0	212	8	0.005	0.56	0.12	0.32	0.20	0.42	0.16	0.38	0.22	0.44
V12112.K0-V12112.L0	7237	73	8	0.041	1.58	0.03	0.09	0.04	0.11	0.03	0.09	0.04	0.10
V12112.L0-V12112.M0	7238	67	8	0.075	2.13	0.03	0.09	0.04	0.11	0.03	0.10	0.04	0.11
V12112.M0-V12112.N0	7239	125	8	0.040	1.56	0.03	0.09	0.04	0.11	0.04	0.10	0.04	0.11
V12112.N0-V12112.P0	7240	86	8	0.105	2.53	0.03	0.09	0.04	0.11	0.04	0.10	0.05	0.11
V12112.O0-V12112.P0	7241	158	8	0.159	3.11	0.02	0.08	0.03	0.09	0.03	0.09	0.03	0.09
V12112.P0-V12112.Q0	7706	90	8	0.102	2.49	0.05	0.15	0.07	0.18	0.07	0.17	0.08	0.18
V12112.Q0-V12112.R0	7242	161	8	0.006	0.58	0.05	0.28	0.08	0.36	0.07	0.34	0.08	0.38
V12112.R0-V12112.S0	V12112.R0-V12112.S0	157	8	0.005	0.53	0.12	0.35	0.20	0.46	0.17	0.41	0.22	0.48
V12112.S0-V12112.X0	7243	182	8	0.006	0.61	0.17	0.35	0.28	0.46	0.24	0.41	0.30	0.48
V12112.T0-V12112.U0	7249	336	8	0.021	1.12	0.00	0.06	0.00	0.06	0.00	0.04	0.00	0.04
V12112.U0-V12112.V0	7244	293	8	0.044	1.63	0.02	0.08	0.02	0.09	0.01	0.07	0.01	0.08
V12112.V0-V12112.W0	7245	346	8	0.031	1.37	0.02	0.07	0.03	0.08	0.02	0.07	0.02	0.08
V12112.W0-V12112.X0	7692	14	8	0.205	3.54	0.02	0.19	0.03	0.25	0.02	0.22	0.03	0.25
V12112.X0-V12112	7246	169	8	0.011	0.82	0.19	0.32	0.31	0.42	0.26	0.38	0.33	0.44
V12112-V12113	968	530	8	0.013	0.90	0.19	0.37	0.32	0.50	0.27	0.46	0.34	0.53
V12113-V12115	967	209	8	0.004	0.51	0.19	0.40	0.32	0.54	0.28	0.51	0.35	0.59
V12114-V12115	966	174	6	0.033	0.66	0.00	0.26	0.00	0.34	0.02	0.37	0.02	0.41
V12115-V12119	965	215	8	0.009	0.74	0.19	0.31	0.33	0.41	0.30	0.39	0.38	0.45
V12116-V12117	7146	257	18	0.015	8.24	0.00	0.51	0.00	0.52	0.01	0.52	0.01	0.52
V12117-V12118	964	297	18	0.003	3.82	0.00	0.02	0.01	0.04	0.01	0.04	0.01	0.04
V12118-V12119	963	182	18	0.003	3.90	0.00	0.07	0.01	0.10	0.01	0.09	0.02	0.10
V12119-V12120	5620	294	18	0.017	8.84	0.20	0.09	0.35	0.11	0.31	0.11	0.40	0.12
V12125-V12057	7315	220	8	0.140	2.92	0.00	0.09	0.00	0.12	0.00	0.10	0.00	0.12
V12127-V24112	V12127-V24112	15	18	0.183	29.06	0.20	0.23	0.35	0.34	0.32	0.29	0.41	0.36
V13001-V13002	4709	3	8	0.448	5.23	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V13002.A0-V13002	7530	27	8	0.103	2.50	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V13002-V13005	4710	192	8	0.195	3.45	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V13003-V13004	3806	110	8	0.169	3.21	0.00	0.14	0.00	0.15	0.00	0.15	0.00	0.15
V13004-V13005	4711	106	8	0.002	0.30	0.00	0.15	0.00	0.16	0.00	0.16	0.00	0.16
V13005-V13006	3809	168	8	0.178	3.29	0.00	0.03	0.01	0.04	0.01	0.03	0.01	0.04
V13006-V13007	3807	195	8	0.089	2.32	0.00	0.05	0.01	0.08	0.01	0.06	0.01	0.08
V13007-V13009	3813	117	8	0.005	0.53	0.01	0.08	0.01	0.12	0.01	0.11	0.01	0.13
V13008-V13009	3810	254	8	0.118	2.69	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V13009-V13010	3812	162	8	0.003	0.43	0.01	0.09	0.02	0.13	0.01	0.11	0.02	0.14
V13010-V13014	3811	160	8	0.006	0.61	0.01	0.10	0.02	0.15	0.01	0.12	0.02	0.15
V13011-V13013	3815	204	6	0.006	0.27	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V13012-V13013	3814	131	8	0.051	1.76	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V13013-V13014	3803	281	8	0.174	3.26	0.00	0.07	0.01	0.10	0.00	0.08	0.01	0.10
V13014-V13015	4708	179	8	0.005	0.56	0.01	0.09	0.03	0.13	0.02	0.10	0.03	0.13
V13015-V13030	3819	357	8	0.087	2.30	0.02	0.09	0.03	0.13	0.02	0.10	0.03	0.13
V13016-V13017	4136	126	8	0.008	0.70	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V13017-V13018	4250	180	8	0.009	0.76	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V13018-V13021	4255	130	8	0.011	0.83	0.00	0.05	0.01	0.07	0.00	0.05	0.00	0.06
V13019-V13020	4135	196	8	0.107	2.56	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V13020-V13021	4256	160	8	0.164	3.16	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V13021-V13022	4257	141	8	0.020	1.10	0.01	0.09	0.01	0.11	0.01	0.09	0.01	0.10
V13022-V13023	3820	272	8	0.003	0.40	0.01	0.12	0.02	0.16	0.01	0.12	0.02	0.14
V13023-V13028	3822	22	8	0.003	0.40	0.01	0.11	0.02	0.14	0.01	0.11	0.02	0.13
V13024-V13025	3817	137	8	0.150	3.03	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V13025-V13026	3805	110	8	0.060	1.92	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V13026-V13027	4707	109	8	0.146	2.99	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V13027-V13028	3821	328	8	0.054	1.82	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V13028-V13029	3823	75	8	0.016	1.00	0.02	0.09	0.03	0.12	0.02	0.09	0.03	0.12
V13029-V13030	4705	188	8	0.020	1.09	0.02	0.10	0.03	0.15	0.02	0.11	0.03	0.14
V13030-V13033	4706	260	8	0.021	1.14	0.04	0.16	0.08	0.23	0.04	0.18	0.07	0.23
V13031-V13032	7528	92	8	0.107	2.55	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V13032-V13033	7529	214	8	0.089	2.33	0.00	0.12	0.01	0.16	0.01	0.13	0.01	0.16
V13033-V13034	4251	198	8	0.004	0.50	0.04	0.20	0.09	0.29	0.05	0.22	0.08	0.28
V13034-V13035	4868	163	8	0.005	0.56	0.05	0.17	0.09	0.24	0.05	0.18	0.09	0.23
V13035-V13036	5142	100	8	0.025	1.24	0.05	0.13	0.09	0.18	0.05	0.14	0.09	0.18
V13036-V13037	4994	158	8	0.031	1.37	0.05	0.13	0.10	0.18	0.06	0.14	0.09	0.17
V13037-V13038	5006	299	8	0.035	1.47	0.05	0.16	0.10	0.22	0.06	0.17	0.09	0.21
V13038-V13056	5022	301	8	0.008	0.68	0.05	0.19	0.10	0.26	0.06	0.20	0.10	0.25
V13039.A0-V13039.B0	4999	69	6	0.009	0.35	0.00	0.04	0.00	0.04	0.02	0.13	0.02	0.13
V13039.B0-V13039	5001	36	8	0.137	2.89	0.00	0.02	0.00	0.03	0.02	0.06	0.02	0.06
V13039-V13040	4996	319	8	0.108	2.56	0.00	0.04	0.00	0.05	0.02	0.09	0.02	0.09
V13040-V13041	4998	332	8	0.014	0.92	0.01	0.06	0.01	0.08	0.02	0.11	0.02	0.11
V13041-V13045	4627	331	8	0.024	1.20	0.01	0.12	0.02	0.14	0.03	0.14	0.03	0.15
V13042-V13043	4995	141	6	0.041	0.73	0.00	0.10	0.00	0.10	0.00	0.07	0.00	0.07
V13043-V13044	4997	302	6	0.023	0.56	0.02	0.13	0.03	0.14	0.01	0.08	0.01	0.08
V13044-V13045	4633	241	6	0.071	0.97	0.03	0.18	0.03	0.19	0.01	0.16	0.01	0.16
V13045-V13052	4634	192	8	0.009	0.75	0.04	0.15	0.06	0.17	0.05	0.15	0.05	0.16
V13046-V13047	4628	162	6	0.127	1.29	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V13047-V13049	4637	80	6	0.008	0.32	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V13048-V13049	4636	110	8	0.074	2.12	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V13049-V13051	4632	181	8	0.131	2.82	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V13050-V13051	4629	308	6	0.007	0.29	0.00	0.08	0.00	0.09	0.00	0.08	0.00	0.08
V13051-V13052	4635	164	8	0.028	1.31	0.01	0.09	0.02	0.11	0.01	0.10	0.02	0.11
V13052-V13055	4631	297	8	0.049	1.74	0.06	0.13	0.08	0.15	0.06	0.13	0.07	0.15
V13053-V13054	4641	164	6	0.023	0.56	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V13054-V13055	4644	250	6	0.038	0.71	0.01	0.12	0.01	0.14	0.01	0.13	0.01	0.13
V13055-V13056	5023	121	8	0.043	1.62	0.06	0.17	0.09	0.21	0.07	0.17	0.08	0.20
V13056-V13057	5024	115	8	0.034	1.45	0.12	0.19	0.20	0.25	0.13	0.21	0.19	0.24
V13057.A0-V13057	5002	381	6	0.006	0.28	0.00	0.17	0.00	0.21	0.01	0.19	0.01	0.21
V13057-V13058	5010	83	8	0.038	1.51	0.13	0.21	0.21	0.27	0.14	0.22	0.19	0.26
V13058-V13065	5012	135	8	0.026	1.25	0.13	0.22	0.21	0.29	0.14	0.23	0.20	0.27
V13059-V13060	4134	131	6	0.072	0.97	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V13060-V13061	4133	331	6	0.040	0.73	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.07
V13061-V13063	4862	223	6	0.018	0.48	0.01	0.09	0.01	0.11	0.01	0.09	0.01	0.10
V13062-V13063	4863	145	8	0.031	1.38	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V13063-V13064	4864	126	6	0.018	0.49	0.01	0.12	0.01	0.14	0.01	0.12	0.01	0.14
V13064-V13065	5011	219	6	0.007	0.30	0.01	0.22	0.02	0.28	0.01	0.23	0.02	0.27
V13065-V13082	5013	215	8	0.026	1.27	0.14	0.28	0.24	0.36	0.16	0.29	0.22	0.35
V13066-V13067	4243	20	6	0.002	0.16	0.01	0.20	0.01	0.20	0.01	0.18	0.01	0.18
V13067-V13068	4245	58	6	0.002	0.16	0.01	0.21	0.01	0.21	0.01	0.18	0.01	0.18
V13068-V13074	4247	146	8	0.002	0.35	0.01	0.13	0.02	0.14	0.01	0.12	0.01	0.12
V13069-V13070	4252	153	6	0.084	1.05	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V13070-V13072	4254	144	8	0.030	1.35	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V13071-V13072	4137	145	8	0.107	2.55	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V13072-V13073	4246	179	8	0.066	2.01	0.00	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V13073-V13074	4248	151	8	0.011	0.83	0.01	0.08	0.01	0.09	0.01	0.08	0.01	0.09
V13074-V13079	4249	251	8	0.028	1.30	0.02	0.11	0.03	0.12	0.02	0.10	0.02	0.11
V13075-V13076	4258	22	8	0.127	2.78	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V13076-V13077	4138	293	8	0.103	2.51	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V13077-V13078	4865	90	8	0.062	1.94	0.01	0.05	0.01	0.06	0.00	0.04	0.01	0.05
V13078-V13079	4866	150	8	0.025	1.23	0.01	0.09	0.01	0.10	0.01	0.08	0.01	0.09
V13079-V13080	4867	183	8	0.017	1.03	0.03	0.12	0.04	0.14	0.03	0.11	0.04	0.13
V13080-V13081	4861	225	8	0.020	1.09	0.03	0.12	0.05	0.14	0.03	0.11	0.04	0.13
V13081-V13082	5014	216	8	0.018	1.05	0.03	0.22	0.05	0.29	0.03	0.23	0.04	0.27
V13082-V13085	5015	180	8	0.009	0.76	0.18	0.32	0.29	0.42	0.19	0.34	0.26	0.40
V13083-V13084	5016	126	8	0.006	0.61	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V13084-V13085	5017	125	8	0.008	0.68	0.01	0.19	0.01	0.24	0.01	0.20	0.01	0.23
V13085-V13086	5019	52	10	0.009	1.35	0.19	0.23	0.31	0.29	0.20	0.24	0.28	0.28
V13086-V13087.A0	5020	143	10	0.023	2.15	0.19	0.21	0.31	0.27	0.20	0.22	0.28	0.26
V13087.A0-V13087	5021	208	10	0.016	1.78	0.20	0.23	0.32	0.29	0.21	0.24	0.28	0.28
V13087-V13099	5007	236	10	0.020	2.02	0.20	0.19	0.32	0.24	0.23	0.20	0.31	0.23
V13089-V13090	3791	138	8	0.042	1.61	0.01	0.06	0.01	0.06	0.00	0.04	0.00	0.04
V13090-V13091	3800	262	8	0.034	1.44	0.01	0.08	0.01	0.09	0.01	0.06	0.01	0.07
V13091.A0-V13091.B0	3802	275	8	0.008	0.71	0.01	0.07	0.01	0.07	0.01	0.07	0.01	0.07
V13091.B0-V13091.C0	3795	268	8	0.027	1.29	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.06
V13091.C0-V13091	3801	288	8	0.062	1.94	0.02	0.08	0.02	0.09	0.01	0.07	0.01	0.07
V13091-V13092	3798	291	8	0.064	1.97	0.03	0.12	0.04	0.14	0.02	0.12	0.03	0.13
V13092-V13094	3799	316	8	0.005	0.57	0.03	0.18	0.04	0.22	0.03	0.19	0.04	0.21
V13094-V13097	3796	350	8	0.003	0.46	0.03	0.14	0.05	0.16	0.04	0.15	0.05	0.17
V13096-V13097	3797	278	8	0.029	1.33	0.01	0.06	0.01	0.06	0.02	0.08	0.02	0.08
V13097-V10141.C0	3792	11	8	0.382	4.82	0.04	0.32	0.06	0.42	0.06	0.43	0.07	0.48
V13099-V10141.E0	5003	58	10	0.097	4.41	0.20	0.50	0.33	0.59	0.23	0.58	0.31	0.59
V13100.A0-V13100	5008	272	8	0.009	0.74	0.00	0.03	0.00	0.04	0.01	0.09	0.01	0.09
V13100-V13104	5009	238	8	0.009	0.74	0.00	0.09	0.01	0.10	0.02	0.12	0.02	0.13
V13101-V13102	4651	250	6	0.064	0.92	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V13102-V13103	4646	245	6	0.073	0.98	0.01	0.10	0.01	0.11	0.01	0.09	0.01	0.10
V13103-V13104	4648	178	8	0.013	0.88	0.02	0.10	0.02	0.12	0.02	0.12	0.02	0.12
V13104-V13140	4649	185	8	0.009	0.74	0.02	0.50	0.03	0.57	0.03	0.57	0.03	0.57
V13105-V13106	4640	111	6	0.036	0.69	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.02
V13106-V13108	4653	100	6	0.078	1.01	0.00	0.07	0.00	0.07	0.00	0.06	0.00	0.06
V13107-V13108	4638	215	6	0.022	0.54	0.01	0.10	0.01	0.11	0.01	0.09	0.01	0.09
V13108-V13109	4645	328	6	0.047	0.79	0.02	0.11	0.02	0.12	0.02	0.12	0.02	0.12
V13109-V13110.A0	4652	248	6	0.057	0.86	0.02	0.11	0.03	0.12	0.03	0.13	0.03	0.13
V13110.A0-V13110	4647	252	8	0.064	1.98	0.03	0.31	0.03	0.46	0.03	0.46	0.04	0.53
V13110-V10143.A0	5948	14	8	0.014	0.92	0.03	0.68	0.04	0.92	0.05	0.91	0.05	0.99
V13111-V13112	4659	222	6	0.027	0.60	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V13112-V13115	4657	199	6	0.093	1.11	0.00	0.06	0.01	0.07	0.01	0.07	0.01	0.07
V13113-V13115	4658	255	6	0.050	0.81	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V13114-V13115	4656	204	8	0.004	0.52	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V13115-V13116	4655	163	8	0.047	1.69	0.01	0.06	0.01	0.07	0.01	0.06	0.02	0.07
V13116-V13118	4654	144	8	0.052	1.78	0.01	0.07	0.02	0.08	0.01	0.07	0.02	0.08
V13117-V13118	4660	139	6	0.097	1.13	0.01	0.08	0.01	0.09	0.00	0.06	0.00	0.07
V13118-V13121	5025	222	8	0.039	1.54	0.02	0.10	0.03	0.12	0.02	0.09	0.02	0.10
V13119-V13120	5034	240	6	0.002	0.16	0.00	0.11	0.00	0.12	0.00	0.11	0.00	0.11
V13120-V13121	5030	222	6	0.002	0.16	0.01	0.14	0.01	0.17	0.01	0.14	0.01	0.15
V13121-V13123	5026	195	6	0.026	0.59	0.03	0.16	0.04	0.20	0.03	0.16	0.03	0.18
V13122-V13123	5027	385	6	0.012	0.40	0.01	0.14	0.01	0.15	0.01	0.13	0.01	0.14
V13123-V13135	5028	170	6	0.025	0.58	0.04	0.20	0.06	0.25	0.04	0.19	0.05	0.22
V13124-V13125	5043	161	6	0.030	0.63	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V13125-V13126	4149	249	6	0.084	1.05	0.00	0.06	0.00	0.07	0.00	0.05	0.00	0.06
V13126-V13134.H0	8218	99	6	0.010	0.36	0.01	0.11	0.01	0.14	0.00	0.09	0.01	0.11
V13134.A0-V13134.B0	8219	19	8	0.060	1.91	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V13134.B0-V13134.C0	8220	109	8	0.047	1.69	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V13134.C0-V13134.E0	8223	71	8	0.032	1.39	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V13134.D0-V13134.E0	8227	70	8	0.084	2.26	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V13134.E0-V13134.G0	8224	91	8	0.045	1.66	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V13134.F0-V13134.G0	8226	44	8	0.036	1.48	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V13134.G0-V13134.H0	8225	157	8	0.026	1.26	0.01	0.08	0.01	0.10	0.01	0.07	0.01	0.08
V13134.H0-V13134	5033	185	6	0.010	0.36	0.01	0.14	0.02	0.17	0.01	0.11	0.02	0.14
V13134-V13135	5029	458	6	0.010	0.36	0.02	0.19	0.02	0.23	0.01	0.16	0.02	0.19
V13135-V13138	4666	210	6	0.028	0.61	0.07	0.20	0.10	0.25	0.05	0.19	0.07	0.22
V13136-V13137	5031	250	6	0.008	0.32	0.00	0.08	0.00	0.08	0.00	0.08	0.00	0.08
V13137-V13138	4667	461	6	0.005	0.26	0.01	0.14	0.01	0.16	0.01	0.14	0.01	0.15
V13138-V13139	4665	171	8	0.068	2.04	0.07	0.12	0.11	0.15	0.07	0.12	0.09	0.14
V13139.A0-V13110	4642	216	8	0.020	1.10	0.00	0.28	0.00	0.43	0.01	0.44	0.01	0.51
V13139-V09056	4663	34	8	0.109	2.58	0.07	0.56	0.11	0.57	0.07	0.56	0.10	0.57
V13139-V13139.A0	4662	299	8	0.009	0.76	0.00	0.06	0.00	0.09	0.00	0.08	0.00	0.09
V13140-V10142.A0	4264	12	8	0.008	0.71	0.02	0.94	0.03	1.00	0.07	1.00	0.07	1.00
V14001-V14002	4869	110	8	0.010	0.79	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V14002-V14003	5075	70	8	0.611	6.11	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V14003-V14006	4716	142	8	0.005	0.56	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V14004-V14005	4873	53	8	0.297	4.26	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V14005-V14006	4872	119	8	0.022	1.17	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
V14006-V14007	4871	85	8	0.004	0.52	0.01	0.08	0.01	0.10	0.01	0.09	0.01	0.10
V14007-V14009	4870	312	8	0.004	0.49	0.01	0.09	0.01	0.12	0.01	0.10	0.01	0.12
V14008-V14009	4874	48	8	0.010	0.80	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V14009-V14010	3219	215	8	0.004	0.49	0.01	0.10	0.02	0.14	0.01	0.12	0.02	0.14
V14010-V14019	4876	276	8	0.004	0.50	0.01	0.14	0.02	0.18	0.02	0.16	0.02	0.19
V14011-V14012	4882	133	8	0.118	2.68	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V14012-V14019	4886	254	8	0.013	0.89	0.00	0.10	0.00	0.14	0.01	0.12	0.01	0.14
V14013-V14014	4881	168	8	0.004	0.51	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.05
V14014-V14015	4880	246	8	0.006	0.61	0.00	0.05	0.00	0.07	0.00	0.07	0.00	0.08
V14015-V14016	4879	147	8	0.006	0.60	0.00	0.05	0.01	0.07	0.01	0.06	0.01	0.07
V14016-V14018	4878	188	8	0.089	2.33	0.01	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V14017-V14018	3220	390	8	0.010	0.79	0.00	0.06	0.00	0.08	0.01	0.08	0.01	0.08
V14018-V14019	4877	223	8	0.012	0.87	0.01	0.12	0.02	0.17	0.02	0.14	0.02	0.17
V14019-V14020	4885	231	8	0.004	0.49	0.03	0.16	0.05	0.23	0.04	0.19	0.06	0.23
V14020-V14021	4884	353	8	0.004	0.49	0.03	0.17	0.06	0.23	0.04	0.20	0.06	0.24
V14021-V14022	3221	336	8	0.004	0.50	0.03	0.17	0.06	0.24	0.04	0.20	0.06	0.24
V14022-V14023	3222	266	8	0.004	0.50	0.03	0.17	0.07	0.25	0.04	0.20	0.07	0.25
V14023-V14024	3223	162	8	0.004	0.49	0.03	0.17	0.07	0.25	0.04	0.20	0.07	0.26
V14024-V14051	3094	14	8	0.004	0.50	0.03	0.18	0.07	0.26	0.04	0.21	0.07	0.27
V14025-V14027	4714	229	6	0.110	1.20	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V14026-V14027	4713	68	6	0.009	0.34	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V14027-V14028	4712	332	8	0.066	2.01	0.00	0.06	0.01	0.07	0.01	0.08	0.01	0.08
V14028-V14030	4157	355	8	0.004	0.49	0.01	0.10	0.01	0.13	0.01	0.13	0.01	0.14
V14029-V14030	V14029-V14030	275	6	0.179	1.53	0.00	0.09	0.00	0.12	0.00	0.12	0.00	0.13
V14030-V14031	4155	350	8	0.004	0.49	0.01	0.09	0.02	0.12	0.02	0.12	0.03	0.13
V14031-V14033	4154	165	8	0.048	1.72	0.02	0.07	0.03	0.09	0.02	0.09	0.03	0.10
V14032.A0-V14032	7560	31	8	0.002	0.35	0.00	0.01	0.00	0.01	0.00	0.04	0.00	0.04
V14032-V14033	3207	221	8	0.035	1.46	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
V14033-V14034	2067	291	8	0.053	1.80	0.02	0.08	0.03	0.10	0.03	0.09	0.04	0.11
V14034-V14039	4888	295	8	0.039	1.54	0.02	0.12	0.04	0.17	0.03	0.15	0.04	0.17
V14035-V14036	2072	167	6	0.050	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V14036-V14038	3208	275	8	0.056	1.85	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
V14037-V14038	2068	233	6	0.030	0.63	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V14038-V14039	3975	262	8	0.040	1.57	0.01	0.11	0.01	0.14	0.01	0.12	0.01	0.15
V14039-V14041	4887	268	8	0.005	0.56	0.03	0.15	0.06	0.20	0.04	0.17	0.06	0.20
V14040-V14041	3976	226	8	0.041	1.57	0.00	0.07	0.00	0.10	0.00	0.08	0.00	0.10
V14041-V14043	3977	257	8	0.016	0.99	0.03	0.13	0.07	0.18	0.04	0.16	0.07	0.19
V14042-V14043	3979	162	6	0.041	0.73	0.00	0.09	0.00	0.13	0.03	0.18	0.03	0.21
V14043-V14044	3978	96	8	0.017	1.00	0.04	0.16	0.07	0.22	0.07	0.22	0.10	0.27
V14044-V14048	1819	154	8	0.004	0.49	0.04	0.17	0.07	0.23	0.07	0.22	0.10	0.27
V14045-V14046	3213	169	6	0.040	0.73	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V14046-V14047	3224	201	6	0.040	0.72	0.00	0.06	0.00	0.06	0.00	0.06	0.00	0.06
V14047-V14048	3225	192	6	0.040	0.73	0.01	0.13	0.01	0.17	0.01	0.15	0.01	0.19
V14048-V14050	4503	259	8	0.016	0.98	0.04	0.39	0.08	0.46	0.07	0.43	0.11	0.50
V14049-V14050	4504	42	6	0.228	1.73	0.00	0.43	0.00	0.50	0.00	0.46	0.00	0.51
V14050-V14051	3095	36	8	0.007	0.67	0.04	0.41	0.09	0.50	0.07	0.45	0.12	0.53
V14051.A0-V14051	2484	40	8	0.268	4.05	0.02	0.12	0.02	0.16	0.00	0.12	0.00	0.14
V14051-V14052	3104	298	8	0.020	1.10	0.09	0.24	0.17	0.33	0.11	0.26	0.19	0.34
V14052-V14053	3105	301	8	0.005	0.58	0.10	0.29	0.18	0.40	0.12	0.32	0.19	0.41
V14053-V14087	3106	229	8	0.005	0.53	0.10	0.34	0.19	0.49	0.12	0.39	0.20	0.51
V14054-V14059	2069	174	8	0.025	1.24	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V14055-V14056	2401	149	8	0.005	0.53	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V14056-V14057	2400	116	8	0.005	0.56	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V14057-V14058	2399	186	8	0.100	2.46	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.03
V14058-V14059	2071	149	8	0.158	3.11	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V14059-V14072	3209	192	8	0.063	1.95	0.01	0.07	0.01	0.11	0.01	0.08	0.01	0.10
V14060.A0-V14060	1605	180	6	0.125	1.28	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V14060-V14063	1598	138	8	0.082	2.23	0.00	0.05	0.00	0.06	0.01	0.05	0.01	0.07
V14061.A0-V14061.B0	358	165	8	0.035	1.46	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V14061.B0-V14061.D0	4506	215	8	0.011	0.83	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V14061.C0-V14061.D0	4507	187	8	0.010	0.77	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V14061.D0-V14061.E0	2074	324	8	0.021	1.12	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
V14061.E0-V14061.F0	354	149	8	0.030	1.36	0.01	0.06	0.02	0.08	0.01	0.05	0.01	0.07
V14061.F0-V14061.G0	352	352	8	0.037	1.50	0.01	0.06	0.02	0.08	0.01	0.06	0.02	0.07
V14061.G0-V14061.H0	1599	326	8	0.069	2.05	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.10
V14061.H0-V14061.L0	2412	54	8	0.007	0.66	0.01	0.11	0.03	0.15	0.01	0.11	0.02	0.14
V14061.I0-V14061.J0	1771	155	8	0.109	2.58	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V14061.J0-V14061.K0	353	144	8	0.042	1.59	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V14061.K0-V14061.L0	2411	221	8	0.103	2.50	0.00	0.07	0.01	0.10	0.00	0.07	0.00	0.09
V14061.L0-V14061	2410	161	8	0.006	0.59	0.02	0.13	0.04	0.18	0.02	0.12	0.03	0.17
V14061-V14062	1603	349	8	0.003	0.46	0.02	0.15	0.04	0.22	0.02	0.14	0.03	0.20
V14062-V14063	1604	351	8	0.003	0.45	0.02	0.12	0.04	0.17	0.02	0.11	0.04	0.16
V14063-V14064	2409	22	8	0.106	2.54	0.02	0.07	0.05	0.10	0.03	0.07	0.05	0.10

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V14064-V14067	2407	142	8	0.106	2.54	0.03	0.32	0.05	0.40	0.03	0.33	0.05	0.39
V14065-V14066	2406	156	6	0.007	0.30	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V14066-V14067	2405	69	6	0.022	0.53	0.00	0.40	0.00	0.49	0.00	0.41	0.00	0.47
V14067-V14068	2404	69	6	0.004	0.22	0.03	0.50	0.06	0.63	0.03	0.50	0.05	0.61
V14068-V14070	2403	273	6	0.007	0.31	0.03	0.16	0.06	0.24	0.03	0.17	0.05	0.23
V14069-V14070	2402	183	6	0.063	0.91	0.00	0.06	0.00	0.09	0.00	0.07	0.00	0.08
V14070-V14071	4150	317	8	0.101	2.49	0.03	0.09	0.06	0.13	0.03	0.09	0.06	0.12
V14071-V14072	3210	135	8	0.037	1.50	0.03	0.10	0.07	0.15	0.03	0.11	0.06	0.14
V14072-V14079	2397	280	8	0.042	1.59	0.04	0.12	0.08	0.18	0.04	0.13	0.08	0.18
V14073-V14074	1601	188	8	0.068	2.04	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V14074-V14075	4151	284	8	0.057	1.86	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.05
V14075-V14076	2394	151	8	0.029	1.32	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V14076.A0-V14076	4153	126	8	0.022	1.16	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V14076-V14077	2392	190	8	0.049	1.73	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.08
V14077.A0-V14077.B0	2390	213	8	0.034	1.44	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V14077.B0-V14077.C0	2389	319	8	0.005	0.57	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
V14077.C0-V14077.D0	2490	83	8	0.011	0.82	0.00	0.06	0.01	0.08	0.01	0.08	0.01	0.09
V14077.D0-V14077	2489	179	8	0.011	0.81	0.01	0.06	0.01	0.08	0.01	0.08	0.02	0.10
V14077-V14078	2391	324	8	0.069	2.05	0.01	0.07	0.03	0.11	0.02	0.10	0.04	0.12
V14078-V14079	2398	297	8	0.010	0.78	0.01	0.11	0.03	0.17	0.03	0.14	0.04	0.18
V14079-V14080	2396	106	8	0.033	1.42	0.05	0.13	0.12	0.19	0.07	0.15	0.13	0.20
V14080-V14084	2395	335	8	0.039	1.55	0.05	0.14	0.12	0.20	0.07	0.15	0.13	0.21
V14081-V14083	4505	230	6	0.018	0.49	0.00	0.06	0.00	0.07	0.00	0.07	0.00	0.07
V14082-V14083	3214	278	6	0.087	1.07	0.00	0.06	0.00	0.06	0.00	0.07	0.00	0.07
V14083-V14084	1200	347	8	0.018	1.04	0.01	0.10	0.01	0.14	0.01	0.12	0.01	0.14
V14084-V14085	3096	340	8	0.031	1.38	0.06	0.15	0.14	0.22	0.08	0.18	0.14	0.23
V14085-V14086	3107	301	8	0.023	1.19	0.06	0.20	0.14	0.30	0.09	0.24	0.16	0.31
V14086-V14087	3199	166	10	0.003	0.77	0.06	0.25	0.15	0.38	0.09	0.30	0.16	0.39
V14087-V14088	3201	226	10	0.003	0.78	0.16	0.33	0.34	0.47	0.21	0.36	0.36	0.48
V14088-V14089.B0	3098	378	10	0.003	0.78	0.20	0.36	0.38	0.51	0.23	0.42	0.37	0.53
V14089.A0-V14089.B0	3099	78	8	0.027	1.28	0.02	0.28	0.02	0.38	0.09	0.38	0.09	0.44
V14089.AA-V14089.AB	2487	382	8	0.006	0.63	0.02	0.20	0.02	0.21	0.05	0.36	0.05	0.36
V14089.AB-V14089.AC	2486	211	8	0.000	0.15	0.02	0.18	0.02	0.20	0.07	0.35	0.07	0.35
V14089.AC-V14089.A0	2485	73	8	0.026	1.26	0.02	0.08	0.02	0.09	0.09	0.18	0.09	0.18
V14089.B0-V14089.C0	3100	197	10	0.003	0.78	0.22	0.34	0.40	0.47	0.31	0.41	0.45	0.50
V14089.C0-V14089	3203	67	12	0.005	1.66	0.22	0.28	0.41	0.39	0.31	0.34	0.45	0.42
V14089-V14090	3202	125	8	0.004	0.52	0.22	0.44	0.41	0.63	0.32	0.54	0.45	0.67
V14090-V14091	3204	343	12	0.003	1.33	0.22	0.30	0.41	0.42	0.32	0.36	0.45	0.45
V14091-V14109	3205	228	8	0.005	0.53	0.23	0.40	0.42	0.59	0.32	0.49	0.46	0.62
V14092-V14093	5158	190	8	0.024	1.21	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V14093-V14095	5157	185	8	0.032	1.39	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
V14094-V14095	5163	125	8	0.056	1.85	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V14095-V14097	5159	270	8	0.060	1.91	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.09
V14096-V14097	5164	35	8	0.004	0.48	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.07
V14097-V14098	5156	321	8	0.004	0.50	0.01	0.10	0.02	0.13	0.01	0.11	0.01	0.13
V14098-V14108	5155	319	8	0.004	0.50	0.01	0.11	0.02	0.15	0.01	0.12	0.02	0.14
V14099-V14100	5161	202	8	0.070	2.07	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V14100-V14108	5160	155	8	0.071	2.08	0.00	0.07	0.01	0.09	0.00	0.07	0.01	0.09
V14101-V14102	678	188	8	0.018	1.05	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V14102-V14105	3215	66	8	0.025	1.23	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.08
V14103.A0-V14103.C0	1772	184	8	0.046	1.67	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V14103.B0-V14103.C0	355	312	8	0.020	1.10	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V14103.C0-V14103.D0	356	320	8	0.011	0.81	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.08
V14103.D0-V14103	357	342	8	0.018	1.04	0.01	0.06	0.02	0.08	0.01	0.06	0.01	0.08
V14103-V14104.A0	1600	298	8	0.101	2.48	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.06
V14104.A0-V14104	4152	302	8	0.159	3.11	0.02	0.06	0.03	0.07	0.02	0.06	0.02	0.07
V14104-V14105	3211	274	8	0.096	2.42	0.02	0.07	0.03	0.10	0.02	0.08	0.03	0.09
V14105-V14106	1201	296	8	0.027	1.28	0.02	0.10	0.04	0.13	0.02	0.10	0.04	0.13
V14106.A0-V14106.B0	3212	165	8	0.092	2.37	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V14106.B0-V14106	3217	270	8	0.094	2.39	0.00	0.07	0.01	0.09	0.00	0.07	0.00	0.08
V14106-V14107	1202	249	8	0.025	1.23	0.03	0.09	0.05	0.13	0.03	0.10	0.05	0.12
V14107-V14108	5153	102	8	0.060	1.91	0.03	0.10	0.05	0.13	0.03	0.10	0.05	0.13
V14108-V14109	5154	258	8	0.056	1.84	0.05	0.22	0.09	0.31	0.05	0.25	0.08	0.32
V14109-V14116	3101	231	8	0.021	1.13	0.27	0.41	0.51	0.58	0.37	0.49	0.55	0.61
V14110.A0-V14110.D0	7416	102	8	0.024	1.21	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V14110.B0-V14110.C0	3014	111	8	0.008	0.70	0.00	0.06	0.00	0.06	0.00	0.03	0.00	0.03
V14110.C0-V14110.D0	3013	109	8	0.008	0.70	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V14110.D0-V14110.E0	7417	269	8	0.054	1.82	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V14110.E0-V14110.F0	7418	94	8	0.030	1.35	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
V14110.F0-V14110.H0	7419	114	8	0.037	1.51	0.00	0.07	0.01	0.09	0.00	0.05	0.01	0.07
V14110.G0-V14110.H0	7424	195	8	0.044	1.64	0.01	0.08	0.01	0.09	0.00	0.03	0.00	0.05
V14110.H0-V14110.I0	7420	52	8	0.010	0.78	0.01	0.07	0.02	0.09	0.00	0.05	0.01	0.07
V14110.I0-V14110.J0	7421	98	8	0.165	3.17	0.01	0.06	0.02	0.08	0.01	0.05	0.02	0.07
V14110.J0-V14110	7422	97	8	0.023	1.18	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.10
V14110-V14113	7423	120	8	0.010	0.78	0.01	0.11	0.02	0.13	0.01	0.09	0.02	0.11
V14111-V14112	2065	97	8	0.082	2.23	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V14112-V14113	3097	222	8	0.040	1.55	0.00	0.08	0.01	0.10	0.00	0.07	0.00	0.08
V14113-V14114	3206	343	8	0.016	0.98	0.03	0.13	0.05	0.16	0.02	0.10	0.03	0.12
V14114-V14115	5167	216	8	0.014	0.92	0.04	0.14	0.05	0.17	0.02	0.11	0.03	0.13
V14115-V14116	5166	204	8	0.017	1.02	0.04	0.31	0.06	0.43	0.02	0.34	0.04	0.43
V14116-V14117	5526	73	8	0.008	0.70	0.32	0.44	0.58	0.63	0.44	0.54	0.62	0.66
V14117-V14118	5165	430	10	0.009	1.37	0.32	0.32	0.58	0.45	0.45	0.39	0.63	0.47
V14119-V14118	3102	296	10	0.010	1.44	0.32	0.32	0.58	0.44	0.47	0.40	0.65	0.47
V14120-V10141.A0	4508	195	10	0.010	1.43	0.34	0.43	0.61	0.59	0.55	0.58	0.72	0.66
V14120-V14119	3103	275	10	0.011	1.45	0.32	0.33	0.59	0.45	0.48	0.41	0.66	0.49
V14121-V14122.B0	1657	370	8	0.004	0.49	0.00	0.06	0.00	0.07	0.02	0.16	0.02	0.16
V14122.A0-V11122	5169	20	8	0.034	1.44	0.02	0.28	0.02	0.36	0.05	0.40	0.05	0.43
V14122.B0-V14122.A0	5168	325	8	0.004	0.48	0.00	0.07	0.01	0.09	0.03	0.15	0.03	0.15
V15013-V15014	5204	115	8	0.029	1.32	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01
V15014-V15015	4277	133	8	0.050	1.75	0.00	0.12	0.00	0.13	0.00	0.13	0.00	0.14
V15015.B0-V15015.C0	5211	210	8	0.018	1.05	0.03	0.10	0.03	0.10	0.03	0.11	0.03	0.11
V15015.C0-V15015.D0	5210	68	8	0.092	2.37	0.03	0.10	0.03	0.10	0.03	0.12	0.03	0.12
V15015.D0-V15015.F0	5209	82	8	0.014	0.91	0.03	0.11	0.03	0.12	0.05	0.14	0.05	0.14
V15015.E0-V15015.F0	4897	78	8	0.023	1.20	0.00	0.05	0.00	0.06	0.00	0.07	0.00	0.07
V15015.F0-V15015.H0	5214	179	8	0.023	1.19	0.03	0.10	0.03	0.11	0.05	0.15	0.05	0.15
V15015.G0-V15015.H0	4893	80	8	0.009	0.75	0.00	0.06	0.00	0.06	0.01	0.12	0.01	0.12
V15015.H0-V15015.I0	4895	141	8	0.027	1.29	0.03	0.13	0.03	0.14	0.08	0.21	0.08	0.21
V15015.I0-V15015.P0	4282	113	8	0.005	0.55	0.03	0.18	0.04	0.20	0.08	0.25	0.08	0.25
V15015.J0-V15015.K0	4898	149	8	0.047	1.70	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01
V15015.K0-V15015.L0	5215	210	8	0.030	1.35	0.00	0.08	0.00	0.09	0.00	0.01	0.00	0.04
V15015.L0-V15015.O0	4896	64	8	0.005	0.55	0.03	0.14	0.03	0.15	0.00	0.02	0.00	0.06
V15015.M0-V15015.N0	4899	35	8	0.032	1.41	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01
V15015.N0-V15015.O0	5216	238	8	0.045	1.66	0.00	0.06	0.00	0.07	0.00	0.03	0.00	0.04
V15015.O0-V15015.P0	4283	207	8	0.012	0.84	0.03	0.16	0.03	0.18	0.00	0.14	0.01	0.16
V15015.P0-V15015	4285	82	8	0.006	0.58	0.05	0.21	0.07	0.24	0.08	0.25	0.08	0.26
V15015-V15017	4281	259	8	0.005	0.57	0.06	0.24	0.07	0.27	0.08	0.27	0.09	0.28
V15016-V15017	4286	122	8	0.000	0.02	0.01	0.27	0.01	0.31	0.00	0.29	0.00	0.30

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V15017-V15020	4287	210	8	0.003	0.44	0.07	0.27	0.09	0.31	0.08	0.31	0.09	0.32
V15018-V15019	5205	114	8	0.010	0.78	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.03
V15019-V15020	4278	136	8	0.097	2.43	0.00	0.14	0.00	0.17	0.01	0.19	0.01	0.19
V15020-V15021	4288	92	8	0.003	0.45	0.07	0.24	0.10	0.28	0.10	0.28	0.10	0.29
V15021-V15028	4289	27	8	0.010	0.80	0.07	0.24	0.10	0.28	0.10	0.27	0.10	0.28
V15022-V15023	5206	350	8	0.047	1.69	0.03	0.12	0.03	0.13	0.02	0.10	0.02	0.10
V15023-V15024	4279	158	8	0.007	0.65	0.03	0.15	0.04	0.16	0.02	0.12	0.02	0.13
V15024-V15028	4290	188	8	0.018	1.04	0.03	0.20	0.04	0.22	0.04	0.22	0.04	0.23
V15025-V15026	5192	360	8	0.060	1.91	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V15026-V15027	5194	224	8	0.040	1.57	0.00	0.07	0.01	0.09	0.00	0.06	0.01	0.08
V15027-V15028	5195	347	8	0.002	0.32	0.01	0.18	0.01	0.22	0.01	0.20	0.01	0.22
V15028-V15029	5196	244	8	0.008	0.69	0.11	0.30	0.15	0.35	0.14	0.34	0.16	0.36
V15029-V15030	5197	299	8	0.004	0.49	0.11	0.33	0.16	0.39	0.14	0.37	0.16	0.40
V15030-V15050	2226	330	8	0.004	0.49	0.12	0.51	0.16	0.61	0.15	0.58	0.17	0.62
V15031-V15032	5189	169	8	0.021	1.14	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V15032-V15033	5188	299	8	0.030	1.36	0.00	0.04	0.00	0.05	0.01	0.05	0.01	0.06
V15033-V15036	5187	260	8	0.029	1.32	0.01	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V15034.A0-V15034	5208	305	8	0.042	1.60	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V15034-V15035	5193	297	8	0.059	1.89	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V15035-V15036	5207	60	8	0.026	1.27	0.01	0.06	0.01	0.08	0.00	0.06	0.01	0.07
V15036-V15037	5184	74	8	0.034	1.43	0.02	0.08	0.03	0.10	0.02	0.08	0.02	0.09
V15037-V15040	2225	284	8	0.023	1.17	0.02	0.10	0.03	0.13	0.02	0.10	0.02	0.12
V15038-V15039	4280	236	8	0.010	0.78	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V15039-V15040	5182	349	8	0.011	0.82	0.01	0.09	0.01	0.11	0.01	0.09	0.01	0.11
V15040-V15043	5183	239	8	0.016	0.99	0.03	0.14	0.05	0.18	0.03	0.14	0.04	0.17
V15041-V15042	5198	224	6	0.007	0.31	0.00	0.09	0.00	0.09	0.00	0.08	0.00	0.08
V15042-V15043	2227	300	8	0.009	0.74	0.01	0.12	0.01	0.15	0.01	0.12	0.01	0.13
V15043-V15049	2228	231	8	0.008	0.70	0.04	0.16	0.06	0.20	0.04	0.16	0.06	0.19
V15044-V15045	5202	351	6	0.020	0.51	0.00	0.08	0.00	0.09	0.00	0.09	0.00	0.09
V15045-V15047	5199	119	8	0.005	0.58	0.01	0.09	0.01	0.11	0.01	0.10	0.01	0.10
V15046-V15047	5200	161	6	0.012	0.39	0.00	0.10	0.00	0.11	0.00	0.10	0.00	0.10
V15047-V15048	5201	330	8	0.004	0.51	0.01	0.12	0.02	0.14	0.01	0.12	0.01	0.13
V15048-V15049	2229	299	8	0.004	0.51	0.02	0.14	0.03	0.17	0.02	0.14	0.02	0.16
V15049-V15050	5181	234	8	0.024	1.22	0.06	0.42	0.10	0.50	0.06	0.47	0.08	0.51
V15050-V15076	3081	114	12	0.001	0.57	0.18	0.38	0.27	0.45	0.23	0.44	0.27	0.48
V15051-V15053	4521	111	6	0.007	0.30	0.00	0.05	0.00	0.05	0.00	0.06	0.00	0.06
V15052-V15053	4520	117	6	0.021	0.52	0.00	0.03	0.00	0.04	0.01	0.10	0.01	0.10
V15053-V15054	4519	97	8	0.060	1.91	0.00	0.04	0.00	0.05	0.02	0.08	0.02	0.08
V15054-V15055	4518	24	8	0.008	0.69	0.00	0.05	0.01	0.07	0.02	0.10	0.02	0.10
V15055-V15057	4517	81	8	0.007	0.66	0.00	0.06	0.01	0.08	0.02	0.11	0.02	0.11
V15056-V15057	4515	52	8	0.004	0.49	0.00	0.06	0.00	0.07	0.00	0.07	0.00	0.07
V15057-V15058	4516	159	8	0.007	0.67	0.01	0.06	0.01	0.08	0.02	0.10	0.02	0.10
V15058-V15059	4514	221	8	0.028	1.30	0.01	0.06	0.01	0.07	0.02	0.08	0.02	0.09
V15059-V15060	3093	159	8	0.060	1.92	0.01	0.06	0.02	0.08	0.03	0.09	0.03	0.10
V15060-V15065	2220	352	8	0.027	1.29	0.01	0.10	0.02	0.13	0.03	0.14	0.03	0.16
V15061-V15062	4513	339	8	0.018	1.05	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V15062-V15064	4512	188	8	0.043	1.62	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.04
V15063-V15064	4511	177	8	0.056	1.85	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
V15064-V15065	4510	61	8	0.111	2.60	0.00	0.08	0.01	0.11	0.00	0.10	0.01	0.12
V15065-V15066	2221	393	8	0.004	0.52	0.02	0.12	0.03	0.17	0.03	0.16	0.04	0.19
V15066-V15069	4528	173	8	0.010	0.79	0.02	0.15	0.04	0.20	0.03	0.16	0.05	0.19
V15067-V15068	4527	245	8	0.037	1.50	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V15068-V15069	4526	301	8	0.005	0.55	0.00	0.13	0.01	0.16	0.00	0.11	0.00	0.14
V15069-V15072	4525	260	8	0.005	0.56	0.04	0.20	0.07	0.25	0.04	0.18	0.06	0.22
V15070-V15071	2222	184	8	0.010	0.79	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V15071-V15072	4524	344	8	0.032	1.39	0.00	0.12	0.01	0.16	0.00	0.11	0.00	0.14
V15072-V15073	4523	71	8	0.005	0.56	0.05	0.19	0.08	0.24	0.04	0.17	0.06	0.21
V15073-V15074	4532	371	8	0.012	0.85	0.05	0.16	0.09	0.20	0.04	0.15	0.07	0.18
V15074-V15075	4531	328	8	0.030	1.36	0.05	0.19	0.09	0.25	0.07	0.23	0.09	0.26
V15075-V15076	4530	287	8	0.003	0.40	0.06	0.34	0.09	0.44	0.08	0.42	0.10	0.46
V15076-V15077	4535	249	12	0.004	1.38	0.24	0.26	0.37	0.33	0.37	0.33	0.43	0.35
V15077-V15078	4534	246	12	0.008	2.00	0.25	0.25	0.38	0.31	0.37	0.31	0.43	0.33
V15078-V15079	4533	332	12	0.006	1.73	0.25	0.26	0.38	0.32	0.38	0.31	0.44	0.34
V15079-V15080	3091	330	12	0.007	1.98	0.31	0.27	0.45	0.33	0.39	0.30	0.45	0.33
V15080-V15081	3092	329	12	0.007	1.99	0.32	0.27	0.46	0.33	0.40	0.30	0.46	0.33
V15081-V15105	4902	331	12	0.007	1.98	0.32	0.26	0.47	0.32	0.40	0.29	0.47	0.32
V15082-V15084	5221	142	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.03
V15083-V15084	5220	210	8	0.010	0.78	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V15084-V15085	5219	206	8	0.033	1.43	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V15086-V15087	5217	180	8	0.024	1.21	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V15087-V15085	5218	397	8	0.063	1.97	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V15087-V15088	4992	39	8	0.051	1.76	0.01	0.06	0.02	0.08	0.01	0.06	0.02	0.07
V15088-V15089	4991	139	8	0.040	1.57	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.10
V15089-V15092.A0	4911	415	8	0.007	0.68	0.02	0.09	0.03	0.12	0.01	0.08	0.02	0.11
V15090-V15091	4910	309	8	0.043	1.62	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V15091-V15092.A0	4909	59	8	0.066	2.01	0.00	0.05	0.01	0.07	0.01	0.05	0.01	0.07
V15092.A0-V15092	4908	251	8	0.058	1.88	0.02	0.08	0.04	0.10	0.02	0.07	0.03	0.09
V15092-V15093	4987	94	8	0.049	1.73	0.02	0.08	0.04	0.11	0.02	0.08	0.03	0.10
V15093-V15094	4986	326	8	0.048	1.71	0.02	0.08	0.04	0.12	0.02	0.08	0.04	0.11
V15094-V15104	4903	60	8	0.035	1.46	0.02	0.13	0.05	0.17	0.02	0.14	0.04	0.16
V15095-V15096	3086	21	8	0.219	3.65	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V15096-V15097	3085	330	8	0.021	1.14	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.04
V15097-V15098	3083	262	8	0.005	0.56	0.00	0.06	0.01	0.07	0.00	0.04	0.00	0.06
V15098-V15102	3082	231	8	0.044	1.63	0.01	0.07	0.02	0.09	0.01	0.07	0.01	0.08
V15099-V15100	3089	175	8	0.007	0.67	0.00	0.06	0.00	0.06	0.00	0.04	0.00	0.04
V15100-V15101	3088	308	8	0.007	0.65	0.01	0.06	0.01	0.06	0.00	0.04	0.00	0.04
V15101-V15102	3087	238	8	0.093	2.38	0.01	0.07	0.01	0.08	0.00	0.06	0.01	0.07
V15102-V15103	2218	273	8	0.036	1.48	0.03	0.11	0.04	0.13	0.02	0.11	0.03	0.12
V15103-V15104	4904	271	8	0.039	1.55	0.06	0.16	0.07	0.18	0.07	0.16	0.07	0.17
V15104-V15105	4901	341	8	0.027	1.29	0.09	0.28	0.13	0.34	0.10	0.30	0.12	0.33
V15105-V15106	4900	294	12	0.016	2.89	0.41	0.26	0.60	0.31	0.49	0.28	0.59	0.31
V15106-V15109	4989	288	12	0.015	2.84	0.42	0.29	0.61	0.35	0.50	0.31	0.60	0.35
V15107-V15108	5223	205	8	0.160	3.13	0.01	0.04	0.01	0.04	0.01	0.05	0.01	0.05
V15108-V15109	5528	67	8	0.097	2.43	0.01	0.26	0.01	0.32	0.02	0.29	0.02	0.32
V15109-V15110	5226	327	12	0.007	1.98	0.43	0.32	0.63	0.39	0.51	0.36	0.62	0.39
V15111-V15112	4331	413	12	0.023	3.50	0.46	0.26	0.67	0.32	0.55	0.29	0.65	0.32
V15112-V16050	4330	464	12	0.013	2.65	0.46	0.28	0.67	0.34	0.56	0.31	0.67	0.34
V15113.A0-V15113	7559	2	8	0.050	1.75	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V15113-V15114	4906	298	8	0.010	0.80	0.01	0.12	0.01	0.12	0.01	0.08	0.01	0.09
V15114-V15115	4907	286	8	0.010	0.78	0.03	0.12	0.03	0.13	0.01	0.07	0.01	0.08
V15115-V15116	5527	142	8	0.042	1.60	0.03	0.11	0.04	0.12	0.01	0.08	0.01	0.09
V15116-V15117	4990	398	8	0.012	0.87	0.03	0.14	0.04	0.15	0.02	0.11	0.02	0.12
V15117-V15118	5227	361	8	0.010	0.78	0.03	0.14	0.04	0.16	0.02	0.12	0.03	0.14
V15118-V15119	5229	329	8	0.010	0.78	0.03	0.16	0.04	0.18	0.03	0.13	0.03	0.15
V15119-V15120	4334	305	8	0.010	0.78	0.05	0.16	0.06	0.19	0.03	0.13	0.04	0.15
V15120-V15121	4332	95	8	0.018	1.06	0.05	0.17	0.07	0.20	0.03	0.13	0.04	0.15
V15121-V16048	4329	397	8	0.007	0.66	0.05	0.19	0.07	0.22	0.03	0.15	0.04	0.17

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V15134-V15111	5224	345	12	0.008	2.02	0.43	0.28	0.64	0.35	0.55	0.32	0.65	0.35
V16001-V16002	4342	63	6	0.061	0.90	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V16002-V16003	4341	73	6	0.048	0.79	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.05
V16003-V16004	4340	54	6	0.052	0.82	0.00	0.05	0.00	0.05	0.00	0.06	0.00	0.06
V16004-V16005	4338	95	6	0.025	0.57	0.00	0.06	0.00	0.07	0.01	0.07	0.01	0.08
V16005-V16006	4347	379	8	0.023	1.19	0.01	0.07	0.01	0.08	0.01	0.08	0.01	0.09
V16006-V16007	4349	268	8	0.006	0.62	0.01	0.07	0.01	0.09	0.01	0.08	0.01	0.09
V16007-V16015	4345	278	8	0.082	2.23	0.01	0.07	0.02	0.08	0.01	0.07	0.02	0.08
V16008-V16009	4344	289	8	0.006	0.62	0.00	0.51	0.00	0.52	0.00	0.52	0.00	0.52
V16009-V16011	4350	128	8	0.243	3.85	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.04
V16010-V16011	4351	84	8	0.101	2.48	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V16011-V16012	4348	252	8	0.070	2.06	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V16012-V16014	4346	162	8	0.070	2.06	0.01	0.05	0.01	0.06	0.01	0.06	0.01	0.07
V16013-V16014	4354	292	8	0.129	2.80	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V16014-V16015	868	61	8	0.072	2.09	0.01	0.06	0.02	0.09	0.01	0.07	0.02	0.09
V16015-V16016	610	310	8	0.065	1.99	0.02	0.08	0.04	0.11	0.03	0.09	0.04	0.10
V16016-V16019	4355	179	8	0.065	1.99	0.03	0.08	0.05	0.11	0.03	0.09	0.05	0.11
V16017-V16018	210	89	8	0.012	0.85	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V16018-V16019	4352	163	8	0.101	2.48	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07
V16019-V16020	866	24	8	0.063	1.96	0.03	0.09	0.06	0.12	0.04	0.10	0.05	0.12
V16020-V16021	861	309	8	0.070	2.06	0.04	0.11	0.06	0.15	0.04	0.12	0.06	0.14
V16021-V16022	863	303	8	0.019	1.07	0.04	0.13	0.07	0.17	0.04	0.14	0.06	0.17
V16022-V16023	4364	189	8	0.018	1.05	0.04	0.14	0.07	0.18	0.04	0.14	0.07	0.17
V16023-V16035	4370	55	8	0.016	0.99	0.04	0.19	0.07	0.24	0.04	0.20	0.07	0.23
V16024.A0-V16024.B0	211	54	8	0.017	1.01	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V16024.B0-V16024.C0	213	85	8	0.014	0.92	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V16024.C0-V16024.D0	214	204	8	0.014	0.91	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V16024.D0-V16024.E0	215	309	8	0.010	0.79	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.07
V16024.E0-V16024	4356	216	8	0.027	1.29	0.01	0.09	0.01	0.10	0.01	0.06	0.01	0.07
V16024-V16025	216	283	8	0.017	1.02	0.03	0.13	0.04	0.15	0.01	0.10	0.01	0.11
V16025-V16026	4358	356	8	0.011	0.81	0.03	0.13	0.04	0.14	0.03	0.12	0.03	0.13
V16026-V16027	4359	304	8	0.115	2.65	0.06	0.15	0.07	0.16	0.06	0.14	0.06	0.14
V16027-V16034.A0	4360	135	8	0.013	0.88	0.07	0.19	0.08	0.21	0.06	0.19	0.07	0.19
V16028-V16029	4367	131	6	0.308	2.01	0.00	0.08	0.00	0.09	0.02	0.23	0.02	0.23
V16029-V16031	208	150	6	0.001	0.12	0.00	0.10	0.00	0.11	0.02	0.25	0.02	0.25
V16030-V16031	209	130	8	0.062	1.95	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V16031-V16032	869	118	8	0.050	1.75	0.00	0.05	0.01	0.06	0.02	0.09	0.02	0.09
V16032-V16033	4366	231	8	0.022	1.15	0.01	0.05	0.01	0.06	0.03	0.09	0.03	0.09
V16033-V16034	4361	250	8	0.086	2.28	0.01	0.11	0.01	0.13	0.03	0.13	0.03	0.13
V16034.A0-V16034	4362	135	8	0.011	0.80	0.07	0.19	0.08	0.21	0.06	0.19	0.07	0.19
V16034-V16035	4365	273	8	0.026	1.25	0.08	0.21	0.10	0.25	0.09	0.22	0.10	0.24
V16035-V16039	4369	326	8	0.017	1.01	0.12	0.21	0.18	0.26	0.14	0.23	0.17	0.26
V16036-V16037	4377	121	8	0.011	0.80	0.00	0.02	0.00	0.02	0.00	0.08	0.00	0.08
V16037-V16038	4376	349	8	0.010	0.78	0.00	0.04	0.00	0.06	0.02	0.12	0.02	0.13
V16038-V16039	4373	357	8	0.007	0.64	0.00	0.11	0.01	0.15	0.02	0.16	0.03	0.18
V16039-V16050	4372	53	15	0.027	6.84	0.12	0.22	0.19	0.29	0.16	0.26	0.20	0.30
V16041.A0-V16041	4337	61	15	0.055	9.82	0.74	0.21	1.49	0.31	1.20	0.27	1.71	0.33
V16041-V16042	4336	220	15	0.019	5.77	0.74	0.24	1.49	0.34	1.20	0.30	1.71	0.37
V16042-V16043	FM10	422	15	0.022	6.17	0.74	0.25	1.49	0.36	1.20	0.32	1.72	0.39
V16043-V16044	862	254	15	0.013	4.73	0.74	0.27	1.50	0.39	1.20	0.34	1.72	0.42
V16044-V16045	864	357	15	0.014	4.87	0.74	0.26	1.50	0.37	1.20	0.33	1.73	0.40
V16045-V16046	865	217	15	0.017	5.42	0.74	0.25	1.51	0.36	1.20	0.32	1.73	0.39
V16046-V16047	857	501	15	0.019	5.75	0.74	0.24	1.51	0.34	1.20	0.30	1.74	0.37
V16047-V16048	4368	342	15	0.024	6.41	0.74	0.24	1.52	0.35	1.20	0.31	1.75	0.38
V16048-V16049	4374	27	15	0.016	5.34	0.79	0.26	1.60	0.37	1.21	0.32	1.79	0.40
V16049-V16050	4375	66	15	0.017	5.47	0.79	0.30	1.60	0.42	1.21	0.36	1.79	0.44
V16050-V21192	3255	585	18	0.013	7.74	1.37	0.33	2.47	0.47	1.92	0.39	2.65	0.49
V17001-V17002	3400	162	6	0.009	0.34	0.00	0.08	0.00	0.13	0.01	0.16	0.01	0.19
V17002.A0-V17002.B0	4751	203	8	0.011	0.80	0.00	0.03	0.00	0.03	0.01	0.07	0.01	0.07
V17002.B0-V17002.C0	3408	121	8	0.042	1.59	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V17002.C0-V17002.D0	4749	149	8	0.064	1.97	0.00	0.03	0.01	0.04	0.01	0.06	0.01	0.06
V17002.D0-V17002.F0	4746	302	8	0.046	1.67	0.00	0.04	0.01	0.07	0.01	0.07	0.01	0.08
V17002.E0-V17002.F0	3954	186	8	0.012	0.87	0.00	0.04	0.01	0.08	0.01	0.07	0.01	0.09
V17002.EA-V17002.EB	3399	96	8	0.052	1.79	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V17002.EB-V17002.EE	3398	196	8	0.038	1.51	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.06
V17002.EC-V17002.ED	8277	10	8	0.037	1.51	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
V17002.ED-V17002.EE	8332	357	8	0.038	1.51	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V17002.EE-V17002.E0	8366	14	8	0.031	1.37	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.07
V17002.F0-V17002.G0	4748	178	8	0.043	1.61	0.01	0.06	0.02	0.10	0.02	0.10	0.03	0.12
V17002.G0-V17002.M0	651	293	8	0.010	0.79	0.01	0.08	0.02	0.13	0.02	0.13	0.03	0.16
V17002.H0-V17002.I0	4752	115	8	0.046	1.68	0.00	0.03	0.00	0.03	0.01	0.08	0.01	0.08
V17002.I0-V17002.K0	3953	211	8	0.006	0.61	0.00	0.03	0.00	0.04	0.01	0.08	0.01	0.08
V17002.K0-V17002.L0	654	260	8	0.095	2.40	0.00	0.03	0.01	0.04	0.02	0.06	0.02	0.06
V17002.L0-V17002.M0	652	300	8	0.099	2.46	0.00	0.06	0.01	0.10	0.02	0.11	0.02	0.12
V17002.M0-V17002	650	254	8	0.010	0.78	0.01	0.10	0.04	0.17	0.04	0.17	0.06	0.21
V17002-V17004	4739	374	8	0.006	0.60	0.01	0.09	0.04	0.17	0.04	0.17	0.06	0.21
V17004-V17010	4740	271	10	0.012	1.55	0.01	0.07	0.05	0.11	0.05	0.11	0.07	0.14
V17005-V17006	1297	347	8	0.004	0.49	0.00	0.02	0.00	0.03	0.00	0.06	0.00	0.06
V17006-V17007	1298	156	8	0.004	0.49	0.00	0.04	0.00	0.07	0.00	0.08	0.01	0.09
V17007-V17008	4741	109	8	0.004	0.50	0.00	0.08	0.01	0.11	0.01	0.13	0.01	0.13
V17008-V17009	4742	254	8	0.004	0.52	0.01	0.10	0.02	0.11	0.02	0.12	0.02	0.12
V17009-V17010	4743	56	8	0.045	1.65	0.01	0.08	0.02	0.11	0.02	0.11	0.02	0.12
V17010-V17011	1304	241	10	0.043	2.93	0.03	0.08	0.07	0.13	0.07	0.13	0.10	0.15
V17011.A0-V17011.B0	7592	217	8	0.011	0.82	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V17011.B0-V17011.C0	7593	122	8	0.017	1.02	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V17011.C0-V17011.D0	7595	175	8	0.016	1.00	0.00	0.02	0.00	0.05	0.00	0.05	0.00	0.06
V17011.D0-V17011	7594	313	8	0.016	1.00	0.00	0.07	0.01	0.12	0.01	0.13	0.01	0.15
V17011-V17012	5048	310	10	0.015	1.71	0.03	0.11	0.08	0.18	0.08	0.18	0.12	0.22
V17012-V17013	5049	299	10	0.004	0.90	0.03	0.14	0.08	0.23	0.08	0.23	0.13	0.28
V17013-V17014.I0	5050	35	10	0.002	0.63	0.03	0.16	0.09	0.26	0.09	0.25	0.13	0.31
V17014.A0-V17014.C0	4744	298	8	0.020	1.10	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V17014.B0-V17014.C0	5530	4	8	0.002	0.35	0.00	0.03	0.00	0.04	0.01	0.07	0.01	0.07
V17014.C0-V17014.F0	4745	198	8	0.032	1.41	0.00	0.04	0.00	0.06	0.01	0.08	0.01	0.09
V17014.D0-V17014.F0	5531	4	8	0.002	0.35	0.00	0.05	0.00	0.08	0.00	0.10	0.00	0.11
V17014.E0-V17014.F0	5532	3	8	0.002	0.35	0.00	0.05	0.00	0.08	0.00	0.10	0.00	0.11
V17014.F0-V17014.G0	1305	289	8	0.029	1.34	0.01	0.09	0.02	0.12	0.03	0.12	0.04	0.14
V17014.FA-V17014.FB	7505	146	8	0.011	0.83	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V17014.FB-V17014.FC	7501	251	8	0.009	0.72	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.07
V17014.FC-V17014.FE	7500	241	8	0.008	0.72	0.00	0.05	0.01	0.07	0.01	0.08	0.01	0.08
V17014.FD-V17014.FE	7499	231	8	0.035	1.46	0.00	0.04	0.00	0.05	0.01	0.07	0.01	0.08
V17014.FE-V17014.FG	7598	121	8	0.030	1.36	0.01	0.04	0.01	0.06	0.02	0.07	0.02	0.08
V17014.FG-V17014.F0	7597	118	8	0.124	2.75	0.01	0.04	0.01	0.07	0.02	0.08	0.02	0.09
V17014.G0-V17014.H0	5051	278	8	0.014	0.92	0.03	0.12	0.04	0.15	0.04	0.14	0.05	0.16
V17014.H0-V17014.I0	5052	115	8	0.013	0.88	0.03	0.17	0.05	0.24	0.04	0.23	0.05	0.28
V17014.I0-V17014	5053	263	10	0.004	0.93	0.06	0.18	0.14	0.28	0.13	0.27	0.19	0.32
V17014-V17015	649	383	10	0.004	0.89	0.06	0.15	0.14	0.22	0.13	0.22	0.19	0.26
V17015-V17016	648	269	10	0.036	2.67	0.06	0.11	0.15	0.16	0.14	0.15	0.20	0.19

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V17016-V17018	1294	127	10	0.039	2.79	0.06	0.10	0.15	0.16	0.14	0.15	0.21	0.19
V17017-V17018	1295	300	8	0.032	1.39	0.00	0.07	0.00	0.11	0.01	0.12	0.01	0.14
V17018-V17019	1287	346	10	0.039	2.78	0.06	0.11	0.16	0.17	0.15	0.16	0.22	0.20
V17019-V17036	3956	476	10	0.030	2.43	0.07	0.16	0.16	0.26	0.15	0.25	0.23	0.31
V17020.A0-V17020	5533	3	8	0.002	0.35	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V17020.B0-V17020	5534	17	8	0.002	0.35	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V17020-V17021	1299	287	8	0.043	1.62	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V17021-V17022	1300	217	8	0.006	0.60	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V17022-V17025	1301	104	8	0.006	0.59	0.00	0.07	0.01	0.10	0.01	0.08	0.01	0.11
V17023-V17024	4750	193	8	0.020	1.09	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V17024-V17025	1302	349	8	0.054	1.82	0.00	0.06	0.00	0.08	0.00	0.07	0.01	0.08
V17025-V17026	646	305	8	0.005	0.56	0.01	0.08	0.02	0.13	0.01	0.11	0.02	0.14
V17026.A0-V17026.B0	7510	218	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V17026.B0-V17026.E0	7509	230	8	0.018	1.04	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V17026.CA-V17026.CB	7508	144	8	0.022	1.15	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
V17026.CB-V17026.D0	V17026.CB-V17026.D0	237	8	0.021	1.12	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V17026.D0-V17026.E0	7504	205	8	0.042	1.60	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V17026.E0-V17026	7511	286	8	0.035	1.46	0.01	0.06	0.01	0.10	0.01	0.09	0.02	0.11
V17026.F0-V17026.H0	6863	24	8	0.031	1.38	0.00	0.01	0.00	0.02	0.01	0.07	0.01	0.07
V17026.H0-V17026.J0	7492	271	8	0.029	1.33	0.00	0.02	0.00	0.04	0.03	0.10	0.03	0.10
V17026.I0-V17026.J0	7494	150	8	0.031	1.37	0.00	0.02	0.00	0.04	0.00	0.06	0.00	0.06
V17026.J0-V17026.K0	7493	85	8	0.030	1.36	0.00	0.03	0.01	0.05	0.03	0.10	0.03	0.10
V17026.K0-V17026	7495	285	8	0.041	1.58	0.00	0.05	0.01	0.09	0.03	0.11	0.03	0.13
V17026-V17027.A0	7496	55	8	0.029	1.32	0.02	0.08	0.05	0.13	0.05	0.13	0.07	0.16
V17027.A0-V17027	7497	115	8	0.029	1.33	0.02	0.08	0.05	0.14	0.05	0.14	0.07	0.17
V17027-V17028	1306	320	8	0.021	1.14	0.02	0.08	0.05	0.13	0.06	0.15	0.08	0.17
V17028-V17030	5054	172	8	0.048	1.72	0.02	0.07	0.05	0.13	0.07	0.14	0.09	0.16
V17029-V17030	1307	283	8	0.054	1.82	0.00	0.04	0.00	0.06	0.00	0.08	0.00	0.10
V17030-V17031	5055	161	8	0.048	1.70	0.02	0.08	0.06	0.13	0.07	0.14	0.10	0.17
V17031-V17032	3409	294	8	0.044	1.64	0.02	0.09	0.06	0.16	0.07	0.17	0.10	0.20
V17032-V17034	643	312	8	0.014	0.93	0.02	0.10	0.07	0.17	0.08	0.18	0.11	0.21
V17033-V17034	645	111	8	0.031	1.36	0.00	0.06	0.00	0.09	0.01	0.10	0.01	0.12
V17034-V17035	644	245	8	0.039	1.53	0.02	0.09	0.07	0.15	0.08	0.15	0.12	0.19
V17035-V17036	3957	288	8	0.044	1.64	0.03	0.17	0.08	0.28	0.08	0.28	0.12	0.35
V17036-V17037	819	336	10	0.005	1.00	0.09	0.33	0.24	0.49	0.23	0.47	0.36	0.58
V17037-V17049	641	118	10	0.000	0.18	0.12	0.36	0.27	0.51	0.23	0.47	0.36	0.57
V17038.A0-V17038.B0	1308	393	8	0.045	1.66	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V17038.AA-V17038.A0	5047	35	8	0.001	0.20	0.00	0.01	0.00	0.01	0.00	0.07	0.00	0.07
V17038.B0-V17038	3955	167	8	0.024	1.20	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
V17038.C0-V17038.D0	5046	14	6	0.004	0.22	0.01	0.11	0.01	0.11	0.00	0.04	0.00	0.04
V17038.D0-V17038.E0	5045	34	6	0.023	0.55	0.01	0.10	0.01	0.10	0.00	0.06	0.00	0.06
V17038.E0-V17038.F0	5044	304	6	0.010	0.36	0.01	0.12	0.01	0.13	0.01	0.11	0.01	0.11
V17038.F0-V17038	5233	137	8	0.005	0.55	0.01	0.09	0.01	0.10	0.01	0.09	0.01	0.09
V17038-V17039	1296	363	8	0.035	1.47	0.02	0.09	0.02	0.11	0.02	0.10	0.03	0.11
V17039-V17040	5231	350	8	0.020	1.11	0.03	0.10	0.04	0.11	0.03	0.10	0.04	0.11
V17040-V17041	5230	76	8	0.075	2.14	0.03	0.10	0.04	0.12	0.03	0.11	0.04	0.12
V17041-V17042	1290	13	8	0.013	0.88	0.03	0.12	0.04	0.15	0.04	0.14	0.04	0.15
V17042-V17043	1291	325	8	0.018	1.05	0.03	0.14	0.04	0.16	0.05	0.16	0.06	0.17
V17043-V17048	3958	320	8	0.011	0.82	0.04	0.15	0.06	0.18	0.05	0.16	0.06	0.17
V17044-V17045	1288	416	8	0.032	1.40	0.01	0.08	0.01	0.08	0.00	0.05	0.00	0.05
V17045-V17046	4380	353	8	0.022	1.15	0.02	0.10	0.02	0.11	0.01	0.07	0.01	0.08
V17046-V17047	4379	318	8	0.010	0.79	0.02	0.10	0.03	0.12	0.01	0.09	0.01	0.10
V17047-V17048	3968	87	8	0.021	1.12	0.02	0.12	0.03	0.14	0.02	0.12	0.03	0.13
V17048-V17049	655	164	8	0.050	1.75	0.08	0.24	0.11	0.32	0.07	0.28	0.09	0.33
V17049-V17054	657	202	10	0.008	1.29	0.20	0.29	0.38	0.41	0.31	0.36	0.45	0.44
V17050-V17051	7512	325	8	0.030	1.36	0.00	0.05	0.00	0.05	0.03	0.12	0.03	0.12
V17051-V17052	1292	328	8	0.030	1.36	0.03	0.11	0.03	0.11	0.06	0.15	0.06	0.15
V17052-V17053	3959	327	8	0.031	1.37	0.04	0.12	0.04	0.13	0.07	0.16	0.07	0.16
V17053-V17054	658	328	8	0.022	1.15	0.05	0.27	0.05	0.35	0.07	0.33	0.07	0.37
V17054-V17055	659	345	10	0.007	1.16	0.26	0.32	0.46	0.44	0.38	0.39	0.51	0.46
V17055-V17056	660	300	10	0.007	1.18	0.26	0.33	0.47	0.44	0.38	0.39	0.52	0.47
V17056-V17057	661	213	10	0.007	1.19	0.26	0.29	0.47	0.40	0.38	0.36	0.53	0.43
V17057-V17058	3962	389	10	0.016	1.79	0.26	0.27	0.47	0.37	0.38	0.33	0.53	0.40
V17058-V17068	3964	41	10	0.011	1.49	0.26	0.33	0.48	0.45	0.38	0.40	0.53	0.48
V17059.A0-V17059	5529	32	8	0.002	0.35	0.06	0.26	0.06	0.26	0.03	0.18	0.03	0.18
V17059-V17060	1293	101	8	0.006	0.58	0.06	0.18	0.06	0.18	0.03	0.14	0.03	0.14
V17060-V17062	3960	284	8	0.046	1.68	0.06	0.20	0.06	0.21	0.05	0.19	0.05	0.19
V17061.A0-V17061	821	5	8	0.002	0.35	0.01	0.07	0.01	0.07	0.01	0.08	0.01	0.08
V17061-V17062	3961	190	8	0.041	1.59	0.01	0.17	0.01	0.18	0.01	0.16	0.01	0.16
V17062.A0-V17062.B0	V17062.A0-V17062.B0	120	8	0.012	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V17062.B0-V17062.C0	V17062.B0-V17062.C0	33	8	0.016	0.99	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
V17062.C0-V17062.D0	V17062.C0-V17062.D0	120	8	0.015	0.96	0.00	0.05	0.00	0.07	0.00	0.00	0.00	0.04
V17062.D0-V17062.E0	V17062.D0-V17062.E0	179	8	0.009	0.73	0.01	0.10	0.02	0.11	0.00	0.00	0.00	0.05
V17062.E0-V17062.H0	V17062.E0-V17062.H0	180	8	0.006	0.61	0.01	0.10	0.02	0.12	0.00	0.05	0.00	0.09
V17062.F0-V17062.G0	V17062.F0-V17062.G0	124	8	0.030	1.36	0.00	0.00	0.00	0.01	0.00	0.05	0.00	0.05
V17062.G0-V17062.H0	V17062.G0-V17062.H0	200	8	0.011	0.81	0.00	0.05	0.00	0.08	0.02	0.10	0.02	0.10
V17062.H0-V17062	V17062.H0-V17062	91	8	0.007	0.66	0.01	0.19	0.02	0.21	0.02	0.18	0.02	0.19
V17062-V17063	662	271	8	0.005	0.55	0.09	0.25	0.10	0.27	0.08	0.24	0.08	0.24
V17063-V17064	1284	284	8	0.010	0.78	0.09	0.21	0.10	0.23	0.08	0.19	0.08	0.20
V17064-V17065	1285	83	8	0.027	1.27	0.11	0.22	0.12	0.24	0.08	0.20	0.08	0.21
V17065-V17066	1286	183	8	0.017	1.02	0.14	0.24	0.16	0.26	0.13	0.25	0.13	0.25
V17066-V17067	3963	273	8	0.021	1.14	0.14	0.25	0.16	0.26	0.17	0.28	0.17	0.28
V17067-V17068	3965	348	8	0.014	0.94	0.14	0.37	0.16	0.45	0.18	0.44	0.18	0.48
V17068-V17069	3966	239	10	0.008	1.29	0.40	0.38	0.64	0.50	0.56	0.46	0.71	0.53
V17069-V17070	3967	299	10	0.009	1.33	0.42	0.40	0.66	0.52	0.56	0.47	0.72	0.55
V17070-V17071	4754	318	10	0.009	1.33	0.42	0.32	0.67	0.41	0.56	0.37	0.72	0.43
V17071-V16041.A0	4335	35	15	0.051	9.42	0.42	0.16	0.67	0.22	0.56	0.20	0.72	0.23
V17076-V17002.EA	956	90	8	0.010	0.78	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V17077-V17014.FA	7506	19	8	0.015	0.97	0.00	0.01	0.00	0.01	0.00	0.04	0.00	0.04
V17079-V17080	V17079-V17080	100	8	0.161	3.14	0.00	0.00	0.00	0.01	0.02	0.06	0.02	0.06
V17079-V17080	V17080-V17026.H0	171	8	0.125	2.76	0.00	0.01	0.00	0.03	0.02	0.08	0.02	0.08
V18001-V18002	5291	13	8	0.064	1.97	0.00	0.02	0.00	0.02	0.01	0.08	0.01	0.08
V18002-V18003	4757	154	8	0.008	0.72	0.00	0.02	0.00	0.03	0.01	0.09	0.01	0.09
V18003-V18004	4758	53	8	0.011	0.82	0.00	0.02	0.00	0.04	0.01	0.08	0.01	0.08
V18004-V18005	4759	156	8	0.027	1.28	0.00	0.02	0.00	0.04	0.01	0.08	0.01	0.08
V18005-V18009	380	55	8	0.014	0.94	0.00	0.04	0.00	0.07	0.02	0.11	0.02	0.12
V18006.A0-V18006	5290	89	8	0.008	0.70	0.00	0.03	0.00	0.03	0.02	0.10	0.02	0.10
V18006-V18007	5289	184	8	0.050	1.75	0.00	0.02	0.00	0.03	0.02	0.07	0.02	0.07
V18007-V18008	5057	111	8	0.139	2.92	0.00	0.02	0.00	0.03	0.02	0.05	0.02	0.05
V18008-V18009	5234	70	8	0.326	4.46	0.00	0.03	0.01	0.05	0.02	0.09	0.02	0.09
V18009-V18010	381	102	8	0.011	0.83	0.00	0.05	0.01	0.09	0.03	0.15	0.04	0.15
V18010-V18011	5056	92	8	0.011	0.83	0.00	0.04	0.01	0.07	0.04	0.11	0.04	0.12
V18011-V18012	4756	142	8	0.185	3.36	0.00	0.04	0.01	0.07	0.04	0.11	0.04	0.12
V18012-V18013	391	40	8	0.008	0.70	0.00	0.06	0.01	0.10	0.04	0.15	0.04	0.16
V18013-V18014	397	83	8	0.010	0.77	0.00	0.06	0.02	0.10	0.04	0.15	0.04	0.16
V18014-V18015	398	102	8	0.009	0.76	0.00	0.05	0.02	0.09	0.04	0.14	0.04	0.14
V18015-V18016	399	137	8	0.032	1.41	0.01	0.04	0.02	0.08	0.04	0.11	0.04	0.12

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V18016-V18017	400	164	8	0.032	1.39	0.01	0.05	0.02	0.08	0.04	0.12	0.04	0.12
V18017.A0-V18017	7660	70	8	0.060	1.91	0.00	0.03	0.00	0.05	0.00	0.07	0.00	0.07
V18017-V18019	392	96	8	0.032	1.40	0.01	0.05	0.02	0.09	0.04	0.13	0.05	0.14
V18018-V18019	377	158	8	0.008	0.70	0.00	0.04	0.00	0.06	0.01	0.09	0.01	0.11
V18019-V18020	394	345	8	0.019	1.06	0.01	0.05	0.02	0.10	0.04	0.14	0.05	0.16
V18020-V18021	382	325	8	0.025	1.22	0.01	0.05	0.03	0.10	0.05	0.13	0.06	0.15
V18021-V18022	390	330	8	0.040	1.56	0.01	0.06	0.03	0.12	0.05	0.16	0.07	0.18
V18022-V18023.F0	1687	181	8	0.012	0.87	0.01	0.09	0.03	0.17	0.08	0.23	0.09	0.25
V18023.A0-V18023.B0	7603	202	8	0.005	0.55	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V18023.B0-V18023.D0	7604	277	8	0.013	0.87	0.00	0.05	0.00	0.06	0.00	0.06	0.01	0.07
V18023.C0-V18023.D0	1681	61	8	0.162	3.14	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V18023.D0-V18023.E0	7601	350	8	0.010	0.78	0.01	0.05	0.01	0.07	0.01	0.06	0.01	0.07
V18023.E0-V18023.F0	7602	183	8	0.045	1.66	0.01	0.08	0.01	0.13	0.01	0.15	0.01	0.17
V18023.F0-V18023	1688	149	8	0.006	0.61	0.02	0.12	0.05	0.20	0.09	0.24	0.10	0.27
V18023-V18024.F0	1689	141	8	0.013	0.89	0.04	0.15	0.07	0.22	0.11	0.26	0.12	0.29
V18024.A0-V18024.B0	1682	128	8	0.015	0.95	0.00	0.03	0.00	0.03	0.01	0.06	0.01	0.06
V18024.B0-V18024.D0	1683	169	8	0.016	0.98	0.00	0.04	0.00	0.05	0.01	0.06	0.01	0.06
V18024.C0-V18024.D0	1684	83	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V18024.D0-V18024.E0	1685	350	8	0.033	1.43	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.06
V18024.E0-V18024.F0	1686	184	8	0.078	2.18	0.01	0.11	0.01	0.15	0.01	0.17	0.01	0.19
V18024.F0-V18024	1690	186	8	0.007	0.65	0.04	0.17	0.09	0.25	0.12	0.28	0.14	0.31
V18024-V18025	386	332	8	0.009	0.76	0.05	0.21	0.10	0.28	0.13	0.32	0.15	0.34
V18025-V18026	387	325	10	0.004	0.86	0.06	0.17	0.11	0.23	0.14	0.25	0.16	0.27
V18026.A0-V18026.C0	395	64	8	0.080	2.21	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V18026.B0-V18026.C0	383	96	8	0.011	0.84	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V18026.C0-V18026.D0	396	227	8	0.010	0.80	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.05
V18026.D0-V18026.E0	384	330	8	0.028	1.30	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V18026.E0-V18026	385	331	8	0.046	1.68	0.01	0.12	0.01	0.16	0.01	0.16	0.01	0.18
V18026-V18027	389	304	10	0.011	1.47	0.07	0.17	0.13	0.23	0.15	0.24	0.18	0.26
V18027-V18028	5292	360	10	0.007	1.21	0.10	0.21	0.16	0.27	0.18	0.28	0.21	0.31
V18028-V18029	5293	311	10	0.004	0.91	0.10	0.22	0.17	0.28	0.18	0.29	0.22	0.32
V18029-V18030	5295	208	10	0.007	1.15	0.10	0.28	0.17	0.43	0.18	0.39	0.22	0.48
V18030-V18031	5296	485	12	0.006	1.81	0.31	0.24	0.80	0.39	0.60	0.33	0.95	0.43
V18031-V18034.A0	V18031-V18034.A0	235	12	0.047	5.00	0.31	0.17	0.81	0.27	0.61	0.24	0.96	0.30
V18034.A0-V18034	V18034.A0-V18034	16	12	0.047	4.97	0.31	0.18	0.81	0.29	0.61	0.25	0.97	0.32
V18034-V18035	5300	330	12	0.031	4.06	0.31	0.21	0.81	0.34	0.61	0.29	0.97	0.37
V18035-V18036	5299	330	12	0.015	2.82	0.31	0.22	0.82	0.37	0.61	0.32	0.97	0.41
V18036-V16041.A0	7526	120	12	0.016	2.90	0.31	0.23	0.82	0.35	0.61	0.30	0.97	0.38
V19001-V19002	5327	57	8	0.070	2.07	0.00	0.01	0.00	0.01	0.02	0.06	0.02	0.06
V19002-V19003	5326	121	8	0.167	3.20	0.00	0.01	0.00	0.02	0.02	0.05	0.02	0.05
V19003-V19004	5321	208	8	0.163	3.16	0.00	0.01	0.00	0.02	0.02	0.06	0.02	0.06
V19004-V19006	5324	258	8	0.114	2.64	0.00	0.02	0.00	0.04	0.02	0.07	0.02	0.07
V19005-V19006	5325	288	8	0.147	3.00	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.06
V19006-V19007	5322	247	8	0.072	2.10	0.00	0.02	0.01	0.05	0.03	0.07	0.03	0.08
V19007-V19008	5323	268	8	0.147	2.99	0.00	0.02	0.01	0.05	0.03	0.07	0.03	0.07
V19008-V19009	4674	291	8	0.169	3.21	0.00	0.03	0.02	0.06	0.03	0.07	0.03	0.08
V19009-V19013	5319	209	8	0.106	2.54	0.00	0.03	0.02	0.07	0.03	0.07	0.04	0.09
V19010-V19011	4670	128	8	0.297	4.26	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.01
V19011-V19012	4669	170	8	0.046	1.68	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
V19012-V19013	4668	250	8	0.220	3.66	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.06
V19013-V19014	5320	148	8	0.101	2.49	0.01	0.04	0.03	0.08	0.03	0.07	0.04	0.09
V19014-V19018	5308	347	8	0.103	2.51	0.01	0.05	0.03	0.09	0.03	0.08	0.04	0.10
V19015-V19016	5309	343	8	0.119	2.70	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V19016-V19017	5316	293	8	0.042	1.61	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V19017-V19018	5318	351	8	0.010	0.78	0.01	0.06	0.01	0.09	0.00	0.07	0.01	0.09
V19018-V19019	5311	217	8	0.090	2.34	0.01	0.06	0.05	0.11	0.03	0.09	0.06	0.12
V19019-V19020	5304	197	8	0.053	1.80	0.01	0.08	0.05	0.15	0.03	0.12	0.06	0.16
V19020-V19021	5303	304	8	0.008	0.71	0.02	0.10	0.05	0.19	0.03	0.15	0.06	0.20
V19021-V19025	5315	305	8	0.009	0.75	0.02	0.10	0.06	0.18	0.04	0.14	0.07	0.19
V19022-V19023	5317	198	8	0.070	2.07	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V19023-V19024	5313	343	8	0.065	1.99	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.04
V19024-V19025	5314	402	8	0.048	1.71	0.01	0.07	0.01	0.11	0.00	0.08	0.01	0.11
V19025-V19026	5536	205	8	0.026	1.25	0.02	0.09	0.07	0.15	0.04	0.12	0.08	0.16
V19026-V19027	4675	307	8	0.069	2.04	0.02	0.09	0.08	0.15	0.04	0.12	0.08	0.16
V19027-V19028	4678	177	8	0.023	1.17	0.03	0.11	0.08	0.19	0.04	0.14	0.09	0.20
V19028-V19029	4679	258	8	0.011	0.83	0.03	0.13	0.08	0.22	0.04	0.16	0.09	0.22
V19029-V19030	4680	258	8	0.011	0.84	0.03	0.13	0.09	0.23	0.05	0.17	0.09	0.24
V19030-V19035	5306	63	8	0.008	0.70	0.03	0.14	0.09	0.24	0.05	0.17	0.09	0.25
V19031-V19032	5332	185	8	0.132	2.84	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V19032-V19033	4676	102	8	0.005	0.55	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V19033-V19034	4677	229	8	0.013	0.89	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.05
V19034-V19035	5307	203	8	0.064	1.97	0.00	0.09	0.01	0.14	0.00	0.10	0.01	0.14
V19035-V19036	5341	329	8	0.012	0.85	0.03	0.13	0.10	0.22	0.05	0.16	0.10	0.22
V19036-V19037	5335	301	8	0.023	1.19	0.03	0.12	0.10	0.20	0.05	0.14	0.11	0.21
V19037.B0-V19037	5337	293	8	0.027	1.29	0.00	0.07	0.00	0.12	0.00	0.09	0.01	0.13
V19037.BA-V19037.B0	V19037.BA-V19037.B0	328	8	0.041	1.59	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V19037-V19038	5338	345	8	0.025	1.24	0.04	0.14	0.11	0.24	0.06	0.17	0.12	0.24
V19038-V19040	5339	256	8	0.010	0.77	0.04	0.14	0.12	0.24	0.06	0.17	0.12	0.25
V19039.A0-V19039	7558	5	8	0.002	0.35	0.00	0.01	0.00	0.01	0.00	0.04	0.00	0.04
V19039-V19040	5439	343	8	0.021	1.14	0.00	0.07	0.00	0.12	0.00	0.09	0.00	0.12
V19040-V19041	5440	112	8	0.026	1.27	0.04	0.14	0.12	0.25	0.06	0.17	0.13	0.25
V19041-V19098	5436	382	8	0.009	0.74	0.04	0.21	0.13	0.37	0.06	0.31	0.13	0.41
V19042-V19043	4892	84	8	0.219	3.65	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.03
V19043-V19045	5344	389	8	0.068	2.04	0.00	0.03	0.00	0.05	0.00	0.11	0.00	0.11
V19044.A0-V19044.B0	4761	199	8	0.088	2.32	0.00	0.03	0.00	0.05	0.02	0.11	0.02	0.11
V19044.AA-V19044.AB	1219	191	8	0.096	2.42	0.00	0.01	0.00	0.02	0.02	0.07	0.02	0.07
V19044.AB-V19044.A0	1220	24	8	0.032	1.39	0.00	0.02	0.00	0.03	0.02	0.07	0.02	0.07
V19044.B0-V19044	4762	105	8	0.101	2.48	0.01	0.04	0.02	0.07	0.12	0.16	0.12	0.16
V19044.BA-V19044.BB	1691	40	8	0.072	2.10	0.00	0.02	0.00	0.02	0.09	0.14	0.09	0.14
V19044.BB-V19044.BC	1692	178	8	0.100	2.48	0.00	0.02	0.00	0.02	0.09	0.13	0.09	0.13
V19044.BC-V19044.BD	1693	125	8	0.113	2.62	0.00	0.02	0.00	0.03	0.09	0.13	0.09	0.13
V19044.BD-V19044.BE	1694	124	8	0.142	2.94	0.00	0.02	0.00	0.03	0.09	0.13	0.09	0.13
V19044.BE-V19044.BF	1695	176	8	0.111	2.60	0.00	0.03	0.01	0.04	0.09	0.14	0.09	0.14
V19044.BF-V19044.BG	1696	94	8	0.084	2.27	0.00	0.03	0.01	0.05	0.10	0.14	0.10	0.14
V19044.BG-V19044.BH	1697	111	8	0.068	2.04	0.00	0.03	0.01	0.06	0.10	0.16	0.10	0.16
V19044.BH-V19044.BI	1701	147	8	0.039	1.55	0.00	0.03	0.01	0.06	0.10	0.15	0.10	0.15
V19044.BI-V19044.BJ	1702	225	8	0.117	2.67	0.00	0.04	0.01	0.07	0.10	0.18	0.10	0.18
V19044.BJ-V19044.B0	1703	94	8	0.017	1.02	0.00	0.04	0.01	0.08	0.10	0.18	0.10	0.18
V19044-V19045	5345	115	8	0.051	1.76	0.01	0.04	0.02	0.08	0.12	0.18	0.12	0.18
V19045-V19046	4889	152	8	0.050	1.75	0.01	0.05	0.03	0.09	0.12	0.18	0.12	0.18
V19046-V19051	3981	351	8	0.052	1.77	0.01	0.05	0.03	0.10	0.12	0.18	0.12	0.18
V19047-V19048	4891	52	8	0.097	2.43	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V19048-V19049	3980	195	8	0.069	2.06	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V19049-V19050	4890	181	8	0.055	1.84	0.00	0.02	0.00	0.04	0.00	0.04	0.01	0.04
V19050-V19051	3982	224	8	0.061	1.93	0.00	0.04	0.01	0.07	0.00	0.11	0.01	0.11
V19051-V19053	3986	325	8	0.057	1.87	0.01	0.06	0.04	0.11	0.13	0.18	0.14	0.18
V19052.A0-V19052.B0	4763	29	8	0.036	1.48	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V19052.B0-V19052.C0	1698	265	8	0.069	2.05	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V19052.C0-V19052.D0	1699	151	8	0.053	1.81	0.00	0.05	0.01	0.06	0.00	0.06	0.01	0.07
V19052.D0-V19052	1700	61	8	0.005	0.55	0.00	0.05	0.01	0.07	0.01	0.06	0.01	0.07
V19052-V19053	5329	320	8	0.056	1.85	0.00	0.05	0.01	0.08	0.01	0.11	0.01	0.12
V19053-V19054	3984	240	8	0.070	2.07	0.02	0.10	0.06	0.17	0.14	0.27	0.15	0.28
V19054-V19055	5078	390	8	0.004	0.50	0.02	0.16	0.06	0.28	0.14	0.41	0.16	0.43
V19055-V19062	5105	40	8	0.001	0.28	0.02	0.16	0.06	0.27	0.14	0.39	0.16	0.41
V19056-V19057	5092	86	6	0.019	0.50	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V19057-V19059	5104	201	6	0.064	0.91	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V19058-V19059	5107	3	6	0.018	0.48	0.00	0.11	0.00	0.12	0.00	0.13	0.00	0.13
V19059-V19060	5108	128	6	0.032	0.65	0.00	0.07	0.00	0.09	0.01	0.09	0.01	0.10
V19060-V19061	5095	196	6	0.007	0.30	0.00	0.07	0.01	0.09	0.01	0.09	0.01	0.10
V19061-V19062	5094	303	6	0.075	0.99	0.01	0.12	0.01	0.19	0.01	0.25	0.01	0.26
V19062-V19063	5106	83	8	0.009	0.73	0.03	0.12	0.08	0.19	0.15	0.27	0.17	0.29
V19063-V19078	5097	341	8	0.036	1.48	0.03	0.10	0.08	0.16	0.15	0.21	0.17	0.23
V19064-V19065	5083	112	8	0.128	2.79	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V19065-V19068	5080	161	8	0.025	1.24	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V19066-V19067	5082	333	8	0.068	2.03	0.00	0.03	0.00	0.03	0.02	0.06	0.02	0.06
V19067-V19068	5081	39	8	0.086	2.29	0.00	0.03	0.01	0.04	0.02	0.07	0.02	0.07
V19068-V19069	5079	203	8	0.058	1.88	0.00	0.06	0.01	0.08	0.02	0.11	0.02	0.11
V19069-V19070	5087	334	8	0.004	0.52	0.01	0.07	0.01	0.10	0.02	0.12	0.02	0.13
V19070-V19077	5100	223	8	0.019	1.09	0.01	0.07	0.02	0.11	0.02	0.12	0.03	0.13
V19071-V19072	5090	19	8	0.237	3.80	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V19072-V19073	5091	150	8	0.017	1.03	0.00	0.03	0.00	0.03	0.01	0.05	0.01	0.05
V19073-V19075	5089	331	8	0.073	2.11	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V19074-V19075	5085	184	8	0.008	0.71	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V19075-V19076	5088	264	8	0.060	1.92	0.01	0.04	0.01	0.06	0.01	0.06	0.01	0.07
V19076-V19077	5101	185	8	0.042	1.60	0.01	0.07	0.02	0.10	0.01	0.10	0.02	0.12
V19077-V19078	5102	295	8	0.014	0.93	0.02	0.10	0.04	0.15	0.04	0.17	0.05	0.19
V19078-V19088	5103	155	8	0.062	1.95	0.04	0.15	0.12	0.24	0.19	0.28	0.23	0.32
V19079-V19080	5310	289	6	0.132	1.32	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V19080-V19081	3983	259	8	0.093	2.38	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.05
V19081-V19082	3985	303	8	0.013	0.90	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
V19082-V19085	5333	303	8	0.081	2.22	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.08
V19084.B0-V19084.C0	V19084.B0-V19084.C0	239	8	0.080	2.21	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V19084.C0-V19084	V19084.C0-V19084	149	8	0.052	1.78	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V19084-V19085	5334	344	8	0.065	1.99	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
V19085-V19086	5343	381	8	0.013	0.90	0.01	0.08	0.02	0.13	0.01	0.09	0.02	0.13
V19086-V19087	5340	210	8	0.004	0.50	0.01	0.09	0.03	0.16	0.01	0.10	0.03	0.16
V19087-V19088	5077	352	8	0.005	0.57	0.01	0.14	0.03	0.23	0.01	0.23	0.03	0.28
V19088-V19089	5099	300	12	0.006	1.77	0.06	0.11	0.16	0.19	0.20	0.21	0.26	0.24
V19089-V19092	5441	256	12	0.017	2.99	0.06	0.09	0.16	0.15	0.21	0.16	0.27	0.19
V19090-V19091	5443	127	8	0.004	0.49	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V19091-V19092	5444	143	8	0.008	0.72	0.00	0.08	0.00	0.12	0.00	0.14	0.00	0.15
V19092-V19097	5427	103	12	0.042	4.72	0.06	0.08	0.17	0.13	0.21	0.15	0.27	0.17
V19094-V19095	5433	227	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V19095-V19096	5432	136	8	0.004	0.49	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V19096-V19097	5431	120	8	0.026	1.26	0.00	0.08	0.01	0.13	0.00	0.13	0.00	0.15
V19097-V19098.A0	5429	180	12	0.037	4.44	0.06	0.08	0.18	0.13	0.21	0.14	0.28	0.17
V19098.A0-V19098	5428	225	12	0.052	5.26	0.06	0.08	0.18	0.13	0.21	0.14	0.28	0.16
V19098-V19101	5437	236	12	0.005	1.57	0.10	0.18	0.32	0.31	0.28	0.29	0.42	0.36
V19101-V19105	5438	321	12	0.005	1.57	0.11	0.15	0.32	0.27	0.28	0.25	0.42	0.31
V19102.A0-V19102	5538	5	8	1.102	8.20	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V19102-V19103	5522	240	8	0.024	1.20	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V19103-V19104	5445	306	8	0.068	2.03	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V19104-V19105	5519	121	8	0.084	2.27	0.00	0.10	0.01	0.18	0.00	0.16	0.01	0.20
V19105-V19106	5520	222	12	0.023	3.47	0.11	0.13	0.33	0.23	0.28	0.21	0.44	0.26
V19106-V19107	5523	296	12	0.013	2.59	0.11	0.14	0.34	0.24	0.28	0.21	0.44	0.27
V19107-V19109	3411	404	12	0.050	5.14	0.20	0.19	0.58	0.32	0.39	0.26	0.68	0.35
V19108-V19109	5235	350	6	0.013	0.42	0.00	0.26	0.00	0.44	0.00	0.37	0.00	0.48
V19109-V19110	3412	255	12	0.005	1.64	0.20	0.23	0.59	0.41	0.40	0.33	0.69	0.45
V19110-V19111	3413	393	12	0.006	1.76	0.20	0.22	0.60	0.40	0.40	0.32	0.70	0.43
V19111-V18030	3417	287	12	0.007	1.92	0.20	0.22	0.61	0.39	0.41	0.31	0.71	0.42
V19113-V19116	3419	324	8	0.004	0.52	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V19114-V19115	3414	237	6	0.125	1.28	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V19115-V19116	3418	300	6	0.086	1.07	0.00	0.05	0.00	0.06	0.01	0.07	0.01	0.07
V19116-V18030	3416	164	8	0.067	2.03	0.01	0.25	0.01	0.40	0.01	0.35	0.02	0.45
V20001-V20002	5606	211	8	0.004	0.50	0.00	0.03	0.00	0.03	0.01	0.06	0.01	0.06
V20002-V20004	5585	127	8	0.065	1.99	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V20003-V20004	5584	247	6	0.061	0.90	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V20004-V20005	5605	141	8	0.032	1.40	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.07
V20005-V20007	5603	318	8	0.043	1.61	0.01	0.04	0.01	0.06	0.01	0.06	0.01	0.07
V20006-V20007	5524	57	8	0.002	0.35	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V20007-V20013	5553	344	8	0.066	2.00	0.01	0.08	0.02	0.13	0.01	0.11	0.02	0.14
V20008.A0-V20008	5604	138	8	0.011	0.84	0.00	0.06	0.00	0.09	0.00	0.08	0.00	0.10
V20008.B0-V20008.D0	7521	189	8	0.071	2.08	0.01	0.04	0.01	0.06	0.02	0.07	0.02	0.08
V20008.BB-V20008.BC	V20008.BB-V20008.BC	200	8	0.028	1.31	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V20008.BC-V20008.BD	V20008.BC-V20008.BD	150	8	0.030	1.35	0.00	0.03	0.00	0.04	0.00	0.05	0.01	0.05
V20008.BD-V20008.BE	V20008.BD-V20008.BE	170	8	0.030	1.35	0.00	0.03	0.01	0.05	0.01	0.06	0.01	0.07
V20008.BE-V20008.BG	V20008.BE-V20008.BG	216	8	0.048	1.70	0.00	0.05	0.01	0.07	0.02	0.09	0.02	0.10
V20008.BG-V20008.BH	V20008.BG-V20008.BH	87	8	0.008	0.68	0.00	0.11	0.01	0.15	0.02	0.18	0.02	0.19
V20008.BH-V20008.B0	V20008.BH-V20008.B0	15	8	0.004	0.50	0.01	0.10	0.01	0.13	0.02	0.16	0.02	0.17
V20008.C0-V20008.D0	7522	256	8	0.047	1.69	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.05
V20008.D0-V20008.F0	7524	346	8	0.060	1.91	0.01	0.06	0.02	0.09	0.02	0.09	0.03	0.10
V20008.E0-V20008.F0	7523	336	8	0.008	0.72	0.00	0.05	0.00	0.07	0.00	0.07	0.00	0.08
V20008.F0-V20008.G0	4102	152	8	0.020	1.09	0.01	0.22	0.03	0.28	0.02	0.27	0.03	0.30
V20008.G0-V20008	4103	49	8	0.003	0.46	0.01	0.24	0.03	0.31	0.02	0.30	0.04	0.33
V20008-V20009.A0	7425	17	8	0.003	0.46	0.01	0.08	0.03	0.13	0.03	0.12	0.04	0.14
V20009.A0-V20009	7426	260	8	0.045	1.66	0.01	0.06	0.03	0.10	0.03	0.09	0.04	0.11
V20009-V20010	5588	300	8	0.042	1.59	0.01	0.09	0.03	0.15	0.03	0.13	0.04	0.17
V20010-V20012	5602	385	8	0.004	0.49	0.01	0.10	0.04	0.16	0.03	0.14	0.05	0.18
V20011-V20012	5590	350	8	0.051	1.77	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.08
V20012-V20013	5552	65	8	0.034	1.44	0.02	0.10	0.05	0.16	0.03	0.13	0.05	0.17
V20013-V20014	5551	164	8	0.013	0.90	0.02	0.10	0.07	0.16	0.04	0.13	0.08	0.17
V20014-V20015	5593	248	8	0.053	1.80	0.02	0.12	0.07	0.20	0.04	0.16	0.08	0.21
V20015-V20016	5587	109	8	0.004	0.50	0.03	0.14	0.07	0.22	0.05	0.18	0.08	0.23
V20016-V20022	5586	154	8	0.018	1.05	0.03	0.14	0.07	0.23	0.05	0.18	0.08	0.24
V20017-V20018	5543	56	8	0.063	1.96	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V20018-V20019	5544	292	8	0.012	0.86	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V20019-V20021	5260	195	8	0.023	1.18	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.07
V20020-V20021	5875	12	8	0.002	0.35	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.07
V20021-V20022	5599	327	8	0.004	0.51	0.00	0.12	0.01	0.19	0.00	0.14	0.01	0.19
V20022-V20025	5598	232	8	0.005	0.56	0.03	0.14	0.09	0.22	0.05	0.17	0.09	0.23
V20023-V20024	5592	379	8	0.029	1.34	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V20024-V20025	5595	157	8	0.057	1.86	0.00	0.07	0.01	0.10	0.00	0.08	0.01	0.10
V20025-V20026	5597	33	8	0.046	1.68	0.04	0.10	0.10	0.17	0.05	0.12	0.10	0.17
V20026-V20037	5550	157	8	0.044	1.64	0.04	0.14	0.10	0.24	0.06	0.17	0.10	0.24

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V20027-V20028	5247	154	8	0.034	1.45	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V20028-V20031	5248	250	8	0.038	1.52	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.06
V20029-V20031	5541	49	8	0.002	0.35	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V20030-V20031	5249	239	8	0.005	0.56	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
V20031-V20032	5250	203	8	0.010	0.78	0.00	0.04	0.01	0.07	0.00	0.05	0.01	0.07
V20032-V20033	5258	306	8	0.026	1.25	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.07
V20033-V20035	5259	75	8	0.045	1.66	0.00	0.04	0.01	0.07	0.01	0.05	0.02	0.07
V20034-V20035	5596	307	8	0.008	0.70	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V20035-V20036	5549	70	8	0.041	1.58	0.00	0.05	0.02	0.09	0.01	0.06	0.02	0.09
V20036-V20037	5583	126	8	0.010	0.78	0.01	0.12	0.02	0.21	0.01	0.15	0.02	0.21
V20037-V20040	5582	243	8	0.007	0.67	0.04	0.15	0.12	0.25	0.06	0.18	0.13	0.26
V20038-V20039	5253	109	8	0.009	0.73	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V20039-V20040	5581	231	8	0.004	0.49	0.00	0.09	0.00	0.13	0.00	0.10	0.00	0.13
V20040-V20041	5251	220	8	0.036	1.47	0.05	0.12	0.13	0.21	0.07	0.15	0.13	0.21
V20041-V20053	5243	262	8	0.030	1.35	0.05	0.18	0.13	0.30	0.07	0.21	0.14	0.30
V20042-V20043	5254	44	8	0.044	1.64	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V20043-V20044	7775	359	8	0.008	0.69	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V20044-V20052	5580	166	8	0.005	0.57	0.00	0.06	0.01	0.09	0.00	0.06	0.01	0.08
V20045-V20046	5601	117	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.02	0.00	0.02
V20046-V20047	5591	241	8	0.040	1.57	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
V20047-V20049	5594	114	8	0.110	2.59	0.00	0.03	0.01	0.05	0.00	0.02	0.00	0.04
V20048-V20049	5548	133	8	0.006	0.63	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V20049-V20051	5547	211	8	0.022	1.17	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.06
V20050-V20051	5244	84	8	0.017	1.03	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V20051-V20052	5579	182	8	0.029	1.33	0.01	0.05	0.01	0.08	0.00	0.05	0.01	0.08
V20052-V20053	5568	195	8	0.027	1.27	0.01	0.15	0.02	0.24	0.01	0.16	0.02	0.24
V20053-V20056	5574	96	8	0.004	0.51	0.06	0.27	0.16	0.45	0.08	0.31	0.16	0.45
V20054-V20055	5578	265	8	0.041	1.59	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V20054-V20071	5567	269	8	0.074	2.13	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V20055-V20056	5566	184	8	0.023	1.19	0.00	0.17	0.00	0.28	0.00	0.19	0.00	0.28
V20056-V20059	5572	67	8	0.001	0.30	0.06	0.27	0.17	0.44	0.08	0.30	0.17	0.44
V20057-V20058	5255	150	8	0.067	2.02	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V20058-V20059	5565	295	8	0.015	0.95	0.00	0.12	0.00	0.20	0.00	0.14	0.00	0.20
V20059-V20060	5571	81	8	0.007	0.64	0.06	0.19	0.17	0.31	0.08	0.21	0.17	0.31
V20060-V20061	5245	198	8	0.023	1.19	0.06	0.21	0.18	0.35	0.08	0.24	0.17	0.35
V20061-V20068	3422	287	8	0.004	0.50	0.06	0.20	0.18	0.34	0.08	0.23	0.18	0.34
V20062-V20064	5545	274	8	0.086	2.29	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V20063-V20064	5577	104	8	0.002	0.31	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.06
V20064-V20065	5576	191	8	0.044	1.65	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V20065-V20066	5575	189	8	0.021	1.12	0.00	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V20066-V20068	5564	161	8	0.049	1.72	0.01	0.09	0.01	0.15	0.01	0.10	0.01	0.15
V20067-V20068	5540	52	8	0.002	0.35	0.00	0.09	0.00	0.16	0.00	0.09	0.00	0.15
V20068-V20069	5569	214	8	0.044	1.63	0.07	0.16	0.20	0.26	0.09	0.18	0.19	0.26
V20069-V20070	5570	321	8	0.022	1.16	0.07	0.18	0.20	0.31	0.09	0.21	0.20	0.30
V20070-V20072	5557	132	8	0.012	0.86	0.07	0.20	0.20	0.34	0.09	0.23	0.20	0.34
V20071-V20072.A0	5237	297	8	0.014	0.92	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V20072.A0-V20072.B0	5238	53	8	0.295	4.24	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.05
V20072.B0-V20072	5562	103	8	0.006	0.61	0.00	0.13	0.01	0.22	0.00	0.14	0.01	0.21
V20072-V20073	5563	202	8	0.012	0.85	0.08	0.19	0.21	0.31	0.10	0.21	0.21	0.31
V20073-V20077	5561	205	8	0.030	1.35	0.08	0.16	0.22	0.27	0.10	0.18	0.21	0.27
V20074.A0-V20074	5239	55	8	0.011	0.83	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V20074-V20075	5241	253	8	0.156	3.08	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V20075-V20076	5556	331	8	0.079	2.19	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.06
V20076-V20077	5560	50	8	0.005	0.57	0.00	0.11	0.01	0.18	0.00	0.12	0.01	0.18
V20077-V20078	5559	309	8	0.032	1.39	0.08	0.18	0.23	0.30	0.11	0.20	0.22	0.29
V20078-V20079	5554	322	8	0.018	1.04	0.08	0.23	0.23	0.40	0.11	0.27	0.23	0.40
V20079-V20080	5555	250	8	0.004	0.52	0.08	0.27	0.23	0.47	0.11	0.30	0.23	0.46
V20080-V19107	3421	419	8	0.006	0.60	0.09	0.23	0.24	0.40	0.11	0.29	0.23	0.41
V21001-V21002	3253	13	8	0.012	0.87	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V21002-V21003	3252	347	8	0.087	2.30	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V21003-V21004	3245	350	8	0.065	2.00	0.00	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V21004-V21009	3247	346	8	0.060	1.92	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.07
V21005-V21006	6602	332	8	0.089	2.33	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
V21006-V21008	3246	376	8	0.070	2.07	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.07
V21007.A0-V21008	6603	117	8	0.006	0.59	0.00	0.04	0.00	0.06	0.00	0.07	0.00	0.08
V21008-V21009	3251	229	8	0.012	0.84	0.01	0.05	0.01	0.08	0.01	0.08	0.02	0.09
V21009-V21012	3250	74	8	0.129	2.81	0.01	0.07	0.03	0.11	0.02	0.09	0.03	0.12
V21010.A0-V21010.B0	V21010.A0-V21010.B0	33	8	0.083	2.26	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.05
V21010.AB-V21010.AC	V21010.AB-V21010.AC	102	8	0.239	3.82	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21010.AC-V21010.A0	V21010.AC-V21010.A0	108	8	0.155	3.07	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V21010.B0-V21010.D0	V21010.B0-V21010.D0	168	8	0.082	2.24	0.01	0.04	0.02	0.07	0.01	0.05	0.02	0.07
V21010.BA-V21010.BB	V21010.BA-V21010.BB	18	8	0.031	1.38	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
V21010.BB-V21010.BC	V21010.BB-V21010.BC	298	8	0.106	2.54	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02
V21010.BC-V21010.BD	V21010.BC-V21010.BD	132	8	0.141	2.93	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.03
V21010.BD-V21010.BE	V21010.BD-V21010.BE	132	8	0.166	3.18	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.03
V21010.BE-V21010.BF	V21010.BE-V21010.BF	132	8	0.181	3.33	0.00	0.01	0.01	0.04	0.00	0.02	0.01	0.04
V21010.BF-V21010.BG	V21010.BF-V21010.BG	107	8	0.111	2.61	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.04
V21010.BG-V21010.BH	V21010.BG-V21010.BH	73	8	0.230	3.75	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.04
V21010.BH-V21010.BI	V21010.BH-V21010.BI	109	8	0.178	3.29	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.06
V21010.BI-V21010.B0	V21010.BI-V21010.B0	158	8	0.024	1.21	0.00	0.03	0.01	0.06	0.01	0.04	0.01	0.07
V21010.C0-V21010.D0	V21010.C0-V21010.D0	270	8	0.011	0.81	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
V21010.D0-V21010.E0	V21010.D0-V21010.E0	208	8	0.046	1.67	0.01	0.06	0.02	0.10	0.01	0.07	0.02	0.10
V21010.E0-V21010.F0	V21010.E0-V21010.F0	72	8	0.018	1.04	0.01	0.07	0.03	0.12	0.01	0.08	0.03	0.12
V21010.F0-V21010	V21010.F0-V21010	169	8	0.018	1.04	0.01	0.54	0.03	0.56	0.02	0.55	0.04	0.56
V21010.FA-V21010.FB	V21010.FA-V21010.FB	36	8	0.278	4.12	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21010.FB-V21010.FC	V21010.FB-V21010.FC	255	8	0.101	2.48	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V21010.FC-V21010.FD	V21010.FC-V21010.FD	145	8	0.105	2.53	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V21010.FD-V21010.F0	V21010.FD-V21010.F0	105	8	0.015	0.96	0.00	0.06	0.01	0.09	0.00	0.07	0.01	0.09
V21010-V21011	6601	29	8	0.086	2.29	0.01	0.55	0.04	0.58	0.02	0.56	0.04	0.58
V21011-V21012	6600	283	8	0.006	0.62	0.01	0.09	0.04	0.16	0.02	0.12	0.04	0.16
V21012-V21013	3249	219	8	0.037	1.50	0.02	0.09	0.07	0.14	0.04	0.11	0.07	0.15
V21013-V21014	6523	198	8	0.059	1.89	0.03	0.08	0.07	0.13	0.04	0.10	0.08	0.14
V21014-V21017	2304	380	8	0.070	2.06	0.03	0.10	0.07	0.16	0.04	0.12	0.08	0.17
V21016.A0-V21016.B0	V21016.A0-V21016.B0	245	8	0.228	3.73	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V21016.B0-V21016.C0	V21016.B0-V21016.C0	200	8	0.165	3.17	0.00	0.02	0.00	0.03	0.00	0.03	0.01	0.04
V21016.C0-V21016.D0	V21016.C0-V21016.D0	170	8	0.094	2.40	0.00	0.51	0.01	0.52	0.01	0.52	0.01	0.52
V21016.D0-V21016	V21016.D0-V21016	89	8	0.012	0.87	0.01	0.52	0.01	0.53	0.01	0.53	0.01	0.54
V21016-V21017	2307	282	8	0.021	1.12	0.00	0.07	0.01	0.13	0.01	0.10	0.01	0.14
V21017-V21018.J0	2306	173	8	0.020	1.12	0.03	0.12	0.09	0.21	0.05	0.16	0.10	0.22
V21018.A0-V21018.B0	6876	50	8	0.005	0.55	0.00	0.05	0.01	0.08	0.01	0.11	0.01	0.11
V21018.AA-V21018.AB	7616	168	8	0.033	1.43	0.00	0.02	0.00	0.02	0.01	0.07	0.01	0.07
V21018.AB-V21018.AC	7617	40	8	0.017	1.03	0.00	0.03	0.00	0.04	0.01	0.08	0.01	0.08
V21018.AC-V21018.A0	7618	301	8	0.008	0.68	0.00	0.04	0.00	0.07	0.01	0.10	0.01	0.10
V21018.B0-V21018.C0	6877	306	8	0.005	0.55	0.00	0.05	0.01	0.08	0.01	0.10	0.02	0.10
V21018.C0-V21018.DB	7612	35	8	0.022	1.16	0.00	0.04	0.01	0.07	0.01	0.09	0.02	0.10
V21018.D0-V21018.E0	7613	241	8	0.020	1.12	0.00	0.05	0.01	0.09	0.02	0.10	0.03	0.11
V21018.DA-V21018.DB	7615	238	8	0.028	1.30	0.00	0.02	0.00	0.04	0.01	0.07	0.01	0.08

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V21018.DB-V21018.D0	7090	29	8	0.018	1.05	0.00	0.05	0.01	0.08	0.02	0.10	0.03	0.11
V21018.E0-V21018.G0	6875	297	8	0.018	1.03	0.01	0.06	0.02	0.10	0.02	0.10	0.03	0.12
V21018.F0-V21018.G0	7614	263	8	0.074	2.12	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
V21018.G0-V21018.H0	6874	88	8	0.024	1.21	0.01	0.06	0.03	0.09	0.02	0.09	0.04	0.11
V21018.H0-V21018.I0	6873	220	8	0.052	1.78	0.01	0.06	0.03	0.10	0.03	0.10	0.04	0.11
V21018.I0-V21018.J0	6872	87	8	0.019	1.09	0.01	0.10	0.03	0.17	0.03	0.14	0.04	0.18
V21018.J0-V21018	8324	110	8	0.021	1.14	0.04	0.15	0.12	0.26	0.08	0.21	0.14	0.28
V21018-V21019	2305	301	8	0.008	0.69	0.04	0.14	0.12	0.25	0.08	0.20	0.14	0.27
V21019-V21020	2022	107	8	0.040	1.57	0.04	0.11	0.12	0.19	0.08	0.15	0.14	0.21
V21020-V21021	2303	188	8	0.040	1.56	0.04	0.12	0.13	0.20	0.08	0.16	0.15	0.22
V21021-V21022	2026	268	8	0.033	1.41	0.04	0.11	0.13	0.19	0.08	0.15	0.15	0.20
V21022-V21024.C0	V21022-V21024.C0	88	8	0.077	2.17	0.04	0.11	0.13	0.19	0.08	0.15	0.15	0.20
V21023.A0-V21023.B0	7177	122	8	0.042	1.61	0.00	0.02	0.00	0.03	0.01	0.05	0.01	0.05
V21023.B0-V21023.C0	7178	64	8	0.017	1.02	0.00	0.03	0.00	0.04	0.01	0.06	0.01	0.06
V21023.C0-V21023.D0	7179	129	8	0.011	0.82	0.00	0.03	0.00	0.05	0.01	0.07	0.01	0.07
V21023.D0-V21023.E0	7180	207	8	0.016	0.98	0.00	0.03	0.00	0.05	0.01	0.07	0.01	0.07
V21023.E0-V21023.F0	7181	32	8	0.020	1.10	0.00	0.03	0.01	0.06	0.01	0.07	0.01	0.08
V21023.F0-V21023.G0	7182	231	8	0.013	0.90	0.00	0.04	0.01	0.07	0.01	0.08	0.01	0.09
V21023.G0-V21023	7183	163	8	0.010	0.80	0.00	0.11	0.01	0.18	0.01	0.18	0.02	0.21
V21023-V21024	7184	180	8	0.000	0.12	0.00	0.15	0.01	0.24	0.01	0.22	0.02	0.27
V21024.A0-V21024.B0	V21024.A0-V21024.B0	219	8	0.013	0.90	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V21024.B0-V21024.C0	V21024.B0-V21024.C0	215	8	0.013	0.89	0.00	0.08	0.00	0.13	0.00	0.11	0.01	0.14
V21024.C0-V21024	V21024.C0-V21024	344	8	0.036	1.49	0.04	0.11	0.14	0.20	0.09	0.16	0.16	0.22
V21024-V21025	584	67	10	0.042	2.89	0.05	0.10	0.15	0.17	0.10	0.14	0.18	0.19
V21025-V21026	6599	222	10	0.021	2.06	0.05	0.10	0.15	0.17	0.10	0.14	0.18	0.19
V21026-V21036.B0	7185	94	10	0.050	3.16	0.05	0.09	0.16	0.16	0.10	0.13	0.19	0.18
V21027-V21030	2338	4	8	0.002	0.35	0.00	0.00	0.00	0.01	0.00	0.05	0.00	0.05
V21028-V21030	5525	5	8	0.002	0.35	0.00	0.00	0.00	0.01	0.00	0.06	0.00	0.06
V21029-V21030	2335	4	8	0.002	0.35	0.00	0.00	0.00	0.01	0.00	0.05	0.00	0.05
V21030-V21031	5150	230	8	0.006	0.59	0.00	0.01	0.00	0.02	0.00	0.05	0.00	0.05
V21031-V21032	583	223	8	0.016	0.97	0.00	0.02	0.00	0.04	0.00	0.06	0.01	0.06
V21032-V21037.A0	8255	29	8	0.012	0.85	0.00	0.02	0.00	0.06	0.01	0.10	0.01	0.11
V21036.A0-V21036.B0	7189	290	8	0.045	1.66	0.00	0.07	0.00	0.12	0.00	0.10	0.00	0.13
V21036.AA-V21036.A0	7188	5	8	0.000	0.11	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V21036.B0-V21036	7186	111	10	0.027	2.33	0.05	0.10	0.16	0.18	0.10	0.15	0.19	0.20
V21036-V21037	1121	210	10	0.022	2.10	0.05	0.21	0.16	0.36	0.10	0.29	0.19	0.39
V21037.A0-V21037.B0	8256	281	8	0.006	0.62	0.00	0.05	0.00	0.09	0.03	0.14	0.03	0.15
V21037.B0-V21037.C0	8254	118	8	0.007	0.66	0.01	0.08	0.02	0.11	0.03	0.14	0.03	0.15
V21037.C0-V21037.D0	8253	55	8	0.009	0.74	0.01	0.08	0.02	0.11	0.03	0.14	0.03	0.15
V21037.D0-V21037.E0	8252	122	8	0.007	0.66	0.01	0.09	0.02	0.11	0.03	0.14	0.04	0.16
V21037.E0-V21037.F0	8251	78	8	0.008	0.69	0.01	0.08	0.02	0.11	0.03	0.14	0.04	0.16
V21037.F0-V21037.G0	8250	86	8	0.008	0.69	0.01	0.09	0.02	0.12	0.03	0.14	0.04	0.16
V21037.G0-V21037.H0	8249	120	8	0.007	0.66	0.01	0.09	0.02	0.12	0.03	0.14	0.04	0.16
V21037.H0-V21037.I0	8234	146	8	0.007	0.65	0.01	0.09	0.02	0.13	0.03	0.14	0.04	0.17
V21037.I0-V21037	8233	252	8	0.006	0.59	0.01	0.24	0.02	0.39	0.03	0.33	0.04	0.45
V21037-V21038	343	240	10	0.001	0.44	0.06	0.22	0.19	0.39	0.12	0.31	0.24	0.43
V21038-V21039	342	362	10	0.010	1.45	0.06	0.14	0.19	0.25	0.12	0.20	0.24	0.28
V21039-V21040	341	189	10	0.011	1.47	0.06	0.14	0.20	0.24	0.13	0.20	0.25	0.27
V21040-V21041	340	199	10	0.015	1.73	0.06	0.11	0.20	0.20	0.13	0.16	0.25	0.23
V21041-V21042	2471	362	10	0.053	3.25	0.06	0.11	0.20	0.19	0.13	0.15	0.25	0.22
V21042-V21043	754	371	10	0.025	2.23	0.06	0.10	0.20	0.18	0.13	0.14	0.25	0.20
V21043-V21044.D0	752	21	10	0.157	5.60	0.06	0.10	0.21	0.18	0.13	0.14	0.26	0.20
V21044.A0-V21044.B0	339	19	8	0.033	1.41	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02
V21044.B0-V21044.C0	2470	247	8	0.152	3.05	0.00	0.01	0.00	0.02	0.00	0.04	0.00	0.04
V21044.C0-V21044.D0	751	64	8	0.014	0.92	0.00	0.08	0.00	0.16	0.01	0.15	0.01	0.19
V21044.D0-V21044	405	248	10	0.019	1.97	0.06	0.11	0.21	0.21	0.13	0.17	0.27	0.24
V21044-V21045	6541	298	10	0.038	2.75	0.06	0.10	0.22	0.18	0.14	0.14	0.27	0.20
V21045-V21058	5122	350	10	0.064	3.57	0.06	0.09	0.22	0.17	0.14	0.14	0.28	0.19
V21046-V21047	586	319	8	0.091	2.35	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V21047-V21052	2029	72	8	0.089	2.33	0.00	0.02	0.00	0.04	0.00	0.03	0.01	0.04
V21048-V21049	2339	7	8	0.002	0.35	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21049-V21050	585	234	8	0.060	1.92	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V21050-V21051	2024	119	8	0.114	2.63	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V21051-V21052	2028	31	8	0.020	1.10	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V21052-V21053	6597	67	8	0.092	2.37	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.05
V21053-V21054	6598	389	8	0.091	2.36	0.00	0.03	0.01	0.07	0.00	0.05	0.01	0.07
V21054-V21055	2469	267	8	0.011	0.81	0.00	0.05	0.01	0.10	0.01	0.07	0.02	0.10
V21055-V21056	758	110	8	0.013	0.89	0.00	0.04	0.02	0.08	0.01	0.06	0.02	0.08
V21056-V21057	6540	359	8	0.126	2.77	0.00	0.03	0.02	0.07	0.01	0.05	0.02	0.08
V21057-V21058	5121	314	8	0.030	1.36	0.00	0.08	0.02	0.15	0.01	0.12	0.02	0.17
V21058-V21060	4562	220	10	0.067	3.67	0.07	0.12	0.25	0.22	0.15	0.17	0.31	0.24
V21059-V21060	5145	25	8	0.002	0.35	0.00	0.13	0.00	0.29	0.00	0.21	0.00	0.33
V21060-V21062	5114	251	10	0.014	1.68	0.07	0.17	0.25	0.30	0.15	0.24	0.31	0.33
V21061-V21062	5144	24	8	0.008	0.71	0.00	0.12	0.00	0.28	0.00	0.19	0.00	0.32
V21062-V21066	6827	17	10	0.001	0.34	0.07	0.15	0.25	0.28	0.15	0.22	0.31	0.31
V21063-V21064	404	61	8	0.277	4.11	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V21064-V21065	6539	193	8	0.198	3.47	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V21065-V21066	6145	122	8	0.014	0.92	0.00	0.08	0.00	0.16	0.00	0.12	0.00	0.17
V21066-V21067	6822	304	10	0.032	2.55	0.07	0.11	0.26	0.22	0.15	0.16	0.32	0.24
V21067-V21078	1671	228	10	0.033	2.59	0.07	0.11	0.26	0.22	0.15	0.16	0.32	0.24
V21068-V21069	2023	137	8	0.115	2.65	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21069-V21070	2027	166	8	0.050	1.75	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V21070-V21071	5149	234	8	0.038	1.53	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V21071-V21072	335	134	8	0.097	2.44	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V21072-V21073	2468	127	8	0.132	2.83	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V21073-V21074	2479	89	8	0.138	2.90	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V21074-V21075	6537	152	8	0.252	3.92	0.01	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V21075-V21076	4561	106	8	0.231	3.76	0.01	0.03	0.01	0.05	0.01	0.03	0.01	0.05
V21076-V21077	6821	124	8	0.141	2.94	0.01	0.04	0.02	0.06	0.01	0.04	0.01	0.05
V21077-V21078	1670	43	8	0.077	2.17	0.01	0.09	0.02	0.17	0.01	0.12	0.02	0.18
V21078-V21081	6144	293	10	0.034	2.62	0.08	0.12	0.28	0.22	0.16	0.17	0.34	0.24
V21079-V21080	5881	196	8	0.052	1.77	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21080-V21081	6143	209	8	0.079	2.19	0.00	0.08	0.00	0.16	0.00	0.12	0.00	0.17
V21081-V21082	6803	220	10	0.034	2.61	0.08	0.12	0.29	0.23	0.16	0.17	0.35	0.25
V21082-V21083	2018	213	10	0.035	2.65	0.08	0.12	0.29	0.22	0.16	0.16	0.35	0.24
V21083-V21108	6755	243	10	0.038	2.76	0.08	0.14	0.30	0.27	0.16	0.19	0.35	0.29
V21084-V21085	7619	327	8	0.035	1.46	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V21085-V21087	6536	316	8	0.115	2.65	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.04
V21086-V21087	6535	269	8	0.028	1.31	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V21088-V21087	5120	240	8	0.076	2.16	0.01	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V21088-V21091	4560	227	8	0.086	2.29	0.01	0.04	0.02	0.07	0.01	0.04	0.01	0.06
V21089-V21090	4559	169	8	0.013	0.91	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V21090-V21091	6826	288	8	0.035	1.47	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.05
V21091-V21093	6820	128	8	0.078	2.18	0.01	0.05	0.03	0.09	0.01	0.05	0.02	0.08
V21092-V21093	6819	340	8	0.020	1.09	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
V21093-V21094	5877	135	8	0.039	1.55	0.01	0.06	0.03	0.10	0.01	0.06	0.03	0.10
V21094-V21095	5878	224	8	0.025	1.24	0.01	0.07	0.03	0.11	0.01	0.06	0.03	0.10

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V21095-V21097	5879	341	8	0.038	1.53	0.01	0.07	0.03	0.11	0.01	0.06	0.03	0.10
V21096-V21097	6801	109	8	0.002	0.35	0.00	0.06	0.00	0.08	0.00	0.05	0.00	0.07
V21097-V21105	2017	228	8	0.028	1.31	0.01	0.09	0.04	0.16	0.01	0.08	0.03	0.15
V21098-V21099	5148	113	8	0.012	0.84	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V21099-V21100	5147	180	8	0.039	1.54	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V21100-V21101	5119	194	8	0.036	1.48	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.03
V21101-V21102	4558	79	8	0.249	3.89	0.00	0.02	0.01	0.04	0.00	0.02	0.01	0.04
V21102-V21103	6824	106	8	0.078	2.18	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V21103-V21104	6142	285	8	0.077	2.16	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
V21104-V21105	2016	251	8	0.068	2.04	0.00	0.07	0.01	0.13	0.00	0.06	0.01	0.12
V21105-V21106	6754	186	8	0.010	0.79	0.02	0.09	0.06	0.15	0.01	0.08	0.05	0.14
V21106-V21107	6753	64	8	0.078	2.19	0.02	0.09	0.06	0.16	0.01	0.08	0.05	0.15
V21107-V21108	6752	72	8	0.006	0.62	0.02	0.16	0.06	0.30	0.01	0.19	0.05	0.30
V21108-V21109	6750	349	12	0.011	2.44	0.10	0.13	0.36	0.26	0.17	0.18	0.41	0.27
V21109-V21110	6277	343	12	0.013	2.60	0.10	0.13	0.36	0.26	0.17	0.18	0.41	0.27
V21110-V21118	1632	344	12	0.012	2.49	0.10	0.15	0.37	0.29	0.17	0.20	0.41	0.31
V21111-V21112	239	133	8	0.114	2.64	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V21112-V21117	6141	240	8	0.175	3.26	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.03
V21113-V21114	6140	75	8	0.011	0.81	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V21114-V21115	6465	349	8	0.008	0.70	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V21115-V21116	6466	286	8	0.033	1.42	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.07
V21116-V21117	6467	58	8	0.004	0.49	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.07
V21117-V21118	6276	212	8	0.139	2.91	0.01	0.14	0.01	0.26	0.01	0.18	0.01	0.28
V21118-V21119	1631	401	12	0.008	2.08	0.10	0.13	0.39	0.25	0.18	0.17	0.43	0.26
V21119-V21163	2008	214	12	0.057	5.51	0.10	0.12	0.39	0.23	0.18	0.15	0.44	0.24
V21120-V21121	4557	319	8	0.037	1.51	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V21121-V21125	238	84	8	0.131	2.83	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.05
V21122-V21123	5134	4	8	0.790	6.94	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V21123-V21124	4556	270	8	0.082	2.24	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.03
V21124-V21125	6818	257	8	0.004	0.49	0.00	0.04	0.00	0.07	0.00	0.04	0.00	0.06
V21125-V21126	6817	148	8	0.020	1.11	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
V21126-V21127	1669	114	8	0.040	1.56	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.06
V21127-V21128	6139	210	8	0.064	1.97	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.06
V21128-V21131	2015	212	8	0.072	2.10	0.01	0.05	0.02	0.08	0.00	0.04	0.02	0.07
V21129-V21130	6800	94	8	0.028	1.30	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V21130-V21131	2014	245	8	0.026	1.26	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
V21131-V21132	6749	208	8	0.038	1.52	0.01	0.06	0.03	0.10	0.01	0.05	0.02	0.09
V21132-V21134	6275	358	8	0.028	1.32	0.01	0.09	0.03	0.14	0.01	0.08	0.02	0.12
V21133-V21134	6294	100	8	0.052	1.78	0.00	0.07	0.00	0.10	0.00	0.06	0.00	0.09
V21134-V21135	2007	262	8	0.006	0.60	0.02	0.11	0.04	0.17	0.01	0.10	0.03	0.16
V21135-V21136	2006	162	8	0.006	0.61	0.02	0.12	0.04	0.18	0.01	0.10	0.03	0.16
V21136-V21137	2005	166	8	0.007	0.63	0.02	0.11	0.04	0.17	0.01	0.10	0.04	0.15
V21137-V21142	4147	27	8	0.014	0.91	0.02	0.12	0.05	0.18	0.01	0.10	0.04	0.17
V21138-V21140	6799	59	8	0.028	1.32	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V21139-V21140	5884	119	8	0.082	2.23	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V21140-V21141	2013	176	8	0.029	1.34	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V21141-V21142	6680	390	8	0.059	1.89	0.00	0.09	0.01	0.13	0.00	0.08	0.01	0.12
V21142-V21143	6679	165	8	0.006	0.61	0.02	0.13	0.06	0.19	0.02	0.11	0.05	0.17
V21143-V21144	5882	268	8	0.017	1.00	0.03	0.13	0.06	0.19	0.02	0.11	0.05	0.17
V21144-V21145	5883	337	8	0.006	0.60	0.03	0.14	0.06	0.22	0.02	0.12	0.05	0.20
V21145-V21146	4146	352	8	0.006	0.60	0.03	0.15	0.07	0.23	0.02	0.13	0.05	0.21
V21146-V21149	4145	104	8	0.006	0.60	0.03	0.13	0.07	0.20	0.02	0.11	0.06	0.18
V21147-V21148	6678	51	8	0.694	6.51	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V21148-V21149	4144	219	8	0.046	1.68	0.00	0.05	0.00	0.09	0.00	0.04	0.00	0.08
V21149-V21150	4860	100	8	0.028	1.30	0.03	0.12	0.07	0.20	0.02	0.10	0.06	0.18
V21150-V21163	4859	312	8	0.005	0.58	0.03	0.18	0.07	0.33	0.02	0.20	0.06	0.32
V21151-V21152	5133	169	8	0.060	1.91	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.02
V21152-V21153	4555	56	8	0.201	3.50	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V21153-V21154	237	57	8	0.064	1.97	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.03
V21154-V21159	6816	49	8	0.287	4.18	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V21155-V21156	236	159	8	0.030	1.36	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21156-V21157	235	80	8	0.092	2.37	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V21157-V21158	3055	80	8	0.037	1.50	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V21158-V21159	1668	23	8	0.230	3.75	0.00	0.02	0.00	0.03	0.00	0.03	0.01	0.03
V21159-V21160	5288	187	8	0.222	3.68	0.00	0.03	0.01	0.04	0.01	0.03	0.01	0.04
V21160-V21161	6748	41	8	0.107	2.56	0.00	0.02	0.01	0.04	0.01	0.03	0.01	0.04
V21161-V21163	V21161-V21163	74	8	0.296	4.25	0.00	0.12	0.01	0.22	0.01	0.15	0.01	0.23
V21164-V21163	4858	372	12	0.019	3.20	0.13	0.13	0.48	0.24	0.20	0.16	0.52	0.25
V21165-V21166	6271	35	8	0.027	1.29	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21166-V21167	6273	29	8	0.211	3.59	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21167-V21168	2012	252	8	0.089	2.33	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V21168-V21171	6270	210	8	0.135	2.87	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.04
V21169-V21170	6267	43	8	0.142	2.94	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V21170-V21171	6268	298	8	0.126	2.77	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V21171-V21172	6269	31	8	0.147	2.99	0.01	0.03	0.01	0.05	0.01	0.04	0.01	0.05
V21172-V21173	4965	260	8	0.089	2.33	0.01	0.11	0.01	0.21	0.01	0.14	0.01	0.21
V21173-V21164	4966	384	12	0.054	5.34	0.13	0.12	0.49	0.22	0.20	0.15	0.52	0.23
V21173-V21179	6134	47	12	0.035	4.28	0.14	0.12	0.51	0.22	0.22	0.15	0.55	0.23
V21174-V21175	4964	189	8	0.071	2.09	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V21175-V21176	6522	98	8	0.027	1.29	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V21176-V21177	6521	144	8	0.045	1.66	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V21177-V21178	6133	153	8	0.043	1.62	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.06
V21178-V21179	1563	141	8	0.005	0.55	0.00	0.11	0.01	0.19	0.00	0.13	0.01	0.20
V21179-V21180	1562	176	12	0.063	5.77	0.14	0.14	0.52	0.27	0.23	0.17	0.56	0.27
V21180-V21181	1561	323	12	0.010	2.35	0.15	0.17	0.53	0.31	0.23	0.20	0.56	0.32
V21182-V21189	6482	327	12	0.019	3.13	0.16	0.24	0.54	0.43	0.23	0.28	0.58	0.44
V21183-V21184	6132	265	8	0.040	1.56	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V21184-V21185	1560	270	8	0.010	0.78	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.08
V21185-V21186	1559	305	8	0.004	0.51	0.01	0.09	0.01	0.11	0.01	0.09	0.01	0.10
V21186-V21187	1558	121	8	0.006	0.60	0.01	0.08	0.02	0.10	0.01	0.08	0.01	0.09
V21187.A0-V21187.B0	4148	40	8	0.051	1.76	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V21187.B0-V21187.C0	6262	57	8	0.048	1.71	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V21187.C0-V21187.D0	6263	233	8	0.107	2.55	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V21187.D0-V21187	6264	128	8	0.067	2.02	0.01	0.05	0.01	0.07	0.00	0.05	0.01	0.06
V21187-V21188	6265	319	8	0.056	1.86	0.02	0.12	0.03	0.16	0.01	0.11	0.02	0.14
V21188.A0-V21188.B0	3259	191	8	0.010	0.79	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.05
V21188.B0-V21188.C0	3261	207	8	0.010	0.79	0.01	0.07	0.01	0.08	0.00	0.06	0.01	0.07
V21188.C0-V21188.D0	3262	77	8	0.011	0.81	0.01	0.08	0.01	0.09	0.01	0.06	0.01	0.07
V21188.D0-V21188.E0	3263	54	8	0.011	0.83	0.01	0.07	0.01	0.09	0.01	0.06	0.01	0.07
V21188.E0-V21188.F0	3264	102	8	0.035	1.46	0.01	0.05	0.02	0.06	0.01	0.05	0.01	0.05
V21188.F0-V21188.G0	3265	60	8	0.307	4.33	0.01	0.06	0.02	0.07	0.01	0.05	0.01	0.06
V21188.G0-V21188.H0	3266	122	8	0.011	0.80	0.01	0.09	0.02	0.10	0.01	0.07	0.01	0.09
V21188.H0-V21188.I0	3267	108	8	0.011	0.80	0.01	0.09	0.02	0.11	0.01	0.08	0.01	0.09
V21188.I0-V21188.J0	3268	158	8	0.010	0.77	0.01	0.09	0.02	0.12	0.01	0.08	0.02	0.10
V21188.J0-V21188.K0	2696	185	8	0.010	0.79	0.01	0.09	0.02	0.12	0.01	0.08	0.02	0.10
V21188.K0-V21188	2697	62	8	0.014	0.94	0.01	0.13	0.03	0.17	0.01	0.12	0.02	0.15
V21188-V21189	6266	332	8	0.004	0.49	0.03	0.33	0.06	0.55	0.02	0.36	0.04	0.54

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V21189-V21190	6480	231	12	0.002	0.97	0.19	0.24	0.61	0.43	0.26	0.28	0.63	0.44
V21190-V21191	5893	397	12	0.022	3.38	0.19	0.19	0.62	0.34	0.26	0.22	0.64	0.35
V21191-V21192	5895	350	15	0.005	2.93	0.21	0.31	0.63	0.49	0.26	0.37	0.65	0.50
V21192-V21193	3256	260	18	0.006	5.36	1.58	0.37	3.12	0.53	2.19	0.44	3.30	0.55
V21193-V21194	3257	200	18	0.008	6.05	1.58	0.32	3.12	0.46	2.19	0.38	3.31	0.47
V21194-V21195	6255	126	18	0.019	9.45	1.58	0.28	3.13	0.40	2.19	0.33	3.32	0.41
V21195-V21196	6254	237	18	0.020	9.71	1.64	0.36	3.25	0.53	2.25	0.42	3.43	0.55
V21196-V22147	7152	299	18	0.004	4.23	1.64	0.42	3.26	0.63	2.25	0.50	3.44	0.66
V21201-V21182	1111	326	12	0.016	2.93	0.16	0.16	0.54	0.29	0.23	0.19	0.57	0.30
V22001-V22002	5885	94	8	0.029	1.34	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V22002-V22003	403	162	8	0.004	0.50	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.06
V22003-V22004	402	286	8	0.004	0.49	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V22004-V22006	5886	298	8	0.068	2.03	0.00	0.04	0.01	0.07	0.01	0.07	0.01	0.08
V22005-V22006	6629	105	8	0.018	1.05	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
V22006-V22007	5887	130	8	0.009	0.73	0.00	0.05	0.01	0.08	0.01	0.07	0.02	0.09
V22007-V22008	6534	202	8	0.044	1.64	0.01	0.04	0.01	0.06	0.01	0.06	0.02	0.07
V22008-V22009	4554	373	8	0.106	2.55	0.01	0.05	0.02	0.07	0.01	0.06	0.02	0.07
V22009-V22010	4578	310	8	0.063	1.97	0.01	0.07	0.02	0.11	0.02	0.09	0.03	0.11
V22010-V22012	5287	196	8	0.011	0.83	0.01	0.07	0.03	0.11	0.02	0.09	0.03	0.11
V22011-V22012	6630	179	8	0.149	3.01	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V22012-V22013	6677	329	8	0.101	2.48	0.01	0.06	0.03	0.09	0.02	0.07	0.04	0.09
V22013-V22025	6631	300	8	0.059	1.89	0.02	0.12	0.04	0.19	0.02	0.15	0.04	0.19
V22015-V22016	5286	208	6	0.050	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V22016-V22017	6676	294	6	0.125	1.28	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
V22017-V22018	6634	110	6	0.034	0.67	0.01	0.05	0.01	0.07	0.01	0.07	0.01	0.07
V22018-V22022	6295	21	6	0.351	2.15	0.01	0.08	0.01	0.11	0.01	0.10	0.01	0.11
V22019-V22020.A0	V22019-V22020.A0	10	8	0.060	1.91	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V22020.A0-V22020	V22020.A0-V22020	171	8	0.190	3.41	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V22020-V22021	6299	169	8	0.131	2.83	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V22021-V22022	6300	348	8	0.105	2.53	0.00	0.06	0.01	0.08	0.01	0.07	0.01	0.09
V22022-V22023	6643	67	8	0.006	0.58	0.01	0.10	0.02	0.14	0.02	0.12	0.02	0.14
V22023-V22025	6297	268	8	0.004	0.48	0.01	0.14	0.02	0.21	0.02	0.17	0.02	0.22
V22024-V22025	6298	197	8	0.178	3.30	0.00	0.10	0.00	0.15	0.00	0.12	0.00	0.15
V22025-V22027	6633	375	8	0.004	0.49	0.03	0.13	0.07	0.20	0.04	0.16	0.07	0.21
V22026-V22027	6632	194	8	0.136	2.88	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
V22027-V22028	4963	179	8	0.081	2.22	0.03	0.08	0.07	0.12	0.05	0.10	0.08	0.13
V22028-V22033	6520	200	8	0.110	2.59	0.03	0.09	0.08	0.14	0.05	0.11	0.08	0.14
V22029-V22031	6301	174	8	0.112	2.62	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V22030-V22031	6302	209	8	0.064	1.97	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V22031-V22032	6304	271	8	0.053	1.79	0.01	0.05	0.01	0.06	0.00	0.04	0.01	0.05
V22032-V22033	6519	27	8	0.022	1.15	0.01	0.08	0.01	0.11	0.01	0.08	0.01	0.11
V22033-V22034	6305	196	8	0.054	1.82	0.04	0.11	0.09	0.16	0.05	0.12	0.09	0.16
V22034-V22037	6306	359	8	0.041	1.58	0.04	0.12	0.10	0.18	0.06	0.14	0.10	0.17
V22035-V22036	6308	330	8	0.145	2.97	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V22036-V22037	6307	274	8	0.076	2.15	0.00	0.08	0.01	0.11	0.00	0.09	0.01	0.11
V22037-V22039	6309	225	8	0.041	1.58	0.05	0.16	0.11	0.23	0.07	0.18	0.11	0.23
V22039-V22038	5892	264	8	0.035	1.46	0.01	0.12	0.01	0.16	0.01	0.14	0.01	0.16
V22039-V22040	6720	126	8	0.011	0.81	0.06	0.20	0.13	0.28	0.09	0.23	0.13	0.28
V22040-V22041	6721	103	8	0.009	0.75	0.07	0.20	0.13	0.29	0.09	0.24	0.14	0.29
V22041-V22048	6722	169	8	0.010	0.78	0.07	0.29	0.14	0.41	0.10	0.32	0.14	0.40
V22042-V22043	6362	71	8	0.010	0.77	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V22043-V22044	4962	81	8	0.130	2.82	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V22044-V22045	6131	126	8	0.126	2.78	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V22045-V22046	1110	264	8	0.135	2.87	0.01	0.04	0.01	0.05	0.01	0.06	0.01	0.06
V22046-V22047.A0	V22046-V22047.A0	85	8	0.028	1.32	0.01	0.06	0.01	0.07	0.01	0.08	0.02	0.09
V22047.A0-V22047	V22047.A0-V22047	90	8	0.018	1.05	0.01	0.19	0.01	0.28	0.02	0.22	0.02	0.28
V22047-V22048	5890	23	12	0.022	3.38	0.35	0.23	0.73	0.34	0.40	0.25	0.69	0.33
V22048-V22049	6723	146	12	0.019	3.21	0.42	0.26	0.87	0.38	0.49	0.28	0.83	0.37
V22049-V22056	6724	340	12	0.013	2.59	0.43	0.29	0.88	0.43	0.50	0.32	0.84	0.42
V22050-V22052	6361	221	8	0.193	3.43	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V22051-V22052	6359	184	8	0.011	0.81	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V22052-V22054	1109	153	8	0.211	3.59	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V22053-V22054	6358	189	8	0.005	0.55	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V22054-V22055	6357	279	8	0.106	2.54	0.01	0.08	0.02	0.10	0.01	0.09	0.02	0.10
V22055-V22056	6356	246	8	0.005	0.54	0.01	0.29	0.02	0.41	0.02	0.32	0.03	0.40
V22056-V22075	4823	39	12	0.008	2.09	0.44	0.29	0.91	0.42	0.53	0.32	0.87	0.41
V22057-V22058	6368	259	6	0.006	0.28	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V22058-V22059	6369	119	6	0.070	0.96	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07
V22059-V22060	6130	71	6	0.006	0.28	0.00	0.08	0.01	0.10	0.00	0.09	0.01	0.10
V22060-V22061	6129	34	6	0.006	0.28	0.00	0.09	0.01	0.12	0.01	0.11	0.01	0.12
V22061-V22062	6128	267	6	0.006	0.28	0.01	0.09	0.01	0.11	0.01	0.10	0.01	0.11
V22062-V22068	6127	346	6	0.035	0.68	0.01	0.09	0.01	0.11	0.01	0.11	0.01	0.12
V22063-V22065	6364	127	6	0.005	0.27	0.00	0.08	0.00	0.09	0.01	0.15	0.01	0.15
V22064-V22065	6365	61	6	0.003	0.21	0.00	0.07	0.00	0.07	0.00	0.13	0.00	0.13
V22065-V22067	6366	180	6	0.006	0.28	0.00	0.08	0.01	0.09	0.02	0.14	0.02	0.14
V22066-V22067	6363	94	6	0.123	1.27	0.00	0.04	0.00	0.05	0.00	0.07	0.00	0.07
V22067-V22068	6171	106	6	0.035	0.68	0.01	0.08	0.01	0.10	0.02	0.12	0.02	0.13
V22068-V22072	1108	173	6	0.050	0.81	0.02	0.11	0.03	0.13	0.03	0.14	0.04	0.15
V22069-V22070	6370	358	6	0.028	0.61	0.00	0.05	0.00	0.05	0.00	0.06	0.00	0.06
V22070-V22071	4961	181	6	0.066	0.93	0.01	0.05	0.01	0.07	0.01	0.07	0.01	0.07
V22071-V22072	1106	274	6	0.119	1.25	0.01	0.09	0.01	0.11	0.01	0.11	0.01	0.11
V22072-V22074	4803	305	6	0.072	0.97	0.03	0.16	0.04	0.19	0.05	0.20	0.05	0.21
V22073-V22074	4822	398	6	0.006	0.28	0.01	0.16	0.01	0.18	0.01	0.18	0.01	0.19
V22074-V22075	4821	223	6	0.020	0.51	0.04	0.37	0.06	0.50	0.07	0.42	0.07	0.51
V22075-V22076	4820	301	12	0.018	3.12	0.49	0.29	0.98	0.41	0.59	0.32	0.95	0.40
V22076-V22077.B0	V22076-V22077.B0	264	12	0.011	2.46	0.50	0.32	1.00	0.46	0.60	0.35	0.95	0.45
V22077.B0-V22077	V22077.B0-V22077	35	12	0.008	2.10	0.50	0.31	1.00	0.45	0.60	0.34	0.96	0.44
V22077-V22078	5646	262	12	0.013	2.63	0.50	0.34	1.00	0.50	0.60	0.37	0.96	0.49
V22078-V22095	6372	193	12	0.005	1.65	0.51	0.35	1.01	0.53	0.61	0.40	0.97	0.53
V22079-V22080	4486	131	8	0.056	1.84	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V22080-V22081	6377	349	8	0.052	1.78	0.00	0.02	0.00	0.04	0.00	0.05	0.00	0.05
V22081-V22092	6375	145	8	0.046	1.68	0.00	0.05	0.01	0.08	0.01	0.11	0.02	0.11
V22082-V22083	6380	102	8	0.030	1.34	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V22083-V22084	6379	225	8	0.006	0.62	0.00	0.04	0.00	0.05	0.01	0.06	0.01	0.06
V22084-V22087	6378	145	6	0.090	1.09	0.00	0.06	0.01	0.07	0.01	0.09	0.01	0.09
V22085.A0-V22085	6697	114	6	0.011	0.37	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V22085-V22086	6698	248	6	0.010	0.37	0.00	0.06	0.01	0.08	0.00	0.07	0.01	0.08
V22086-V22087	4960	344	6	0.061	0.90	0.01	0.06	0.01	0.08	0.01	0.08	0.01	0.09
V22087-V22088	6170	142	6	0.081	1.03	0.01	0.10	0.02	0.13	0.02	0.15	0.03	0.16
V22088-V22089	6169	305	6	0.010	0.36	0.01	0.12	0.02	0.16	0.03	0.19	0.03	0.20
V22089-V22091	1105	224	6	0.030	0.63	0.01	0.09	0.03	0.13	0.04	0.16	0.05	0.17
V22090-V22091	6374	169	6	0.019	0.50	0.00	0.54	0.00	0.55	0.01	0.57	0.01	0.57
V22091-V22092	4802	235	6	0.166	1.48	0.02	0.09	0.03	0.12	0.06	0.17	0.06	0.18
V22092-V22093	4818	216	8	0.046	1.68	0.02	0.10	0.04	0.14	0.09	0.20	0.09	0.21
V22093-V22094	5645	255	8	0.009	0.72	0.02	0.12	0.05	0.23	0.09	0.23	0.10	0.29
V22094-V22095	6644	19	8	0.016	0.98	0.02	0.30	0.09	0.51	0.10	0.39	0.17	0.53
V22095-V22096	6371	213	10	0.013	1.64	0.53	0.45	1.06	0.68	0.70	0.53	1.12	0.70

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V22096-V22097	5387	397	12	0.004	0.86	0.53	0.44	1.06	0.69	0.70	0.52	1.09	0.70
V22097-V22098	5386	292	12	0.003	0.75	0.53	0.47	1.06	0.73	0.70	0.56	1.08	0.74
V22098-V22099	3063	288	12	0.003	0.73	0.53	0.34	1.07	0.50	0.70	0.40	1.08	0.51
V22099-V22145	3064	253	12	0.083	4.07	0.53	0.27	1.07	0.39	0.70	0.34	1.09	0.41
V22100-V22101	5285	203	8	0.151	3.03	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V22101-V22102	6675	243	8	0.160	3.13	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V22102-V22109	4857	402	8	0.042	1.59	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
V22103-V22104	7150	181	8	0.004	0.52	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V22104-V22105	5284	330	8	0.061	1.93	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V22105-V22108	6674	393	8	0.125	2.76	0.00	0.04	0.01	0.07	0.01	0.05	0.01	0.07
V22106-V22107	7151	108	8	1.714	10.22	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
V22107-V22108	6673	305	8	0.081	2.23	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V22108-V22109	4856	253	8	0.014	0.93	0.01	0.06	0.02	0.10	0.01	0.07	0.02	0.10
V22109-V22112	4959	196	8	0.034	1.45	0.01	0.06	0.03	0.10	0.02	0.07	0.03	0.10
V22110-V22111	6671	218	8	0.037	1.50	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V22111-V22112	4958	257	8	0.123	2.74	0.00	0.04	0.01	0.07	0.00	0.05	0.01	0.07
V22112-V22114	1564	291	8	0.066	2.01	0.02	0.07	0.04	0.11	0.02	0.08	0.04	0.11
V22113-V22114	6186	220	8	0.010	0.78	0.01	0.08	0.01	0.10	0.00	0.06	0.00	0.07
V22114-V22116	6292	61	6	0.071	0.97	0.02	0.11	0.05	0.16	0.02	0.12	0.05	0.16
V22115-V22116	7610	250	6	0.104	1.17	0.00	0.07	0.00	0.10	0.00	0.08	0.00	0.10
V22116-V22117	1104	367	8	0.054	1.81	0.03	0.08	0.06	0.12	0.03	0.08	0.05	0.11
V22117-V22119	4485	62	8	0.133	2.85	0.03	0.10	0.07	0.13	0.03	0.10	0.06	0.13
V22118-V22119	1103	280	6	0.091	1.09	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V22119-V22123	5769	303	8	0.029	1.34	0.04	0.13	0.07	0.17	0.04	0.12	0.07	0.15
V22120-V22121	7149	103	6	0.010	0.36	0.02	0.14	0.02	0.14	0.00	0.04	0.00	0.04
V22121-V22122	6168	122	6	0.049	0.80	0.02	0.10	0.02	0.10	0.00	0.04	0.00	0.04
V22122-V22123	1102	236	6	0.126	1.29	0.02	0.09	0.02	0.09	0.00	0.04	0.00	0.04
V22123-V22124	4801	364	8	0.037	1.49	0.07	0.15	0.11	0.18	0.04	0.12	0.07	0.16
V22124-V22125	5644	334	8	0.039	1.55	0.07	0.20	0.11	0.26	0.05	0.18	0.09	0.23
V22125-V22131	5851	386	8	0.004	0.51	0.07	0.24	0.12	0.32	0.06	0.29	0.10	0.33
V22126-V22127	589	146	8	0.075	2.14	0.00	0.01	0.00	0.02	0.01	0.14	0.01	0.14
V22127-V22128	1123	127	8	0.012	0.85	0.00	0.02	0.00	0.03	0.09	0.20	0.09	0.20
V22128-V22129	5850	203	8	0.037	1.50	0.00	0.04	0.00	0.06	0.10	0.25	0.10	0.25
V22129-V22130	5849	174	8	0.004	0.51	0.00	0.07	0.01	0.10	0.11	0.33	0.11	0.33
V22130-V22131	5848	39	8	0.003	0.43	0.00	0.15	0.01	0.21	0.11	0.34	0.11	0.35
V22131-V22132	5847	403	8	0.009	0.76	0.08	0.20	0.13	0.26	0.18	0.30	0.20	0.32
V22132-V22133	5846	140	8	0.021	1.13	0.08	0.20	0.14	0.26	0.18	0.29	0.20	0.32
V22133.A0-V22133	5998	176	6	0.002	0.16	0.01	0.22	0.01	0.27	0.00	0.21	0.00	0.23
V22133-V22134	5845	96	6	0.017	0.47	0.09	0.33	0.15	0.45	0.18	0.50	0.20	0.55
V22134-V22136	1258	55	6	0.006	0.28	0.09	0.38	0.15	0.52	0.18	0.56	0.20	0.62
V22135.A0-V22135.B0	587	103	6	0.002	0.16	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02
V22135.B0-V22135	7620	178	6	0.002	0.16	0.00	0.00	0.00	0.06	0.00	0.03	0.00	0.08
V22135-V22136	2434	124	6	0.002	0.16	0.00	0.19	0.00	0.30	0.00	0.30	0.00	0.37
V22136-V22144	1124	388	6	0.008	0.32	0.09	0.30	0.15	0.41	0.18	0.48	0.21	0.52
V22137.AA-V22137	V22137.AA-V22137	52	8	0.071	2.08	0.00	0.00	0.00	0.01	0.00	0.04	0.00	0.04
V22137-V22138	6382	589	6	0.015	0.44	0.00	0.00	0.00	0.05	0.00	0.07	0.00	0.09
V22138-V22139	5843	112	6	0.010	0.36	0.00	0.00	0.00	0.09	0.00	0.32	0.01	0.32
V22139-V22140	6381	181	6	0.005	0.26	0.00	0.00	0.00	0.08	0.14	0.41	0.14	0.41
V22140-V22144	1129	54	8	0.068	2.04	0.00	0.08	0.01	0.13	0.14	0.24	0.14	0.24
V22141-V22142	1127	300	6	0.020	0.51	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02
V22142-V22143	1125	151	6	0.020	0.51	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.06
V22143-V22144	1126	176	6	0.009	0.34	0.00	0.11	0.00	0.18	0.00	0.20	0.00	0.24
V22144-V22145	1130	307	10	0.029	2.41	0.09	0.27	0.16	0.39	0.32	0.39	0.34	0.46
V22145-V24090	7144	148	12	0.011	1.49	0.61	0.54	1.24	0.75	1.02	0.70	1.42	0.78
V22146-V22147	6253	228	6	0.011	0.38	0.01	0.54	0.01	0.54	0.03	0.60	0.03	0.60
V22147-V22148	6635	357	18	0.005	5.01	1.65	0.36	3.27	0.54	2.28	0.44	3.47	0.56
V22148-V22149	4800	487	18	0.013	7.87	1.65	0.28	3.28	0.40	2.28	0.33	3.48	0.42
V22149-V22155	4817	407	18	0.041	13.78	1.65	0.26	3.29	0.37	2.28	0.30	3.49	0.38
V22150-V22151	6837	197	8	0.012	0.85	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V22151-V22152	4799	214	8	0.014	0.91	0.00	0.02	0.00	0.04	0.00	0.04	0.00	0.05
V22155.A0-V22152	V22155.A0-V22152	59	8	0.018	1.03	0.00	0.02	0.00	0.05	0.00	0.04	0.01	0.06
V22155.A0-V22155.B0	V22155.A0-V22155.B0	300	8	0.018	1.05	0.00	0.03	0.01	0.06	0.00	0.05	0.01	0.07
V22155.B0-V22155	V22155.B0-V22155	200	8	0.009	0.76	0.00	0.33	0.01	0.49	0.00	0.39	0.01	0.51
V22155-V22156	5640	352	18	0.019	9.46	1.65	0.35	3.30	0.51	2.28	0.41	3.51	0.53
V22156-V22157.C0	7691	200	18	0.005	4.68	1.65	0.43	3.31	0.66	2.28	0.52	3.51	0.69
V22157.C0-V22157	7279	230	18	0.003	3.93	1.65	0.44	3.31	0.68	2.28	0.54	3.52	0.72
V22157-V22158	5842	427	18	0.004	4.27	1.65	0.45	3.32	0.69	2.32	0.55	3.55	0.72
V22158-V22159	5841	429	18	0.003	3.92	1.65	0.35	3.33	0.52	2.32	0.42	3.56	0.55
V22159-V22161	2433	162	18	0.044	14.22	1.65	0.23	3.33	0.33	2.33	0.27	3.57	0.34
V22161-V22162	5619	168	18	0.045	14.45	1.65	0.35	3.34	0.56	2.33	0.44	3.57	0.61
V22162-V24090	7148	13	18	0.004	4.26	1.65	0.48	3.34	0.79	2.33	0.62	3.58	0.89
V23001-V23002	6202	85	8	0.085	2.28	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23002-V23003	6203	72	8	0.102	2.49	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V23003-V23004	6204	249	8	0.046	1.68	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V23004-V23005	6205	183	8	0.059	1.90	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V23005-V23007	6206	316	8	0.032	1.40	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V23006-V23007	6207	93	8	0.003	0.44	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V23007-V23008	1667	256	8	0.008	0.72	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.08
V23008-V23009	5283	341	8	0.098	2.45	0.01	0.04	0.02	0.07	0.01	0.04	0.02	0.06
V23009-V23025	6670	119	8	0.068	2.03	0.01	0.07	0.02	0.11	0.01	0.07	0.02	0.11
V23010-V23011	4576	72	8	0.299	4.27	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23011-V23012	1666	163	8	0.067	2.02	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V23012-V23013	5280	154	8	0.068	2.04	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V23013-V23014	6798	132	8	0.044	1.64	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
V23014-V23015.C0	6210	244	8	0.011	0.84	0.00	0.05	0.01	0.08	0.00	0.05	0.01	0.07
V23015.A0-V23015.B0	6208	229	8	0.135	2.87	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V23015.B0-V23015.C0	6209	61	8	0.050	1.74	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
V23015.C0-V23015	6212	49	8	0.017	1.02	0.01	0.06	0.01	0.09	0.01	0.06	0.01	0.09
V23015-V23016	6797	147	8	0.010	0.79	0.01	0.05	0.01	0.08	0.01	0.06	0.01	0.08
V23016-V23021	2011	139	8	0.072	2.10	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.07
V23017-V23018	6796	91	8	0.022	1.15	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V23018-V23019	6795	104	8	0.058	1.88	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V23019-V23020	2010	197	8	0.066	2.01	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V23020-V23021	6747	249	8	0.008	0.70	0.01	0.06	0.01	0.08	0.00	0.05	0.01	0.07
V23021-V23025	6293	124	8	0.083	2.24	0.01	0.08	0.03	0.12	0.01	0.08	0.03	0.11
V23022-V23023	6213	61	8	0.064	1.98	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23023-V23024	6746	109	8	0.034	1.44	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V23024-V23025	6669	164	8	0.034	1.44	0.00	0.06	0.00	0.10	0.00	0.06	0.00	0.09
V23025-V23027	4143	281	8	0.020	1.10	0.02	0.10	0.06	0.16	0.02	0.10	0.05	0.15
V23026-V23027	6197	115	6	0.007	0.31	0.00	0.09	0.00	0.13	0.00	0.09	0.00	0.12
V23027-V23028	4855	270	8	0.021	1.13	0.02	0.10	0.06	0.16	0.02	0.10	0.06	0.15
V23028-V23039	6193	255	8	0.026	1.26	0.03	0.11	0.07	0.17	0.03	0.11	0.06	0.16
V23029-V23030	6839	123	8	0.078	2.19	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23030-V23031	6840	201	8	0.060	1.92	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V23031-V23033	6559	144	8	0.098	2.44	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V23032-V23033	6558	145	8	0.068	2.03	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V23033-V23034	6560	199	8	0.060	1.91	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.05

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V23034.A0-V23034.B0	6562	182	8	0.027	1.28	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V23034.B0-V23034	6645	46	8	0.096	2.42	0.00	0.52	0.00	0.52	0.00	0.52	0.00	0.52
V23034-V23036	6564	35	8	0.198	3.47	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.06
V23035-V23036	6561	370	8	0.051	1.77	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V23036-V23037	6565	226	8	0.039	1.54	0.01	0.06	0.02	0.08	0.01	0.06	0.02	0.08
V23037-V23038	6191	97	8	0.072	2.10	0.01	0.06	0.03	0.08	0.01	0.06	0.02	0.07
V23038-V23039	6192	115	8	0.081	2.22	0.01	0.09	0.03	0.13	0.01	0.09	0.02	0.13
V23039-V23040	6194	167	8	0.026	1.26	0.04	0.13	0.10	0.19	0.04	0.12	0.09	0.18
V23040-V23067	6195	309	8	0.024	1.22	0.04	0.13	0.10	0.20	0.04	0.13	0.09	0.19
V23041-V23042	2478	217	8	0.093	2.38	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V23042-V23043	401	174	8	0.061	1.94	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V23043-V23044	6533	249	8	0.119	2.69	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V23044.A0-V23044.B0	338	3	8	0.155	3.07	0.00	0.01	0.00	0.01	0.01	0.03	0.01	0.03
V23044.B0-V23044.C0	6214	312	8	0.165	3.17	0.00	0.02	0.00	0.02	0.01	0.03	0.01	0.03
V23044.C0-V23044	6215	77	8	0.145	2.97	0.00	0.03	0.00	0.05	0.01	0.05	0.01	0.05
V23044-V23045	5132	219	8	0.050	1.75	0.01	0.04	0.01	0.06	0.01	0.06	0.02	0.07
V23045-V23048	4240	245	8	0.090	2.35	0.01	0.04	0.02	0.07	0.01	0.06	0.02	0.07
V23046-V23047	234	7	8	2.751	12.95	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
V23047-V23048	4575	305	8	0.043	1.62	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V23048-V23051	1665	176	8	0.074	2.13	0.01	0.06	0.02	0.09	0.01	0.07	0.03	0.09
V23049-V23050	6216	280	8	0.088	2.32	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23050-V23051	6217	136	8	0.339	4.55	0.00	0.04	0.01	0.07	0.00	0.05	0.00	0.06
V23051-V23052	5279	231	8	0.032	1.39	0.01	0.07	0.03	0.11	0.02	0.08	0.03	0.11
V23052-V23053	6794	129	8	0.033	1.42	0.01	0.07	0.04	0.11	0.02	0.08	0.04	0.11
V23053-V23059	6793	120	8	0.035	1.46	0.01	0.07	0.04	0.11	0.02	0.08	0.04	0.11
V23054-V23055	6224	106	8	0.003	0.43	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V23055-V23056	1664	264	8	0.040	1.57	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V23056-V23057	5278	262	8	0.042	1.60	0.00	0.04	0.01	0.05	0.00	0.03	0.01	0.05
V23057-V23059	6792	65	8	0.060	1.91	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V23058-V23059	6791	19	8	0.028	1.32	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.06
V23059-V23060	6219	252	8	0.050	1.74	0.02	0.07	0.05	0.11	0.02	0.08	0.05	0.11
V23060-V23061	6220	112	8	0.075	2.13	0.02	0.08	0.05	0.12	0.02	0.08	0.05	0.12
V23061-V23062	6221	267	8	0.031	1.38	0.02	0.09	0.06	0.14	0.03	0.09	0.05	0.13
V23062-V23063	6222	128	8	0.038	1.52	0.02	0.12	0.06	0.18	0.03	0.12	0.06	0.17
V23063-V23065	6223	161	8	0.006	0.62	0.03	0.12	0.06	0.19	0.03	0.13	0.06	0.18
V23064-V23065	6198	146	8	0.008	0.69	0.00	0.06	0.00	0.09	0.00	0.06	0.00	0.08
V23065-V23066	6199	352	8	0.032	1.40	0.03	0.10	0.07	0.16	0.03	0.11	0.06	0.15
V23066-V23067	6200	247	8	0.023	1.17	0.03	0.12	0.07	0.18	0.03	0.12	0.07	0.17
V23067-V23068	6225	74	8	0.075	2.14	0.07	0.14	0.18	0.21	0.07	0.13	0.16	0.20
V23068-V23086	6227	155	8	0.045	1.65	0.08	0.20	0.18	0.32	0.07	0.20	0.16	0.30
V23069-V23070	6647	63	8	0.002	0.35	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V23070-V23071	6228	181	8	0.002	0.37	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V23071-V23072	6230	113	8	0.006	0.63	0.00	0.06	0.01	0.08	0.00	0.06	0.00	0.07
V23072-V23073	6231	147	8	0.003	0.46	0.00	0.07	0.01	0.09	0.00	0.07	0.01	0.09
V23073-V23074	6232	170	8	0.004	0.48	0.01	0.08	0.01	0.10	0.01	0.08	0.01	0.09
V23074-V23075	6233	169	8	0.004	0.50	0.01	0.08	0.01	0.11	0.01	0.07	0.01	0.10
V23075-V23076.C0	6234	75	8	0.007	0.64	0.01	0.07	0.01	0.10	0.01	0.07	0.01	0.10
V23076.A0-V23076.B0	6311	152	8	0.135	2.87	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23076.B0-V23076.C0	6312	65	8	0.078	2.18	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.06
V23076.C0-V23076	6313	74	8	0.010	0.76	0.01	0.09	0.02	0.12	0.01	0.09	0.02	0.12
V23076-V23077	6317	159	8	0.004	0.52	0.01	0.08	0.02	0.12	0.01	0.08	0.02	0.11
V23077-V23079	6316	194	8	0.021	1.13	0.01	0.09	0.02	0.13	0.01	0.09	0.02	0.12
V23078-V23079	6315	287	6	0.143	1.37	0.00	0.09	0.00	0.12	0.00	0.10	0.00	0.12
V23079-V23084	6318	178	8	0.005	0.55	0.01	0.10	0.03	0.14	0.01	0.10	0.03	0.13
V23080-V23081	6236	120	8	0.036	1.48	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V23081-V23082	6235	69	8	0.087	2.31	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V23082-V23083	6649	293	8	0.147	2.99	0.00	0.51	0.01	0.52	0.00	0.51	0.01	0.52
V23083-V23084	6648	209	8	0.019	1.06	0.01	0.54	0.01	0.56	0.01	0.54	0.01	0.55
V23084-V23085	6650	216	8	0.050	1.74	0.02	0.07	0.04	0.10	0.02	0.07	0.04	0.09
V23085-V23086	6646	41	8	0.158	3.11	0.02	0.16	0.04	0.24	0.02	0.16	0.04	0.23
V23086-V23093	6571	160	8	0.007	0.65	0.10	0.27	0.23	0.43	0.09	0.27	0.20	0.40
V23087-V23088	6577	290	6	0.054	0.84	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V23088-V23089	6576	223	6	0.051	0.82	0.00	0.07	0.01	0.08	0.00	0.07	0.01	0.07
V23089-V23091	6651	147	8	0.014	0.93	0.01	0.06	0.01	0.07	0.01	0.05	0.01	0.06
V23090-V23091	6573	312	8	0.145	2.97	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V23091-V23092	6575	230	8	0.064	1.98	0.01	0.05	0.02	0.06	0.01	0.05	0.01	0.06
V23092-V23093	6574	49	8	0.148	3.00	0.01	0.17	0.02	0.25	0.01	0.16	0.02	0.24
V23093.A0-V23093.B0	6240	65	8	0.005	0.56	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V23093.B0-V23093.D0	6241	123	8	0.006	0.60	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V23093.C0-V23093.D0	6242	64	8	0.037	1.49	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V23093.D0-V23093.E0	6566	85	8	0.005	0.55	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.07
V23093.E0-V23093.F0	6567	54	8	0.005	0.56	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.07
V23093.F0-V23093.G0	6568	158	8	0.005	0.55	0.00	0.06	0.01	0.08	0.00	0.06	0.01	0.08
V23093.G0-V23093.H0	6569	39	8	0.005	0.56	0.00	0.06	0.01	0.09	0.00	0.06	0.01	0.08
V23093.H0-V23093.J0	6570	55	8	0.007	0.65	0.00	0.05	0.01	0.08	0.00	0.06	0.01	0.07
V23093.I0-V23093.J0	6238	165	6	0.006	0.28	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.05
V23093.J0-V23093	6239	135	6	0.052	0.82	0.01	0.22	0.01	0.34	0.01	0.22	0.01	0.32
V23093-V23094	6579	147	8	0.008	0.69	0.11	0.24	0.26	0.38	0.11	0.24	0.23	0.35
V23094-V23100	6580	149	8	0.028	1.30	0.11	0.27	0.26	0.41	0.11	0.26	0.24	0.39
V23095-V23096	6845	194	6	0.011	0.38	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V23096-V23097	6745	80	6	0.115	1.23	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V23097-V23099	6846	203	6	0.243	1.79	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.04
V23098-V23099	6847	143	6	0.045	0.77	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V23099-V23100	6848	74	8	0.146	2.98	0.01	0.18	0.01	0.28	0.00	0.18	0.01	0.26
V23100-V23101	6849	90	8	0.004	0.52	0.12	0.27	0.27	0.42	0.12	0.27	0.25	0.39
V23101-V23102	6941	254	8	0.027	1.28	0.12	0.21	0.28	0.32	0.12	0.21	0.25	0.30
V23102-V23103	6942	257	8	0.028	1.31	0.12	0.21	0.28	0.31	0.12	0.20	0.25	0.29
V23103-V23105	6583	260	8	0.031	1.37	0.13	0.35	0.29	0.56	0.12	0.34	0.25	0.52
V23104-V23105	6582	164	8	0.024	1.22	0.00	0.26	0.00	0.42	0.00	0.25	0.00	0.38
V23105-V23132	6585	271	8	0.002	0.35	0.13	0.37	0.29	0.60	0.12	0.36	0.26	0.55
V23106.A0-V23106	756	3	4	0.030	0.21	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V23106-V23107	757	123	8	0.081	2.23	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23107-V23108	2477	167	8	0.122	2.73	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V23108-V23109	6532	391	8	0.138	2.90	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V23109-V23112	1663	64	8	0.120	2.71	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.05
V23110-V23111	4574	260	8	0.048	1.70	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V23111-V23112	1661	155	8	0.043	1.62	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V23112.A0-V23112	1660	155	6	0.079	1.02	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V23112-V23113	6061	204	8	0.082	2.24	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.07
V23113-V23114	6062	247	8	0.070	2.07	0.01	0.06	0.02	0.08	0.01	0.06	0.02	0.08
V23114-V23116	6064	123	8	0.037	1.51	0.01	0.06	0.03	0.09	0.01	0.07	0.02	0.09
V23115-V23116	6844	200	8	0.060	1.92	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V23116-V23119	4836	125	8	0.040	1.56	0.01	0.08	0.03	0.11	0.02	0.08	0.03	0.11
V23117-V23119	6592	291	8	0.008	0.69	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.08
V23118-V23119	4835	196	6	0.077	1.01	0.00	0.07	0.00	0.10	0.00	0.07	0.00	0.09
V23119-V23120	4837	159	8	0.021	1.14	0.02	0.08	0.04	0.12	0.02	0.09	0.04	0.12
V23120-V23121	6591	217	8	0.045	1.65	0.02	0.07	0.04	0.10	0.02	0.07	0.04	0.10

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V23121-V23124	6593	349	8	0.084	2.27	0.02	0.12	0.04	0.18	0.02	0.12	0.04	0.17
V23122-V23123	6842	200	8	0.006	0.58	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V23123-V23124	6595	195	8	0.003	0.41	0.00	0.12	0.00	0.16	0.00	0.12	0.00	0.16
V23124-V23126	6594	222	8	0.003	0.44	0.02	0.14	0.05	0.20	0.03	0.13	0.05	0.19
V23125-V23126	6343	120	8	0.028	1.31	0.01	0.07	0.01	0.10	0.00	0.07	0.00	0.09
V23126-V23127	6344	370	8	0.041	1.58	0.03	0.11	0.07	0.15	0.03	0.10	0.06	0.15
V23127-V23128	6345	242	8	0.024	1.20	0.03	0.11	0.07	0.16	0.03	0.11	0.06	0.16
V23128-V23129	6346	80	8	0.025	1.24	0.03	0.12	0.07	0.17	0.03	0.11	0.07	0.16
V23129.A0-V23129	6060	261	6	0.033	0.66	0.00	0.10	0.00	0.14	0.00	0.10	0.00	0.13
V23129-V23130	6347	176	8	0.024	1.22	0.04	0.12	0.08	0.17	0.03	0.12	0.07	0.17
V23130-V23131	6348	138	8	0.023	1.18	0.04	0.16	0.08	0.23	0.04	0.15	0.07	0.22
V23131-V23132	6349	122	8	0.004	0.47	0.04	0.22	0.08	0.33	0.04	0.22	0.08	0.31
V23132-V23211	6586	177	8	0.026	1.25	0.17	0.25	0.38	0.37	0.16	0.25	0.34	0.35
V23133-V23134	6867	219	8	0.003	0.45	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V23134-V23135	579	307	8	0.004	0.50	0.00	0.07	0.00	0.09	0.00	0.08	0.01	0.09
V23135-V23136	578	221	8	0.003	0.41	0.01	0.08	0.01	0.11	0.01	0.09	0.01	0.11
V23136-V23137	577	198	8	0.004	0.48	0.01	0.08	0.01	0.11	0.01	0.09	0.01	0.11
V23137-V23138	1122	266	8	0.005	0.55	0.01	0.07	0.01	0.10	0.01	0.07	0.01	0.10
V23138-V23139	334	269	8	0.047	1.70	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.07
V23139-V23140	337	105	8	0.080	2.21	0.01	0.06	0.02	0.09	0.01	0.07	0.02	0.09
V23140-V23141	2467	273	8	0.013	0.89	0.01	0.08	0.02	0.12	0.01	0.09	0.02	0.12
V23141-V23142	1039	282	8	0.013	0.89	0.01	0.08	0.03	0.11	0.01	0.08	0.03	0.11
V23142-V23143	1037	295	8	0.062	1.95	0.02	0.07	0.03	0.10	0.02	0.07	0.03	0.10
V23143-V23145	6835	73	8	0.037	1.50	0.02	0.08	0.04	0.11	0.02	0.08	0.03	0.11
V23144-V23145	1036	286	8	0.004	0.51	0.00	0.07	0.00	0.09	0.00	0.06	0.00	0.07
V23145-V23147	6531	248	8	0.038	1.51	0.02	0.08	0.04	0.12	0.02	0.08	0.04	0.11
V23146-V23147	5146	159	8	0.032	1.39	0.00	0.54	0.01	0.56	0.00	0.54	0.00	0.55
V23147-V23153	5118	382	8	0.048	1.71	0.03	0.09	0.05	0.14	0.02	0.09	0.04	0.13
V23148-V23149	1034	223	6	0.050	0.81	0.00	0.05	0.00	0.06	0.00	0.07	0.00	0.07
V23149-V23150	5131	264	8	0.005	0.52	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V23150-V23152	5130	153	8	0.025	1.25	0.00	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V23151-V23152	1033	173	6	0.074	0.99	0.00	0.06	0.00	0.08	0.00	0.08	0.00	0.09
V23152-V23153	5129	310	8	0.004	0.49	0.01	0.09	0.01	0.13	0.01	0.10	0.01	0.13
V23153-V23154	4239	254	8	0.041	1.57	0.03	0.09	0.07	0.13	0.03	0.09	0.06	0.12
V23154-V23156	233	110	8	0.173	3.25	0.03	0.09	0.07	0.13	0.03	0.09	0.07	0.12
V23155-V23156	232	264	6	0.018	0.49	0.00	0.09	0.00	0.12	0.00	0.09	0.00	0.11
V23156-V23162	4573	219	8	0.040	1.57	0.04	0.10	0.08	0.15	0.04	0.10	0.07	0.14
V23157-V23158	1032	191	6	0.007	0.29	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.04
V23158-V23159	6530	95	6	0.149	1.40	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V23159-V23162	4238	287	6	0.187	1.57	0.00	0.09	0.01	0.12	0.00	0.08	0.00	0.11
V23160-V23161	231	201	8	0.159	3.12	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
V23161-V23162	4572	197	8	0.084	2.26	0.00	0.06	0.00	0.09	0.00	0.06	0.00	0.08
V23162-V23163	5277	289	8	0.055	1.84	0.04	0.11	0.09	0.16	0.04	0.11	0.08	0.15
V23163-V23165	2009	214	8	0.044	1.64	0.04	0.11	0.10	0.17	0.04	0.11	0.09	0.16
V23164-V23165	1031	312	8	0.111	2.60	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.09
V23165-V23169	6744	129	8	0.045	1.65	0.05	0.12	0.10	0.19	0.04	0.12	0.09	0.18
V23166-V23167	1659	309	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V23167-V23168	5276	106	8	0.316	4.39	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.03
V23168-V23169	1656	83	8	0.080	2.21	0.00	0.08	0.01	0.12	0.00	0.08	0.01	0.12
V23169-V23170	6743	80	8	0.030	1.35	0.05	0.12	0.11	0.18	0.05	0.12	0.10	0.17
V23170-V23172	6668	336	8	0.066	2.01	0.05	0.13	0.11	0.20	0.05	0.14	0.10	0.19
V23171-V23172	1029	231	8	0.165	3.18	0.00	0.09	0.00	0.13	0.00	0.09	0.00	0.12
V23172-V23173	4142	120	8	0.015	0.96	0.05	0.16	0.12	0.24	0.05	0.16	0.11	0.23
V23173-V23179	4854	180	8	0.016	0.99	0.06	0.15	0.12	0.23	0.06	0.15	0.11	0.22
V23174-V23176	6074	101	6	0.006	0.28	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V23175-V23176	1028	111	6	0.008	0.32	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V23176-V23177	2331	101	6	0.048	0.79	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V23177-V23178	6617	206	6	0.134	1.33	0.00	0.04	0.01	0.05	0.00	0.05	0.01	0.05
V23178-V23179	6667	307	6	0.090	1.09	0.00	0.12	0.01	0.17	0.01	0.12	0.01	0.16
V23179-V23188	6713	104	8	0.036	1.48	0.06	0.14	0.14	0.21	0.06	0.15	0.12	0.21
V23180-V23181	6072	161	8	0.020	1.10	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V23181-V23182	6815	122	8	0.090	2.35	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V23182-V23185	6071	185	8	0.062	1.94	0.00	0.04	0.01	0.05	0.00	0.05	0.01	0.05
V23183.00-V23184.00	6068	310	8	0.047	1.69	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V23185-V23186	6073	241	8	0.142	2.94	0.01	0.04	0.02	0.05	0.03	0.07	0.03	0.07
V23186-V23187	1655	85	8	0.131	2.83	0.01	0.04	0.02	0.06	0.03	0.07	0.03	0.08
V23187-V23188	6666	334	8	0.097	2.43	0.01	0.10	0.02	0.14	0.03	0.12	0.03	0.15
V23188-V23191	6712	148	8	0.042	1.61	0.07	0.14	0.16	0.20	0.09	0.16	0.16	0.20
V23189-V23190	6742	163	8	0.021	1.13	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V23190-V23191.A0	6664	226	8	0.669	6.39	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V23191.A0-V23191	6710	49	8	1.981	10.99	0.01	0.56	0.03	0.60	0.02	0.57	0.02	0.60
V23191-V23192	6711	19	8	0.073	2.11	0.08	0.15	0.17	0.22	0.10	0.16	0.17	0.21
V23192-V23193	4956	417	8	0.030	1.35	0.08	0.20	0.17	0.30	0.10	0.23	0.17	0.30
V23193-V23199	6518	272	12	0.004	1.46	0.08	0.15	0.18	0.23	0.10	0.17	0.17	0.23
V23194-V23196	6341	157	8	0.082	2.23	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V23195-V23196	6340	85	8	0.026	1.25	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V23196-V23197	1654	45	8	0.059	1.90	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
V23197-V23198	6663	299	8	0.127	2.78	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.04
V23198-V23199	4955	255	8	0.094	2.40	0.01	0.13	0.01	0.18	0.01	0.14	0.01	0.18
V23199-V23201	6336	153	12	0.007	1.97	0.09	0.14	0.19	0.20	0.11	0.15	0.19	0.20
V23200-V23201	6339	217	8	0.068	2.03	0.00	0.10	0.00	0.15	0.00	0.12	0.00	0.15
V23201-V23202	6337	13	12	0.010	2.29	0.09	0.12	0.20	0.18	0.11	0.14	0.19	0.18
V23202-V23205	6338	300	12	0.022	3.43	0.09	0.10	0.20	0.16	0.11	0.12	0.20	0.15
V23203-V23205	6334	141	6	0.087	1.07	0.00	0.11	0.00	0.16	0.00	0.12	0.00	0.15
V23204-V23205	6333	215	6	0.015	0.44	0.00	0.12	0.00	0.17	0.00	0.12	0.00	0.16
V23205-V23206	6126	180	12	0.044	4.81	0.09	0.10	0.21	0.15	0.11	0.11	0.20	0.14
V23206-V23208	1557	170	12	0.038	4.47	0.09	0.10	0.21	0.15	0.11	0.11	0.21	0.15
V23207-V23208	6590	211	6	0.083	1.04	0.00	0.12	0.00	0.17	0.00	0.13	0.00	0.16
V23208-V23209	6588	247	12	0.036	4.39	0.10	0.10	0.22	0.15	0.12	0.11	0.21	0.15
V23209-V23211	6589	67	12	0.040	4.59	0.10	0.13	0.22	0.20	0.12	0.14	0.22	0.19
V23210-V23211	6587	395	6	0.116	1.23	0.01	0.19	0.01	0.26	0.00	0.19	0.00	0.25
V23211-V23224	6946	236	12	0.044	4.81	0.27	0.18	0.62	0.27	0.29	0.19	0.56	0.26
V23212-V23213	6517	103	8	0.084	2.26	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V23213-V23214	6125	69	8	0.089	2.33	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V23214-V23215	1556	128	8	0.038	1.53	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V23215-V23216	1555	198	8	0.040	1.57	0.01	0.06	0.01	0.07	0.01	0.05	0.01	0.06
V23216-V23222	6945	296	8	0.032	1.39	0.01	0.10	0.02	0.11	0.01	0.10	0.01	0.11
V23217-V23218	6516	139	8	0.025	1.24	0.00	0.04	0.00	0.04	0.02	0.09	0.02	0.09
V23218-V23219	6515	211	8	0.027	1.28	0.01	0.05	0.01	0.05	0.02	0.09	0.02	0.09
V23219-V23220	6124	178	8	0.076	2.15	0.01	0.06	0.01	0.06	0.03	0.09	0.03	0.09
V23220.A0-V23220	7621	165	8	0.019	1.07	0.00	0.05	0.00	0.06	0.00	0.07	0.00	0.07
V23220-V23221	1101	149	8	0.059	1.90	0.02	0.07	0.02	0.08	0.04	0.11	0.04	0.11
V23221-V23222	6943	126	8	0.040	1.55	0.02	0.10	0.03	0.12	0.04	0.13	0.04	0.13
V23222-V23223	6947	130	8	0.026	1.26	0.04	0.11	0.05	0.13	0.05	0.13	0.06	0.13
V23223-V23224	6948	129	8	0.096	2.42	0.04	0.20	0.06	0.28	0.06	0.21	0.06	0.27
V23224-V23230	6949	193	12	0.021	3.37	0.31	0.21	0.67	0.31	0.34	0.22	0.63	0.30
V23225-V23226	6952	151	8	0.007	0.65	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V23226-V23229	6954	328	8	0.084	2.26	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.06
V23227-V23228	6065	118	8	0.073	2.11	0.01	0.04	0.01	0.05	0.01	0.05	0.01	0.05
V23228-V23229	6066	146	8	0.060	1.92	0.01	0.06	0.01	0.07	0.01	0.07	0.01	0.07
V23229-V23230	6067	302	8	0.066	2.01	0.02	0.20	0.03	0.28	0.02	0.21	0.02	0.26
V23230-V23231	6950	200	12	0.021	3.36	0.34	0.22	0.71	0.32	0.37	0.23	0.66	0.31
V23231-V22047	6951	210	12	0.018	3.09	0.34	0.22	0.72	0.32	0.38	0.23	0.66	0.31
V24001-V24004	7136	80	6	0.010	0.36	0.00	0.05	0.00	0.06	0.00	0.07	0.00	0.07
V24002.A0-V24002.C0	7139	101	6	0.135	1.33	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V24002.B0-V24002.C0	7138	17	6	0.024	0.56	0.00	0.44	0.00	0.44	0.00	0.44	0.00	0.44
V24002.C0-V24002.D0	6123	79	6	0.069	0.95	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V24002.D0-V24002	1100	117	6	0.164	1.47	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V24002-V24003	7544	184	6	0.205	1.64	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V24003-V24004	7135	90	6	0.066	0.93	0.01	0.07	0.01	0.08	0.01	0.07	0.01	0.08
V24004-V24005	7137	179	6	0.027	0.59	0.01	0.08	0.01	0.10	0.01	0.10	0.01	0.11
V24005-V24013	7133	414	6	0.034	0.67	0.01	0.11	0.01	0.14	0.02	0.14	0.02	0.15
V24006-V24007	6167	121	8	0.010	0.78	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V24007-V24008	6166	83	8	0.103	2.51	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V24008-V24009	1099	234	8	0.177	3.29	0.00	0.02	0.00	0.04	0.00	0.04	0.00	0.04
V24009-V24010.A0	5669	82	8	0.038	1.52	0.00	0.06	0.01	0.07	0.01	0.07	0.01	0.07
V24010.A0-V24010.B0	5668	116	8	0.014	0.91	0.02	0.10	0.02	0.11	0.01	0.09	0.01	0.10
V24010.B0-V24010	4798	51	8	0.010	0.77	0.02	0.08	0.02	0.09	0.01	0.07	0.02	0.08
V24010-V24012	4736	62	8	0.187	3.38	0.02	0.06	0.02	0.07	0.01	0.05	0.02	0.06
V24011-V24012	5138	100	6	0.250	1.81	0.00	0.06	0.00	0.07	0.00	0.05	0.00	0.06
V24012-V24013	5639	152	6	0.075	2.15	0.02	0.12	0.03	0.14	0.02	0.13	0.02	0.14
V24013-V24016	7131	133	6	0.034	1.44	0.03	0.17	0.04	0.22	0.04	0.22	0.05	0.24
V24014-V24015	3067	246	6	0.010	0.79	0.00	0.05	0.00	0.06	0.01	0.12	0.01	0.12
V24015-V24016	7132	716	6	0.010	0.78	0.00	0.12	0.00	0.16	0.01	0.20	0.01	0.21
V24016-V24017	7130	348	6	0.010	0.78	0.03	0.20	0.05	0.26	0.06	0.28	0.07	0.30
V24017-V24018	5618	40	6	0.010	0.78	0.03	0.23	0.06	0.31	0.06	0.33	0.08	0.36
V24018-V24031	5617	108	6	0.005	0.55	0.03	0.16	0.06	0.22	0.06	0.24	0.08	0.26
V24019-V24020	7017	107	6	0.169	1.49	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V24020-V24021.A0	7018	126	6	0.102	1.16	0.00	0.14	0.00	0.16	0.00	0.14	0.00	0.15
V24021.A0-V24021	7021	145	6	0.000	0.01	0.00	0.15	0.01	0.17	0.00	0.15	0.00	0.16
V24021-V24025	7121	121	6	0.126	1.29	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.07
V24022-V24023	7122	258	6	1.166	3.92	0.01	0.50	0.01	0.51	0.00	0.51	0.00	0.51
V24023-V24024	6696	137	6	0.313	2.03	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V24024-V24025	7020	179	6	0.044	0.76	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.06
V24025-V24026	7123	248	6	0.061	0.90	0.01	0.07	0.01	0.09	0.01	0.07	0.01	0.08
V24026-V24027	7129	113	6	0.094	1.11	0.01	0.08	0.02	0.10	0.01	0.08	0.01	0.09
V24027-V24029	7125	262	6	0.089	1.08	0.01	0.06	0.02	0.07	0.02	0.07	0.02	0.07
V24028-V24029	7126	91	6	0.058	0.87	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V24029-V24030	7127	29	6	8.527	10.59	0.01	0.51	0.02	0.52	0.02	0.52	0.03	0.52
V24030-V24031	7128	182	6	1.197	3.97	0.03	0.53	0.05	0.54	0.06	0.54	0.07	0.55
V24031-V24036	5815	200	6	0.009	0.74	0.00	0.04	0.00	0.06	0.00	0.07	0.01	0.07
V24032-V24033	5997	172	6	0.057	0.87	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V24033-V24034	1098	235	6	0.054	0.84	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V24034-V24035	4797	472	6	0.070	0.96	0.00	0.04	0.00	0.06	0.00	0.05	0.01	0.07
V24035-V24115	2432	463	6	0.066	0.93	0.00	0.04	0.01	0.07	0.01	0.07	0.01	0.08
V24037-V24038.A0	5812	271	6	0.005	0.26	0.00	0.04	0.00	0.06	0.00	0.12	0.00	0.12
V24038.A0-V24038	5810	255	6	0.005	0.26	0.00	0.09	0.00	0.17	0.01	0.29	0.01	0.29
V24038-V24039.A0	5811	312	6	0.000	0.01	0.00	0.10	0.00	0.18	0.01	0.27	0.01	0.28
V24039.A0-V24039	5808	312	6	0.045	0.77	0.00	0.11	0.01	0.18	0.02	0.27	0.02	0.28
V24040-V24041	2466	219	6	0.025	0.57	0.00	0.04	0.00	0.04	0.02	0.16	0.02	0.16
V24041-V24042	7142	104	6	0.010	0.37	0.00	0.04	0.00	0.05	0.03	0.15	0.03	0.15
V24042-V24043	3056	226	6	0.080	1.03	0.00	0.11	0.00	0.16	0.03	0.33	0.03	0.33
V24043-V24044.A0	3057	112	6	0.000	0.01	0.00	0.12	0.01	0.16	0.03	0.33	0.03	0.33
V24044.A0-V24044	3058	116	6	0.096	1.12	0.00	0.05	0.01	0.07	0.04	0.14	0.04	0.14
V24044-V24045	2464	187	6	0.052	0.83	0.01	0.06	0.01	0.08	0.05	0.17	0.05	0.17
V24045-V24046	2431	282	6	0.049	0.81	0.01	0.07	0.01	0.11	0.05	0.19	0.05	0.19
V24046.D0-V24046.E0	3062	332	6	0.002	0.16	0.00	0.02	0.00	0.04	0.00	0.04	0.00	0.05
V24046.E0-V24046	3065	484	6	0.004	0.24	0.00	0.05	0.00	0.10	0.00	0.14	0.00	0.15
V24046-V24047	5807	200	6	0.032	0.65	0.01	0.10	0.02	0.16	0.06	0.27	0.06	0.28
V24047-V24049	5806	249	6	0.008	0.32	0.01	0.10	0.02	0.15	0.07	0.27	0.07	0.27
V24048-V24049	2463	134	6	0.077	1.01	0.00	0.06	0.00	0.08	0.03	0.16	0.03	0.16
V24049-V24123	V24049-V24123	201	8	0.070	2.07	0.01	0.06	0.03	0.09	0.10	0.15	0.10	0.15
V24052.A0-V24052.B0	2447	352	15	0.009	3.96	0.50	0.24	1.11	0.36	1.49	0.42	1.79	0.47
V24052.B0-V24052.C0	2446	362	15	0.010	4.12	0.51	0.24	1.13	0.36	1.53	0.43	1.84	0.47
V24052.C0-V24052.D0	7141	360	15	0.009	6.50	0.51	0.24	1.14	0.37	1.54	0.43	1.85	0.48
V24052.D0-V24052.E0	5840	374	15	0.009	6.45	0.51	0.24	1.14	0.37	1.54	0.43	1.86	0.48
V24052.E0-V24052.F0	2430	372	15	0.009	3.95	0.51	0.24	1.15	0.37	1.54	0.43	1.87	0.48
V24052.F0-V24052	5801	328	15	0.009	6.45	0.51	0.25	1.15	0.37	1.54	0.43	1.87	0.48
V24052-V24053	5802	504	15	0.008	6.09	0.54	0.26	1.15	0.39	1.47	0.44	1.77	0.49
V24053-V24059	2456	181	15	0.008	6.25	0.54	0.21	1.16	0.31	1.47	0.35	1.77	0.39
V24054.A0-V24054.B0	7557	268	8	0.002	0.35	0.00	0.09	0.00	0.10	0.00	0.14	0.00	0.14
V24054.B0-V24054.G0	1221	160	6	0.000	0.01	0.00	0.17	0.01	0.20	0.01	0.21	0.01	0.22
V24054.C0-V24054.E0	2449	83	6	0.019	0.51	0.01	0.09	0.01	0.10	0.01	0.13	0.01	0.13
V24054.D0-V24054.E0	2450	162	6	0.019	0.50	0.00	0.07	0.01	0.09	0.02	0.16	0.02	0.16
V24054.DA-V24054.D0	7049	81	8	0.014	0.92	0.00	0.03	0.00	0.04	0.00	0.07	0.00	0.07
V24054.DB-V24054.DC	7881	180	8	0.061	1.93	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V24054.DC-V24054.D0	7882	108	8	0.032	1.39	0.00	0.03	0.00	0.05	0.00	0.07	0.00	0.07
V24054.E0-V24052.B0	7941	217	8	0.032	1.39	0.01	0.26	0.02	0.37	0.05	0.46	0.05	0.50
V24054.G0-V24054.K0	5963	130	6	0.013	0.41	0.00	0.05	0.01	0.07	0.01	0.08	0.01	0.08
V24054.H0-V24054.I0	1747	79	6	3.005	6.29	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50
V24054.I0-V24054.J0	5139	43	6	5.528	8.53	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
V24054.J0-V24054.K0	5140	22	8	11.001	25.91	0.00	0.50	0.01	0.51	0.01	0.51	0.01	0.51
V24054.K0-V24054.L0	5839	126	6	0.014	0.43	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.03
V24054.L0-V24054.M0	5838	228	8	0.009	0.75	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.05
V24054.M0-V24054.N0	2453	227	8	0.010	0.78	0.00	0.03	0.00	0.06	0.00	0.06	0.01	0.08
V24054.N0-V24054.O0	2454	141	8	0.009	0.72	0.00	0.04	0.01	0.07	0.01	0.09	0.01	0.10
V24054.O0-V24054.P0	2452	346	8	0.009	0.76	0.00	0.04	0.01	0.08	0.01	0.11	0.02	0.12
V24054.P0-V24054.Q0	2455	362	8	0.009	0.74	0.00	0.05	0.01	0.09	0.02	0.13	0.03	0.14
V24054.Q0-V24054	5799	144	8	0.011	0.81	0.00	0.06	0.02	0.11	0.03	0.16	0.04	0.18
V24055-V24056	5798	27	8	0.014	0.93	0.15	0.47	0.38	0.72	0.49	0.81	0.63	0.96
V24056-V24057	2459	146	12	0.000	0.50	0.24	0.36	0.55	0.54	0.69	0.61	0.87	0.69
V24057-V24058	2460	151	12	0.005	1.58	0.24	0.22	0.55	0.33	0.70	0.37	0.88	0.42
V24058-V24059	2458	40	12	0.034	4.26	0.24	0.17	0.55	0.26	0.71	0.29	0.89	0.33
V24059-V24129	V24059-V24129	17	18	0.116	23.14	0.78	0.30	1.71	0.43	2.18	0.49	2.66	0.56
V24060-V24061	5797	191	18	0.006	5.22	0.78	0.27	1.72	0.41	2.19	0.49	2.68	0.71
V24061-V24062	5795	137	12	0.010	2.32	0.78	0.37	1.72	0.58	2.19	0.68	2.68	0.82
V24062-V24127	V24062-V24127	15	18	0.010	6.79	0.78	0.21	1.72	0.33	2.20	0.37	2.68	0.42
V24063-V24064.A0	1133	272	6	0.019	0.50	0.00	0.53	0.00	0.54	0.00	0.56	0.00	0.56
V24064.A0-V24064	5792	266	6	0.005	0.26	0.00	0.07	0.00	0.10	0.01	0.13	0.01	0.14
V24064-V24066	5793	258	6	0.005	0.26	0.00	0.08	0.01	0.11	0.01	0.14	0.01	0.15
V24065-V24066	2462	146	6	0.002	0.16	0.00	0.06	0.00	0.08	0.00	0.12	0.00	0.12
V24066-V24069	5791	385	6	0.029	0.62	0.01	0.12	0.01	0.19	0.02	0.28	0.02	0.29
V24072-V24089	5786	309	18	0.010	6.88	0.78	0.19	1.72	0.28	2.20	0.32	2.68	0.36
V24075-V24078	4796	277	6	0.034	0.67	0.01	0.09	0.01	0.10	0.01	0.09	0.01	0.09

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V24076-V24077	3076	255	6	0.005	0.26	0.00	0.07	0.00	0.08	0.00	0.08	0.00	0.09
V24077-V24078	4735	75	6	0.006	0.27	0.00	0.09	0.01	0.11	0.01	0.10	0.01	0.10
V24078-V24081	4734	206	6	0.051	0.82	0.02	0.10	0.02	0.11	0.02	0.11	0.02	0.11
V24079-V24080	3079	145	6	0.062	0.90	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V24080-V24081	3080	28	6	0.380	2.24	0.00	0.07	0.01	0.08	0.00	0.07	0.00	0.07
V24081-V24082	5701	316	6	0.070	0.96	0.02	0.15	0.03	0.18	0.02	0.16	0.03	0.17
V24082-V24083	5785	211	6	0.006	0.28	0.03	0.21	0.03	0.24	0.03	0.22	0.03	0.24
V24083-V24084	5784	227	6	0.006	0.28	0.03	0.21	0.04	0.25	0.03	0.23	0.04	0.25
V24084-V24085	5783	224	6	0.006	0.28	0.03	0.22	0.04	0.27	0.04	0.26	0.04	0.28
V24085-V24086	3074	223	6	0.006	0.28	0.03	0.19	0.04	0.23	0.04	0.23	0.05	0.25
V24086-V24088	3075	51	6	0.030	0.63	0.03	0.19	0.05	0.23	0.04	0.25	0.05	0.26
V24087-V24088	3073	179	6	0.002	0.16	0.00	0.12	0.00	0.14	0.01	0.25	0.01	0.25
V24088-V24089	5782	129	6	0.006	0.28	0.03	0.22	0.05	0.28	0.06	0.30	0.06	0.32
V24089-V08163	7229	42	18	0.088	20.17	0.81	0.29	1.78	0.42	2.26	0.42	2.76	0.49
V24090-V24091	7147	305	18	0.005	4.68	2.26	0.49	4.58	0.80	3.35	0.63	4.97	0.89
V24091-V24092	5780	328	18	0.005	4.70	2.26	0.49	4.58	0.79	3.35	0.62	4.98	0.87
V24092-V24093	5779	194	18	0.005	4.75	2.26	0.48	4.59	0.76	3.35	0.61	4.99	0.82
V24093-V24094	5778	259	18	0.006	5.11	2.26	0.43	4.59	0.66	3.35	0.55	4.99	0.71
V24100-V24101	FM3	118	27	0.009	18.97	2.49	0.25	5.05	0.35	3.86	0.31	5.61	0.38
V24101-V08163	7232	205	27	0.008	18.44	2.49	0.27	5.05	0.39	3.86	0.36	5.61	0.43
V24107-V24075	1097	162	6	0.262	1.86	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V24108-V24075	3078	104	6	0.017	0.48	0.01	0.08	0.01	0.09	0.00	0.06	0.00	0.06
V24112-V24113	V24112-V24113	53	21	0.009	9.93	2.45	0.35	4.95	0.53	3.67	0.44	5.40	0.56
V24113-V24100	V24113-V24100	315	21	0.007	8.84	2.45	0.34	4.95	0.50	3.67	0.42	5.40	0.53
V24115-V24118	V24115-V24118	78	8	0.147	3.00	0.01	0.05	0.02	0.08	0.02	0.10	0.03	0.11
V24116-V24117	V24116-V24117	24	8	0.184	3.35	0.00	0.03	0.01	0.04	0.01	0.06	0.01	0.06
V24117-V24118	V24117-V24118	119	8	0.010	0.76	0.00	0.06	0.01	0.09	0.01	0.11	0.01	0.12
V24118-V24119	V24118-V24119	65	8	0.010	0.79	0.01	0.08	0.02	0.12	0.03	0.14	0.04	0.16
V24119-V24120	V24119-V24120	146	8	0.009	0.74	0.01	0.08	0.02	0.12	0.03	0.14	0.04	0.16
V24120-V24121	V24120-V24121	100	8	0.012	0.87	0.01	0.07	0.02	0.11	0.03	0.13	0.04	0.14
V24121-V24122	V24121-V24122	33	8	0.019	1.08	0.01	0.07	0.02	0.11	0.03	0.13	0.04	0.14
V24122-V24124	V24122-V24124	76	8	0.014	0.93	0.01	0.09	0.03	0.14	0.03	0.19	0.04	0.20
V24123-V24124	V24123-V24124	61	8	0.067	2.03	0.01	0.08	0.03	0.12	0.10	0.20	0.10	0.20
V24124-V24125	V24124-V24125	146	8	0.018	1.05	0.02	0.12	0.06	0.19	0.14	0.29	0.15	0.30
V24125-V24126	V24125-V24126	52	8	0.009	0.73	0.03	0.13	0.07	0.21	0.16	0.32	0.18	0.33
V24126-V24100	V24126-V24100	138	10	0.009	1.34	0.03	0.38	0.09	0.56	0.19	0.54	0.20	0.63
V24127-V24072	V24127-V24072	10	18	0.015	10.68	0.78	0.22	1.72	0.34	2.20	0.39	2.68	0.44
V24129-V24060	V24129-V24060	277	18	0.001	1.73	0.78	0.36	1.71	0.54	2.18	0.62	2.67	0.70
V25001-V25003	6455	191	8	0.062	1.95	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V25002-V25003	6456	129	8	0.016	1.00	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V25003-V25004	6662	270	8	0.130	2.81	0.00	0.04	0.01	0.04	0.00	0.03	0.01	0.04
V25004-V25006	4954	272	8	0.075	2.13	0.01	0.06	0.01	0.09	0.01	0.06	0.01	0.08
V25005-V25006	6454	115	8	0.002	0.34	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.07
V25006-V25026	6514	255	8	0.005	0.53	0.01	0.11	0.02	0.16	0.01	0.12	0.01	0.16
V25007-V25008	6451	221	8	0.016	0.97	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V25008-V25009	230	152	8	0.034	1.43	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
V25009-V25010	229	92	8	0.004	0.52	0.00	0.05	0.00	0.08	0.01	0.08	0.01	0.09
V25010-V25011	228	222	8	0.006	0.61	0.00	0.05	0.01	0.07	0.01	0.07	0.01	0.08
V25011-V25014	4571	297	8	0.077	2.17	0.00	0.05	0.01	0.07	0.01	0.06	0.01	0.08
V25012-V25013	226	164	8	0.005	0.56	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V25013-V25014	225	244	8	0.052	1.78	0.00	0.05	0.01	0.07	0.00	0.05	0.00	0.07
V25014-V25015	224	207	8	0.025	1.24	0.01	0.06	0.02	0.08	0.01	0.07	0.02	0.09
V25015-V25016	6616	163	8	0.092	2.37	0.01	0.05	0.02	0.08	0.02	0.06	0.03	0.08
V25016-V25018	1653	158	8	0.061	1.93	0.01	0.06	0.03	0.08	0.02	0.07	0.03	0.09
V25017-V25018	6452	154	8	0.127	2.79	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V25018-V25019	6741	51	8	0.057	1.86	0.01	0.06	0.03	0.09	0.02	0.07	0.03	0.09
V25019-V25020	6740	139	8	0.061	1.92	0.01	0.53	0.03	0.54	0.02	0.54	0.03	0.55
V25020-V25022	6739	13	6	0.083	1.05	0.01	0.54	0.03	0.56	0.02	0.55	0.03	0.56
V25021-V25022	6453	210	6	0.006	0.28	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.08
V25022-V25023	6738	53	8	0.104	2.52	0.02	0.06	0.04	0.08	0.02	0.07	0.04	0.09
V25023-V25024	6661	180	8	0.095	2.41	0.02	0.07	0.04	0.10	0.02	0.08	0.04	0.11
V25024-V25025	4853	244	8	0.033	1.41	0.02	0.08	0.04	0.11	0.03	0.09	0.04	0.11
V25025-V25026	4953	194	8	0.079	2.20	0.02	0.10	0.04	0.15	0.03	0.11	0.04	0.15
V25026-V25030	6513	217	8	0.010	0.78	0.03	0.13	0.07	0.18	0.04	0.14	0.06	0.18
V25027-V25028	6458	77	6	0.014	0.42	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V25028-V25029	4952	334	6	0.074	0.99	0.00	0.05	0.00	0.05	0.00	0.04	0.00	0.05
V25029-V25030	6512	80	6	0.063	0.91	0.00	0.10	0.01	0.14	0.00	0.11	0.01	0.14
V25030-V25031	6121	319	8	0.026	1.25	0.03	0.12	0.08	0.18	0.04	0.13	0.07	0.17
V25031-V25033	6182	162	8	0.017	1.02	0.04	0.16	0.08	0.23	0.04	0.17	0.08	0.23
V25032-V25033	4951	356	6	0.101	1.15	0.00	0.15	0.00	0.20	0.00	0.15	0.00	0.19
V25033-V25034	6181	165	8	0.006	0.61	0.04	0.15	0.09	0.21	0.05	0.15	0.08	0.20
V25034-V25040	5739	302	8	0.067	2.02	0.04	0.11	0.09	0.16	0.05	0.12	0.09	0.15
V25035-V25036	6459	119	8	0.076	2.16	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V25036-V25037	4852	94	8	0.041	1.57	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V25037-V25040	4950	362	8	0.145	2.97	0.00	0.07	0.01	0.10	0.00	0.08	0.00	0.10
V25038-V25039	6120	162	8	0.071	2.08	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V25039-V25040	5738	139	8	0.112	2.61	0.00	0.07	0.00	0.10	0.00	0.08	0.00	0.10
V25040-V25042.A0	5768	301	8	0.054	1.81	0.05	0.11	0.11	0.16	0.06	0.12	0.10	0.15
V25041-V25042	6460	322	8	0.106	2.54	0.00	0.09	0.00	0.13	0.00	0.10	0.00	0.12
V25042.A0-V25042	4794	5	8	0.112	2.61	0.05	0.13	0.11	0.18	0.06	0.14	0.11	0.18
V25042-V25047	4795	174	8	0.018	1.04	0.06	0.16	0.12	0.23	0.06	0.17	0.11	0.23
V25043-V25045	5996	49	8	0.040	1.56	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V25044-V25045	6866	264	8	0.010	0.79	0.00	0.03	0.00	0.04	0.01	0.07	0.01	0.07
V25045-V25046	5737	162	8	0.102	2.49	0.00	0.03	0.01	0.04	0.01	0.06	0.01	0.06
V25046-V25047	5767	261	8	0.076	2.16	0.00	0.10	0.01	0.14	0.02	0.12	0.02	0.15
V25047-V25048	5667	131	8	0.022	1.16	0.06	0.17	0.13	0.25	0.08	0.20	0.13	0.25
V25048.A0-V25048.B0	7683	109	8	0.031	1.38	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V25048.B0-V25048.C0	7684	148	8	0.032	1.41	0.00	0.04	0.01	0.05	0.00	0.04	0.00	0.04
V25048.C0-V25048.D0	7685	209	8	0.064	1.98	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.04
V25048.D0-V25048.H0	7686	99	8	0.103	2.50	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.05
V25048.E0-V25048.F0	7681	130	8	0.039	1.55	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V25048.E0-V25070.FA	7679	328	8	0.011	0.81	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V25048.F0-V25048.H0	7682	201	8	0.036	1.48	0.00	0.05	0.01	0.05	0.00	0.05	0.01	0.05
V25048.G0-V25048.H0	7677	150	8	0.043	1.62	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V25048.H0-V25048.I0	7687	107	8	0.095	2.41	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.06
V25048.I0-V25048.J0	7048	322	8	0.091	2.35	0.01	0.07	0.02	0.09	0.01	0.08	0.02	0.10
V25048.J0-V25048	7880	29	8	0.013	0.89	0.01	0.14	0.03	0.19	0.02	0.17	0.03	0.20
V25048-V25055	4793	215	8	0.018	1.04	0.08	0.18	0.16	0.27	0.11	0.25	0.17	0.29
V25049-V25051	5736	311	8	0.007	0.64	0.00	0.04	0.00	0.05	0.02	0.11	0.02	0.11
V25050-V25051	6462	271	8	0.011	0.83	0.00	0.03	0.00	0.04	0.01	0.09	0.01	0.09
V25051-V25052	5766	320	8	0.043	1.63	0.00	0.04	0.01	0.06	0.04	0.12	0.04	0.12
V25052-V25054	5666	278	8	0.034	1.45	0.01	0.05	0.01	0.07	0.05	0.14	0.05	0.14
V25053-V25054	6461	379	8	0.005	0.57	0.00	0.05	0.00	0.07	0.00	0.10	0.00	0.10
V25054-V25055	4792	283	8	0.048	1.72	0.01	0.12	0.02	0.17	0.08	0.21	0.08	0.23
V25055-V25056	4733	76	8	0.024	1.21	0.09	0.23	0.19	0.33	0.20	0.34	0.26	0.39
V25056-V25057	4732	375	8	0.006	0.62	0.09	0.23	0.19	0.34	0.20	0.35	0.26	0.40
V25057-V25078	5638	306	8	0.026	1.25	0.09	0.17	0.19	0.25	0.22	0.28	0.28	0.31

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V25058-V25059	5913	221	8	0.199	3.49	0.00	0.02	0.00	0.02	0.01	0.03	0.01	0.03
V25059-V25060	4851	136	8	0.150	3.02	0.00	0.03	0.01	0.03	0.01	0.04	0.01	0.04
V25060-V25061	5683	197	8	0.182	3.34	0.00	0.05	0.01	0.06	0.01	0.08	0.01	0.09
V25061-V25063	6119	110	8	0.010	0.78	0.01	0.05	0.01	0.07	0.02	0.09	0.02	0.09
V25062-V25063	5914	123	6	0.317	2.04	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V25063-V25064	5735	26	6	0.427	2.37	0.01	0.06	0.01	0.07	0.02	0.11	0.03	0.11
V25064-V25065	6479	170	6	0.072	0.97	0.01	0.07	0.02	0.09	0.05	0.15	0.05	0.15
V25065-V25066	4237	129	8	0.040	1.56	0.01	0.06	0.02	0.08	0.05	0.14	0.05	0.14
V25066-V25067	V25066-V25067	344	8	0.014	0.94	0.01	0.07	0.02	0.10	0.05	0.15	0.05	0.15
V25067-V25068	5889	345	8	0.030	1.36	0.01	0.08	0.03	0.10	0.07	0.16	0.07	0.16
V25068-V25071	4791	189	8	0.019	1.09	0.01	0.10	0.03	0.14	0.07	0.19	0.07	0.20
V25070.A0-V25070.B0	6660	303	8	0.160	3.12	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V25070.AA-V25070.A0	5909	54	8	0.008	0.72	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V25070.B0-V25070.C0	5682	102	8	0.095	2.41	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.06
V25070.C0-V25070.D0	5908	147	8	0.008	0.71	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.06
V25070.D0-V25070.E0	5907	211	8	0.214	3.62	0.01	0.04	0.01	0.05	0.01	0.06	0.01	0.07
V25070.E0-V25070.F0	5906	202	8	0.068	2.04	0.01	0.05	0.02	0.07	0.03	0.10	0.04	0.11
V25070.F0-V25070	4790	52	8	0.043	1.61	0.01	0.09	0.03	0.12	0.04	0.14	0.05	0.15
V25070.FA-V25070.FB	7680	175	8	0.218	3.65	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V25070.FB-V25070.F0	7678	217	8	0.039	1.55	0.00	0.05	0.01	0.07	0.00	0.07	0.01	0.08
V25070-V25071	5410	175	8	0.007	0.65	0.02	0.12	0.03	0.16	0.04	0.20	0.05	0.21
V25071-V25072	4828	156	8	0.019	1.06	0.03	0.12	0.06	0.17	0.11	0.23	0.12	0.24
V25072-V25077	4731	376	8	0.016	0.99	0.03	0.13	0.07	0.19	0.12	0.27	0.14	0.28
V25073-V25074	6955	86	8	0.018	1.04	0.00	0.04	0.00	0.04	0.02	0.11	0.02	0.11
V25074-V25076	5904	370	8	0.012	0.86	0.00	0.05	0.00	0.06	0.02	0.13	0.02	0.13
V25075-V25076	4730	71	8	0.025	1.24	0.00	0.04	0.00	0.05	0.03	0.13	0.03	0.13
V25076-V25077	5982	240	8	0.030	1.35	0.01	0.10	0.01	0.13	0.06	0.22	0.06	0.22
V25077-V25078	5637	375	8	0.016	0.99	0.04	0.14	0.09	0.21	0.19	0.28	0.20	0.30
V25078-V24052.A0	6956	32	8	0.126	2.77	0.13	0.30	0.28	0.45	0.42	0.53	0.49	0.58
V25084-V22085.A0	V25084-V22085.A0	167	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V26001-V26002	6659	330	8	0.019	1.09	0.01	0.08	0.05	0.15	0.10	0.21	0.12	0.23
V26002-V26003	4141	171	8	0.019	1.07	0.01	0.08	0.05	0.15	0.10	0.21	0.12	0.23
V26003-V26009	1049	187	8	0.021	1.12	0.01	0.08	0.05	0.16	0.10	0.22	0.13	0.24
V26004-V26007	6615	277	8	0.130	2.82	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.04
V26005-V26006	1048	60	8	0.151	3.04	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.02
V26006-V26007	1046	308	8	0.211	3.58	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V26007-V26008	8203	287	8	0.120	2.71	0.00	0.02	0.01	0.05	0.01	0.05	0.01	0.06
V26008-V26009	1050	182	8	0.015	0.96	0.00	0.06	0.01	0.12	0.01	0.15	0.01	0.17
V26009-V26010	1051	321	8	0.014	0.93	0.02	0.09	0.07	0.18	0.11	0.23	0.14	0.26
V26010-V26017.B0	4850	232	8	0.015	0.95	0.02	0.09	0.07	0.19	0.11	0.23	0.15	0.27
V26011.A0-V26011.B0	6075	208	8	0.050	1.74	0.00	0.02	0.00	0.02	0.01	0.04	0.01	0.04
V26011.B0-V26011	4140	166	8	0.069	2.06	0.00	0.02	0.00	0.04	0.01	0.05	0.01	0.05
V26011-V26013	4849	246	8	0.033	1.42	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.08
V26012-V26013	6709	80	8	0.051	1.77	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
V26013-V26014	6708	55	8	0.007	0.67	0.00	0.04	0.01	0.07	0.01	0.08	0.01	0.09
V26014-V26016	6707	160	8	0.027	1.29	0.00	0.05	0.01	0.08	0.01	0.08	0.01	0.09
V26016.A0-V26016	1421	150	8	0.008	0.70	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V26016-V26017	6706	172	8	0.007	0.63	0.00	0.08	0.01	0.16	0.01	0.18	0.02	0.21
V26017.A0-V26017.B0	4848	181	8	0.090	2.34	0.00	0.06	0.00	0.10	0.00	0.13	0.00	0.14
V26017.B0-V26017	6704	232	8	0.015	0.95	0.02	0.10	0.07	0.21	0.11	0.25	0.15	0.29
V26017-V26018	6705	174	8	0.011	0.83	0.02	0.11	0.09	0.22	0.12	0.26	0.17	0.30
V26018-V26026	5681	271	8	0.013	0.88	0.02	0.12	0.09	0.23	0.12	0.26	0.17	0.30
V26019-V26020	6077	169	8	0.009	0.76	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V26020-V26021	6703	183	8	0.076	2.15	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V26021-V26022	5680	155	8	0.047	1.69	0.00	0.04	0.00	0.06	0.00	0.05	0.01	0.06
V26022-V26026	6511	250	8	0.004	0.49	0.00	0.09	0.01	0.16	0.00	0.16	0.01	0.20
V26024-V26023	6076	147	8	0.071	2.08	0.00	0.03	0.00	0.03	0.01	0.05	0.01	0.05
V26024-V26247	4847	363	8	0.042	1.61	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V26025-V26026	5679	85	8	0.123	2.74	0.00	0.08	0.01	0.14	0.01	0.15	0.01	0.18
V26026-V26029	5678	370	8	0.016	0.98	0.03	0.12	0.11	0.23	0.14	0.25	0.20	0.30
V26027-V26028	5074	237	8	0.119	2.70	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V26028-V26029	5073	236	8	0.020	1.10	0.00	0.07	0.00	0.13	0.00	0.13	0.00	0.16
V26029-V26030	5677	42	8	0.023	1.18	0.03	0.12	0.12	0.22	0.14	0.24	0.21	0.28
V26030-V26070	6118	250	8	0.004	0.49	0.03	0.23	0.13	0.43	0.14	0.42	0.21	0.54
V26031-V26032	6814	156	8	0.032	1.40	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26032-V26033	227	301	8	0.027	1.28	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V26033-V26034	6614	454	8	0.072	2.09	0.00	0.04	0.01	0.06	0.01	0.04	0.01	0.06
V26034-V26035	6790	140	8	0.044	1.64	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.07
V26035-V26042	1651	320	8	0.044	1.64	0.01	0.16	0.02	0.22	0.01	0.16	0.02	0.21
V26036-V26037	5128	373	6	0.007	0.31	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V26037-V26038	6813	169	8	0.074	2.12	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.04
V26038-V26040	4569	201	8	0.086	2.29	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V26039-V26040	223	148	8	0.002	0.35	0.00	0.06	0.00	0.06	0.00	0.05	0.00	0.05
V26040-V26041	6613	172	8	0.088	2.31	0.01	0.04	0.01	0.06	0.01	0.04	0.01	0.05
V26041-V26042	1650	159	8	0.090	2.34	0.01	0.16	0.02	0.21	0.01	0.16	0.01	0.20
V26042-V26043	6737	84	8	0.000	0.03	0.02	0.18	0.04	0.24	0.02	0.18	0.03	0.23
V26043-V26044	6736	194	8	0.027	1.27	0.02	0.12	0.04	0.17	0.02	0.12	0.04	0.16
V26044-V26048	6735	214	8	0.004	0.49	0.02	0.13	0.04	0.19	0.02	0.13	0.04	0.18
V26045-V26046	6612	270	8	0.037	1.50	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V26046-V26047	1649	210	8	0.079	2.19	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.03
V26047-V26048	6733	120	8	0.113	2.62	0.01	0.07	0.01	0.10	0.00	0.07	0.01	0.09
V26048-V26049	6658	289	8	0.016	1.00	0.03	0.12	0.06	0.17	0.02	0.12	0.05	0.16
V26049-V26057	5072	267	8	0.013	0.91	0.03	0.11	0.06	0.16	0.03	0.11	0.05	0.15
V26050-V26051	6051	167	8	0.003	0.45	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
V26051-V26052	6812	250	8	0.004	0.49	0.00	0.03	0.00	0.06	0.00	0.05	0.00	0.07
V26052-V26053	5127	280	8	0.005	0.53	0.00	0.02	0.00	0.06	0.00	0.04	0.01	0.06
V26053-V26054	6811	125	8	0.054	1.82	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.05
V26054-V26055	4568	183	8	0.114	2.64	0.00	0.02	0.01	0.04	0.01	0.03	0.01	0.05
V26055-V26056	6611	329	8	0.111	2.60	0.00	0.03	0.01	0.05	0.01	0.04	0.01	0.06
V26056-V26057	6657	80	8	0.070	2.07	0.00	0.06	0.01	0.10	0.01	0.07	0.02	0.10
V26057-V26058	4846	188	8	0.075	2.13	0.03	0.09	0.08	0.13	0.04	0.09	0.07	0.13
V26058-V26059	6702	230	8	0.072	2.09	0.04	0.10	0.08	0.14	0.04	0.10	0.08	0.14
V26059-V26060	6079	233	8	0.047	1.70	0.04	0.15	0.09	0.23	0.04	0.16	0.08	0.22
V26060-V26069	6080	139	8	0.004	0.49	0.04	0.15	0.09	0.23	0.04	0.16	0.08	0.22
V26061-V26062	6081	150	6	0.127	1.29	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V26062-V26064	6082	274	6	0.013	0.41	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V26063-V26064	6610	36	8	0.055	1.84	0.00	0.02	0.00	0.02	0.01	0.04	0.01	0.04
V26064-V26065	6789	146	8	0.137	2.89	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
V26065-V26066	1648	85	8	0.171	3.23	0.00	0.03	0.01	0.04	0.01	0.05	0.01	0.05
V26066-V26067	6655	226	8	0.095	2.40	0.00	0.03	0.01	0.05	0.01	0.06	0.02	0.06
V26067-V26068	6083	224	8	0.093	2.38	0.00	0.04	0.01	0.06	0.02	0.07	0.02	0.08
V26068-V26069.C0	6046	167	8	0.021	1.12	0.00	0.05	0.01	0.08	0.02	0.09	0.02	0.10
V26069.A0-V26069.B0	6047	155	8	0.125	2.76	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V26069.B0-V26069.C0	6048	80	8	0.032	1.40	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
V26069.C0-V26069	6049	142	8	0.021	1.14	0.01	0.08	0.02	0.12	0.02	0.10	0.03	0.13
V26069-V26070	6117	73	8	0.073	2.11	0.05	0.19	0.11	0.33	0.06	0.29	0.11	0.39
V26070-V26071	6153	230	8	0.004	0.50	0.08	0.26	0.24	0.45	0.20	0.42	0.32	0.54

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V26071-V26255	6152	56	10	0.006	1.10	0.08	0.18	0.24	0.31	0.21	0.28	0.33	0.36
V26074-V26075	1680	73	8	0.098	2.45	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V26075-V26076	6609	222	8	0.159	3.11	0.00	0.03	0.00	0.04	0.01	0.04	0.01	0.04
V26076-V26078	6788	71	8	0.028	1.31	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.05
V26077-V26078	6353	30	8	0.028	1.32	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V26078.A0-V26078.B0	6787	155	8	0.018	1.05	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V26078.B0-V26078.C0	6786	27	8	0.040	1.56	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V26078.C0-V26078	6784	43	8	0.025	1.24	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V26078-V26081	6654	362	8	0.097	2.43	0.01	0.04	0.01	0.05	0.01	0.06	0.01	0.06
V26079-V26080	6350	127	8	0.004	0.47	0.00	0.03	0.00	0.03	0.01	0.08	0.01	0.08
V26080-V26081	6352	306	8	0.035	1.47	0.00	0.03	0.00	0.04	0.02	0.07	0.02	0.07
V26081-V26082	4844	84	8	0.257	3.96	0.01	0.05	0.02	0.08	0.03	0.11	0.04	0.12
V26082-V26084	5676	189	8	0.017	1.00	0.01	0.07	0.02	0.10	0.05	0.15	0.06	0.15
V26083-V26084	6084	77	8	0.002	0.35	0.00	0.03	0.00	0.05	0.00	0.07	0.00	0.07
V26084-V26085	6510	375	8	0.032	1.39	0.01	0.06	0.02	0.10	0.05	0.14	0.06	0.15
V26085-V26086	6507	190	8	0.032	1.39	0.01	0.07	0.03	0.11	0.07	0.16	0.07	0.17
V26086.A0-V26086	6506	307	8	0.020	1.11	0.00	0.05	0.00	0.07	0.02	0.13	0.02	0.13
V26086-V26256	6177	185	8	0.027	1.29	0.01	0.15	0.04	0.25	0.09	0.28	0.09	0.32
V26088-V26089	5136	3	6	0.376	2.22	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V26089-V26090	6036	146	6	0.086	1.06	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V26090-V26091	6035	85	6	0.164	1.47	0.00	0.04	0.00	0.04	0.01	0.05	0.01	0.05
V26091-V26095	1679	81	8	0.084	2.27	0.00	0.04	0.00	0.05	0.01	0.06	0.01	0.06
V26092-V26093	6037	188	8	0.011	0.81	0.00	0.03	0.00	0.03	0.02	0.09	0.02	0.09
V26093-V26094	6038	195	8	0.148	3.01	0.00	0.03	0.00	0.03	0.02	0.06	0.02	0.06
V26094.A0-V26094	1218	3	8	0.717	6.61	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V26094-V26095	1677	22	8	0.112	2.61	0.00	0.04	0.01	0.05	0.02	0.07	0.02	0.07
V26095-V26097	4567	243	8	0.066	2.01	0.01	0.04	0.01	0.06	0.03	0.08	0.03	0.08
V26096-V26097	222	49	8	0.005	0.55	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V26097-V26101	6557	130	8	0.108	2.57	0.01	0.05	0.02	0.07	0.03	0.08	0.03	0.09
V26098-V26099	5117	140	8	0.067	2.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26099-V26100	6810	225	8	0.133	2.85	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V26100-V26101	6556	154	8	0.096	2.42	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.07
V26101-V26105	1647	219	8	0.077	2.17	0.01	0.06	0.03	0.09	0.04	0.11	0.04	0.12
V26102-V26103	6034	158	8	0.212	3.59	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V26103-V26104	6032	84	8	0.182	3.33	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
V26104-V26105	6031	345	8	0.046	1.68	0.00	0.05	0.00	0.07	0.01	0.09	0.01	0.10
V26105-V26106	6732	284	8	0.028	1.32	0.01	0.07	0.03	0.11	0.04	0.12	0.06	0.14
V26106-V26107	6653	302	8	0.041	1.59	0.02	0.07	0.04	0.11	0.04	0.12	0.06	0.13
V26107-V26108	4843	373	8	0.053	1.80	0.02	0.09	0.04	0.14	0.06	0.15	0.07	0.17
V26108-V26160	6701	63	8	0.010	0.77	0.02	0.14	0.05	0.21	0.06	0.22	0.07	0.25
V26109.A0-V26109.B0	6833	34	8	0.014	0.91	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V26109.B0-V26109.C0	6832	194	8	0.008	0.72	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V26109.C0-V26109	6831	199	8	0.008	0.71	0.00	0.05	0.00	0.06	0.01	0.07	0.01	0.08
V26109-V26110	6834	112	8	0.007	0.64	0.00	0.05	0.01	0.08	0.01	0.08	0.01	0.09
V26110-V26113	6830	80	8	0.004	0.50	0.00	0.07	0.01	0.10	0.01	0.10	0.01	0.12
V26111-V26112	5152	114	8	0.162	3.15	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26112-V26113	2476	185	8	0.065	2.00	0.00	0.05	0.00	0.07	0.00	0.07	0.00	0.08
V26113-V26114	6829	252	8	0.004	0.49	0.01	0.08	0.01	0.12	0.01	0.13	0.02	0.14
V26114-V26115	6828	179	8	0.005	0.54	0.01	0.07	0.02	0.11	0.02	0.11	0.02	0.12
V26115-V26116	6043	269	8	0.036	1.49	0.01	0.05	0.02	0.08	0.02	0.08	0.03	0.09
V26116-V26117	6044	312	8	0.068	2.04	0.01	0.07	0.02	0.10	0.02	0.09	0.03	0.11
V26117-V26122	6045	78	8	0.014	0.94	0.01	0.08	0.03	0.12	0.02	0.11	0.03	0.13
V26118-V26119	755	2	8	0.077	2.17	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V26119-V26121	2475	160	8	0.007	0.66	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V26120-V26121	2474	216	8	0.030	1.36	0.00	0.52	0.00	0.52	0.00	0.52	0.00	0.52
V26121-V26122	6529	333	8	0.148	3.00	0.01	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V26122-V26123	6554	187	8	0.035	1.46	0.02	0.08	0.04	0.12	0.03	0.10	0.05	0.12
V26123-V26125	6553	142	8	0.032	1.39	0.02	0.13	0.05	0.18	0.03	0.15	0.05	0.19
V26124.A0-V26124.B0	6528	310	8	0.104	2.52	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V26124.B0-V26124	6809	311	8	0.090	2.34	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
V26124-V26125	1676	68	8	0.003	0.45	0.00	0.12	0.01	0.17	0.01	0.14	0.01	0.17
V26125-V26130	1675	164	8	0.004	0.51	0.03	0.13	0.06	0.20	0.04	0.16	0.06	0.20
V26126-V26128	6042	66	8	0.101	2.48	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V26127-V26128	6041	61	8	0.002	0.32	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V26128.A0-V26128	6039	93	8	0.038	1.53	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V26128-V26129	5116	155	8	0.056	1.84	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.03
V26129-V26130	6808	79	8	0.226	3.72	0.00	0.07	0.01	0.09	0.00	0.07	0.01	0.09
V26130-V26133	1674	116	8	0.030	1.36	0.03	0.10	0.07	0.15	0.04	0.12	0.07	0.15
V26131-V26132	2473	216	8	0.125	2.76	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V26132-V26133	6527	345	8	0.142	2.95	0.01	0.07	0.01	0.09	0.00	0.07	0.01	0.08
V26133-V26134	4566	251	8	0.057	1.87	0.04	0.10	0.08	0.14	0.05	0.11	0.08	0.14
V26134-V26146	6552	190	8	0.061	1.92	0.04	0.10	0.08	0.15	0.05	0.11	0.08	0.15
V26135-V26136	6053	153	8	0.014	0.94	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V26136-V26138	2482	69	8	0.115	2.65	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V26137-V26138	2480	261	8	0.014	0.91	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V26138-V26143	6526	399	8	0.063	1.95	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V26139-V26140	6056	75	8	0.137	2.89	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V26140-V26142	6055	189	8	0.004	0.50	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.07
V26141-V26142	6054	45	8	0.004	0.48	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V26142-V26143	5125	190	8	0.004	0.49	0.00	0.09	0.01	0.12	0.01	0.10	0.01	0.12
V26143-V26144	5124	127	8	0.003	0.44	0.01	0.09	0.02	0.12	0.01	0.09	0.02	0.12
V26144-V26145	6807	216	8	0.105	2.52	0.01	0.05	0.02	0.07	0.01	0.05	0.02	0.07
V26145-V26146	6551	192	8	0.100	2.47	0.01	0.08	0.03	0.11	0.02	0.09	0.03	0.11
V26146-V26147.F0	6783	43	8	0.074	2.13	0.05	0.11	0.11	0.17	0.06	0.12	0.11	0.16
V26147.A0-V26147.B0	6806	350	8	0.111	2.60	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V26147.B0-V26147.C0	4565	284	8	0.010	0.78	0.01	0.06	0.01	0.08	0.00	0.06	0.01	0.07
V26147.C0-V26147.D0	221	297	8	0.010	0.78	0.01	0.06	0.01	0.08	0.01	0.05	0.01	0.07
V26147.D0-V26147.E0	6550	286	8	0.053	1.80	0.01	0.07	0.02	0.09	0.01	0.06	0.01	0.08
V26147.E0-V26147.F0	6781	155	8	0.008	0.70	0.01	0.10	0.02	0.14	0.01	0.10	0.02	0.14
V26147.F0-V26147	6780	71	8	0.068	2.03	0.06	0.12	0.13	0.17	0.07	0.13	0.13	0.17
V26147-V26148	6782	115	8	0.070	2.07	0.06	0.12	0.14	0.17	0.07	0.13	0.13	0.17
V26148-V26149	1646	279	8	0.080	2.21	0.06	0.13	0.14	0.19	0.07	0.14	0.13	0.18
V26149-V26150	6652	204	8	0.038	1.53	0.06	0.15	0.14	0.23	0.07	0.16	0.13	0.22
V26150-V26159	5071	260	8	0.019	1.07	0.06	0.16	0.14	0.24	0.07	0.20	0.13	0.25
V26151-V26152	6027	114	8	0.063	1.96	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26152-V26153	6028	261	8	0.141	2.93	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V26153-V26156	6549	87	8	0.114	2.64	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V26154-V26155	220	93	8	0.088	2.31	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26155-V26156	6548	219	8	0.043	1.62	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V26156-V26157	1645	82	8	0.207	3.55	0.00	0.03	0.01	0.04	0.01	0.03	0.01	0.04
V26157-V26158	6029	18	8	0.195	3.45	0.00	0.03	0.01	0.04	0.01	0.03	0.01	0.04
V26158-V26159	6030	140	8	0.156	3.08	0.00	0.09	0.01	0.14	0.01	0.12	0.01	0.15
V26159-V26160	4842	216	8	0.031	1.38	0.07	0.16	0.16	0.24	0.14	0.23	0.20	0.27
V26160-V26161	5675	216	8	0.034	1.44	0.09	0.17	0.21	0.25	0.20	0.25	0.27	0.29
V26161-V26162	6509	299	8	0.036	1.49	0.09	0.18	0.21	0.27	0.20	0.26	0.27	0.31
V26162-V26163	6505	286	8	0.023	1.18	0.09	0.19	0.22	0.29	0.21	0.29	0.29	0.34
V26163-V26173	6026	263	8	0.021	1.12	0.09	0.20	0.22	0.30	0.22	0.31	0.30	0.36

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V26164-V26165	6547	109	8	0.136	2.88	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26165-V26166	1644	123	8	0.092	2.37	0.00	0.08	0.00	0.10	0.00	0.08	0.00	0.09
V26166-V26168	6626	106	8	0.000	0.02	0.00	0.08	0.00	0.10	0.00	0.08	0.00	0.10
V26167-V26168	5070	130	8	0.010	0.78	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V26168-V26169	4841	134	8	0.120	2.71	0.00	0.14	0.01	0.19	0.00	0.15	0.01	0.19
V26169.A0-V26169.B0	6450	300	8	0.134	2.86	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V26169.B0-V26169	6625	315	8	0.061	1.93	0.00	0.14	0.01	0.19	0.01	0.16	0.01	0.19
V26169-V26170	4840	221	8	0.000	0.02	0.01	0.15	0.02	0.20	0.01	0.18	0.02	0.21
V26170.A0-V26170.B0	4839	170	8	0.068	2.03	0.00	0.04	0.00	0.04	0.00	0.07	0.00	0.07
V26170.B0-V26170	4838	170	8	0.006	0.63	0.00	0.05	0.01	0.07	0.01	0.09	0.01	0.09
V26170-V26171	5673	115	8	0.125	2.76	0.01	0.06	0.03	0.08	0.03	0.08	0.04	0.09
V26171-V26172	6508	181	8	0.044	1.64	0.01	0.07	0.03	0.10	0.03	0.10	0.04	0.11
V26172-V26173	6022	206	6	0.060	0.89	0.02	0.18	0.03	0.27	0.04	0.29	0.05	0.33
V26173-V26174	6024	102	8	0.025	1.22	0.11	0.22	0.26	0.34	0.27	0.36	0.36	0.41
V26174-V26257	6025	61	8	0.012	0.87	0.11	0.27	0.26	0.43	0.28	0.45	0.37	0.54
V26175-V26177	6175	232	8	0.027	1.29	0.21	0.31	0.55	0.54	0.60	0.57	0.81	0.69
V26177-V26182	6174	167	8	0.011	0.84	0.21	0.31	0.55	0.53	0.61	0.56	0.82	0.90
V26178-V26179	6700	70	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V26179-V26180	5672	131	8	0.027	1.28	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V26180-V26181	6190	88	8	0.128	2.79	0.00	0.02	0.00	0.03	0.00	0.04	0.01	0.04
V26181-V26182	6504	205	8	0.112	2.61	0.00	0.14	0.00	0.23	0.02	0.26	0.02	0.53
V26182-V26183	6354	60	8	0.035	1.46	0.21	0.35	0.56	0.63	0.63	0.73	0.85	1.00
V26183-V26185	6355	192	8	0.006	0.59	0.21	0.32	0.56	0.58	0.64	0.68	0.85	0.71
V26184.A0-V26184	6435	292	8	0.018	1.03	0.00	0.11	0.00	0.18	0.00	0.20	0.00	0.23
V26184-V26185	5137	58	8	0.000	0.03	0.00	0.20	0.00	0.33	0.01	0.36	0.01	0.42
V26185-V26186	4491	120	8	0.094	2.39	0.21	0.25	0.57	0.42	0.65	0.46	0.87	0.54
V26186-V26187	5765	381	8	0.021	1.14	0.21	0.29	0.57	0.50	0.67	0.56	0.89	0.66
V26187-V26189	5888	232	8	0.022	1.16	0.22	0.30	0.58	0.51	0.70	0.57	0.91	0.68
V26188-V26189	5062	185	6	0.004	0.24	0.00	0.24	0.00	0.38	0.01	0.48	0.01	0.54
V26189-V26190	5061	153	8	0.020	1.10	0.23	0.30	0.59	0.51	0.71	0.57	0.93	0.74
V26190-V26191	4789	365	8	0.024	1.20	0.23	0.31	0.59	0.53	0.73	0.61	0.94	0.89
V26191-V26236	5409	363	8	0.015	0.96	0.23	0.37	0.59	0.64	0.74	0.83	0.95	1.00
V26192-V26193	6052	267	8	0.054	1.82	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V26193-V26194	2472	156	8	0.062	1.95	0.00	0.03	0.01	0.04	0.00	0.04	0.01	0.04
V26194-V26195	6525	178	8	0.065	1.98	0.00	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V26195-V26196	5135	211	8	0.057	1.87	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.06
V26196-V26197	5115	69	8	0.073	2.11	0.01	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V26197-V26198	5123	81	8	0.074	2.12	0.01	0.05	0.01	0.07	0.01	0.06	0.02	0.07
V26198-V26199	6805	194	8	0.031	1.37	0.01	0.05	0.01	0.07	0.01	0.06	0.02	0.07
V26199-V26200	1673	148	8	0.107	2.56	0.01	0.05	0.02	0.07	0.01	0.06	0.02	0.07
V26200-V26202	4564	241	8	0.049	1.74	0.01	0.06	0.02	0.08	0.01	0.07	0.02	0.08
V26201-V26202	6449	209	8	0.132	2.84	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V26202-V26203	6448	254	8	0.051	1.76	0.01	0.08	0.03	0.12	0.02	0.10	0.03	0.13
V26203-V26204	6447	336	8	0.005	0.53	0.01	0.12	0.03	0.17	0.02	0.14	0.03	0.18
V26204-V26205	6779	227	8	0.004	0.48	0.02	0.13	0.04	0.19	0.02	0.15	0.04	0.19
V26205-V26206	6778	182	8	0.004	0.49	0.02	0.13	0.04	0.19	0.02	0.15	0.04	0.19
V26206-V26207	6777	259	8	0.004	0.50	0.02	0.14	0.04	0.20	0.02	0.15	0.04	0.20
V26207-V26208	6776	137	8	0.007	0.64	0.02	0.10	0.05	0.14	0.03	0.11	0.04	0.14
V26208-V26209	1643	177	8	0.137	2.89	0.02	0.07	0.05	0.10	0.03	0.07	0.05	0.10
V26209-V26210	6624	59	8	0.091	2.35	0.02	0.07	0.05	0.10	0.03	0.07	0.05	0.10
V26210-V26213	6291	116	8	0.169	3.21	0.02	0.10	0.05	0.14	0.03	0.11	0.05	0.14
V26211-V26212	6446	106	8	0.053	1.79	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26212-V26213	6623	162	8	0.133	2.85	0.00	0.08	0.00	0.11	0.00	0.08	0.00	0.11
V26213-V26214	6695	126	8	0.013	0.88	0.03	0.09	0.06	0.14	0.03	0.11	0.06	0.14
V26214-V26215	6442	138	8	0.258	3.97	0.03	0.07	0.06	0.10	0.03	0.08	0.06	0.10
V26215.A0-V26215.B0	6694	3	8	0.210	3.58	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V26215.B0-V26215.C0	5671	180	8	0.151	3.03	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V26215.C0-V26215.D0	6503	119	8	0.073	2.12	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V26215.D0-V26215.E0	5995	122	8	0.026	1.25	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
V26215.E0-V26215	6444	69	8	0.048	1.71	0.00	0.06	0.01	0.09	0.00	0.07	0.01	0.09
V26215-V26216	6445	60	8	0.066	2.01	0.03	0.09	0.07	0.13	0.04	0.10	0.07	0.13
V26216-V26217	4484	239	8	0.040	1.57	0.03	0.11	0.07	0.16	0.04	0.12	0.07	0.16
V26217-V26227	4483	45	8	0.022	1.17	0.03	0.11	0.07	0.16	0.04	0.12	0.07	0.16
V26218-V26219	6441	214	8	0.008	0.71	0.00	0.03	0.00	0.04	0.01	0.08	0.01	0.08
V26219-V26220	6622	318	8	0.025	1.23	0.00	0.04	0.00	0.05	0.01	0.07	0.01	0.07
V26220-V26221	6290	103	8	0.068	2.04	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.07
V26221-V26223	6685	243	8	0.021	1.13	0.00	0.04	0.01	0.06	0.01	0.07	0.02	0.07
V26222-V26223	6440	41	8	0.090	2.35	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V26223-V26225	5670	126	8	0.145	2.97	0.00	0.03	0.01	0.04	0.01	0.05	0.02	0.06
V26224-V26225	6439	96	8	0.066	2.00	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.03
V26225-V26226	6502	98	8	0.247	3.88	0.00	0.03	0.01	0.05	0.02	0.05	0.02	0.06
V26226-V26227	5734	76	8	0.120	2.70	0.00	0.06	0.01	0.10	0.02	0.09	0.02	0.11
V26227-V26228	4482	135	8	0.055	1.83	0.04	0.10	0.09	0.15	0.06	0.13	0.09	0.16
V26228-V26229	5764	123	8	0.041	1.58	0.04	0.11	0.09	0.17	0.06	0.15	0.10	0.18
V26229-V26231.A0	5665	92	8	0.033	1.42	0.04	0.12	0.09	0.17	0.09	0.17	0.12	0.19
V26230-V26231	6636	144	8	0.002	0.35	0.01	0.14	0.01	0.17	0.00	0.09	0.00	0.11
V26231.A0-V26231	8278	62	8	0.049	1.74	0.05	0.13	0.10	0.19	0.10	0.18	0.13	0.20
V26231-V26233	5664	223	8	0.030	1.34	0.07	0.18	0.12	0.24	0.10	0.24	0.14	0.27
V26232-V26233.A0	4773	53	8	0.037	1.50	0.00	0.04	0.00	0.05	0.03	0.13	0.03	0.13
V26233.A0-V26233	5060	191	8	0.022	1.15	0.02	0.14	0.02	0.18	0.08	0.24	0.08	0.25
V26233.AA-V26233.AB	7942	83	8	0.002	0.33	0.02	0.17	0.02	0.17	0.01	0.22	0.01	0.22
V26233.AB-V26233.A0	7943	340	8	0.002	0.35	0.02	0.14	0.02	0.14	0.05	0.25	0.05	0.25
V26233-V26234	4788	261	8	0.014	0.94	0.08	0.22	0.15	0.29	0.18	0.34	0.21	0.66
V26234-V26235	5981	364	8	0.008	0.70	0.08	0.26	0.15	0.37	0.21	0.69	0.24	1.00
V26235-V26236	5980	53	8	0.004	0.50	0.09	0.34	0.15	0.56	0.25	1.00	0.26	1.00
V26236-V26237	5979	339	8	0.014	0.92	0.31	0.38	0.75	0.65	0.99	0.85	1.22	0.93
V26237-V26241	6437	367	8	0.023	1.18	0.33	0.47	0.77	0.76	1.00	0.84	1.23	0.93
V26238.A0-V26238.B0	5978	280	8	0.019	1.06	0.02	0.12	0.02	0.12	0.04	0.13	0.04	0.13
V26238.B0-V26238.C0	5636	233	8	0.019	1.07	0.04	0.14	0.04	0.14	0.04	0.15	0.04	0.15
V26238.C0-V26238	5836	136	8	0.012	0.87	0.04	0.15	0.04	0.15	0.06	0.17	0.06	0.17
V26238-V26239	5837	107	8	0.012	0.85	0.04	0.16	0.05	0.17	0.06	0.19	0.06	0.19
V26239-V26240	5835	319	8	0.009	0.74	0.04	0.15	0.05	0.16	0.06	0.19	0.06	0.19
V26240-V26241	6438	32	8	0.021	1.13	0.04	0.35	0.05	0.54	0.07	0.57	0.07	0.58
V26241-V26242	5944	60	12	0.001	0.25	0.37	0.30	0.82	0.60	1.07	0.53	1.30	0.60
V26242-V24052.A0	5141	9	12	0.026	1.26	0.37	0.26	0.82	0.50	1.07	0.48	1.30	0.53
V26252-V26256	V26252-V26256	283	10	0.006	1.08	0.08	0.18	0.25	0.32	0.21	0.30	0.33	0.38
V26253-V26252	V26253-V26252	167	10	0.006	1.11	0.08	0.19	0.25	0.33	0.21	0.29	0.33	0.38
V26254-V26253	V26254-V26253	206	10	0.006	1.09	0.08	0.19	0.24	0.32	0.21	0.29	0.33	0.37
V26255-V26254	CDT-20	21	10	0.008	1.30	0.08	0.18	0.24	0.31	0.21	0.28	0.33	0.36
V26256-V26257	6176	194	10	0.010	1.44	0.10	0.21	0.29	0.35	0.30	0.36	0.43	0.44
V27001-V27002	219	175	8	0.010	0.78	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V27002-V27004	6546	258	8	0.086	2.28	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
V27003.A0-V27003.B0	1045	131	8	0.189	3.39	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
V27003.B0-V27003	1044	151	8	0.011	0.82	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.06
V27003.C0-V27003	7985	199	8	0.044	1.63	0.00	0.03	0.00	0.05	0.01	0.06	0.01	0.07
V27003.CA-V27003.CB	7986	50	8	0.163	3.15	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V27003.CB-V27003.C0	7483	130	8	0.011	0.83	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V27003-V27004	6545	188	8	0.018	1.04	0.00	0.05	0.01	0.09	0.01	0.08	0.01	0.10
V27004-V27005	6775	340	8	0.010	0.79	0.01	0.06	0.02	0.09	0.01	0.08	0.02	0.10
V27005-V27006	6774	311	8	0.036	1.48	0.01	0.06	0.02	0.10	0.01	0.08	0.02	0.11
V27006-V27007	1642	320	8	0.015	0.97	0.01	0.05	0.02	0.09	0.01	0.07	0.03	0.10
V27007-V27008	6731	75	8	0.224	3.69	0.01	0.10	0.03	0.16	0.02	0.13	0.03	0.17
V27008-V27011	1043	37	8	0.000	0.04	0.01	0.12	0.03	0.20	0.02	0.20	0.03	0.24
V27009-V27010	6621	299	8	0.026	1.25	0.00	0.01	0.00	0.03	0.01	0.08	0.01	0.09
V27010-V27011	1042	160	8	0.004	0.49	0.00	0.05	0.00	0.10	0.01	0.14	0.01	0.16
V27011.A0-V27011.B0	6773	30	8	0.059	1.90	0.00	0.01	0.00	0.01	0.01	0.11	0.01	0.11
V27011.B0-V27011.C0	6772	133	8	0.015	0.95	0.00	0.02	0.00	0.03	0.07	0.21	0.07	0.21
V27011.C0-V27011.D0	6771	307	8	0.005	0.56	0.00	0.04	0.00	0.06	0.07	0.25	0.07	0.25
V27011.D0-V27011.E0	1641	343	8	0.005	0.54	0.00	0.04	0.01	0.07	0.07	0.20	0.07	0.20
V27011.E0-V27011.F0	6730	359	8	0.059	1.89	0.00	0.04	0.01	0.07	0.07	0.17	0.07	0.17
V27011.F0-V27011	1040	128	8	0.011	0.81	0.00	0.06	0.01	0.11	0.07	0.20	0.07	0.20
V27011-V26001	1041	207	8	0.025	1.24	0.01	0.08	0.05	0.14	0.09	0.19	0.11	0.21
V28001-V28002	6524	223	8	0.185	3.36	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V28002-V28003	6804	168	8	0.127	2.79	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.04
V28003.A0-V28003.B0	V28003.A0-V28003.B0	152	8	0.139	2.92	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V28003.B0-V28003.C0	V28003.B0-V28003.C0	53	8	0.146	2.98	0.00	0.03	0.00	0.04	0.01	0.05	0.01	0.05
V28003.C0-V28003	V28003.C0-V28003	34	8	0.011	0.84	0.00	0.03	0.00	0.05	0.01	0.06	0.01	0.06
V28003-V28004	1672	64	8	0.128	2.80	0.00	0.07	0.01	0.09	0.01	0.09	0.01	0.10
V28004-V28005	8322	17	8	0.000	0.06	0.00	0.07	0.01	0.09	0.01	0.10	0.02	0.10
V28005-V28006	6665	168	8	0.076	2.15	0.00	0.04	0.01	0.05	0.01	0.06	0.02	0.06
V28006-V28008	6544	150	8	0.087	2.30	0.01	0.05	0.01	0.07	0.01	0.07	0.02	0.08
V28007-V28008	6770	32	8	0.006	0.60	0.00	0.20	0.00	0.23	0.00	0.22	0.00	0.23
V28008-V28010	6769	23	8	0.024	1.21	0.01	0.06	0.02	0.08	0.02	0.08	0.02	0.09
V28009-V28010	5918	180	8	0.050	1.74	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V28010-V28020	1640	327	8	0.043	1.61	0.01	0.10	0.02	0.15	0.02	0.14	0.02	0.16
V28012-V28013	5916	198	8	0.096	2.43	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V28013-V28015	1639	119	8	0.114	2.64	0.00	0.05	0.00	0.06	0.01	0.09	0.01	0.09
V28014.A0-V28014.B0	5920	101	8	0.060	1.91	0.00	0.01	0.00	0.02	0.02	0.07	0.02	0.07
V28014.AA-V28014.A0	7192	74	8	0.022	1.16	0.00	0.01	0.00	0.01	0.01	0.07	0.01	0.07
V28014.B0-V28014	5921	32	8	0.058	1.88	0.00	0.02	0.00	0.04	0.02	0.10	0.02	0.10
V28014-V28015	5922	205	8	0.005	0.54	0.00	0.05	0.00	0.07	0.02	0.14	0.02	0.14
V28015-V28017	6729	113	8	0.005	0.56	0.00	0.07	0.01	0.10	0.03	0.15	0.03	0.16
V28016-V28017	6726	9	8	0.026	1.26	0.00	0.05	0.00	0.07	0.00	0.09	0.00	0.09
V28017-V28019	6728	257	8	0.004	0.50	0.01	0.08	0.01	0.12	0.03	0.16	0.03	0.16
V28018-V28019	5915	158	6	0.036	0.69	0.00	0.56	0.00	0.58	0.00	0.60	0.00	0.61
V28019-V28020	2020	158	8	0.006	0.61	0.01	0.12	0.02	0.17	0.03	0.18	0.03	0.20
V28020-V28021	6727	100	8	0.004	0.51	0.02	0.13	0.05	0.18	0.05	0.18	0.06	0.21
V28021-V28023	6725	227	8	0.016	0.98	0.02	0.12	0.05	0.17	0.05	0.17	0.06	0.20
V28022-V28023	5919	308	8	0.027	1.29	0.00	0.08	0.00	0.11	0.00	0.11	0.00	0.13
V28023-V28037	6021	287	8	0.007	0.65	0.03	0.17	0.06	0.25	0.05	0.23	0.07	0.27
V28024-V28025	5925	284	8	0.035	1.46	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V28025-V28026	1638	216	8	0.038	1.51	0.00	0.05	0.01	0.06	0.00	0.05	0.00	0.05
V28026-V28027	1637	163	8	0.014	0.94	0.01	0.13	0.01	0.15	0.01	0.12	0.01	0.14
V28027-V28028	6767	7	8	0.011	0.81	0.01	0.13	0.01	0.15	0.01	0.12	0.01	0.14
V28028-V28029	6766	55	8	0.027	1.29	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.06
V28029-V28030	6765	250	8	0.043	1.63	0.01	0.53	0.01	0.53	0.01	0.53	0.01	0.53
V28030-V28034	6764	85	8	0.077	2.16	0.01	0.77	0.02	0.80	0.01	0.77	0.02	0.79
V28031-V28032	5923	94	8	0.015	0.94	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V28032-V28033	6763	199	8	0.011	0.83	0.00	0.05	0.00	0.06	0.00	0.05	0.00	0.05
V28033-V28034	6762	216	8	0.012	0.84	0.01	0.30	0.01	0.33	0.00	0.30	0.01	0.32
V28034-V28035	1636	139	8	0.002	0.38	0.02	0.29	0.03	0.32	0.02	0.29	0.02	0.31
V28035-V28036	6020	9	8	1.480	9.50	0.02	0.52	0.03	0.52	0.02	0.52	0.03	0.52
V28036-V28037	6019	107	8	0.067	2.03	0.02	0.60	0.03	0.65	0.02	0.63	0.03	0.66
V28037-V28038	6018	343	8	0.004	0.49	0.04	0.20	0.09	0.29	0.07	0.25	0.10	0.30
V28038-V28039	6017	249	8	0.005	0.56	0.05	0.20	0.10	0.28	0.08	0.25	0.11	0.30
V28039-V28041	6016	115	8	0.007	0.64	0.05	0.16	0.10	0.22	0.08	0.20	0.11	0.23
V28040-V28041	6014	170	8	0.013	0.88	0.00	0.07	0.00	0.10	0.00	0.10	0.00	0.11
V28041-V28042	6620	199	8	0.057	1.86	0.05	0.11	0.10	0.16	0.08	0.14	0.12	0.16
V28042-V28043	6289	192	8	0.084	2.26	0.05	0.11	0.11	0.16	0.08	0.14	0.12	0.17
V28043-V28044	5616	186	8	0.052	1.79	0.05	0.13	0.11	0.18	0.08	0.16	0.12	0.19
V28044-V28048	5615	164	8	0.028	1.31	0.05	0.15	0.11	0.21	0.08	0.18	0.12	0.22
V28047-V28048	6288	195	8	0.198	3.48	0.00	0.09	0.00	0.12	0.00	0.11	0.00	0.13
V28048-V28049	5614	226	8	0.019	1.07	0.06	0.16	0.12	0.23	0.09	0.20	0.13	0.24
V28049-V28050	6185	223	8	0.017	1.02	0.06	0.15	0.12	0.22	0.09	0.19	0.13	0.23
V28050-V28054	6501	176	8	0.035	1.47	0.06	0.14	0.12	0.20	0.09	0.17	0.13	0.21
V28051-V28053	5928	109	8	0.208	3.56	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V28052-V28053	5929	88	8	0.065	1.98	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V28053-V28054	5613	197	8	0.141	2.94	0.00	0.08	0.00	0.12	0.00	0.10	0.00	0.12
V28054-V28076.A0	V28054-V28076.A0	188	8	0.035	1.46	0.06	0.14	0.13	0.20	0.09	0.16	0.14	0.20
V28055-V28056	6013	400	8	0.015	0.95	0.00	0.07	0.00	0.08	0.00	0.07	0.00	0.07
V28056-V28058	5932	365	8	0.003	0.40	0.01	0.09	0.01	0.11	0.01	0.09	0.01	0.10
V28057-V28058	5931	134	8	0.005	0.57	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.06
V28058-V28059	5930	234	8	0.006	0.62	0.01	0.08	0.02	0.11	0.01	0.08	0.01	0.11
V28059-V28062	6012	223	8	0.007	0.65	0.01	0.10	0.02	0.14	0.01	0.10	0.02	0.14
V28060-V28061	6543	360	8	0.036	1.47	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V28061-V28062	1634	359	8	0.064	1.98	0.00	0.08	0.01	0.11	0.00	0.08	0.01	0.10
V28062-V28063	6011	283	8	0.006	0.58	0.01	0.09	0.03	0.13	0.02	0.09	0.03	0.13
V28063-V28064	6010	38	8	0.072	2.10	0.02	0.06	0.04	0.09	0.02	0.06	0.03	0.09
V28064-V28065	6619	70	8	0.103	2.51	0.02	0.05	0.04	0.08	0.02	0.05	0.03	0.08
V28065-V28066	6287	100	8	0.206	3.54	0.02	0.07	0.04	0.10	0.02	0.07	0.04	0.10
V28066-V28067	5612	426	8	0.032	1.40	0.02	0.06	0.04	0.09	0.02	0.06	0.04	0.09
V28067-V28070	6184	5	8	0.740	6.72	0.02	0.06	0.04	0.09	0.02	0.06	0.04	0.08
V28068-V28069	6693	108	8	0.100	2.47	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
V28069-V28070	5611	119	8	0.106	2.54	0.00	0.04	0.00	0.07	0.00	0.04	0.00	0.07
V28070-V28071	6183	41	8	0.043	1.62	0.02	0.07	0.04	0.11	0.02	0.07	0.04	0.10
V28071.00-V28072	6500	199	8	0.084	2.26	0.02	0.10	0.04	0.16	0.02	0.12	0.04	0.16
V28073-V28074	2445	123	8	0.031	1.37	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V28074-V28075	2444	121	8	0.054	1.82	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V28075-V28076.C0	V28075-V28076.C0	302	8	0.055	1.83	0.00	0.09	0.00	0.13	0.00	0.10	0.00	0.13
V28076.A0-V28076.B0	V28076.A0-V28076.B0	35	8	0.053	1.79	0.06	0.14	0.13	0.20	0.09	0.16	0.14	0.21
V28076.B0-V28076.C0	V28076.B0-V28076.C0	144	8	0.049	1.73	0.08	0.15	0.18	0.22	0.11	0.17	0.19	0.23
V28076.C0-V28076	V28076.C0-V28076	151	8	0.050	1.74	0.08	0.14	0.19	0.21	0.11	0.17	0.20	0.22
V28076-V28085	4481	60	8	0.073	2.11	0.08	0.14	0.19	0.21	0.11	0.17	0.20	0.22
V28077-V28078	5934	62	8	0.072	2.09	0.00	0.02	0.00	0.02	0.01	0.04	0.01	0.04
V28078-V28079	6499	128	8	0.128	2.79	0.00	0.03	0.00	0.03	0.01	0.06	0.01	0.06
V28079-V28081	5730	286	8	0.033	1.41	0.00	0.05	0.01	0.06	0.02	0.08	0.02	0.08
V28080-V28081	6957	24	8	0.017	1.01	0.00	0.06	0.00	0.06	0.01	0.08	0.01	0.08
V28081-V28082	4480	115	8	0.047	1.70	0.01	0.08	0.02	0.10	0.03	0.12	0.03	0.12
V28082-V28083	4478	139	8	0.006	0.61	0.01	0.10	0.02	0.12	0.03	0.17	0.03	0.17
V28083-V28084	4477	235	8	0.006	0.61	0.01	0.10	0.02	0.13	0.04	0.18	0.04	0.18
V28084-V28085	4476	246	8	0.006	0.60	0.01	0.12	0.02	0.17	0.05	0.19	0.05	0.21
V28085-V28089	4475	22	8	0.075	2.14	0.10	0.15	0.21	0.22	0.16	0.19	0.24	0.24
V28086-V28087	5729	148	6	0.187	1.57	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V28087-V28088	4474	251	6	0.035	0.68	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V28088.A0-V28088	5728	181	8	0.115	2.65	0.00	0.03	0.00	0.03	0.01	0.04	0.01	0.04
V28088-V28089	4473	34	8	0.101	2.48	0.01	0.09	0.01	0.14	0.01	0.13	0.01	0.15
V28089-V28090.A0	5763	103	6	0.093	1.10	0.10	0.60	0.22	0.65	0.18	0.63	0.26	0.66
V28090.A0-V28172	CDT-26	79	8	0.064	1.97	0.10	0.57	0.23	0.60	0.18	0.59	0.26	0.61
V28091-V28092	5876	333	6	0.011	0.38	0.00	0.15	0.00	0.21	0.02	0.24	0.02	0.26
V28092.A0-V28092	CDT-25	122	8	0.045	1.66	0.11	0.17	0.23	0.25	0.18	0.23	0.27	0.28
V28092-V28127.A0	5635	333	8	0.050	1.75	0.11	0.21	0.24	0.31	0.22	0.30	0.30	0.35
V28093-V28094	2443	140	8	0.062	1.94	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V28094-V28095	6497	136	8	0.078	2.18	0.00	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V28095-V28097	5992	381	8	0.030	1.36	0.01	0.08	0.01	0.09	0.01	0.08	0.01	0.09
V28096-V28097	6642	123	6	0.009	0.34	0.00	0.09	0.00	0.11	0.00	0.09	0.00	0.10
V28097-V28101	5991	261	8	0.004	0.49	0.01	0.11	0.02	0.14	0.01	0.11	0.01	0.13
V28098-V28100	6332	123	8	0.009	0.76	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V28099-V28100	5990	38	8	0.120	2.70	0.00	0.51	0.00	0.52	0.00	0.51	0.00	0.52
V28100-V28101	5989	234	8	0.022	1.15	0.00	0.07	0.00	0.10	0.00	0.07	0.00	0.09
V28101-V28104	5988	333	8	0.004	0.49	0.01	0.13	0.03	0.18	0.01	0.13	0.02	0.16
V28102-V28103	6637	188	6	0.122	1.26	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V28103-V28104	6496	235	8	0.099	2.45	0.00	0.09	0.00	0.12	0.00	0.08	0.00	0.10
V28104-V28108	5987	241	8	0.004	0.49	0.02	0.12	0.04	0.17	0.02	0.12	0.03	0.15
V28105-V28108	6638	257	8	0.137	2.89	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07
V28106-V28107	6639	136	6	0.130	1.31	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V28107-V28108	6640	222	8	0.058	1.88	0.00	0.06	0.00	0.08	0.00	0.06	0.00	0.07
V28108-V28119	5727	110	8	0.031	1.37	0.02	0.10	0.05	0.13	0.02	0.10	0.04	0.13
V28109-V28110	6327	183	8	0.020	1.10	0.00	0.04	0.00	0.04	0.01	0.06	0.01	0.06
V28110-V28111	5986	136	8	0.011	0.81	0.00	0.06	0.00	0.07	0.01	0.08	0.01	0.09
V28111-V28112	6495	399	8	0.005	0.56	0.00	0.07	0.01	0.09	0.01	0.11	0.01	0.12
V28112-V28113	6494	107	8	0.004	0.52	0.01	0.08	0.01	0.11	0.02	0.13	0.02	0.14
V28113-V28114	6165	238	8	0.005	0.53	0.01	0.08	0.01	0.10	0.02	0.12	0.02	0.12
V28114-V28115	6164	274	8	0.021	1.14	0.01	0.07	0.02	0.09	0.02	0.10	0.03	0.11
V28115-V28119	5726	221	8	0.023	1.19	0.01	0.08	0.02	0.12	0.02	0.11	0.03	0.12
V28116-V28117	6328	89	6	0.050	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V28117-V28118	5725	138	6	0.102	1.16	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V28118-V28119	4472	40	6	0.013	0.42	0.00	0.10	0.00	0.13	0.00	0.11	0.01	0.13
V28119-V28120	4471	140	8	0.058	1.88	0.04	0.10	0.08	0.14	0.05	0.12	0.08	0.14
V28120-V28121	4470	102	8	0.050	1.75	0.04	0.10	0.08	0.15	0.05	0.12	0.08	0.15
V28121-V28122	6329	362	8	0.053	1.79	0.04	0.10	0.08	0.14	0.06	0.12	0.08	0.15
V28122-V28123.F0	7939	111	8	0.067	2.03	0.04	0.10	0.09	0.14	0.06	0.12	0.09	0.14
V28123.A0-V28123.B0	7934	168	8	0.077	2.16	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V28123.B0-V28123.C0	7935	83	8	0.039	1.53	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V28123.C0-V28123.D0	7936	136	8	0.282	4.15	0.00	0.03	0.01	0.04	0.00	0.03	0.01	0.04
V28123.D0-V28123.E0	7937	91	8	0.040	1.57	0.00	0.04	0.01	0.05	0.00	0.05	0.01	0.06
V28123.E0-V28123.F0	7938	110	8	0.020	1.10	0.00	0.07	0.01	0.10	0.01	0.09	0.01	0.11
V28123.F0-V28124.A0	V28123.F0-V28124.A0	91	8	0.073	2.11	0.05	0.11	0.10	0.16	0.07	0.14	0.10	0.16
V28124.A0-V28126	5634	187	8	0.039	1.54	0.05	0.13	0.10	0.19	0.08	0.17	0.11	0.20
V28125-V28126	V28125-V28126	17	8	0.001	0.27	0.00	0.13	0.00	0.19	0.00	0.17	0.00	0.20
V28126-V28127	5834	270	10	0.019	1.96	0.06	0.19	0.11	0.27	0.10	0.25	0.13	0.29
V28127.00-V28137	5833	308	12	0.006	1.81	0.19	0.22	0.37	0.31	0.34	0.31	0.46	0.35
V28127.A0-V28127.00	CDT-24	171	8	0.012	0.87	0.12	0.29	0.26	0.42	0.23	0.40	0.31	0.47
V28128-V28129	4834	221	6	0.024	0.56	0.02	0.11	0.02	0.11	0.02	0.14	0.02	0.14
V28129-V28132	5938	242	6	0.047	0.78	0.02	0.14	0.02	0.15	0.04	0.20	0.04	0.20
V28130-V28131	5935	191	8	0.069	2.05	0.01	0.06	0.01	0.06	0.02	0.08	0.02	0.08
V28131-V28132	5936	255	8	0.119	2.70	0.02	0.10	0.02	0.10	0.03	0.13	0.03	0.13
V28132-V28133	5937	187	6	0.028	0.60	0.04	0.18	0.05	0.19	0.09	0.26	0.09	0.26
V28133-V28134	5977	139	6	0.029	0.61	0.04	0.19	0.05	0.21	0.09	0.29	0.09	0.29
V28134-V28135	5633	373	6	0.020	0.51	0.05	0.20	0.06	0.22	0.11	0.31	0.11	0.31
V28135-V28137	5832	195	8	0.016	1.00	0.05	0.24	0.06	0.31	0.12	0.35	0.12	0.38
V28137-V28138	5961	28	12	0.010	2.29	0.23	0.25	0.44	0.35	0.46	0.36	0.57	0.40
V28138-V28140	CDT-23	465	12	0.004	1.36	0.23	0.28	0.44	0.40	0.46	0.41	0.57	0.47
V28140-V28141	5828	437	8	0.007	0.65	0.23	0.41	0.45	0.61	0.48	0.64	0.59	0.76
V28141-V28142	5700	439	8	0.007	0.65	0.23	0.44	0.45	0.65	0.50	0.70	0.61	0.85
V28142-V28166	5775	329	8	0.007	0.65	0.23	0.32	0.45	0.47	0.50	0.50	0.62	0.60
V28143-V28145	6325	223	8	0.013	0.90	0.00	0.03	0.00	0.04	0.01	0.07	0.01	0.07
V28144-V28145	6326	319	6	0.082	1.04	0.00	0.05	0.00	0.06	0.00	0.07	0.00	0.07
V28145-V28146	6493	246	8	0.027	1.27	0.01	0.05	0.01	0.07	0.01	0.08	0.02	0.08
V28146-V28148	5724	212	8	0.024	1.22	0.01	0.06	0.01	0.08	0.02	0.09	0.02	0.10
V28147-V28148	1322	189	8	0.002	0.35	0.00	0.06	0.00	0.07	0.00	0.09	0.00	0.09
V28148-V28150	4469	175	8	0.028	1.31	0.01	0.06	0.02	0.08	0.02	0.08	0.03	0.09
V28149-V28150	5723	224	8	0.105	2.53	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V28150-V28152	4984	233	8	0.148	3.00	0.01	0.05	0.03	0.07	0.03	0.07	0.04	0.08
V28151-V28152	5941	81	8	0.064	1.98	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V28152-V28161	5976	62	8	0.112	2.61	0.02	0.07	0.03	0.09	0.03	0.09	0.04	0.10
V28153-V28154	5940	232	8	0.051	1.77	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
V28154-V28158	4983	110	8	0.108	2.56	0.00	0.04	0.00	0.05	0.01	0.05	0.01	0.05
V28155-V28156	5663	81	6	0.144	1.37	0.00	0.05	0.00	0.06	0.00	0.06	0.00	0.06
V28156-V28157	5662	117	6	0.006	0.28	0.00	0.07	0.00	0.08	0.00	0.08	0.00	0.08
V28157-V28158	4982	167	8	0.024	1.21	0.00	0.05	0.01	0.06	0.01	0.06	0.01	0.06
V28158-V28160	5975	123	8	0.061	1.93	0.01	0.06	0.01	0.07	0.02	0.07	0.02	0.08
V28159-V28160	4981	128	8	0.123	2.74	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V28160-V28161	5973	104	8	0.030	1.35	0.01	0.07	0.02	0.09	0.02	0.09	0.02	0.10
V28161-V28164	5632	158	8	0.089	2.33	0.03	0.08	0.05	0.11	0.05	0.11	0.07	0.12
V28162.A0-V28162.B0	6320	113	8	0.036	1.48	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V28162.B0-V28162	6321	145	8	0.006	0.59	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.07
V28162-V28163	6322	48	8	0.006	0.62	0.00	0.04	0.00	0.06	0.01	0.07	0.01	0.08
V28163-V28164	6323	31	8	0.004	0.51	0.00	0.06	0.00	0.09	0.01	0.09	0.01	0.10
V28164-V28165	5699	126	8	0.089	2.33	0.03	0.09	0.06	0.12	0.06	0.12	0.07	0.14
V28165-V28166	5774	100	8	0.039	1.54	0.03	0.13	0.06	0.19	0.07	0.19	0.08	0.22
V28166-V28167	6958	166	8	0.032	1.39	0.09	0.17	0.17	0.24	0.19	0.25	0.23	0.28
V28167-V24056	6959	31	8	0.032	1.39	0.09	0.42	0.17	0.61	0.19	0.63	0.24	0.64
V28172-V28092.A0	4787	178	8	0.107	2.55	0.10	0.15	0.23	0.23	0.18	0.20	0.26	0.24
V29001-V29002	6404	83	8	0.044	1.64	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V29002-V29005	4468	269	8	0.049	1.72	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V29003-V29004	6492	182	8	0.056	1.84	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V29004-V29005	5722	293	8	0.091	2.35	0.00	0.05	0.00	0.07	0.00	0.05	0.00	0.07
V29005-V29006	5762	382	8	0.006	0.60	0.01	0.07	0.01	0.10	0.01	0.07	0.01	0.09
V29006-V29010	6393	355	8	0.025	1.23	0.01	0.06	0.02	0.09	0.01	0.07	0.02	0.09
V29007-V29009	6390	105	8	0.075	2.13	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V29008-V29009	6389	274	8	0.073	2.10	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V29009-V29010	6391	37	8	0.094	2.39	0.01	0.05	0.01	0.06	0.01	0.06	0.01	0.07
V29010-V29011	6392	52	8	0.074	2.13	0.01	0.06	0.03	0.08	0.02	0.07	0.03	0.09
V29011-V29020	4980	345	8	0.083	2.25	0.02	0.07	0.03	0.10	0.02	0.08	0.03	0.10
V29012-V29013	6395	182	8	0.051	1.77	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V29013-V29014	6396	180	8	0.008	0.69	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.04
V29014-V29015	6399	135	8	0.053	1.80	0.00	0.04	0.01	0.05	0.00	0.03	0.00	0.04
V29015-V29016	6398	106	8	0.085	2.28	0.00	0.04	0.01	0.05	0.01	0.05	0.01	0.05
V29016-V29019	6400	97	8	0.034	1.44	0.00	0.05	0.01	0.07	0.01	0.06	0.01	0.07
V29017-V29018	6397	180	8	0.030	1.35	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V29018-V29019	6402	182	8	0.084	2.27	0.00	0.05	0.01	0.06	0.01	0.06	0.01	0.06

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V29019-V29020	6401	177	8	0.032	1.39	0.01	0.07	0.02	0.10	0.02	0.09	0.02	0.10
V29020-V29021	5698	145	8	0.087	2.30	0.03	0.08	0.06	0.12	0.04	0.10	0.06	0.13
V29021-V29023	5773	75	8	0.039	1.55	0.03	0.10	0.06	0.14	0.04	0.12	0.06	0.14
V29022-V29023	6405	276	6	0.053	0.84	0.00	0.09	0.00	0.12	0.01	0.12	0.01	0.13
V29023-V29024	5772	216	8	0.039	1.53	0.03	0.10	0.07	0.15	0.05	0.13	0.07	0.16
V29024-V29031	1274	250	8	0.032	1.40	0.03	0.15	0.07	0.21	0.06	0.21	0.08	0.24
V29031-V29032	4721	311	8	0.005	0.54	0.03	0.14	0.07	0.21	0.09	0.22	0.11	0.25
V29032-V29134	7765	91	8	0.043	1.62	0.03	0.11	0.07	0.16	0.09	0.18	0.11	0.20
V29038-V29039	6410	365	8	0.043	1.62	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V29039-V29040	4979	403	8	0.052	1.79	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.05
V29040-V29041	5972	309	8	0.044	1.64	0.00	0.03	0.01	0.06	0.00	0.04	0.01	0.06
V29041-V29046	5631	310	8	0.052	1.78	0.00	0.05	0.01	0.09	0.01	0.06	0.01	0.09
V29042.A0-V29042	6416	66	6	0.067	0.94	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V29042-V29043	5761	219	8	0.051	1.77	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V29043.A0-V29043.B0	2442	110	8	0.022	1.16	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V29043.B0-V29043.C0	5721	301	8	0.088	2.32	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V29043.C0-V29043.E0	6417	74	8	0.016	1.00	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.07
V29043.D0-V29043.E0	4467	128	8	0.019	1.08	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V29043.E0-V29043.F0	4466	153	8	0.007	0.63	0.00	0.04	0.01	0.07	0.00	0.05	0.01	0.07
V29043.F0-V29043	5759	204	8	0.096	2.42	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.06
V29043-V29044	4977	242	8	0.050	1.75	0.01	0.04	0.02	0.07	0.01	0.05	0.02	0.07
V29044-V29045.C0	6415	376	8	0.060	1.92	0.01	0.05	0.02	0.08	0.01	0.05	0.02	0.08
V29045.A0-V29045.B0	6412	238	8	0.101	2.48	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V29045.B0-V29045.C0	6413	149	8	0.013	0.90	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
V29045.C0-V29045	6414	45	8	0.065	1.99	0.01	0.06	0.03	0.09	0.01	0.06	0.03	0.09
V29045-V29046	5827	102	8	0.033	1.42	0.01	0.06	0.03	0.11	0.01	0.07	0.03	0.11
V29046-V29047.C0	6419	141	8	0.036	1.48	0.01	0.07	0.05	0.12	0.02	0.08	0.05	0.12
V29047.A0-V29047.B0	5771	55	8	0.034	1.43	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V29047.B0-V29047.C0	6420	80	8	0.024	1.21	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
V29047.C0-V29047.CA	V29047.C0-V29047.CA	100	8	0.041	1.59	0.01	0.07	0.05	0.12	0.02	0.08	0.05	0.13
V29047.CA-V29047	V29047.CA-V29047	126	8	0.033	1.41	0.01	0.07	0.05	0.13	0.02	0.09	0.05	0.14
V29047-V29048	6859	462	8	0.030	1.36	0.02	0.08	0.05	0.15	0.03	0.10	0.06	0.16
V29048-V29049	6860	203	8	0.017	1.03	0.02	0.08	0.06	0.15	0.03	0.11	0.06	0.17
V29049-V29145	1320	303	8	0.022	1.16	0.02	0.54	0.06	0.58	0.03	0.56	0.07	0.58
V29051.A0-V29051	6009	141	8	0.049	1.74	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V29051-V29052	6618	401	8	0.021	1.14	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V29052-V29053	5069	234	8	0.040	1.57	0.00	0.03	0.01	0.05	0.01	0.04	0.01	0.05
V29053-V29054	6286	300	8	0.126	2.77	0.01	0.05	0.01	0.08	0.01	0.07	0.01	0.08
V29054-V29055	5610	172	8	0.007	0.63	0.01	0.06	0.01	0.09	0.01	0.07	0.02	0.10
V29055-V29056	6163	298	8	0.045	1.66	0.01	0.06	0.02	0.10	0.01	0.08	0.02	0.11
V29056-V29063	6162	281	8	0.005	0.55	0.01	0.06	0.02	0.11	0.01	0.08	0.02	0.11
V29057.A0-V29057	V29057.A0-V29057	87	8	0.091	3.06	0.00	0.51	0.00	0.51	0.00	0.51	0.00	0.51
V29057-V29058	6421	269	8	0.090	2.35	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V29058-V29059	6422	169	8	0.090	2.35	0.00	0.03	0.01	0.04	0.00	0.04	0.01	0.04
V29059-V29060	5720	111	8	0.049	1.74	0.00	0.04	0.01	0.06	0.01	0.05	0.01	0.06
V29060-V29062	4465	136	8	0.019	1.07	0.00	0.05	0.01	0.08	0.01	0.06	0.01	0.08
V29061-V29062	5719	170	8	0.101	2.49	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V29062-V29063	5718	274	8	0.014	0.92	0.01	0.05	0.01	0.08	0.01	0.07	0.01	0.09
V29063-V29064	6423	330	8	0.149	3.01	0.01	0.05	0.04	0.09	0.02	0.07	0.04	0.10
V29064-V29065	6424	329	8	0.045	1.66	0.01	0.09	0.04	0.17	0.02	0.12	0.04	0.17
V29065-V29067	5826	221	8	0.003	0.46	0.01	0.10	0.04	0.18	0.02	0.13	0.05	0.18
V29066-V29067	5630	325	8	0.051	1.76	0.00	0.04	0.00	0.07	0.00	0.06	0.00	0.08
V29067-V29068	5697	309	8	0.029	1.34	0.01	0.14	0.05	0.27	0.02	0.19	0.05	0.29
V29068-V29127	4729	308	8	0.000	0.15	0.01	0.22	0.05	0.42	0.03	0.28	0.06	0.44
V29069-V29071	6008	5	8	1.374	9.15	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V29070-V29071	6007	315	8	0.053	1.80	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V29071-V29074	6006	200	8	0.004	0.47	0.00	0.05	0.00	0.08	0.00	0.06	0.00	0.08
V29072-V29073	6429	175	6	0.016	0.45	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.04
V29073-V29074	6005	156	6	0.091	1.09	0.00	0.04	0.00	0.07	0.00	0.06	0.00	0.07
V29074-V29075	6004	55	8	0.007	0.65	0.00	0.06	0.01	0.10	0.00	0.08	0.01	0.11
V29075-V29077	6003	157	8	0.002	0.35	0.00	0.07	0.01	0.12	0.00	0.08	0.01	0.12
V29076-V29077	6002	257	8	0.056	1.84	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V29077-V29078	6243	102	8	0.008	0.69	0.00	0.05	0.02	0.09	0.01	0.06	0.02	0.09
V29078-V29079	5068	315	8	0.024	1.21	0.01	0.05	0.02	0.09	0.01	0.06	0.02	0.09
V29079-V29080	5067	305	8	0.025	1.23	0.01	0.07	0.02	0.12	0.01	0.08	0.02	0.12
V29080-V29081	5066	195	8	0.004	0.50	0.01	0.08	0.02	0.15	0.01	0.10	0.02	0.15
V29081-V29082	5065	143	8	0.004	0.47	0.01	0.09	0.03	0.16	0.01	0.11	0.03	0.17
V29082-V29083	6285	366	8	0.004	0.49	0.01	0.07	0.03	0.13	0.01	0.09	0.03	0.14
V29083-V29084	6430	245	8	0.041	1.58	0.01	0.06	0.03	0.12	0.01	0.08	0.03	0.12
V29084-V29085	6431	162	8	0.013	0.89	0.01	0.08	0.03	0.14	0.01	0.09	0.03	0.14
V29085-V29086	2491	286	8	0.013	0.90	0.01	0.07	0.04	0.13	0.02	0.09	0.04	0.13
V29086-V29087.C0	7981	198	8	0.037	1.50	0.01	0.06	0.04	0.11	0.02	0.08	0.04	0.11
V29087.A0-V29087.B0	7983	139	8	0.092	2.37	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
V29087.B0-V29087.C0	7984	319	8	0.086	2.29	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
V29087.C0-V29087	7982	15	8	0.051	1.77	0.01	0.09	0.05	0.17	0.02	0.11	0.05	0.17
V29087-V29092	2493	293	8	0.004	0.49	0.01	0.09	0.05	0.17	0.02	0.11	0.05	0.17
V29088-V29089	2166	174	6	0.006	0.27	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V29089-V29092	2167	158	6	0.099	1.14	0.00	0.05	0.00	0.09	0.00	0.07	0.00	0.09
V29090-V29091	2495	244	8	0.005	0.56	0.00	0.02	0.00	0.03	0.00	0.05	0.00	0.05
V29091-V29092	2165	302	8	0.015	0.96	0.00	0.04	0.00	0.08	0.00	0.06	0.01	0.08
V29092-V29093	2168	253	8	0.100	2.46	0.02	0.07	0.06	0.12	0.03	0.09	0.06	0.13
V29093-V29094	4464	154	8	0.052	1.77	0.02	0.06	0.06	0.12	0.03	0.08	0.07	0.12
V29094-V29095	5758	161	8	0.145	2.97	0.02	0.06	0.06	0.12	0.03	0.08	0.07	0.12
V29095-V29096	2170	182	8	0.050	1.75	0.02	0.07	0.07	0.13	0.03	0.09	0.07	0.14
V29096-V29102	2175	124	8	0.048	1.72	0.02	0.10	0.07	0.18	0.03	0.12	0.07	0.18
V29097-V29098	2181	192	8	0.013	0.90	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V29098-V29099	2178	227	8	0.136	2.88	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V29099-V29100	2179	113	8	0.157	3.10	0.00	0.02	0.01	0.04	0.00	0.03	0.01	0.04
V29100-V29101	2180	184	8	0.077	2.17	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
V29101-V29102	2177	115	8	0.058	1.89	0.00	0.08	0.01	0.14	0.00	0.09	0.01	0.14
V29102-V29103	2176	79	8	0.010	0.79	0.02	0.11	0.08	0.20	0.04	0.14	0.08	0.21
V29103-V29104	2174	389	8	0.023	1.19	0.02	0.09	0.08	0.17	0.04	0.12	0.09	0.18
V29104-V29105	2173	223	8	0.036	1.49	0.03	0.09	0.09	0.16	0.04	0.11	0.09	0.17
V29105-V29112	2172	150	8	0.042	1.59	0.03	0.11	0.09	0.20	0.04	0.13	0.09	0.20
V29106-V29109	5971	161	8	0.004	0.50	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V29107-V29108	6428	133	8	0.129	2.80	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V29108-V29109	4976	201	8	0.064	1.98	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V29109-V29110	5970	22	8	0.037	1.51	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
V29110-V29111	5629	346	8	0.047	1.69	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V29111-V29112	5696	393	8	0.040	1.55	0.00	0.08	0.01	0.15	0.01	0.10	0.01	0.15
V29112-V29116	4728	119	8	0.012	0.86	0.03	0.26	0.11	0.44	0.05	0.31	0.11	0.45
V29113-V29114	5825	135	6	0.010	0.36	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V29114-V29115	5824	139	6	0.109	1.20	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V29115-V29116	5694	273	6	0.018	0.48	0.00	0.28	0.00	0.46	0.00	0.33	0.00	0.47
V29116-V29117	6427	194	8	0.000	0.02	0.03	0.28	0.11	0.48	0.05	0.33	0.12	0.49
V29117-V29121	6425	118	8	0.005	0.53	0.03	0.18	0.12	0.33	0.05	0.22	0.12	0.33
V29118-V29119	5660	5	8	1.215	8.61	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V29119-V29120	4975	221	8	0.127	2.78	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V29120.A0-V29120	5628	71	6	0.051	0.82	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V29120-V29121	5693	329	8	0.075	2.14	0.00	0.11	0.01	0.19	0.00	0.13	0.01	0.19
V29121-V29122	4727	179	8	0.004	0.51	0.04	0.18	0.13	0.34	0.06	0.22	0.13	0.34
V29122-V29126	5692	313	8	0.005	0.53	0.04	0.19	0.13	0.34	0.06	0.22	0.13	0.34
V29126-V29127	5691	299	8	0.004	0.52	0.04	0.21	0.13	0.39	0.06	0.25	0.14	0.40
V29127-V29128	5690	274	8	0.004	0.49	0.05	0.24	0.19	0.45	0.09	0.29	0.20	0.46
V29128-V29129	5823	265	8	0.004	0.49	0.05	0.18	0.19	0.34	0.09	0.22	0.20	0.35
V29129-V29139	72	357	8	0.078	2.18	0.05	0.55	0.19	0.60	0.09	0.57	0.21	0.60
V29132-V08157	7773	41	8	0.108	2.57	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
V29134-V29141	7766	170	8	0.020	1.09	0.03	0.56	0.08	0.59	0.09	0.60	0.11	0.61
V29139-V30069	73	186	30	0.002	12.31	5.27	0.48	10.50	0.75	9.79	0.70	13.00	1.00
V29140-V29146	FM1	70	30	0.004	16.45	5.20	0.40	10.22	0.60	9.66	0.58	12.71	0.76
V29141-V29143	7758	142	27	0.004	13.00	3.33	0.35	6.97	0.53	6.32	0.50	8.64	0.61
V29142-V29141	7767	218	27	0.004	12.35	3.30	0.35	6.88	0.53	6.22	0.50	8.52	0.61
V29143-V29144	7549	343	24	0.005	10.29	3.33	0.35	6.97	0.55	6.32	0.51	8.65	0.64
V29144-V29140	7550	35	21	0.024	15.72	3.33	0.45	6.98	0.70	6.32	0.67	8.65	0.83
V29145-V29139	74	774	30	0.003	15.24	5.21	0.43	10.29	0.67	9.71	0.64	12.78	0.90
V29146-V29145	7694	88	30	0.003	14.43	5.20	0.41	10.22	0.61	9.66	0.58	12.70	0.79
V29147-V29148	13	170	24	0.005	10.74	1.86	0.28	3.22	0.38	3.35	0.38	4.05	0.43
V29148-V29149	14	232	24	0.005	10.69	1.86	0.27	3.22	0.37	3.35	0.37	4.06	0.49
V29149-V29140	264	95	21	0.008	9.29	1.87	0.43	3.24	0.63	3.35	0.61	4.06	0.81
V30001-V30002	6097	213	8	0.041	1.58	0.01	0.06	0.01	0.06	0.01	0.06	0.01	0.06
V30002-V30004	5757	382	8	0.042	1.60	0.01	0.08	0.01	0.10	0.01	0.09	0.01	0.10
V30003-V30004	6098	212	8	0.022	1.17	0.00	0.06	0.00	0.07	0.00	0.07	0.00	0.08
V30004-V30008	5659	217	8	0.004	0.50	0.01	0.12	0.02	0.14	0.01	0.12	0.02	0.13
V30005-V30006	6095	268	8	0.002	0.34	0.02	0.17	0.02	0.17	0.02	0.16	0.02	0.16
V30006-V30007	6096	190	8	0.004	0.49	0.03	0.16	0.03	0.17	0.02	0.15	0.02	0.15
V30007-V30008	5658	120	8	0.004	0.49	0.03	0.15	0.03	0.16	0.02	0.14	0.02	0.14
V30008-V30010	4974	335	8	0.024	1.21	0.04	0.16	0.05	0.19	0.04	0.16	0.04	0.18
V30009-V30010.B0	V30009-V30010.B0	147	8	0.004	0.51	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.06
V30010.A0-V30010.B0	V30010.A0-V30010.B0	409	8	0.041	1.58	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.05
V30010.B0-V30010	V30010.B0-V30010	136	8	0.004	0.49	0.00	0.12	0.01	0.16	0.00	0.12	0.01	0.15
V30010-V30012	4973	242	8	0.004	0.49	0.04	0.20	0.06	0.25	0.04	0.20	0.05	0.23
V30011-V30012	6093	291	8	0.091	2.35	0.00	0.11	0.00	0.14	0.00	0.11	0.00	0.13
V30012-V30015	5657	318	8	0.004	0.49	0.04	0.22	0.07	0.28	0.04	0.22	0.06	0.26
V30013-V30014	6091	87	8	0.051	1.76	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V30014-V30015	6252	352	8	0.110	2.59	0.00	0.13	0.00	0.17	0.00	0.13	0.00	0.16
V30015-V30017	4972	215	8	0.003	0.43	0.05	0.20	0.08	0.26	0.05	0.21	0.07	0.25
V30016-V30017	4971	302	8	0.095	2.41	0.00	0.09	0.00	0.12	0.00	0.09	0.00	0.11
V30017-V30018	5969	28	8	0.012	0.84	0.05	0.19	0.09	0.25	0.05	0.19	0.08	0.23
V30018-V30021	5968	424	8	0.004	0.49	0.05	0.22	0.09	0.29	0.05	0.22	0.08	0.27
V30019-V30020	6090	138	8	0.004	0.52	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V30020-V30021	4463	326	8	0.104	2.52	0.00	0.12	0.00	0.16	0.00	0.12	0.00	0.15
V30021-V30022	5967	185	8	0.004	0.49	0.05	0.22	0.10	0.30	0.05	0.22	0.09	0.28
V30022-V30023	6999	437	8	0.004	0.52	0.05	0.30	0.10	0.50	0.05	0.34	0.09	0.50
V30023-V30043.A0	V30023-V30043.A0	50	10	0.003	0.80	0.16	0.30	0.48	0.56	0.24	0.37	0.51	0.58
V30024-V30025	6089	187	8	0.094	2.39	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01
V30025-V30026	6491	114	8	0.181	3.32	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.04
V30026-V30027.E0	V30026-V30027.E0	335	8	0.005	0.53	0.00	0.02	0.00	0.06	0.00	0.04	0.00	0.07
V30027.B0-V30027.C0	V30027.B0-V30027.C0	227	8	0.099	2.46	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V30027.C0-V30027.D0	V30027.C0-V30027.D0	208	8	0.024	1.21	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.03
V30027.D0-V30027.E0	V30027.D0-V30027.E0	189	8	0.094	2.39	0.00	0.02	0.01	0.05	0.00	0.03	0.00	0.05
V30027.E0-V30027	V30027.E0-V30027	22	8	0.020	1.11	0.00	0.04	0.01	0.09	0.00	0.05	0.01	0.09
V30027-V30030	6160	123	8	0.005	0.55	0.00	0.05	0.01	0.11	0.00	0.06	0.01	0.11
V30028-V30029	2441	54	8	0.040	1.56	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V30029-V30030	6489	195	8	0.108	2.56	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
V30030-V30032	6159	269	8	0.006	0.58	0.00	0.07	0.02	0.14	0.01	0.08	0.02	0.14
V30031-V30032	6158	80	8	0.010	0.78	0.00	0.06	0.00	0.09	0.00	0.07	0.00	0.09
V30032-V30040	6157	373	8	0.005	0.55	0.01	0.06	0.02	0.12	0.01	0.08	0.02	0.12
V30033-V30034	5385	152	8	0.134	2.86	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V30034-V30036	6488	246	8	0.079	2.20	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V30035-V30036	6487	129	8	0.219	3.66	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V30036-V30037	6086	151	8	0.006	0.59	0.00	0.05	0.01	0.08	0.00	0.06	0.01	0.08
V30037-V30038	6087	47	8	0.006	0.58	0.00	0.05	0.01	0.09	0.00	0.07	0.01	0.09
V30038-V30039	6088	306	8	0.006	0.58	0.00	0.06	0.01	0.10	0.01	0.08	0.01	0.11
V30039-V30040	6155	207	8	0.006	0.58	0.00	0.06	0.01	0.10	0.01	0.08	0.02	0.11
V30040-V30041	5717	177	8	0.100	2.47	0.01	0.05	0.04	0.08	0.02	0.06	0.05	0.09
V30041-V30042	4462	157	8	0.223	3.69	0.01	0.05	0.04	0.10	0.02	0.07	0.05	0.10
V30042-V30043	5966	86	8	0.039	1.55	0.01	0.34	0.05	0.56	0.02	0.40	0.05	0.56
V30043.A0-V30043	V30043.A0-V30043	241	10	0.003	0.80	0.16	0.40	0.49	0.69	0.24	0.47	0.51	0.72
V30043-V30044.B0	7006	144	10	0.001	0.33	0.17	0.34	0.53	0.58	0.26	0.40	0.56	0.59
V30044.B0-V30044	7008	214	10	0.028	2.36	0.17	0.18	0.54	0.32	0.26	0.22	0.56	0.33
V30044-V30050	5822	363	10	0.028	2.39	0.17	0.20	0.54	0.34	0.26	0.25	0.57	0.35
V30045-V30048	7004	169	8	0.054	1.81	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.03
V30046-V30047	7005	276	8	0.041	1.59	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.03
V30047-V30048	5965	285	8	0.041	1.59	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.05
V30048-V30049	5627	311	8	0.038	1.52	0.00	0.03	0.01	0.06	0.00	0.05	0.01	0.08
V30049-V30050.D0	7953	142	8	0.021	1.13	0.00	0.03	0.01	0.07	0.01	0.08	0.02	0.10
V30050.A0-V30050.B0	5821	299	8	0.004	0.52	0.05	0.21	0.05	0.21	0.05	0.22	0.05	0.22
V30050.B0-V30050.C0	5820	347	8	0.004	0.51	0.05	0.22	0.05	0.23	0.06	0.23	0.06	0.23
V30050.C0-V30050.I0	V30050.C0-V30050.I0	53	8	0.004	0.48	0.05	0.22	0.06	0.24	0.06	0.29	0.06	0.29
V30050.D0-V30050	7954	99	8	0.023	1.17	0.00	0.15	0.01	0.25	0.02	0.20	0.03	0.28
V30050.E0-V30050.H0	V30050.E0-V30050.H0	208	8	0.008	0.72	0.00	0.05	0.01	0.07	0.04	0.16	0.04	0.16
V30050.F0-V30050.G0	V30050.F0-V30050.G0	49	8	0.024	1.21	0.00	0.00	0.00	0.01	0.00	0.05	0.00	0.05
V30050.G0-V30050.H0	V30050.G0-V30050.H0	172	8	0.008	0.70	0.00	0.02	0.00	0.04	0.02	0.13	0.02	0.13
V30050.H0-V30050.I0	V30050.H0-V30050.I0	82	8	0.022	1.16	0.00	0.13	0.01	0.15	0.07	0.25	0.07	0.25
V30050.I0-V30050	V30050.I0-V30050	301	8	0.005	0.53	0.06	0.24	0.07	0.34	0.13	0.34	0.13	0.39
V30050-V30051.C0	6851	333	10	0.029	2.40	0.23	0.21	0.63	0.35	0.40	0.29	0.71	0.38
V30051.B0-V30051.C0	6853	226	8	0.016	0.98	0.00	0.15	0.00	0.24	0.07	0.28	0.07	0.32
V30051.C0-V30051	6852	173	10	0.030	2.44	0.23	0.22	0.63	0.37	0.47	0.32	0.77	0.41
V30051-V30052	1271	505	10	0.020	1.98	0.24	0.22	0.64	0.38	0.47	0.32	0.78	0.42
V30052-V30055	4719	11	10	0.029	2.42	0.24	0.23	0.64	0.38	0.47	0.32	0.78	0.42
V30053-V30054	4726	314	10	0.002	0.63	0.08	0.23	0.08	0.23	0.00	0.06	0.00	0.06
V30054-V30055	1270	393	10	0.002	0.63	0.07	0.24	0.08	0.31	0.02	0.21	0.02	0.29
V30055-V30056.A0	4718	152	10	0.020	1.98	0.29	0.26	0.70	0.41	0.48	0.33	0.81	0.44
V30056.A0-V30056	4786	290	10	0.003	0.81	0.29	0.38	0.70	0.65	0.48	0.50	0.82	0.73
V30056-V30057.C0	4717	101	10	0.008	1.30	0.29	0.31	0.71	0.52	0.48	0.42	0.82	0.57
V30057.B0-V30057.CD	926	112	8	0.100	2.47	0.00	0.00	0.00	0.02	0.00	0.04	0.00	0.04
V30057.C0-V30057	5501	353	10	0.010	1.39	0.29	0.34	0.72	0.57	0.49	0.45	0.84	0.63
V30057.CA-V30057.CB	923	187	8	0.005	0.56	0.00	0.00	0.00	0.02	0.01	0.09	0.01	0.10
V30057.CB-V30057.CC	924	338	8	0.005	0.54	0.00	0.00	0.00	0.05	0.01	0.10	0.01	0.11
V30057.CC-V30057.CD	925	48	8	0.007	0.66	0.00	0.00	0.00	0.05	0.01	0.09	0.02	0.09
V30057.CD-V30057.C0	928	259	8	0.048	1.71	0.00	0.19	0.01	0.34	0.02	0.28	0.02	0.39
V30057-V30058	7375	191	10	0.005	1.03	0.29	0.36	0.72	0.61	0.49	0.48	0.85	0.68
V30058-V30059	7374	149	10	0.006	1.11	0.29	0.36	0.72	0.62	0.49	0.49	0.85	0.70
V30059-V30060	7373	163	10	0.005	0.96	0.29	0.37	0.72	0.61	0.49	0.49	0.85	0.72

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V30060-V30061	7371	26	10	0.002	0.56	0.29	0.26	0.73	0.40	0.49	0.33	0.86	0.65
V30061-V30070	7372	17	10	0.146	5.40	0.29	0.58	0.73	0.62	0.49	0.60	0.86	0.79
V30062.A0-V30062	7625	7	8	0.001	0.30	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V30062-V30078	7587	302	8	0.019	1.08	0.00	0.03	0.00	0.03	0.01	0.06	0.01	0.06
V30063-V30077	5949	30	8	0.003	0.44	0.00	0.84	0.01	1.00	0.03	1.00	0.03	1.00
V30068-V32157	7388	473	36	0.016	53.70	6.23	0.29	12.49	0.42	11.09	0.39	15.05	0.47
V30069-V30071	7369	89	30	0.000	0.89	5.27	0.45	10.51	0.70	9.79	0.66	13.00	1.00
V30070-V30072	7377	450	30	0.002	12.93	5.55	0.46	11.23	0.72	10.28	0.67	13.82	1.00
V30071-V30070	7370	11	30	0.013	30.71	5.27	0.43	10.51	0.69	9.79	0.64	13.00	1.00
V30072-V30073	7382	75	30	0.003	13.39	5.99	0.45	12.04	0.72	10.74	0.65	14.55	1.00
V30073-V30079	7383	76	30	0.003	14.59	6.23	0.43	12.46	0.71	11.08	0.64	15.02	1.00
V30074-V30078	6855	139	30	0.005	18.82	6.23	0.49	12.46	0.79	11.08	0.72	15.02	1.00
V30075-V30077	7551	374	30	0.000	3.06	6.23	0.40	12.48	0.58	11.09	0.54	15.04	0.69
V30076-V30075	7386	21	30	0.019	36.90	6.23	0.47	12.48	0.72	11.09	0.66	15.04	0.97
V30077-V30068	7387	42	30	0.033	47.86	6.23	0.26	12.49	0.37	11.09	0.35	15.05	0.41
V30078-V30076	6856	233	30	0.000	5.21	6.23	0.48	12.47	0.76	11.09	0.69	15.03	0.97
V30079-V30074	7385	12	30	0.000	2.40	6.23	0.41	12.46	0.70	11.08	0.63	15.02	1.00
V30086-V30050.E0	V30086-V30050.E0	251	8	0.013	0.88	0.00	0.05	0.00	0.06	0.01	0.12	0.01	0.12
V30089-V30051.B0	6854	123	8	0.011	0.82	0.00	0.04	0.00	0.04	0.05	0.17	0.05	0.17
V31001-V31002	2440	146	8	0.003	0.43	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V31002-V31003	2439	274	8	0.005	0.53	0.00	0.02	0.00	0.05	0.00	0.03	0.00	0.05
V31003-V31008	2438	293	8	0.017	1.02	0.00	0.03	0.00	0.07	0.00	0.04	0.01	0.07
V31004-V31005	6692	153	8	0.006	0.60	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V31005-V31006	6691	186	8	0.017	1.01	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V31006-V31007	6690	251	8	0.017	1.02	0.00	0.03	0.01	0.05	0.00	0.04	0.01	0.05
V31007-V31008.A0	5384	236	8	0.066	2.01	0.00	0.03	0.01	0.05	0.00	0.03	0.01	0.05
V31008.A0-V31008	2437	83	8	0.047	1.70	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
V31008-V31009	6388	296	8	0.030	1.35	0.00	0.04	0.02	0.08	0.01	0.05	0.02	0.08
V31009-V31010	6386	330	8	0.062	1.94	0.00	0.04	0.02	0.08	0.01	0.05	0.02	0.08
V31010-V31011	6478	179	8	0.046	1.68	0.00	0.04	0.02	0.09	0.01	0.05	0.03	0.09
V31011.A0-V31011	6476	112	8	0.002	0.35	0.00	0.03	0.00	0.06	0.00	0.05	0.00	0.07
V31011-V31014	5756	325	8	0.042	1.61	0.01	0.05	0.03	0.11	0.01	0.07	0.03	0.11
V31012.A0-V31012	6384	177	8	0.087	2.31	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V31012-V31013	6385	266	8	0.050	1.74	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V31013-V31014	5755	314	8	0.075	2.14	0.00	0.05	0.01	0.08	0.00	0.06	0.01	0.08
V31014-V31015	4461	329	8	0.026	1.26	0.01	0.07	0.04	0.13	0.02	0.08	0.04	0.14
V31015-V31116	5964	335	8	0.017	1.01	0.01	0.20	0.04	0.39	0.02	0.27	0.05	0.41
V31016-V31017	6963	298	8	0.005	0.54	0.00	0.04	0.00	0.04	0.01	0.10	0.01	0.10
V31017-V31018	217	220	8	0.014	0.92	0.00	0.05	0.01	0.07	0.02	0.10	0.02	0.10
V31018-V31022.C0	6542	130	8	0.010	0.79	0.00	0.04	0.01	0.06	0.02	0.09	0.02	0.09
V31019-V31021	6960	73	8	0.203	3.52	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V31020-V31021	6961	355	8	0.002	0.31	0.00	0.05	0.00	0.06	0.00	0.08	0.00	0.08
V31021-V31022.B0	6761	113	8	0.003	0.43	0.00	0.06	0.01	0.09	0.01	0.08	0.01	0.10
V31022.A0-V31022.B0	6759	321	8	0.028	1.30	0.00	0.04	0.00	0.06	0.00	0.06	0.00	0.07
V31022.B0-V31022	6758	112	8	0.005	0.54	0.00	0.07	0.01	0.12	0.01	0.12	0.01	0.14
V31022.C0-V31022	6757	85	8	0.147	3.00	0.00	0.06	0.01	0.09	0.02	0.10	0.02	0.11
V31022-V31024	6760	166	8	0.006	0.59	0.01	0.09	0.02	0.14	0.03	0.15	0.04	0.17
V31023-V31024	6962	188	6	0.002	0.16	0.00	0.09	0.00	0.12	0.00	0.14	0.00	0.15
V31024-V31025	1633	328	8	0.008	0.70	0.01	0.07	0.03	0.12	0.03	0.12	0.04	0.14
V31025-V31036.D0	V31025-V31036.D0	41	8	0.039	1.55	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.06
V31026-V31027	6966	86	8	0.051	1.76	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V31027-V31028	6150	161	8	0.010	0.77	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V31028-V31030	5064	212	8	0.015	0.95	0.00	0.04	0.00	0.05	0.00	0.04	0.01	0.06
V31029-V31030	6965	266	8	0.122	2.72	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V31030-V31036	5063	102	8	0.049	1.72	0.00	0.06	0.01	0.09	0.01	0.08	0.01	0.11
V31031-V31032	6968	202	8	0.022	1.16	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V31032-V31034	6001	207	8	0.004	0.52	0.00	0.05	0.00	0.08	0.01	0.09	0.01	0.10
V31033-V31034	6969	304	8	0.049	1.72	0.00	0.04	0.00	0.06	0.00	0.07	0.00	0.08
V31034-V31035	6148	89	8	0.004	0.48	0.00	0.05	0.01	0.09	0.01	0.09	0.01	0.11
V31035-V31036.B0	6627	223	8	0.014	0.94	0.00	0.05	0.01	0.08	0.01	0.08	0.02	0.10
V31036.A0-V31036.B0	6970	134	6	0.249	1.81	0.00	0.04	0.00	0.07	0.00	0.08	0.00	0.08
V31036.B0-V31036	6719	192	8	0.017	1.02	0.01	0.06	0.01	0.11	0.02	0.11	0.02	0.13
V31036.D0-V31036	V31036.D0-V31036	381	8	0.074	2.12	0.01	0.07	0.03	0.11	0.04	0.11	0.05	0.13
V31036-V31037	6284	207	8	0.051	1.76	0.02	0.08	0.06	0.13	0.06	0.12	0.09	0.15
V31037-V31049	5383	303	8	0.075	2.14	0.02	0.10	0.07	0.16	0.06	0.15	0.09	0.19
V31038-V31040	6972	244	8	0.008	0.68	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V31039-V31040	6971	92	8	0.004	0.50	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.05
V31040-V31041	6000	262	8	0.005	0.53	0.00	0.04	0.01	0.06	0.00	0.05	0.01	0.07
V31041-V31042	5999	266	8	0.042	1.61	0.00	0.03	0.01	0.04	0.01	0.04	0.01	0.05
V31042-V31043	6147	230	8	0.599	6.05	0.00	0.51	0.01	0.52	0.01	0.51	0.01	0.52
V31043-V31044	6718	42	8	2.784	13.03	0.01	0.52	0.01	0.53	0.01	0.53	0.02	0.54
V31044-V31045	6717	172	8	0.054	1.81	0.00	0.04	0.01	0.06	0.01	0.06	0.02	0.07
V31045-V31047	6283	178	8	0.080	2.20	0.01	0.03	0.02	0.05	0.01	0.04	0.02	0.06
V31046-V31047	6861	100	8	0.972	7.70	0.00	0.51	0.00	0.52	0.01	0.51	0.01	0.52
V31047-V31048	6689	115	8	1.375	9.16	0.01	0.51	0.02	0.52	0.01	0.51	0.03	0.52
V31048-V31049	5382	234	8	0.336	4.53	0.01	0.56	0.02	0.60	0.02	0.60	0.03	0.62
V31049-V31051	6974	288	8	0.017	1.01	0.03	0.14	0.09	0.24	0.08	0.22	0.13	0.28
V31050-V31051	6975	271	8	0.108	2.57	0.00	0.09	0.00	0.15	0.00	0.14	0.00	0.17
V31051-V31052	6976	113	8	0.007	0.63	0.03	0.13	0.10	0.23	0.08	0.21	0.13	0.27
V31052-V31054	6977	141	8	0.030	1.35	0.03	0.11	0.10	0.19	0.08	0.17	0.13	0.22
V31053-V31054	6978	196	8	0.147	2.99	0.00	0.06	0.00	0.10	0.00	0.09	0.00	0.12
V31054-V31056	6154	279	8	0.030	1.35	0.03	0.11	0.10	0.19	0.09	0.17	0.14	0.22
V31055-V31056	6979	336	6	0.165	1.47	0.00	0.09	0.00	0.14	0.00	0.13	0.00	0.16
V31056-V31064	5275	16	8	0.030	1.36	0.04	0.11	0.11	0.19	0.09	0.17	0.15	0.22
V31057-V31058	6981	137	8	0.078	2.18	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V31058-V31059	6146	214	8	0.019	1.08	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V31059-V31060	6715	291	8	0.005	0.54	0.00	0.04	0.01	0.06	0.00	0.06	0.01	0.07
V31060-V31062	6714	154	8	0.069	2.05	0.00	0.03	0.01	0.05	0.01	0.04	0.01	0.05
V31061-V31062	6980	135	6	0.035	0.68	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V31062-V31063	6281	149	8	0.087	2.31	0.01	0.03	0.01	0.05	0.01	0.04	0.01	0.05
V31063-V31064	5381	203	8	0.171	3.23	0.01	0.07	0.02	0.12	0.01	0.10	0.02	0.13
V31064-V31074	5274	315	8	0.042	1.61	0.04	0.13	0.13	0.22	0.10	0.19	0.16	0.24
V31065-V31067	6992	19	8	0.029	1.33	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V31066-V31067	6991	155	8	0.016	0.98	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V31067-V31068	6988	281	8	0.023	1.18	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V31068-V31070	6983	107	8	0.148	3.01	0.00	0.02	0.01	0.04	0.00	0.02	0.01	0.04
V31069-V31070	6990	274	8	0.057	1.86	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V31070-V31071	6984	184	8	0.156	3.09	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
V31071-V31072	6985	76	8	0.005	0.58	0.00	0.06	0.01	0.10	0.00	0.06	0.01	0.10
V31072-V31073	6986	115	8	0.009	0.74	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
V31073-V31074	6987	42	8	0.289	4.20	0.00	0.08	0.01	0.14	0.00	0.11	0.01	0.15
V31074.A0-V31074.B0	5379	141	8	0.151	3.04	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.01
V31074.B0-V31074.C0	2436	107	8	0.186	3.37	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V31074.C0-V31074.D0	5714	175	8	0.006	0.59	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V31074.D0-V31074	5713	100	8	0.215	3.63	0.00	0.08	0.01	0.14	0.00	0.11	0.01	0.15
V31074-V31079	5715	243	8	0.024	1.21	0.05	0.15	0.15	0.26	0.11	0.21	0.19	0.29
V31075-V31076	5378	222	8	0.055	1.84	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V31076-V31077	6486	232	8	0.101	2.48	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V31077-V31079	5712	257	8	0.086	2.28	0.00	0.09	0.00	0.16	0.00	0.12	0.00	0.17
V31078-V31079	6475	100	8	0.115	2.64	0.00	0.09	0.00	0.15	0.00	0.12	0.00	0.16
V31079-V31080	6474	293	8	0.016	0.98	0.05	0.18	0.16	0.31	0.11	0.25	0.20	0.34
V31080-V31085	6473	299	8	0.008	0.69	0.05	0.18	0.17	0.31	0.11	0.25	0.20	0.34
V31081-V31082	5711	301	8	0.042	1.60	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V31082-V31085	6472	92	8	0.148	3.01	0.00	0.09	0.00	0.15	0.00	0.12	0.00	0.16
V31083-V31084	6471	220	8	0.011	0.83	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V31084-V31085	6470	29	8	0.206	3.54	0.00	0.08	0.00	0.15	0.00	0.12	0.00	0.16
V31085-V31091	5754	388	8	0.019	1.09	0.06	0.17	0.18	0.29	0.11	0.23	0.21	0.32
V31086-V31087	5273	332	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
V31087-V31089	5272	337	8	0.019	1.07	0.00	0.04	0.01	0.07	0.00	0.03	0.00	0.06
V31088-V31089	5271	121	8	0.010	0.77	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
V31089-V31090	5270	138	8	0.010	0.78	0.00	0.04	0.01	0.07	0.00	0.03	0.01	0.06
V31090-V31091	5710	127	8	0.226	3.72	0.01	0.10	0.01	0.18	0.00	0.13	0.01	0.19
V31091-V31109	6251	381	8	0.015	0.95	0.06	0.17	0.20	0.31	0.12	0.23	0.23	0.33
V31092-V31093	6993	166	8	0.041	1.57	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V31093-V31094	6994	209	8	0.071	2.08	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V31094-V31098	6995	388	8	0.029	1.33	0.00	0.05	0.01	0.07	0.00	0.06	0.01	0.07
V31098-V31099	6688	265	8	0.006	0.61	0.00	0.06	0.01	0.10	0.01	0.08	0.01	0.10
V31099-V31100	6687	282	8	0.005	0.56	0.01	0.07	0.01	0.11	0.01	0.09	0.02	0.12
V31100-V31101	5377	283	8	0.005	0.58	0.01	0.08	0.02	0.13	0.01	0.10	0.02	0.13
V31101-V31102	5376	286	8	0.005	0.53	0.01	0.07	0.02	0.12	0.01	0.09	0.02	0.12
V31102-V31106	5375	391	8	0.029	1.34	0.01	0.05	0.02	0.09	0.01	0.07	0.03	0.09
V31103-V31104	6686	255	8	0.039	1.55	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
V31104-V31105	5374	159	8	0.048	1.70	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V31105-V31106.B0	2435	194	8	0.022	1.15	0.00	0.03	0.00	0.06	0.00	0.04	0.01	0.06
V31106.A0-V31106.B0	6996	108	8	0.010	0.79	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V31106.B0-V31106	7585	53	8	0.018	1.04	0.00	0.04	0.01	0.08	0.00	0.05	0.01	0.08
V31106-V31107	5709	389	8	0.076	2.16	0.01	0.05	0.04	0.10	0.02	0.07	0.04	0.10
V31107-V31108	5753	284	8	0.052	1.77	0.01	0.06	0.04	0.11	0.02	0.08	0.04	0.11
V31108-V31109	6250	355	8	0.033	1.42	0.01	0.12	0.04	0.21	0.02	0.16	0.05	0.23
V31109-V31110	4553	362	8	0.024	1.21	0.08	0.20	0.25	0.36	0.14	0.27	0.28	0.39
V31110-V31111	5874	357	8	0.008	0.69	0.08	0.26	0.25	0.50	0.14	0.36	0.28	0.54
V31111-V31116.F0	5873	330	8	0.003	0.44	0.08	0.24	0.26	0.45	0.14	0.32	0.29	0.49
V31112-V31113	4552	399	8	0.054	1.81	0.00	0.02	0.00	0.04	0.00	0.03	0.00	0.04
V31113-V31114	5872	124	8	0.004	0.50	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
V31114-V31115	5871	333	8	0.004	0.49	0.00	0.04	0.01	0.15	0.00	0.06	0.01	0.17
V31115-V31116	5870	65	8	0.004	0.50	0.00	0.19	0.01	0.43	0.00	0.25	0.01	0.47
V31116.A0-V31116.C0	5752	249	8	0.071	2.08	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V31116.B0-V31116.C0	6249	5	8	0.061	1.93	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
V31116.C0-V31116.D0	4551	304	8	0.038	1.52	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
V31116.D0-V31116.E0	5867	157	8	0.019	1.08	0.00	0.04	0.01	0.07	0.00	0.04	0.01	0.07
V31116.E0-V31116.F0	5866	145	8	0.005	0.53	0.00	0.11	0.01	0.20	0.00	0.13	0.01	0.21
V31116.F0-V31116	5865	11	8	0.026	1.27	0.08	0.25	0.27	0.47	0.14	0.34	0.30	0.50
V31116-V31118	5869	160	10	0.002	0.68	0.09	0.23	0.32	0.44	0.16	0.31	0.36	0.46
V31117-V31118	6998	328	8	0.025	1.24	0.00	0.13	0.00	0.24	0.00	0.17	0.00	0.25
V31118-V31136	5864	66	10	0.007	1.17	0.09	0.22	0.33	0.43	0.17	0.29	0.36	0.45
V31119-V31121	5373	241	8	0.046	1.67	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V31120-V31121	1878	99	6	0.033	0.66	0.00	0.03	0.00	0.04	0.00	0.02	0.00	0.03
V31121-V31122	6485	329	8	0.058	1.89	0.00	0.02	0.00	0.04	0.00	0.02	0.00	0.04
V31122-V31123	5708	251	8	0.063	1.96	0.00	0.03	0.01	0.05	0.00	0.02	0.01	0.05
V31123-V31125	6469	249	8	0.051	1.76	0.00	0.03	0.01	0.06	0.00	0.03	0.01	0.06
V31124-V31125	6468	202	8	0.012	0.87	0.00	0.03	0.00	0.05	0.00	0.04	0.00	0.05
V31125-V31131	5751	100	8	0.048	1.71	0.00	0.04	0.02	0.07	0.00	0.04	0.01	0.07
V31126-V31128	5269	187	8	0.010	0.76	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V31127-V31128	5268	13	8	0.069	2.05	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
V31128-V31129	5707	280	8	0.044	1.63	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
V31129-V31130	5706	155	8	0.010	0.78	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.05
V31130-V31131	5705	100	8	0.171	3.23	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.05
V31131-V31134	6248	176	8	0.071	2.09	0.01	0.05	0.03	0.09	0.01	0.05	0.02	0.08
V31132-V31133	6247	322	8	0.018	1.03	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V31133-V31134	6246	127	8	0.051	1.77	0.00	0.04	0.01	0.07	0.00	0.04	0.00	0.06
V31134-V31135	4550	234	8	0.049	1.73	0.01	0.07	0.04	0.11	0.01	0.06	0.03	0.10
V31135-V31136	5863	247	8	0.020	1.11	0.01	0.20	0.04	0.38	0.01	0.24	0.03	0.39
V31136-V31137	4549	330	10	0.003	0.74	0.11	0.26	0.37	0.51	0.18	0.33	0.40	0.53
V31137-V31138	6245	316	10	0.003	0.75	0.11	0.25	0.38	0.50	0.18	0.33	0.40	0.52
V31138-V31139	6383	103	10	0.003	0.82	0.11	0.24	0.38	0.46	0.18	0.31	0.41	0.48
V31139-V30023	7001	91	10	0.005	0.97	0.11	0.26	0.38	0.50	0.18	0.33	0.41	0.52
V32002-V32003	5861	268	8	0.030	1.35	0.00	0.01	0.00	0.02	0.01	0.07	0.01	0.07
V32003-V32004	5626	66	8	0.100	2.47	0.00	0.01	0.00	0.03	0.01	0.05	0.02	0.06
V32004-V32005	5689	258	8	0.111	2.61	0.00	0.01	0.00	0.03	0.01	0.06	0.02	0.07
V32005-V32006.A0	1269	199	8	0.054	1.81	0.00	0.01	0.01	0.04	0.02	0.06	0.02	0.07
V32006.A0-V32006.B0	V32006.A0-V32006.B0	41	8	0.164	3.16	0.00	0.01	0.01	0.04	0.02	0.06	0.03	0.07
V32006.B0-V32006	V32006.B0-V32006	31	8	0.153	3.05	0.00	0.03	0.01	0.05	0.02	0.08	0.03	0.08
V32006-V32007	5500	279	8	0.037	1.51	0.01	0.05	0.01	0.06	0.02	0.08	0.03	0.09
V32007-V32157	7389	94	8	0.072	2.10	0.01	0.52	0.02	0.53	0.02	0.54	0.03	0.54
V32008-V32009	6244	200	8	0.030	1.35	0.00	0.03	0.00	0.03	0.00	0.04	0.00	0.04
V32009-V32013	6116	201	8	0.038	1.52	0.00	0.05	0.00	0.07	0.01	0.07	0.01	0.08
V32010-V32012	6115	136	8	0.030	1.35	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V32011-V32012	6114	161	6	0.019	0.50	0.00	0.03	0.00	0.04	0.00	0.05	0.00	0.05
V32012-V32013	6112	58	8	0.059	1.90	0.00	0.05	0.00	0.07	0.00	0.07	0.01	0.07
V32013-V32016	4548	250	8	0.006	0.59	0.01	0.09	0.01	0.12	0.01	0.13	0.02	0.14
V32014-V32015	4546	147	8	0.006	0.59	0.00	0.04	0.00	0.04	0.01	0.10	0.01	0.10
V32015-V32016	5860	351	8	0.005	0.58	0.01	0.10	0.01	0.12	0.02	0.14	0.02	0.14
V32016-V32025	2182	295	8	0.006	0.59	0.02	0.11	0.03	0.15	0.03	0.16	0.04	0.17
V32017-V32018	6058	38	8	0.006	0.62	0.00	0.03	0.00	0.04	0.00	0.07	0.00	0.07
V32018-V32020	5985	338	8	0.006	0.61	0.00	0.06	0.00	0.08	0.01	0.11	0.01	0.11
V32019-V32020	2429	346	8	0.007	0.66	0.00	0.06	0.00	0.07	0.01	0.11	0.01	0.11
V32020-V32021	2428	297	8	0.008	0.71	0.01	0.07	0.01	0.09	0.03	0.12	0.03	0.13
V32021-V32022	4545	351	8	0.022	1.17	0.01	0.08	0.02	0.11	0.03	0.14	0.04	0.15
V32022-V32026	5859	176	8	0.006	0.61	0.01	0.13	0.02	0.19	0.04	0.22	0.04	0.24
V32023-V32018	5984	249	8	0.042	1.60	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.06
V32023-V32024	2427	347	8	0.029	1.33	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.05
V32024-V32025	6433	353	8	0.030	1.36	0.00	0.08	0.01	0.10	0.01	0.10	0.01	0.11
V32025-V32026	6432	270	8	0.012	0.86	0.02	0.14	0.04	0.20	0.04	0.21	0.05	0.23
V32026-V32027	5858	172	8	0.005	0.58	0.03	0.15	0.07	0.22	0.08	0.23	0.10	0.26
V32027-V32029	5857	290	8	0.020	1.10	0.04	0.11	0.07	0.16	0.09	0.17	0.11	0.19
V32028-V32029.A0	3361	125	8	0.000	0.02	0.01	0.13	0.01	0.13	0.00	0.10	0.00	0.10
V32029.A0-V32029	7951	179	8	0.049	1.73	0.01	0.08	0.01	0.10	0.01	0.11	0.01	0.11
V32029-V32030	5688	306	8	0.071	2.08	0.04	0.10	0.09	0.13	0.10	0.14	0.12	0.16
V32030-V32031	1268	273	8	0.109	2.58	0.04	0.16	0.09	0.20	0.10	0.18	0.12	0.21
V32031-V32034	4784	128	8	0.011	0.81	0.09	0.25	0.14	0.30	0.10	0.24	0.13	0.27
V32032-V32033	4783	196	8	0.005	0.53	0.00	0.09	0.00	0.09	0.00	0.00	0.00	0.02
V32033-V32034	4782	152	8	0.005	0.57	0.04	0.23	0.04	0.26	0.00	0.12	0.00	0.16
V32034-V32035	5499	241	8	0.010	0.78	0.13	0.30	0.18	0.36	0.10	0.26	0.13	0.30
V32035-V32036	4540	192	10	0.004	0.85	0.13	0.27	0.18	0.32	0.10	0.28	0.13	0.30

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V32036-V32037	4539	63	10	0.003	0.78	0.13	0.22	0.18	0.26	0.19	0.26	0.21	0.27
V32037-V32038	4328	317	10	0.024	2.17	0.13	0.20	0.19	0.24	0.19	0.24	0.21	0.25
V32038-V32039	4327	191	10	0.010	1.41	0.13	0.16	0.19	0.19	0.19	0.19	0.21	0.20
V32039-V32160	7552	37	10	0.268	7.33	0.13	0.55	0.19	0.56	0.19	0.55	0.21	0.56
V32040-V32041.A0	5687	120	8	0.156	3.09	0.00	0.01	0.00	0.01	0.00	0.09	0.00	0.09
V32041.A0-V32041	1267	181	8	0.103	2.51	0.00	0.01	0.00	0.03	0.12	0.18	0.12	0.18
V32041-V32042	5498	383	8	0.040	1.56	0.00	0.02	0.00	0.04	0.14	0.21	0.14	0.21
V32042-V32043	4318	37	8	0.033	1.43	0.00	0.04	0.01	0.07	0.15	0.31	0.15	0.31
V32043-V32044	5425	106	8	0.008	0.70	0.00	0.04	0.01	0.07	0.21	0.29	0.21	0.29
V32044-V32047	5424	32	8	0.143	2.95	0.00	0.06	0.01	0.09	0.21	0.31	0.21	0.31
V32045-V32046	7002	260	8	0.006	0.58	0.01	0.08	0.01	0.08	0.00	0.05	0.00	0.06
V32046-V32047	5423	208	8	0.004	0.51	0.01	0.09	0.01	0.11	0.00	0.23	0.00	0.24
V32047-V32048	5422	105	8	0.005	0.54	0.01	0.09	0.02	0.12	0.21	0.40	0.21	0.40
V32048-V32049	5421	238	8	0.013	0.90	0.01	0.06	0.02	0.09	0.21	0.27	0.21	0.27
V32049-V32162	825	54	8	0.127	2.79	0.01	0.37	0.02	0.53	0.21	0.57	0.21	0.59
V32050-V32051	5420	196	8	0.040	1.56	0.04	0.16	0.04	0.16	0.00	0.01	0.00	0.02
V32051-V32052	5518	200	8	0.007	0.66	0.04	0.13	0.04	0.13	0.00	0.01	0.00	0.03
V32052-V32165	824	42	8	0.450	5.24	0.04	0.53	0.05	0.53	0.00	0.50	0.00	0.51
V32053-V32054	5704	69	8	0.086	2.29	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V32054-V32056	5750	295	8	0.062	1.94	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.07
V32055-V32056	2426	259	8	0.016	1.00	0.00	0.05	0.00	0.07	0.00	0.06	0.00	0.06
V32056-V32057	2425	141	8	0.004	0.46	0.01	0.08	0.01	0.11	0.01	0.09	0.01	0.11
V32057-V32058	2424	235	8	0.004	0.49	0.01	0.09	0.01	0.12	0.01	0.10	0.01	0.12
V32058-V32060	2423	300	8	0.004	0.49	0.01	0.10	0.02	0.14	0.01	0.10	0.02	0.13
V32059-V32060	2422	41	8	0.000	0.04	0.00	0.10	0.00	0.14	0.00	0.11	0.00	0.13
V32060-V32062	2421	180	8	0.005	0.55	0.01	0.11	0.02	0.15	0.01	0.11	0.02	0.14
V32061-V32062	2420	247	8	0.020	1.10	0.00	0.07	0.00	0.09	0.00	0.07	0.00	0.09
V32062-V32069	2419	180	8	0.005	0.55	0.02	0.13	0.03	0.19	0.02	0.14	0.03	0.18
V32063-V32064	5703	121	8	0.026	1.25	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V32064.A0-V32064	5702	72	8	0.037	1.51	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.03
V32064-V32065	5903	179	8	0.039	1.54	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V32065-V32068	5749	238	8	0.040	1.56	0.00	0.05	0.01	0.06	0.00	0.05	0.01	0.06
V32066-V32067	5902	166	8	0.009	0.74	0.00	0.04	0.00	0.05	0.01	0.06	0.01	0.06
V32067-V32068	5748	300	8	0.009	0.73	0.00	0.06	0.01	0.07	0.01	0.07	0.01	0.08
V32068-V32069	2418	236	8	0.033	1.42	0.01	0.11	0.02	0.15	0.01	0.11	0.02	0.14
V32069-V32070	2416	135	8	0.005	0.55	0.03	0.15	0.05	0.21	0.03	0.16	0.05	0.21
V32070-V32071	2415	193	8	0.005	0.55	0.03	0.15	0.06	0.21	0.03	0.16	0.05	0.20
V32071-V32077	2414	310	8	0.007	0.64	0.03	0.16	0.06	0.23	0.03	0.17	0.06	0.22
V32072-V32073	5267	225	8	0.042	1.60	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V32073-V32075	5266	85	8	0.017	1.03	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V32074-V32075	5265	137	8	0.003	0.44	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V32075-V32076	5983	350	8	0.052	1.78	0.00	0.04	0.01	0.05	0.00	0.04	0.01	0.05
V32076-V32077	5747	247	8	0.067	2.02	0.01	0.11	0.01	0.16	0.01	0.11	0.01	0.15
V32077-V32080	2413	175	8	0.005	0.55	0.04	0.18	0.08	0.26	0.04	0.19	0.07	0.25
V32078-V32079	4949	233	8	0.062	1.94	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V32079-V32080	5746	351	8	0.056	1.85	0.00	0.11	0.01	0.16	0.00	0.12	0.01	0.15
V32080-V32084	4781	198	8	0.005	0.55	0.04	0.20	0.09	0.29	0.05	0.21	0.08	0.27
V32081-V32082	4832	213	8	0.033	1.43	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V32082-V32083	5901	308	8	0.043	1.62	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V32083-V32084	5745	351	8	0.045	1.66	0.01	0.13	0.01	0.18	0.01	0.13	0.01	0.17
V32084-V32085	4780	128	8	0.005	0.55	0.05	0.21	0.11	0.30	0.06	0.22	0.10	0.29
V32085-V32092	4779	139	8	0.005	0.55	0.05	0.22	0.11	0.32	0.06	0.23	0.10	0.31
V32086-V32087	5264	115	8	0.056	1.85	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V32087-V32088	4831	186	8	0.054	1.82	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V32088-V32089	5900	236	8	0.018	1.05	0.00	0.05	0.01	0.06	0.00	0.05	0.01	0.06
V32089-V32090	5899	243	8	0.019	1.07	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.07
V32090-V32091	5898	301	8	0.020	1.10	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.07
V32091-V32092	5744	297	8	0.050	1.75	0.01	0.15	0.02	0.21	0.01	0.15	0.02	0.20
V32092-V32093	4778	122	8	0.005	0.55	0.07	0.21	0.13	0.31	0.07	0.22	0.12	0.29
V32093-V32094	4777	91	8	0.011	0.83	0.07	0.19	0.14	0.28	0.07	0.20	0.12	0.27
V32094-V32096	4776	177	8	0.010	0.78	0.07	0.21	0.14	0.30	0.07	0.21	0.12	0.28
V32095-V32096	4775	165	8	0.045	1.66	0.00	0.12	0.00	0.17	0.00	0.12	0.00	0.16
V32096-V32097	4544	241	8	0.010	0.78	0.07	0.18	0.14	0.25	0.07	0.18	0.13	0.24
V32097-V32100	5625	317	8	0.050	1.74	0.07	0.14	0.15	0.20	0.07	0.14	0.13	0.19
V32098-V32099	4774	85	8	0.037	1.49	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V32099-V32100	4543	270	8	0.078	2.18	0.00	0.08	0.00	0.11	0.00	0.08	0.00	0.10
V32100-V32101	5818	165	8	0.069	2.05	0.08	0.13	0.16	0.18	0.08	0.13	0.14	0.17
V32101-V32102	5686	110	8	0.123	2.74	0.08	0.17	0.16	0.24	0.08	0.17	0.14	0.23
V32102-V32113	4724	239	8	0.010	0.78	0.08	0.20	0.16	0.28	0.08	0.19	0.14	0.25
V32103-V32104	5742	199	8	0.063	1.96	0.00	0.06	0.00	0.07	0.00	0.03	0.00	0.03
V32104-V32105	4542	288	8	0.038	1.53	0.04	0.12	0.04	0.13	0.00	0.04	0.00	0.05
V32105-V32108	5856	161	8	0.025	1.24	0.04	0.13	0.05	0.13	0.01	0.05	0.01	0.07
V32106-V32107	5855	186	8	0.011	0.83	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V32107-V32108	5854	340	8	0.017	1.01	0.00	0.08	0.00	0.09	0.00	0.05	0.00	0.06
V32108-V32109	5623	255	8	0.041	1.59	0.05	0.14	0.06	0.16	0.01	0.07	0.02	0.09
V32109-V32112	5816	127	8	0.012	0.85	0.05	0.18	0.06	0.21	0.01	0.10	0.02	0.13
V32110-V32111	5853	201	8	0.039	1.54	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V32111-V32112	5622	212	8	0.039	1.55	0.00	0.12	0.01	0.14	0.00	0.07	0.00	0.09
V32112-V32113.A0	5955	115	8	0.010	0.78	0.06	0.14	0.07	0.16	0.02	0.08	0.03	0.10
V32113.A0-V32113	5956	65	8	0.338	4.54	0.06	0.13	0.07	0.16	0.02	0.10	0.03	0.13
V32113-V32116	1266	112	8	0.086	2.28	0.13	0.15	0.24	0.20	0.10	0.13	0.18	0.17
V32114-V32115	5685	319	8	0.102	2.49	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V32115-V32116	1265	263	8	0.019	1.07	0.00	0.08	0.01	0.11	0.00	0.07	0.00	0.09
V32116-V32117	1554	47	8	0.319	4.41	0.14	0.18	0.25	0.24	0.10	0.15	0.18	0.21
V32117-V32118	1283	55	8	0.025	1.22	0.14	0.20	0.25	0.27	0.10	0.17	0.19	0.24
V32118-V32119	5497	294	8	0.071	2.09	0.14	0.21	0.25	0.28	0.10	0.18	0.19	0.25
V32119.A0-V32119.B0	7433	127	8	1.223	8.64	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50
V32119.B0-V32119.C0	7434	49	8	2.074	11.25	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
V32119.C0-V32119.D0	7909	139	8	0.011	0.82	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V32119.D0-V32119.E0	7815	74	8	0.012	0.85	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
V32119.E0-V32119.F0	7910	178	8	0.026	1.25	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.05
V32119.F0-V32119	7911	7	8	0.026	1.26	0.00	0.14	0.01	0.19	0.00	0.12	0.01	0.17
V32119-V32121	5517	65	8	0.022	1.17	0.14	0.21	0.26	0.28	0.10	0.18	0.19	0.24
V32120-V32121	5516	396	8	0.025	1.24	0.00	0.08	0.00	0.11	0.00	0.08	0.00	0.11
V32121-V32122	5513	138	8	0.087	2.30	0.14	0.19	0.26	0.26	0.10	0.16	0.20	0.22
V32122.A0-V32122.B0	7647	28	8	0.010	0.78	0.02	0.12	0.05	0.19	0.03	0.14	0.05	0.18
V32122.AA-V32122.AB	7912	123	8	0.021	1.13	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.03
V32122.AB-V32122.AC	7913	48	8	0.022	1.16	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V32122.AC-V32122.AE	7914	115	8	0.021	1.13	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V32122.AD-V32122.AE	7813	228	8	0.084	2.27	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V32122.AE-V32122.AF	7814	208	8	0.056	1.86	0.01	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V32122.AF-V32122.AG	7915	107	8	0.034	1.44	0.01	0.05	0.01	0.06	0.00	0.04	0.01	0.06
V32122.AG-V32122.AH	7916	166	8	0.037	1.50	0.01	0.06	0.01	0.08	0.01	0.06	0.01	0.08
V32122.AH-V32122.AI	7878	311	8	0.010	0.80	0.01	0.08	0.02	0.11	0.01	0.07	0.01	0.10
V32122.AI-V32122.AJ	7917	134	8	0.011	0.82	0.01	0.08	0.02	0.12	0.01	0.08	0.02	0.11
V32122.AJ-V32122.AO	7918	154	8	0.011	0.82	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.10
V32122.AK-V32122.AL	7876	102	8	0.011	0.84	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V32122.AL-V32122.AM	7667	149	8	0.013	0.89	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V32122.AM-V32122.AN	7875	209	8	0.070	2.07	0.00	0.03	0.01	0.04	0.00	0.03	0.00	0.04
V32122.AN-V32122.AO	7874	347	8	0.115	2.65	0.01	0.05	0.01	0.07	0.01	0.05	0.01	0.06
V32122.AO-V32122.AP	7873	129	8	0.083	2.24	0.02	0.07	0.04	0.09	0.02	0.07	0.03	0.09
V32122.AP-V32122.AQ	7872	90	8	0.063	1.96	0.02	0.07	0.04	0.10	0.02	0.07	0.04	0.10
V32122.AQ-V32122.AR	7871	53	8	0.054	1.81	0.02	0.07	0.04	0.11	0.02	0.08	0.04	0.10
V32122.AR-V32122.AS	7870	23	8	0.052	1.78	0.02	0.07	0.04	0.11	0.02	0.08	0.04	0.10
V32122.AS-V32122.AT	7869	56	8	0.054	1.81	0.02	0.08	0.04	0.11	0.02	0.08	0.04	0.11
V32122.AT-V32122.AU	7834	53	8	0.044	1.63	0.02	0.10	0.04	0.14	0.02	0.10	0.04	0.13
V32122.AU-V32122.AV	7833	266	8	0.011	0.80	0.02	0.11	0.05	0.16	0.02	0.12	0.04	0.15
V32122.AV-V32122.AW	7832	102	8	0.012	0.85	0.02	0.11	0.05	0.16	0.02	0.12	0.04	0.16
V32122.AW-V32122.AX	7831	74	8	0.013	0.88	0.02	0.12	0.05	0.17	0.03	0.13	0.05	0.17
V32122.AX-V32122.AY	7817	99	8	0.010	0.76	0.02	0.10	0.05	0.15	0.03	0.11	0.05	0.15
V32122.AY-V32122.A0	7432	333	8	0.050	1.74	0.02	0.10	0.05	0.15	0.03	0.11	0.05	0.15
V32122.B0-V32122.C0	7646	300	8	0.008	0.68	0.02	0.13	0.05	0.20	0.03	0.15	0.05	0.20
V32122.C0-V32122.D0	7645	300	8	0.008	0.68	0.02	0.11	0.06	0.17	0.03	0.12	0.06	0.16
V32122.D0-V32173	7644	46	8	0.068	2.03	0.02	0.54	0.06	0.56	0.03	0.54	0.06	0.56
V32122-V32170	7003	312	8	0.035	1.46	0.14	0.60	0.26	0.64	0.10	0.59	0.20	0.62
V32123-V32124	5511	223	8	0.015	0.96	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02
V32124-V32125	5510	185	8	0.008	0.68	0.00	0.05	0.00	0.07	0.00	0.00	0.00	0.05
V32125-V32126	5509	108	8	0.005	0.55	0.01	0.09	0.01	0.11	0.00	0.00	0.00	0.06
V32126-V32128	5508	69	8	0.005	0.55	0.01	0.14	0.01	0.19	0.00	0.12	0.00	0.18
V32127.A0-V32127.B0	4830	149	8	0.121	2.72	0.00	0.01	0.00	0.01	0.01	0.04	0.01	0.04
V32127.B0-V32127.C0	5897	72	8	0.206	3.54	0.00	0.02	0.00	0.03	0.01	0.04	0.01	0.04
V32127.C0-V32127.D0	5741	148	8	0.058	1.88	0.00	0.02	0.00	0.03	0.01	0.05	0.01	0.05
V32127.D0-V32127.E0	4541	286	8	0.088	2.31	0.00	0.03	0.01	0.04	0.01	0.05	0.01	0.06
V32127.E0-V32127.F0	5684	283	8	0.121	2.72	0.00	0.03	0.01	0.05	0.02	0.06	0.02	0.06
V32127.F0-V32127.G0	5496	295	8	0.103	2.50	0.00	0.03	0.01	0.05	0.02	0.06	0.02	0.07
V32127.G0-V32127.H0	5512	144	8	0.132	2.84	0.01	0.04	0.02	0.06	0.02	0.07	0.03	0.08
V32127.H0-V32127.I0	5515	113	8	0.053	1.80	0.01	0.05	0.02	0.08	0.02	0.09	0.03	0.10
V32127.I0-V32128.D0	7735	56	8	0.015	0.95	0.01	0.06	0.02	0.10	0.02	0.11	0.03	0.12
V32128.A0-V32122.AS	7816	104	8	0.011	0.84	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V32128.A0-V32128.B0	7919	55	8	0.088	2.32	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
V32128.B0-V32128.C0	7879	110	8	0.057	1.87	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V32128.C0-V32128.E0	7920	144	8	0.011	0.82	0.00	0.07	0.00	0.09	0.00	0.08	0.00	0.09
V32128.D0-V32128.E0	7734	75	8	0.012	0.85	0.01	0.07	0.02	0.12	0.02	0.12	0.03	0.14
V32128.E0-V32128.F0	7733	111	8	0.008	0.72	0.01	0.09	0.03	0.13	0.02	0.13	0.03	0.15
V32128.F0-V32128.I0	7736	52	8	0.008	0.70	0.01	0.09	0.03	0.14	0.02	0.12	0.04	0.15
V32128.G0-V32128.H0	7921	156	8	0.050	1.74	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V32128.H0-V32128.I0	7922	55	8	0.060	1.92	0.00	0.06	0.00	0.08	0.00	0.07	0.00	0.08
V32128.I0-V32128.J0	7737	136	8	0.013	0.88	0.01	0.09	0.03	0.14	0.03	0.12	0.04	0.15
V32128.J0-V32128.K0	7738	143	8	0.011	0.82	0.02	0.10	0.04	0.14	0.03	0.12	0.04	0.15
V32128.K0-V32128.X0	7739	63	8	0.012	0.87	0.02	0.10	0.04	0.14	0.03	0.13	0.04	0.16
V32128.L0-V32128.M0	7931	47	8	0.105	2.53	0.00	0.01	0.00	0.02	0.01	0.04	0.01	0.04
V32128.M0-V32128.N0	7932	233	8	0.109	2.58	0.00	0.02	0.00	0.02	0.01	0.04	0.01	0.04
V32128.N0-V32128.P0	7930	70	8	0.107	2.56	0.00	0.02	0.00	0.04	0.01	0.06	0.01	0.06
V32128.P0-V32128.Q0	7929	148	8	0.041	1.58	0.00	0.03	0.01	0.05	0.02	0.09	0.02	0.10
V32128.PA-V32128.P0	8349	78	8	0.002	0.35	0.00	0.01	0.00	0.02	0.01	0.12	0.01	0.12
V32128.Q0-V32128.R0	7928	284	8	0.015	0.97	0.00	0.05	0.01	0.08	0.02	0.11	0.02	0.12
V32128.R0-V32128.T0	7927	307	8	0.010	0.80	0.01	0.07	0.01	0.09	0.03	0.12	0.03	0.12
V32128.S0-V32128.T0	7926	160	8	0.011	0.82	0.01	0.06	0.01	0.08	0.01	0.10	0.02	0.11
V32128.SA-V32128.SB	7923	90	8	0.021	1.13	0.00	0.02	0.00	0.03	0.01	0.07	0.01	0.07
V32128.SB-V32128.SC	7924	164	8	0.021	1.12	0.00	0.04	0.00	0.05	0.01	0.08	0.01	0.08
V32128.SC-V32128.S0	7925	139	8	0.012	0.86	0.00	0.05	0.01	0.07	0.01	0.09	0.01	0.09
V32128.T0-V32128.U0	7760	77	8	0.042	1.61	0.01	0.07	0.03	0.09	0.04	0.11	0.05	0.12
V32128.U0-V32128.V0	7761	68	8	0.042	1.61	0.02	0.07	0.03	0.09	0.04	0.11	0.05	0.12
V32128.V0-V32128.W0	7762	71	8	0.059	1.89	0.02	0.06	0.03	0.08	0.04	0.10	0.05	0.10
V32128.W0-V32128.X0	7763	60	8	0.133	2.85	0.02	0.08	0.03	0.11	0.04	0.11	0.05	0.13
V32128.X0-V32128.Y0	7740	176	8	0.060	1.91	0.03	0.08	0.07	0.12	0.07	0.12	0.10	0.14
V32128.Y0-V32128.Z0	7741	78	8	0.196	3.46	0.03	0.10	0.07	0.15	0.07	0.15	0.10	0.17
V32128.Z0-V32128	5537	183	8	0.011	0.82	0.03	0.17	0.08	0.24	0.07	0.22	0.10	0.26
V32128-V32129	5507	68	8	0.005	0.55	0.04	0.19	0.09	0.28	0.07	0.26	0.10	0.31
V32129-V32130	6106	227	8	0.005	0.55	0.04	0.20	0.09	0.29	0.09	0.29	0.12	0.33
V32130-V32131	6107	318	8	0.004	0.49	0.04	0.21	0.09	0.31	0.09	0.31	0.12	0.36
V32131-V32139	5506	265	8	0.004	0.49	0.04	0.17	0.10	0.25	0.09	0.25	0.13	0.29
V32132-V32133.A0	5505	80	8	0.017	1.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V32133.A0-V32133	6102	81	8	0.017	1.03	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.06
V32133-V32135	6103	192	8	0.017	1.03	0.01	0.06	0.01	0.07	0.03	0.13	0.03	0.13
V32134-V32135	6104	182	8	0.012	0.85	0.00	0.03	0.00	0.04	0.00	0.07	0.00	0.07
V32135-V32139	6105	231	8	0.013	0.89	0.01	0.09	0.01	0.12	0.04	0.16	0.04	0.17
V32136-V32137	6109	138	8	0.004	0.49	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.02
V32137-V32138	6110	100	8	0.004	0.49	0.00	0.07	0.01	0.07	0.00	0.00	0.00	0.04
V32138-V32139	5503	193	8	0.006	0.60	0.00	0.09	0.01	0.12	0.00	0.09	0.00	0.12
V32139-V32140	6111	249	8	0.062	1.94	0.05	0.15	0.12	0.22	0.15	0.25	0.18	0.28
V32140-V32180	7009	174	8	0.009	0.76	0.05	0.17	0.12	0.25	0.15	0.27	0.18	0.30
V32141-V32142	7016	305	8	0.016	1.00	0.01	0.08	0.01	0.08	0.02	0.10	0.02	0.10
V32142-V32143	7015	298	8	0.008	0.72	0.01	0.09	0.01	0.10	0.02	0.11	0.02	0.12
V32143-V32145.E0	V32143-V32145.E0	149	8	0.008	0.70	0.01	0.09	0.01	0.11	0.02	0.12	0.02	0.13
V32144-V32145	7014	259	8	0.072	2.09	0.00	0.06	0.00	0.07	0.00	0.07	0.00	0.08
V32145.A0-V32145.B0	V32145.A0-V32145.B0	184	8	0.002	0.39	0.00	0.00	0.00	0.02	0.00	0.06	0.00	0.06
V32145.B0-V32145.D0	V32145.B0-V32145.D0	227	8	0.008	0.71	0.00	0.00	0.00	0.04	0.00	0.05	0.01	0.06
V32145.C0-V32145.D0	V32145.C0-V32145.D0	144	8	0.027	1.29	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.03
V32145.D0-V32145.E0	V32145.D0-V32145.E0	74	8	0.015	0.97	0.00	0.04	0.00	0.08	0.00	0.09	0.01	0.10
V32145.E0-V32145	V32145.E0-V32145	105	8	0.008	0.70	0.01	0.09	0.02	0.12	0.02	0.12	0.03	0.14
V32145-V32148	7012	74	8	0.014	0.93	0.02	0.09	0.03	0.12	0.03	0.12	0.03	0.14
V32146-V32147	5502	23	8	0.093	2.39	0.00	0.01	0.00	0.01	0.00	0.04	0.00	0.04
V32147-V32148	7222	536	8	0.021	1.14	0.00	0.05	0.00	0.07	0.01	0.09	0.01	0.10
V32148-V32156	7011	289	8	0.015	0.96	0.02	0.50	0.03	0.56	0.03	0.56	0.05	0.58
V32153-V32154	7336	443	24	0.004	9.27	0.81	0.20	1.65	0.29	1.20	0.25	1.81	0.30
V32154-V32155	FM5	376	24	0.004	9.24	0.84	0.20	1.69	0.28	1.25	0.24	1.87	0.30
V32155-V32156	7338	311	24	0.005	10.35	0.84	0.25	1.70	0.35	1.25	0.30	1.87	0.36
V32157-V32181	7390	338	36	0.003	24.28	6.23	0.36	12.53	0.53	11.10	0.49	15.09	0.60
V32158-V32159	7393	395	36	0.003	22.43	6.27	0.36	12.65	0.53	11.18	0.50	15.23	0.60
V32159-V32160	7395	451	36	0.003	23.07	6.27	0.37	12.66	0.54	11.18	0.50	15.25	0.61
V32160-V32161	7396	509	36	0.003	21.69	6.40	0.36	12.87	0.53	11.36	0.49	15.47	0.59
V32161-V32162	7397	356	36	0.003	24.29	6.40	0.26	12.89	0.36	11.36	0.34	15.49	0.40
V32162-V32163	7398	159	36	0.077	119.62	6.47	0.19	13.08	0.27	11.65	0.25	15.84	0.30
V32163-V32164	7400	151	36	0.020	60.74	6.47	0.29	13.09	0.43	11.65	0.40	15.85	0.48
V32164-V32165	7401	151	36	0.003	22.98	6.47	0.36	13.09	0.54	11.66	0.50	15.86	0.60
V32165-V32166	7402	314	36	0.003	23.08	6.51	0.35	13.14	0.51	11.66	0.48	15.87	0.57
V32166-V32167	7403	351	36	0.004	27.14	6.51	0.31	13.16	0.46	11.66	0.43	15.88	0.51
V32167-V32168	7404	446	36	0.007	35.72	6.51	0.27	13.17	0.39	11.66	0.37	15.89	0.44
V32168-V32169	7405	105	36	0.012	46.43	6.51	0.25	13.19	0.37	11.66	0.34	15.90	0.41
V32169-V32170	7406	258	36	0.011	45.42	6.51	0.26	13.19	0.38	11.66	0.35	15.90	0.41
V32170-V32171	7407	202	36	0.011	44.99	6.64	0.23	13.46	0.32	11.76	0.30	16.10	0.35
V32171-ABN_V32T068.0	7408	401	36	0.043	89.37	6.64	0.28	13.47	0.41	11.76	0.38	16.11	0.46
V32172-V32173	7411	450	36	0.003	24.04	6.64	0.37	13.50	0.55	11.76	0.51	16.14	0.62

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V32173-V32183	7412	528	36	0.003	21.79	6.66	0.37	13.58	0.55	11.79	0.51	16.21	0.62
V32174-V32184	7024	568	36	0.004	26.22	6.67	0.38	13.64	0.56	11.80	0.51	16.28	0.62
V32175-V32176	7027	549	36	0.003	22.83	6.67	0.45	13.69	0.64	11.80	0.59	16.34	0.71
V32176-V32177	7028	431	36	0.000	0.66	6.67	0.38	13.72	0.53	11.80	0.49	16.36	0.59
V32177-V32178	7029	440	36	0.015	52.79	6.67	0.26	13.73	0.38	11.80	0.35	16.38	0.42
V32178-V32179	7030	449	36	0.008	38.35	6.67	0.33	13.75	0.49	11.80	0.45	16.39	0.54
V32180-V01061	7334	209	24	0.007	12.00	0.05	0.13	0.12	0.18	0.15	0.16	0.19	0.20
V32181-V32158	7391	120	36	0.002	20.43	6.23	0.37	12.54	0.54	11.10	0.51	15.10	0.61
V32182-V32174	7023	475	36	0.003	22.47	6.67	0.36	13.62	0.54	11.79	0.49	16.25	0.60
V32183-V32182	7022	408	36	0.003	24.34	6.66	0.37	13.60	0.55	11.79	0.50	16.23	0.61
V32184-V01062	7025	539	36	0.002	17.33	6.67	0.33	13.66	0.49	11.80	0.45	16.30	0.54
V32T033.00-V32T032.0	145	477	36	0.004	27.27	7.51	0.36	16.00	0.54	13.05	0.48	18.89	0.60
V32T034.00-V32T033.0	146	457	36	0.004	28.80	7.51	0.35	15.98	0.54	13.05	0.48	18.91	0.60
V32T035.00-V32T034.0	147	430	36	0.033	78.64	7.51	0.28	15.96	0.42	13.05	0.37	18.95	0.46
V32T036.00-V32T035.0	148	556	36	0.006	33.52	7.51	0.27	15.94	0.40	13.05	0.36	18.95	0.44
V32T037.00-V32T036.0	150	433	36	0.029	73.32	7.51	0.28	15.92	0.41	13.05	0.37	19.01	0.45
V32T038.00-V32T037.0	149	222	36	0.046	92.30	7.51	0.20	15.92	0.30	13.05	0.27	19.02	0.33
V32T039.00-V32T038.0	151	506	36	0.006	34.48	7.51	0.26	15.90	0.39	13.05	0.35	19.02	0.43
V32T040.00-V32T039.0	152	612	36	0.005	30.23	7.51	0.34	15.87	0.51	13.05	0.45	19.18	0.56
V32T041.00-V32T040.0	154	373	36	0.042	88.05	7.51	0.27	15.86	0.40	13.05	0.36	19.49	0.45
V32T042.00-V32T041.0	155	550	36	0.074	117.13	7.51	0.18	15.84	0.27	13.05	0.24	19.55	0.30
V32T043.00-V32T042.0	157	558	36	0.005	31.76	7.51	0.26	15.81	0.39	13.05	0.35	19.63	0.43
V32T044.00-V32T043.0	159	48	36	0.038	84.24	7.51	0.28	15.81	0.41	13.05	0.37	20.02	0.47
V32T045.00-V32T044.0	158	104	36	0.007	35.88	7.51	0.25	15.81	0.37	13.05	0.33	19.51	0.42
V32T046.00-V32T045.0	160	234	36	0.027	70.47	6.67	0.26	13.91	0.37	11.80	0.34	16.56	0.41
V32T047.00-V32T046.0	162	456	36	0.003	23.10	6.67	0.29	13.90	0.42	11.80	0.39	16.54	0.46
V32T048.00-V32T047.0	7446	473	36	0.003	22.70	6.67	0.37	13.88	0.55	11.80	0.50	16.52	0.61
V32T049.00-V32T048.0	7445	190	36	0.003	23.42	6.67	0.37	13.87	0.56	11.80	0.51	16.51	0.63
V32T050.00-V32T049.0	7444	362	36	0.048	94.93	6.67	0.27	13.86	0.41	11.80	0.37	16.50	0.45
V32T051.00-V32T050.0	7037	454	36	0.037	83.14	6.67	0.19	13.84	0.27	11.80	0.25	16.48	0.29
V32T052.00-V32T051.0	7036	366	36	0.006	32.64	6.67	0.26	13.83	0.37	11.80	0.34	16.47	0.41
V32T053.00-V32T052.0	7035	482	36	0.003	24.85	6.67	0.34	13.81	0.49	11.80	0.45	16.45	0.55
V32T054.00-V32T053.0	7034	321	36	0.015	52.85	6.67	0.30	13.79	0.44	11.80	0.40	16.44	0.48
V32T055.00-V32T054.0	7033	288	36	0.003	22.85	6.67	0.30	13.78	0.43	11.80	0.40	16.43	0.48
V32T056.00-V32T055.0	7032	445	36	0.003	22.75	6.67	0.37	13.77	0.54	11.80	0.49	16.41	0.60
V32T068.00-V3217	7409	406	36	0.003	22.53	6.64	0.37	13.49	0.55	11.76	0.50	16.12	0.61
V32T205.00-V32T045.0	1327	78	27	0.022	29.65	0.00	0.20	0.01	0.30	0.00	0.26	0.01	0.33
V32T206.00-V32T207.0	828	13	27	0.002	8.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V32T207.00-V32T205.0	1001	164	27	0.002	8.95	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V32T208.00-V32T045.0	827	55	27	0.014	23.60	0.85	0.27	1.88	0.39	1.26	0.34	2.96	0.47
V32T209.00-V32T208.0	1000	177	27	0.014	23.80	0.85	0.13	1.87	0.19	1.26	0.16	2.06	0.26
V32T210.00-V32T210.A	999	119	27	0.000	0.58	0.85	0.19	1.87	0.25	1.26	0.22	2.05	0.27
V32T210.A0-V32T209.0	826	24	27	0.014	23.85	0.85	0.13	1.87	0.19	1.26	0.16	2.06	0.20
V32T211.00-V32T210.0	7218	459	27	0.002	9.80	0.85	0.22	1.86	0.31	1.26	0.26	2.04	0.32
V32T212.00-V32T211.0	7217	325	27	0.002	9.81	0.85	0.20	1.85	0.29	1.26	0.24	2.03	0.31
V32T213.00-V32T212.0	7216	442	24	0.004	9.26	0.85	0.21	1.84	0.32	1.26	0.26	2.02	0.33
V32T214.00-V32T213.0	7215	395	21	0.009	9.60	0.85	0.22	1.83	0.32	1.26	0.27	2.01	0.34
V32T215.00-V32T214.0	7214	387	21	0.009	9.62	0.85	0.20	1.82	0.30	1.26	0.24	2.00	0.31
V32T216.00-V32T215.0	7454	408	21	0.009	9.61	0.85	0.20	1.81	0.29	1.26	0.24	1.99	0.31
V32T216.A0-V32T216.0	7453	155	21	0.009	9.62	0.85	0.20	1.81	0.29	1.26	0.24	1.99	0.31
V32T217.00-V32T216.A	7452	282	21	0.009	9.62	0.85	0.20	1.80	0.29	1.26	0.24	1.98	0.31
V32T218.00-V32T217.0	7221	166	21	0.004	6.52	0.85	0.22	1.80	0.32	1.26	0.27	1.98	0.34
V32T219.00-V32T218.0	7220	165	21	0.004	6.52	0.85	0.25	1.79	0.36	1.26	0.30	1.97	0.38
V32T220.00-V32T219.0	7451	591	21	0.012	11.36	0.85	0.21	1.78	0.31	1.26	0.26	1.96	0.33
V32T221.00-V32T220.0	7450	594	21	0.009	9.61	0.85	0.19	1.76	0.28	1.26	0.24	1.95	0.30
V32T222.00-V32T221.0	7449	256	21	0.009	9.60	0.85	0.20	1.76	0.29	1.26	0.25	1.94	0.31
V32T223.00-V32T222.0	7448	470	21	0.004	6.48	0.85	0.23	1.75	0.33	1.26	0.28	1.93	0.34
V32T224.00-V32T223.0	7339	73	24	0.000	2.42	0.85	0.26	1.75	0.37	1.26	0.32	1.93	0.39
V33001-V33002	1721	363	8	0.010	0.80	0.00	0.04	0.00	0.05	0.00	0.04	0.00	0.04
V33002-V33005	1720	270	8	0.020	1.11	0.00	0.06	0.01	0.07	0.00	0.06	0.00	0.07
V33002-V33083	1719	331	8	0.023	1.18	0.00	0.05	0.01	0.07	0.00	0.05	0.00	0.06
V33003-V33004	1718	161	8	0.007	0.67	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V33004-V33005	1717	350	8	0.008	0.68	0.00	0.07	0.01	0.08	0.00	0.07	0.01	0.08
V33005-V33006	1716	236	8	0.021	1.12	0.01	0.08	0.02	0.11	0.01	0.08	0.02	0.11
V33006-V33007	1715	358	8	0.010	0.78	0.01	0.10	0.03	0.14	0.02	0.10	0.02	0.13
V33007-V33008	1714	339	8	0.010	0.80	0.02	0.11	0.04	0.15	0.02	0.12	0.03	0.15
V33008-V33009	1713	147	8	0.010	0.80	0.02	0.11	0.04	0.15	0.02	0.11	0.04	0.14
V33009-V33012	1712	146	8	0.029	1.34	0.02	0.12	0.05	0.17	0.03	0.13	0.04	0.16
V33010-V33011	1711	352	8	0.041	1.59	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V33010-V33082	1710	250	8	0.020	1.11	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V33011-V33012	1709	323	8	0.050	1.74	0.00	0.09	0.01	0.13	0.00	0.10	0.01	0.13
V33012-V33023	1630	365	8	0.006	0.59	0.03	0.18	0.06	0.25	0.03	0.17	0.06	0.24
V33013-V33014	1629	197	8	0.020	1.11	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V33013-V33118	1628	219	8	0.021	1.13	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V33014-V33015	1627	213	8	0.054	1.82	0.00	0.04	0.01	0.05	0.00	0.03	0.00	0.04
V33015-V33023	1626	146	8	0.057	1.87	0.01	0.12	0.01	0.17	0.00	0.11	0.01	0.15
V33016-V33018	1625	120	8	0.011	0.84	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V33017-V33018	1624	85	8	0.012	0.86	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V33018-V33019	1623	190	8	0.010	0.79	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V33019-V33021	1622	194	8	0.019	1.06	0.00	0.05	0.01	0.07	0.00	0.04	0.01	0.06
V33020-V33021	1621	221	8	0.011	0.80	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.04
V33020-V33125	1620	231	8	0.045	1.65	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V33021-V33022	1619	103	8	0.042	1.60	0.01	0.05	0.02	0.07	0.00	0.04	0.01	0.06
V33022-V33023	1618	253	8	0.040	1.57	0.01	0.13	0.02	0.18	0.01	0.11	0.01	0.17
V33023-V33024	1617	380	8	0.005	0.56	0.05	0.20	0.10	0.30	0.04	0.19	0.09	0.28
V33024-V33025	1616	326	8	0.005	0.58	0.05	0.17	0.11	0.25	0.04	0.16	0.09	0.23
V33025-V33027	1615	351	8	0.043	1.62	0.05	0.12	0.11	0.18	0.05	0.12	0.10	0.17
V33026-V33027	1217	238	6	0.011	0.37	0.00	0.11	0.00	0.15	0.00	0.10	0.00	0.13
V33027-V33028	1216	290	8	0.050	1.75	0.06	0.12	0.13	0.18	0.05	0.12	0.11	0.17
V33028-V33029	1215	197	8	0.050	1.75	0.06	0.13	0.13	0.19	0.05	0.12	0.11	0.17
V33029-V33030	1214	194	8	0.050	1.75	0.06	0.13	0.13	0.19	0.05	0.12	0.11	0.17
V33030-V33031	1213	204	8	0.049	1.73	0.06	0.15	0.14	0.23	0.05	0.14	0.12	0.21
V33031-V33032	1212	71	8	0.022	1.15	0.06	0.13	0.14	0.19	0.05	0.12	0.12	0.17
V33032-V33033	97	94	8	0.355	4.65	0.06	0.11	0.14	0.16	0.05	0.10	0.12	0.15
V33033-V33034	98	111	8	0.049	1.73	0.06	0.13	0.14	0.19	0.06	0.12	0.12	0.18
V33034-V33035	99	312	10	0.051	3.20	0.06	0.10	0.14	0.15	0.06	0.10	0.13	0.14
V33035-V33041	100	126	10	0.039	2.80	0.07	0.11	0.15	0.16	0.06	0.12	0.13	0.16
V33036.A0-V33036	106	71	8	0.022	1.16	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.01
V33036-V33037	108	192	8	0.020	1.09	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.05
V33037-V33038	109	178	8	0.030	1.36	0.01	0.06	0.01	0.07	0.01	0.08	0.01	0.08
V33038-V33039	110	70	8	0.031	1.38	0.01	0.07	0.01	0.10	0.02	0.10	0.02	0.11
V33039.A0-V33039.B0	107	86	8	0.015	0.95	0.00	0.00	0.00	0.01	0.00	0.04	0.00	0.04
V33039.B0-V33039.D0	103	57	8	0.022	1.15	0.00	0.02	0.00	0.04	0.01	0.06	0.01	0.06
V33039.C0-V33039.D0	288	101	8	0.010	0.77	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V33039.D0-V33039.E0	104	236	8	0.026	1.25	0.00	0.05	0.01	0.07	0.01	0.06	0.01	0.06
V33039.E0-V33039	105	237	8	0.020	1.12	0.01	0.08	0.01	0.10	0.01	0.08	0.01	0.10
V33039-V33040	111	50	8	0.020	1.10	0.02	0.08	0.03	0.10	0.03	0.10	0.03	0.11

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V33040-V33041	112	103	8	0.085	2.27	0.02	0.10	0.03	0.15	0.04	0.13	0.05	0.15
V33041-V33042	115	123	10	0.043	2.94	0.08	0.14	0.19	0.20	0.10	0.16	0.18	0.20
V33042-V33047	518	152	12	0.009	2.23	0.08	0.15	0.19	0.22	0.11	0.17	0.19	0.22
V33047-V33048	520	69	12	0.004	1.38	0.09	0.15	0.20	0.21	0.11	0.16	0.19	0.21
V33048-V33056	521	91	12	0.017	2.96	0.09	0.22	0.20	0.30	0.11	0.24	0.19	0.30
V33049-V33051.A0	464	94	8	0.009	0.73	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V33050-V33051	467	113	8	0.010	0.78	0.00	0.06	0.00	0.07	0.00	0.05	0.00	0.05
V33051.A0-V33051	465	84	8	0.010	0.78	0.00	0.06	0.01	0.07	0.01	0.09	0.01	0.09
V33051-V33052	463	225	8	0.010	0.77	0.01	0.07	0.01	0.09	0.02	0.10	0.02	0.10
V33052-V33053	462	175	8	0.010	0.80	0.01	0.08	0.01	0.10	0.02	0.11	0.02	0.11
V33053-V33054	118	130	8	0.010	0.80	0.01	0.09	0.02	0.11	0.02	0.12	0.03	0.13
V33054-V33055	119	41	8	0.011	0.83	0.01	0.08	0.02	0.10	0.02	0.11	0.03	0.12
V33055-V33056	448	99	8	0.032	1.41	0.02	0.28	0.02	0.36	0.03	0.31	0.03	0.37
V33056-V33057	116	35	12	0.002	1.10	0.10	0.23	0.22	0.31	0.14	0.26	0.23	0.31
V33057-V33080	460	173	12	0.012	2.57	0.10	0.18	0.22	0.26	0.14	0.22	0.23	0.27
V33059-V33060	489	24	8	0.017	1.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V33060-V33061	490	82	8	0.027	1.28	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.03
V33061-V33063	491	209	8	0.069	2.05	0.00	0.00	0.00	0.03	0.01	0.06	0.01	0.06
V33062-V33063	514	160	8	0.020	1.09	0.00	0.00	0.00	0.02	0.00	0.04	0.00	0.04
V33063-V33064	492	55	8	0.032	1.39	0.00	0.02	0.01	0.05	0.01	0.07	0.01	0.07
V33064-V33080.B0	494	63	8	0.031	1.38	0.00	0.06	0.01	0.09	0.01	0.10	0.01	0.11
V33065.A0-V33065.B0	496	208	8	0.010	0.77	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.02
V33065.B0-V33065	497	80	8	0.024	1.21	0.00	0.05	0.01	0.06	0.00	0.03	0.00	0.05
V33065.C0-V33065.D0	207	29	8	0.578	5.94	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.01
V33065.D0-V33065	495	64	8	0.025	1.22	0.00	0.05	0.00	0.06	0.00	0.03	0.00	0.04
V33065-V33066	498	74	8	0.020	1.12	0.01	0.06	0.01	0.07	0.01	0.05	0.01	0.06
V33066-V33067	7588	126	8	0.029	1.33	0.01	0.06	0.01	0.08	0.01	0.05	0.01	0.07
V33067-V33068	499	106	8	0.021	1.14	0.01	0.08	0.02	0.10	0.01	0.06	0.01	0.08
V33068-V33080.A0	501	43	8	0.014	0.92	0.01	0.09	0.02	0.13	0.01	0.09	0.01	0.12
V33069.A0-V33069.B0	485	68	8	0.010	0.77	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V33069.B0-V33069.C0	486	80	8	0.012	0.86	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
V33069.C0-V33069.E0	487	244	8	0.011	0.81	0.00	0.02	0.00	0.05	0.00	0.03	0.00	0.05
V33069.D0-V33069.E0	484	94	8	0.010	0.77	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V33069.E0-V33069.F0	197	344	8	0.031	1.37	0.00	0.04	0.01	0.06	0.01	0.07	0.01	0.08
V33069.F0-V33069.G0	198	21	8	0.030	1.35	0.00	0.04	0.01	0.07	0.02	0.09	0.02	0.10
V33069.G0-V33069	204	97	8	0.023	1.19	0.00	0.05	0.01	0.09	0.03	0.11	0.03	0.12
V33069.H0-V33069.I0	200	22	8	0.018	1.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V33069.I0-V33069.J0	201	38	8	0.023	1.19	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V33069.J0-V33069	202	69	8	0.034	1.44	0.00	0.03	0.00	0.06	0.00	0.06	0.00	0.07
V33069-V33080.A0	502	274	8	0.017	1.01	0.01	0.08	0.02	0.12	0.03	0.12	0.03	0.14
V33070.A0-V33070	468	132	8	0.017	1.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02
V33070-V33072	469	165	8	0.011	0.83	0.00	0.04	0.00	0.07	0.00	0.05	0.00	0.07
V33071.A0-V33071	475	68	8	0.010	0.79	0.01	0.64	0.01	0.64	0.01	0.65	0.01	0.65
V33071-V33072.B0	474	118	8	0.007	0.65	0.01	0.53	0.01	0.54	0.01	0.54	0.01	0.54
V33072.A0-V33072.B0	473	183	8	0.010	0.80	0.00	0.53	0.00	0.54	0.00	0.54	0.00	0.54
V33072.B0-V33072	472	166	8	0.021	1.14	0.01	0.08	0.01	0.09	0.02	0.09	0.02	0.10
V33072-V33073	470	167	8	0.010	0.78	0.01	0.09	0.02	0.11	0.01	0.09	0.02	0.11
V33073-V33074.B0	451	60	8	0.013	0.90	0.01	0.09	0.02	0.12	0.01	0.11	0.02	0.12
V33074.A0-V33074.B0	450	212	6	0.010	0.37	0.00	0.10	0.00	0.12	0.01	0.13	0.01	0.14
V33074.B0-V33074	452	86	8	0.013	0.88	0.02	0.10	0.03	0.13	0.03	0.13	0.04	0.14
V33074-V33079.B0	455	81	8	0.010	0.77	0.02	0.10	0.03	0.14	0.03	0.13	0.04	0.15
V33075.A0-V33075	476	84	8	0.011	0.82	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02
V33075-V33076	477	240	8	0.010	0.78	0.00	0.04	0.00	0.06	0.00	0.05	0.00	0.06
V33076-V33077	479	352	8	0.010	0.79	0.01	0.09	0.01	0.11	0.01	0.09	0.01	0.10
V33077-V33078	480	198	8	0.010	0.79	0.02	0.10	0.03	0.12	0.01	0.11	0.02	0.12
V33078-V33079	481	130	8	0.012	0.86	0.02	0.11	0.03	0.15	0.03	0.14	0.03	0.16
V33079.A0-V33079.B0	458	186	6	0.016	0.46	0.00	0.07	0.00	0.09	0.00	0.09	0.00	0.10
V33079.B0-V33079.D0	456	164	8	0.010	0.78	0.02	0.11	0.03	0.15	0.03	0.14	0.04	0.16
V33079.C0-V33079.D0	482	119	8	0.012	0.84	0.00	0.08	0.00	0.10	0.00	0.09	0.00	0.10
V33079.D0-V33079	457	108	8	0.011	0.81	0.02	0.12	0.04	0.16	0.04	0.15	0.05	0.17
V33079-V33080	461	124	8	0.020	1.12	0.04	0.23	0.07	0.33	0.07	0.29	0.08	0.34
V33080.A0-V33080.B0	205	187	8	0.016	0.98	0.02	0.10	0.04	0.14	0.03	0.13	0.05	0.15
V33080.B0-V33080.H0	195	160	8	0.043	1.62	0.03	0.10	0.06	0.14	0.06	0.14	0.07	0.16
V33080.C0-V33080.D0	513	319	8	0.030	1.34	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V33080.D0-V33080.E0	511	26	8	0.033	1.42	0.00	0.04	0.01	0.06	0.01	0.06	0.01	0.06
V33080.E0-V33080.H0	510	132	8	0.018	1.05	0.00	0.07	0.01	0.11	0.01	0.11	0.01	0.12
V33080.F0-V33080.G0	7590	151	8	0.024	1.22	0.00	0.01	0.00	0.04	0.00	0.00	0.00	0.04
V33080.FA-V33080.F0	7591	292	8	0.025	1.23	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02
V33080.G0-V33080.H0	7589	106	8	0.022	1.17	0.00	0.06	0.01	0.11	0.00	0.08	0.01	0.11
V33080.H0-V33080	196	109	8	0.029	1.33	0.03	0.21	0.07	0.32	0.07	0.28	0.09	0.34
V33080-V33081	515	77	12	0.005	1.68	0.17	0.22	0.38	0.32	0.27	0.28	0.41	0.34
V33081-V33135	516	213	12	0.006	1.84	0.17	0.18	0.38	0.26	0.27	0.21	0.41	0.27
V33082-V33083	1211	324	8	0.031	1.37	0.00	0.05	0.01	0.07	0.00	0.05	0.01	0.06
V33083-V33092	1210	175	8	0.039	1.54	0.01	0.08	0.02	0.11	0.01	0.07	0.02	0.10
V33084-V33085	1209	198	8	0.027	1.29	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
V33084-V33093	1208	144	8	0.011	0.82	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V33085-V33086	1207	248	8	0.057	1.87	0.00	0.04	0.00	0.05	0.00	0.03	0.00	0.04
V33086-V33087	1206	349	8	0.032	1.40	0.01	0.05	0.01	0.07	0.00	0.04	0.01	0.06
V33087-V33088	1205	331	8	0.032	1.39	0.01	0.06	0.02	0.08	0.01	0.05	0.01	0.07
V33088-V33091	1204	90	8	0.032	1.39	0.01	0.07	0.02	0.10	0.01	0.06	0.02	0.09
V33089-V33090	1203	50	6	0.031	0.64	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.02
V33090-V33091	2712	201	6	0.030	0.63	0.00	0.07	0.00	0.09	0.00	0.06	0.00	0.08
V33091-V33092	2711	275	8	0.022	1.16	0.01	0.08	0.03	0.12	0.01	0.07	0.02	0.11
V33092-V33103	2655	182	8	0.033	1.43	0.02	0.12	0.06	0.18	0.02	0.11	0.05	0.17
V33093-V33095	2654	301	8	0.032	1.40	0.00	0.03	0.00	0.05	0.00	0.03	0.00	0.04
V33094-V33095	2653	127	8	0.056	1.86	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V33095-V33096	2652	128	8	0.055	1.83	0.00	0.04	0.01	0.06	0.00	0.03	0.01	0.05
V33096-V33097	2651	230	8	0.057	1.86	0.01	0.04	0.01	0.07	0.00	0.04	0.01	0.06
V33097-V33098	2650	267	8	0.049	1.73	0.01	0.06	0.02	0.09	0.01	0.05	0.01	0.08
V33098-V33099	2649	350	8	0.016	1.00	0.01	0.08	0.02	0.12	0.01	0.07	0.02	0.11
V33099-V33102	2648	351	8	0.010	0.80	0.01	0.10	0.03	0.15	0.01	0.08	0.03	0.13
V33100-V33101	2647	350	8	0.012	0.86	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V33100-V33109	2646	276	8	0.042	1.60	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V33101-V33102	2645	299	8	0.020	1.12	0.00	0.07	0.01	0.11	0.00	0.06	0.01	0.10
V33102-V33103	2644	177	8	0.014	0.94	0.02	0.13	0.05	0.19	0.01	0.11	0.04	0.17
V33103-V33105	2643	250	8	0.018	1.04	0.05	0.14	0.11	0.21	0.04	0.12	0.09	0.19
V33104-V33105	2642	109	6	0.041	0.73	0.00	0.10	0.00	0.15	0.00	0.09	0.00	0.13
V33105-V33106	2641	343	8	0.031	1.37	0.05	0.13	0.12	0.20	0.04	0.12	0.10	0.19
V33106-V33107	2640	350	8	0.028	1.31	0.05	0.14	0.13	0.21	0.04	0.12	0.10	0.19
V33107-V33108	2639	350	8	0.028	1.31	0.06	0.15	0.13	0.23	0.04	0.13	0.11	0.20
V33108-V33115	2638	334	8	0.025	1.24	0.06	0.14	0.14	0.21	0.05	0.12	0.12	0.19
V33109-V33110	2637	251	8	0.023	1.18	0.00	0.04	0.01	0.06	0.00	0.04	0.01	0.05
V33110-V33111	2636	231	8	0.069	2.05	0.01	0.05	0.01	0.06	0.00	0.04	0.01	0.05
V33111-V33114	2635	120	8	0.061	1.92	0.01	0.05	0.02	0.07	0.01	0.05	0.01	0.07
V33112-V33113	2634	205	6	0.040	0.72	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V33113-V33114	2633	169	8	0.040	1.56	0.00	0.04	0.00	0.06	0.00	0.04	0.00	0.06
V33114-V33115	2632	256	8	0.060	1.92	0.01	0.09	0.03	0.13	0.01	0.08	0.02	0.12

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V33115-V33116	2631	262	8	0.089	2.32	0.07	0.12	0.17	0.19	0.06	0.11	0.14	0.17
V33116-V33117	2630	155	8	0.089	2.32	0.07	0.13	0.18	0.20	0.06	0.12	0.15	0.19
V33117-V33132	2629	155	8	0.048	1.71	0.07	0.14	0.18	0.21	0.06	0.12	0.15	0.20
V33118-V33121	2628	289	8	0.059	1.90	0.00	0.04	0.01	0.06	0.00	0.03	0.00	0.05
V33119-V33120	2627	114	8	0.011	0.80	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V33120-V33121	2626	300	8	0.013	0.89	0.00	0.05	0.01	0.06	0.00	0.04	0.00	0.05
V33121-V33123	2625	339	8	0.061	1.93	0.01	0.06	0.02	0.08	0.01	0.04	0.01	0.07
V33122-V33123	2624	184	8	0.017	1.01	0.00	0.04	0.00	0.06	0.00	0.03	0.00	0.05
V33122-V33126	2623	234	8	0.013	0.90	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V33123-V33124	2622	335	8	0.060	1.91	0.01	0.08	0.03	0.11	0.01	0.06	0.02	0.10
V33124-V33128	2621	112	8	0.014	0.93	0.02	0.10	0.04	0.14	0.01	0.07	0.03	0.12
V33125-V33126	2620	308	8	0.081	2.22	0.00	0.03	0.01	0.05	0.00	0.03	0.00	0.04
V33126-V33127	2619	201	8	0.079	2.20	0.01	0.05	0.01	0.07	0.00	0.04	0.01	0.06
V33127-V33128	2618	167	8	0.035	1.46	0.01	0.08	0.02	0.11	0.01	0.06	0.01	0.10
V33128-V33129	2617	186	8	0.027	1.29	0.03	0.12	0.06	0.17	0.01	0.09	0.04	0.15
V33129-V33130	2616	279	8	0.011	0.83	0.03	0.11	0.06	0.17	0.02	0.09	0.05	0.15
V33130-V33131	2615	328	8	0.050	1.75	0.03	0.09	0.07	0.14	0.02	0.07	0.05	0.12
V33131-V33132	2614	326	8	0.055	1.83	0.03	0.11	0.07	0.17	0.02	0.09	0.06	0.16
V33132-V33133	2613	284	12	0.070	6.09	0.11	0.09	0.26	0.14	0.08	0.08	0.21	0.13
V33133-V33134	2612	339	12	0.069	6.05	0.11	0.10	0.26	0.15	0.08	0.09	0.22	0.14
V33134-V33135	507	246	12	0.036	4.39	0.11	0.12	0.27	0.18	0.08	0.12	0.22	0.18
V33135-V33143	517	139	12	0.099	7.26	0.28	0.31	0.65	0.49	0.35	0.36	0.64	0.50
V33136-V33137.A0	2611	590	12	0.011	2.39	0.56	0.38	1.17	0.60	0.77	0.46	1.22	0.62
V33137-V33140	2610	309	12	0.004	1.41	0.56	0.44	1.18	0.70	0.77	0.53	1.24	0.73
V33138-V33140	1614	6	8	0.002	0.35	0.00	0.65	0.01	1.00	0.00	0.78	0.01	1.00
V33139-V33140	1613	6	8	0.002	0.35	0.00	0.65	0.01	1.00	0.00	0.78	0.01	1.00
V33140-V33141	2609	310	12	0.004	1.42	0.56	0.44	1.18	0.71	0.77	0.53	1.24	0.74
V33141-V33142	2608	288	12	0.004	1.42	0.56	0.38	1.19	0.59	0.77	0.45	1.25	0.61
V33142-V33143	508	281	12	0.014	2.71	0.56	0.40	1.19	0.62	0.77	0.47	1.25	0.64
V33143-V33144	509	262	15	0.004	2.58	0.84	0.39	1.85	0.63	1.12	0.46	1.90	0.64
V33144-V33146	3000	349	15	0.004	2.56	0.84	0.39	1.85	0.63	1.12	0.46	1.91	0.64
V33145-V33146	2607	7	8	0.002	0.35	0.01	0.73	0.02	1.00	0.01	0.86	0.01	1.00
V33146-V33148	2606	383	15	0.004	2.55	0.84	0.40	1.86	0.64	1.12	0.47	1.91	0.65
V33147-V33148	1612	12	8	0.002	0.35	0.01	0.73	0.02	1.00	0.01	0.86	0.01	1.00
V33148-V33149	2605	451	15	0.004	2.53	0.84	0.40	1.87	0.64	1.12	0.47	1.92	0.65
V33149-V33150	2604	451	15	0.004	2.53	0.84	0.40	1.88	0.64	1.12	0.47	1.93	0.65
V33150-V33151	2603	456	15	0.004	2.54	0.84	0.40	1.89	0.65	1.12	0.47	1.94	0.66
V33151-V33152	3002	455	15	0.004	2.54	0.84	0.39	1.90	0.62	1.12	0.45	1.95	0.64
V33152-V33154	3001	341	15	0.005	2.91	0.84	0.45	1.91	0.76	1.12	0.53	1.96	0.77
V33153-V33154	2602	16	8	0.038	1.52	0.00	0.54	0.00	0.92	0.00	0.64	0.00	0.95
V33154-V33156	2601	558	15	0.002	1.84	0.84	0.44	1.91	0.74	1.12	0.52	1.97	0.76
V33155-V33156	1751	10	8	0.002	0.35	0.01	0.64	0.02	1.00	0.01	0.75	0.01	1.00
V33156-V33173	2600	350	15	0.006	3.22	0.84	0.40	1.93	0.65	1.12	0.47	1.98	0.66
V33157-V33158	3004	140	8	0.020	1.12	0.00	0.03	0.00	0.04	0.00	0.04	0.00	0.04
V33158-V33162	2599	340	8	0.020	1.10	0.00	0.06	0.01	0.08	0.01	0.07	0.01	0.08
V33159-V33160	2598	278	8	0.024	1.20	0.00	0.04	0.00	0.04	0.01	0.05	0.01	0.05
V33160-V33161	2597	352	8	0.040	1.56	0.01	0.05	0.01	0.06	0.01	0.06	0.01	0.07
V33161-V33162	2596	164	8	0.025	1.22	0.01	0.07	0.01	0.09	0.01	0.08	0.02	0.10
V33162-V33163	2595	328	8	0.020	1.11	0.02	0.09	0.03	0.12	0.02	0.10	0.03	0.12
V33163-V33164	2594	329	8	0.020	1.11	0.02	0.09	0.04	0.13	0.02	0.10	0.04	0.13
V33164-V33165	2593	320	8	0.020	1.10	0.02	0.11	0.04	0.16	0.03	0.12	0.04	0.16
V33165-V33166	2592	359	8	0.007	0.67	0.02	0.13	0.05	0.19	0.03	0.15	0.05	0.18
V33166-V33168	2591	304	8	0.010	0.78	0.03	0.13	0.06	0.18	0.03	0.13	0.05	0.16
V33167-V33168	2590	219	8	0.052	1.78	0.04	0.12	0.04	0.13	0.00	0.06	0.00	0.07
V33168-V33172	2589	214	8	0.051	1.77	0.07	0.19	0.10	0.29	0.04	0.19	0.06	0.27
V33169.A0-V33169	8062	78	8	0.055	1.84	0.00	0.07	0.00	0.13	0.06	0.15	0.06	0.18
V33169-V33171	2588	319	15	0.057	9.97	0.10	0.09	0.36	0.16	0.18	0.11	0.40	0.17
V33170-V33171	2587	72	8	0.191	3.41	0.00	0.10	0.00	0.18	0.00	0.12	0.00	0.19
V33171-V33172	2586	245	15	0.012	4.65	0.10	0.12	0.36	0.20	0.18	0.14	0.41	0.21
V33172-V33173	2585	175	15	0.011	4.45	0.17	0.29	0.47	0.48	0.21	0.34	0.48	0.49
V33173-V33174.A0	V33173-V33174.A0	64	18	0.003	3.40	1.00	0.37	2.41	0.62	1.34	0.44	2.47	0.63
V33174.A0-V33174	V33174.A0-V33174	411	18	0.002	3.38	1.00	0.38	2.41	0.64	1.34	0.44	2.47	0.64
V33174-V33175	FM08	469	18	0.003	3.41	1.00	0.36	2.42	0.59	1.34	0.41	2.48	0.82
V33175-B01128	FMB2_1	138	18	0.004	4.44	1.00	0.32	2.43	0.51	1.34	0.37	2.49	1.00
V34001-V34002	2583	354	8	0.010	0.80	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V34002-V34003	2582	266	8	0.050	1.75	0.01	0.04	0.01	0.05	0.01	0.04	0.01	0.05
V34003-V34015	2581	320	8	0.066	2.01	0.01	0.09	0.01	0.11	0.01	0.10	0.01	0.11
V34004-V34006	2580	354	8	0.006	0.58	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V34005-V34006	2579	144	8	0.045	1.66	0.00	0.04	0.00	0.04	0.00	0.05	0.00	0.05
V34006-V34009	2578	289	8	0.013	0.89	0.00	0.06	0.01	0.07	0.01	0.06	0.01	0.07
V34007-V34008	2577	304	8	0.020	1.10	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.03
V34008-V34009	2576	278	8	0.020	1.12	0.01	0.06	0.01	0.06	0.00	0.05	0.00	0.06
V34009-V34010	2575	178	8	0.040	1.55	0.01	0.06	0.02	0.07	0.01	0.06	0.01	0.07
V34010-V34015	2574	233	8	0.062	1.95	0.01	0.10	0.02	0.12	0.01	0.11	0.02	0.12
V34011-V34012	3007	67	8	0.026	1.26	0.00	0.03	0.00	0.03	0.00	0.05	0.00	0.05
V34012-V34013	2573	292	8	0.010	0.80	0.00	0.04	0.00	0.04	0.00	0.06	0.00	0.06
V34013-V34014	2572	224	8	0.010	0.79	0.00	0.05	0.00	0.06	0.01	0.07	0.01	0.07
V34014-V34015.B0	8325	114	8	0.006	0.59	0.00	0.06	0.01	0.07	0.01	0.07	0.01	0.08
V34015.A0-V34015.B0	8001	134	6	0.014	0.43	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.05
V34015.B0-V34015	2571	209	8	0.007	0.64	0.00	0.10	0.01	0.13	0.01	0.11	0.01	0.13
V34015-V34018	2570	279	8	0.006	0.59	0.03	0.15	0.04	0.19	0.03	0.16	0.04	0.18
V34016-V34017	2569	175	8	0.040	1.56	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V34017-V34018	2568	349	8	0.053	1.80	0.00	0.10	0.00	0.12	0.00	0.10	0.00	0.11
V34018-V34020	2567	255	8	0.006	0.59	0.03	0.16	0.05	0.20	0.04	0.17	0.05	0.19
V34019-V34020	2566	288	8	0.054	1.81	0.00	0.10	0.01	0.12	0.00	0.10	0.01	0.12
V34020-V34028	2565	257	8	0.008	0.71	0.04	0.17	0.06	0.21	0.04	0.19	0.06	0.21
V34021-V34028	2564	259	8	0.058	1.87	0.00	0.11	0.01	0.14	0.01	0.12	0.01	0.13
V34022-V34023	3298	100	8	0.011	0.81	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V34023-V34019	2563	289	8	0.045	1.65	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V34023-V34024	2562	256	8	0.010	0.79	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.03
V34024-V34021	2561	260	8	0.051	1.76	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V34024-V34025	2560	259	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V34025-V34026	2559	229	8	0.040	1.56	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
V34026-V34027	2558	234	8	0.040	1.56	0.01	0.05	0.01	0.06	0.01	0.05	0.01	0.06
V34027-V34028	2557	248	8	0.028	1.30	0.01	0.12	0.01	0.15	0.01	0.13	0.01	0.14
V34028-V34029	2556	263	8	0.008	0.71	0.05	0.18	0.08	0.22	0.06	0.19	0.08	0.22
V34029-V34035	2555	174	8	0.011	0.83	0.05	0.17	0.08	0.22	0.06	0.19	0.08	0.21
V34030-V34031	2554	260	8	0.010	0.79	0.00	0.05	0.00	0.05	0.00	0.05	0.00	0.05
V34031-V34032	2553	261	8	0.010	0.79	0.00	0.06	0.01	0.07	0.00	0.06	0.00	0.06
V34032-V34033	2552	260	8	0.010	0.79	0.01	0.06	0.01	0.07	0.01	0.06	0.01	0.06
V34033-V34034	2551	270	8	0.005	0.55	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.06
V34033-V34052	2550	251	8	0.010	0.79	0.01	0.07	0.01	0.07	0.00	0.06	0.01	0.07
V34034-V34035	2549	319	8	0.012	0.84	0.01	0.12	0.01	0.15	0.01	0.12	0.01	0.14
V34035-V34036	2548	332	8	0.012	0.84	0.06	0.18	0.09	0.23	0.07	0.19	0.09	0.22
V34036-V34037	2546	348	8	0.012	0.84	0.06	0.17	0.09	0.22	0.07	0.18	0.09	0.21
V34037-V34060	2545	111	8	0.019	1.07	0.06	0.19	0.10	0.24	0.07	0.21	0.09	0.26
V34038-V34039	2544	213	8	0.020	1.10	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.03

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V34039-V34040	2543	303	8	0.017	1.02	0.00	0.04	0.00	0.05	0.00	0.05	0.00	0.06
V34040-V34042	2542	234	8	0.008	0.71	0.00	0.05	0.01	0.06	0.01	0.08	0.01	0.08
V34041-V34042	2541	51	8	0.019	1.08	0.00	0.02	0.00	0.03	0.01	0.08	0.01	0.08
V34042-V34043	2540	354	8	0.023	1.18	0.00	0.04	0.01	0.05	0.02	0.08	0.02	0.08
V34043-V34044	2539	304	8	0.054	1.81	0.00	0.04	0.01	0.05	0.02	0.07	0.02	0.08
V34044-V34047	2538	325	8	0.054	1.81	0.00	0.04	0.01	0.06	0.02	0.09	0.02	0.10
V34045-V34047	2537	51	8	0.009	0.73	0.00	0.03	0.00	0.05	0.00	0.06	0.00	0.07
V34046.A0-V34046.B0	7297	197	8	0.074	2.12	0.00	0.00	0.00	0.01	0.01	0.06	0.01	0.06
V34046.B0-V34046.H0	V34046.B0-V34046.H0	220	8	0.062	1.94	0.00	0.01	0.00	0.03	0.03	0.08	0.03	0.08
V34046.C0-V34046.D0	V34046.C0-V34046.D0	106	8	0.010	1.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V34046.D0-V34046.F0	V34046.D0-V34046.F0	84	8	0.010	0.78	0.00	0.02	0.00	0.04	0.00	0.00	0.00	0.02
V34046.E0-V34046.F0	V34046.E0-V34046.F0	123	8	0.010	1.02	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.01
V34046.F0-V34046.G0	V34046.F0-V34046.G0	95	8	0.011	0.80	0.00	0.05	0.00	0.06	0.00	0.03	0.00	0.05
V34046.G0-V34046.H0	V34046.G0-V34046.H0	176	8	0.008	0.69	0.00	0.04	0.01	0.05	0.01	0.07	0.01	0.08
V34046.H0-V34046	V34046.H0-V34046	64	8	0.123	2.74	0.00	0.04	0.01	0.05	0.03	0.11	0.04	0.12
V34046-V34047	2536	160	8	0.010	0.77	0.00	0.05	0.01	0.07	0.03	0.13	0.04	0.14
V34047-V34048	2535	319	8	0.054	1.81	0.01	0.05	0.02	0.08	0.05	0.11	0.06	0.13
V34048-V34050	2534	212	8	0.053	1.80	0.01	0.05	0.02	0.08	0.05	0.13	0.06	0.14
V34049-V34050	2533	49	8	0.014	0.93	0.00	0.03	0.00	0.04	0.02	0.11	0.02	0.12
V34050-V34051	2532	215	8	0.035	1.47	0.01	0.07	0.02	0.10	0.06	0.16	0.08	0.18
V34051-V34060	2531	137	8	0.011	0.83	0.01	0.15	0.02	0.20	0.06	0.22	0.08	0.26
V34052-V34053	2529	253	8	0.010	0.77	0.01	0.07	0.01	0.08	0.01	0.06	0.01	0.07
V34053-V34058	2528	252	8	0.020	1.10	0.01	0.09	0.01	0.10	0.01	0.08	0.01	0.09
V34054-V34055	2527	245	8	0.049	1.73	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V34055-V34056	2526	300	8	0.050	1.75	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V34056-V34057	2525	300	8	0.050	1.75	0.01	0.05	0.01	0.06	0.00	0.04	0.01	0.05
V34057-V34058	2088	280	8	0.041	1.58	0.01	0.08	0.01	0.10	0.01	0.07	0.01	0.08
V34058-V34059	2087	210	8	0.011	0.83	0.02	0.11	0.03	0.13	0.02	0.10	0.02	0.11
V34059-V34060.D0	V34059-V34060.D0	81	8	0.010	0.77	0.02	0.11	0.03	0.14	0.02	0.10	0.02	0.12
V34060.A0-V34060.B0	V34060.A0-V34060.B0	164	8	0.010	0.79	0.00	0.00	0.00	0.01	0.00	0.05	0.00	0.05
V34060.B0-V34060.C0	V34060.B0-V34060.C0	205	8	0.013	0.90	0.00	0.00	0.00	0.02	0.01	0.05	0.01	0.05
V34060.C0-V34060.D0	V34060.C0-V34060.D0	195	8	0.030	1.36	0.00	0.06	0.00	0.08	0.01	0.08	0.01	0.09
V34060.D0-V34060	V34060.D0-V34060	173	8	0.011	0.82	0.02	0.16	0.03	0.21	0.02	0.18	0.03	0.22
V34060-V34061	2085	204	10	0.010	1.43	0.09	0.17	0.16	0.22	0.13	0.20	0.20	0.24
V34061-V34063	2084	201	10	0.014	1.68	0.09	0.18	0.16	0.24	0.13	0.22	0.20	0.27
V34062.A0-V34062.B0	8023	34	8	0.039	1.53	0.01	0.06	0.01	0.06	0.01	0.07	0.01	0.07
V34062.B0-V34062.C0	8024	134	8	0.028	1.31	0.01	0.06	0.01	0.06	0.01	0.07	0.01	0.07
V34062.C0-V34062.D0	8022	263	8	0.079	2.19	0.02	0.08	0.02	0.08	0.02	0.08	0.02	0.08
V34062.D0-V34063	1750	104	8	0.011	0.82	0.02	0.18	0.02	0.22	0.02	0.20	0.02	0.24
V34063-V34065	2083	351	10	0.008	1.23	0.11	0.18	0.18	0.23	0.15	0.21	0.22	0.26
V34064-V34065	1749	115	8	0.035	1.47	0.00	0.09	0.00	0.12	0.01	0.14	0.01	0.16
V34065-V34066.D0	V34065-V34066.D0	29	10	0.027	2.31	0.11	0.17	0.18	0.22	0.16	0.21	0.23	0.25
V34066.A0-V34066.B0	V34066.A0-V34066.B0	259	8	0.010	0.79	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.01
V34066.B0-V34066.C0	V34066.B0-V34066.C0	300	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.04
V34066.C0-V34066.D0	V34066.C0-V34066.D0	135	8	0.053	1.80	0.00	0.14	0.00	0.18	0.01	0.17	0.01	0.21
V34066.D0-V34066	V34066.D0-V34066	241	10	0.009	1.33	0.11	0.19	0.18	0.24	0.16	0.23	0.24	0.28
V34066-V34073	2081	165	10	0.013	1.63	0.11	0.20	0.19	0.26	0.16	0.25	0.24	0.30
V34067-V34068	2080	259	8	0.044	1.64	0.00	0.02	0.00	0.02	0.01	0.05	0.01	0.05
V34068-V34069	2079	231	8	0.048	1.71	0.01	0.04	0.01	0.05	0.01	0.08	0.01	0.08
V34069-V34070	2078	241	8	0.048	1.71	0.01	0.06	0.01	0.06	0.03	0.10	0.03	0.10
V34070-V34071	2077	227	8	0.048	1.71	0.01	0.07	0.02	0.07	0.03	0.10	0.04	0.11
V34071-V34073	2076	146	8	0.026	1.26	0.01	0.18	0.02	0.22	0.03	0.24	0.04	0.27
V34073-V34079	2075	147	10	0.006	1.12	0.12	0.23	0.20	0.30	0.20	0.29	0.28	0.35
V34074-V34077	1807	166	8	0.048	1.71	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V34075-V34076	1806	228	8	0.035	1.46	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V34076-V34077	1805	239	8	0.026	1.27	0.00	0.04	0.00	0.04	0.00	0.03	0.00	0.04
V34077-V34078	1804	271	8	0.074	2.12	0.01	0.05	0.01	0.06	0.00	0.05	0.01	0.05
V34078-V34079	1803	234	8	0.009	0.74	0.01	0.18	0.01	0.23	0.01	0.21	0.01	0.26
V34079-V34081	1802	165	10	0.006	1.10	0.13	0.23	0.22	0.29	0.20	0.29	0.29	0.34
V34080-V34081	1801	131	8	0.023	1.18	0.00	0.15	0.00	0.19	0.00	0.19	0.00	0.22
V34081-V34082	1800	211	10	0.009	1.38	0.13	0.19	0.22	0.24	0.21	0.23	0.30	0.27
V34082-V34086	1799	239	10	0.043	2.92	0.14	0.15	0.22	0.19	0.21	0.18	0.30	0.22
V34083-V34084	1798	138	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V34084-V34085	1797	255	8	0.102	2.50	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.03
V34085-V34086	1796	269	8	0.092	2.37	0.00	0.11	0.01	0.14	0.00	0.13	0.00	0.15
V34086-V34088	1795	246	10	0.040	2.83	0.14	0.17	0.23	0.21	0.21	0.20	0.30	0.25
V34087-V34088	1794	59	8	0.025	1.25	0.00	0.13	0.00	0.16	0.00	0.15	0.00	0.17
V34088-V34093	1793	216	10	0.022	2.10	0.14	0.16	0.24	0.21	0.21	0.20	0.31	0.24
V34089-V34090	1792	171	8	0.082	2.24	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
V34090-V34091	1791	251	8	0.116	2.67	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.03
V34091-V34092	1790	279	8	0.112	2.61	0.01	0.04	0.01	0.04	0.00	0.03	0.00	0.03
V34092-V34093	1789	281	8	0.092	2.37	0.01	0.11	0.01	0.14	0.00	0.12	0.01	0.15
V34093-V34104	1788	175	10	0.060	3.46	0.15	0.21	0.25	0.26	0.22	0.24	0.32	0.29
V34094-V34095	1787	273	8	0.071	2.07	0.01	0.04	0.01	0.04	0.00	0.02	0.00	0.03
V34095-V34096	1786	300	8	0.070	2.07	0.01	0.05	0.01	0.05	0.01	0.04	0.01	0.04
V34096-V34097	2524	191	8	0.052	1.78	0.01	0.06	0.01	0.06	0.01	0.04	0.01	0.05
V34097-V34098	2523	185	8	0.053	1.80	0.01	0.06	0.01	0.07	0.01	0.04	0.01	0.05
V34098-V34099	2522	184	8	0.054	1.82	0.01	0.06	0.02	0.07	0.01	0.04	0.01	0.05
V34099-V34100	2521	191	8	0.054	1.82	0.01	0.06	0.02	0.07	0.01	0.05	0.01	0.06
V34100-V34101	2520	273	8	0.041	1.59	0.01	0.07	0.02	0.08	0.01	0.05	0.01	0.07
V34101-V34102	2519	199	8	0.017	1.01	0.01	0.07	0.02	0.09	0.01	0.06	0.01	0.08
V34102-V34103	2518	178	8	0.042	1.59	0.01	0.06	0.02	0.07	0.01	0.04	0.01	0.06
V34103-V34104	2517	189	8	0.103	2.50	0.01	0.19	0.02	0.24	0.01	0.21	0.02	0.26
V34104-V34105.A0	20	94	10	0.007	1.18	0.17	0.21	0.27	0.27	0.22	0.24	0.33	0.30
V34105.A0-V34105	21	350	10	0.054	3.30	0.17	0.28	0.27	0.35	0.22	0.32	0.33	0.39
V34105-V34164	2516	243	12	0.001	0.87	0.17	0.25	0.27	0.32	0.22	0.29	0.34	0.35
V34106-V34107	2515	250	12	0.005	1.62	0.17	0.22	0.28	0.28	0.23	0.25	0.34	0.31
V34107-V34108	2514	320	12	0.005	1.60	0.17	0.24	0.28	0.31	0.23	0.28	0.35	0.34
V34108-V34109	FM06	341	12	0.004	1.47	0.17	0.16	0.28	0.21	0.23	0.19	0.39	0.67
V34109-V34110	3299	31	12	0.760	20.08	0.17	0.53	0.29	0.54	0.23	0.54	0.45	1.00
V34110-V34111	FMV2_2	34	15	0.011	4.31	0.37	0.20	0.37	0.20	1.03	0.33	1.36	1.00
V34164-V34106	V34164-V34106	107	12	0.014	2.70	0.17	0.19	0.28	0.25	0.23	0.23	0.34	0.28
V35002-V35003	2512	66	8	0.061	1.93	0.00	0.00	0.00	0.00	0.02	0.06	0.02	0.06
V35003-V35005	2511	122	8	0.137	2.89	0.00	0.01	0.00	0.01	0.02	0.06	0.02	0.06
V35004-V35005	1748	7	6	0.001	0.09	0.00	0.06	0.00	0.05	0.00	0.10	0.00	0.10
V35005-V35006	2510	147	10	0.120	4.90	0.00	0.03	0.00	0.02	0.02	0.06	0.02	0.06
V35006-V35007	2509	221	10	0.020	2.02	0.00	0.04	0.00	0.04	0.02	0.08	0.02	0.08
V35007-V35008	2508	351	10	0.010	1.42	0.01	0.06	0.01	0.05	0.02	0.09	0.02	0.10
V35008-V35009	2507	296	10	0.010	1.43	0.01	0.05	0.01	0.05	0.03	0.08	0.03	0.09
V35009-V35021	2506	91	10	0.045	3.01	0.01	0.04	0.01	0.04	0.03	0.08	0.03	0.08
V35010-V35011	2505	70	8	0.008	0.70	0.00	0.00	0.00	0.01	0.04	0.16	0.04	0.16
V35011-V35012	2504	127	8	0.008	0.70	0.00	0.00	0.00	0.02	0.04	0.13	0.04	0.13
V35012-V35013	2503	267	8	0.066	2.01	0.00	0.00	0.00	0.02	0.04	0.10	0.04	0.10
V35013-V35014	2502	213	8	0.045	1.65	0.00	0.01	0.00	0.03	0.04	0.11	0.04	0.11
V35014-V35018	2501	40	8	0.026	1.26	0.00	0.03	0.00	0.04	0.04	0.13	0.04	0.13
V35015-V35016	2500	87	8	0.008	0.68	0.00	0.03	0.00	0.02	0.00	0.04	0.00	0.04
V35016-V35018	2499	163	8	0.009	0.75	0.00	0.05	0.00	0.04	0.00	0.09	0.00	0.10

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V35017-V35018	2498	217	8	0.009	0.74	0.00	0.04	0.00	0.04	0.00	0.09	0.00	0.09
V35018-V35019	2497	383	8	0.026	1.26	0.01	0.07	0.01	0.08	0.05	0.19	0.05	0.20
V35019.B0-V35019.C0	8115	121	8	0.012	0.84	0.00	0.01	0.00	0.01	0.02	0.09	0.02	0.09
V35019.B0-V35019.C0	8116	274	8	0.028	1.30	0.00	0.03	0.00	0.03	0.02	0.08	0.02	0.08
V35019.C0-V35019.D0	8114	219	8	0.047	1.69	0.00	0.04	0.00	0.04	0.02	0.09	0.02	0.10
V35019.D0-V35019	8113	218	8	0.011	0.80	0.00	0.07	0.00	0.08	0.02	0.18	0.02	0.19
V35019-V35020	2496	203	8	0.008	0.71	0.01	0.07	0.01	0.08	0.07	0.17	0.08	0.18
V35020-V35021	2191	117	8	0.219	3.65	0.01	0.05	0.01	0.05	0.08	0.11	0.09	0.11
V35021-V35022	2190	218	10	0.181	6.02	0.02	0.05	0.03	0.06	0.10	0.11	0.12	0.12
V35022-V35023	2189	301	10	0.040	2.82	0.02	0.07	0.03	0.08	0.10	0.14	0.12	0.15
V35023-V35024	2188	300	10	0.020	2.01	0.02	0.08	0.03	0.09	0.10	0.16	0.12	0.17
V35024-V35025	2187	348	10	0.017	1.86	0.02	0.07	0.03	0.09	0.10	0.15	0.12	0.17
V35025-V35040	2186	161	10	0.025	2.23	0.02	0.11	0.03	0.12	0.10	0.20	0.12	0.22
V35027-V35028	2185	282	8	0.085	2.27	0.00	0.04	0.00	0.03	0.00	0.03	0.00	0.04
V35028-V35031	2184	233	8	0.022	1.15	0.00	0.06	0.00	0.05	0.00	0.07	0.00	0.08
V35029-V35030	2183	48	8	0.008	0.68	0.00	0.03	0.00	0.02	0.00	0.05	0.00	0.05
V35030-V35031	425	302	8	0.016	0.97	0.00	0.05	0.00	0.05	0.01	0.08	0.01	0.08
V35031-V35032	424	188	8	0.010	0.78	0.01	0.06	0.01	0.06	0.01	0.08	0.02	0.09
V35032-V35033	423	362	8	0.062	1.94	0.01	0.06	0.01	0.05	0.02	0.08	0.02	0.09
V35033-V35037	422	365	8	0.045	1.66	0.02	0.10	0.01	0.08	0.03	0.13	0.04	0.14
V35034-V35035	421	141	8	0.071	2.08	0.01	0.05	0.00	0.03	0.00	0.04	0.00	0.04
V35035-V35036	420	282	8	0.075	2.13	0.01	0.06	0.00	0.04	0.01	0.06	0.01	0.06
V35036-V35037.D0	8108	102	8	0.035	1.46	0.01	0.07	0.01	0.05	0.02	0.09	0.02	0.09
V35037.A0-V35037.B0	8111	210	8	0.014	0.93	0.01	0.06	0.00	0.04	0.01	0.06	0.01	0.06
V35037.B0-V35037.C0	8112	63	8	0.172	3.24	0.01	0.04	0.00	0.03	0.01	0.05	0.01	0.05
V35037.C0-V35037.D0	8110	32	8	0.092	2.37	0.01	0.07	0.00	0.05	0.01	0.08	0.01	0.08
V35037.D0-V35037	8109	225	8	0.032	1.40	0.02	0.10	0.01	0.08	0.03	0.13	0.03	0.14
V35037-V35038	419	389	8	0.034	1.44	0.04	0.09	0.03	0.08	0.06	0.12	0.07	0.13
V35038-V35039	418	97	8	0.497	5.51	0.04	0.09	0.03	0.08	0.06	0.11	0.08	0.12
V35039-V35040	417	38	8	0.026	1.26	0.04	0.16	0.03	0.14	0.06	0.23	0.08	0.26
V35040-V35061	416	14	10	0.007	1.22	0.06	0.16	0.06	0.15	0.16	0.25	0.20	0.28
V35041-V35042	415	112	8	0.009	0.73	0.00	0.01	0.00	0.01	0.00	0.05	0.00	0.05
V35042-V35043	414	281	8	0.026	1.26	0.00	0.04	0.00	0.03	0.01	0.05	0.01	0.06
V35043-V35044	413	282	8	0.026	1.26	0.01	0.06	0.00	0.05	0.01	0.09	0.01	0.10
V35044-V35045	411	331	8	0.005	0.53	0.01	0.08	0.00	0.07	0.02	0.15	0.02	0.16
V35045-V35046	3431	207	8	0.004	0.52	0.01	0.09	0.01	0.09	0.03	0.17	0.04	0.18
V35046-V35047	3430	185	8	0.004	0.52	0.01	0.11	0.01	0.10	0.03	0.18	0.04	0.19
V35047-V35048	410	179	8	0.004	0.49	0.01	0.08	0.01	0.08	0.03	0.13	0.04	0.14
V35048-V35059	409	38	8	0.126	2.77	0.01	0.06	0.01	0.05	0.03	0.09	0.04	0.10
V35049-V35050	408	5	8	0.073	2.11	0.00	0.00	0.00	0.00	0.01	0.06	0.01	0.06
V35050-V35054	407	209	8	0.004	0.49	0.00	0.05	0.00	0.03	0.01	0.09	0.01	0.09
V35051-V35052	406	4	8	0.005	0.56	0.01	0.08	0.01	0.05	0.00	0.05	0.00	0.05
V35052-V35053	933	230	8	0.035	1.47	0.01	0.07	0.01	0.04	0.01	0.06	0.01	0.06
V35053-V35054	932	233	8	0.048	1.72	0.01	0.08	0.01	0.06	0.01	0.08	0.01	0.09
V35054-V35055	1586	346	8	0.016	1.00	0.02	0.10	0.01	0.07	0.02	0.12	0.02	0.12
V35055-V35056	1585	301	8	0.016	0.98	0.02	0.09	0.01	0.07	0.04	0.13	0.04	0.14
V35056-V35057.A0	V35056-V35057.A0	224	8	0.019	1.07	0.02	0.09	0.01	0.08	0.04	0.14	0.05	0.15
V35057.A0-V35057	V35057.A0-V35057	86	8	0.018	1.06	0.02	0.08	0.01	0.07	0.04	0.12	0.05	0.13
V35057-V35058	1583	119	8	0.114	2.64	0.02	0.11	0.01	0.09	0.04	0.15	0.05	0.16
V35058-V35059	1582	86	8	0.005	0.53	0.02	0.11	0.02	0.09	0.04	0.15	0.05	0.16
V35059-V35060	3432	280	8	0.242	3.84	0.03	0.07	0.03	0.07	0.08	0.11	0.10	0.12
V35060-V35061	3433	184	8	0.102	2.49	0.03	0.14	0.03	0.13	0.08	0.22	0.10	0.24
V35061-V35063	1581	518	10	0.016	1.81	0.10	0.15	0.09	0.15	0.25	0.24	0.30	0.27
V35062-V35063	2336	45	8	0.010	0.78	0.00	0.09	0.00	0.09	0.00	0.15	0.00	0.17
V35063-V35064	1580	350	10	0.021	2.07	0.10	0.15	0.09	0.14	0.25	0.23	0.30	0.26
V35064-V35065	1891	351	10	0.023	2.14	0.10	0.16	0.09	0.15	0.25	0.25	0.30	0.28
V35065-V35066	1890	231	10	0.011	1.51	0.10	0.17	0.09	0.17	0.25	0.28	0.31	0.31
V35066-V35067	1889	350	10	0.011	1.47	0.10	0.17	0.09	0.17	0.25	0.28	0.31	0.31
V35067-V35068	1888	331	10	0.010	1.43	0.10	0.18	0.10	0.18	0.25	0.28	0.31	0.32
V35068-V35069	1887	346	10	0.010	1.43	0.10	0.18	0.10	0.18	0.25	0.28	0.31	0.32
V35069-V35100	1886	277	10	0.010	1.43	0.10	0.18	0.10	0.18	0.25	0.27	0.31	0.31
V35070-V35071	1885	103	8	0.008	0.71	0.00	0.06	0.00	0.04	0.00	0.04	0.00	0.05
V35071-V35073	1884	260	8	0.006	0.60	0.01	0.07	0.00	0.05	0.00	0.07	0.00	0.08
V35072-V35073	1883	8	8	0.016	1.00	0.00	0.03	0.00	0.02	0.01	0.08	0.01	0.08
V35073-V35074	1882	221	8	0.015	0.95	0.01	0.06	0.00	0.05	0.01	0.09	0.02	0.09
V35074-V35075	1881	224	8	0.018	1.03	0.01	0.07	0.01	0.05	0.02	0.09	0.02	0.09
V35075-V35076	1880	298	8	0.031	1.38	0.01	0.08	0.01	0.06	0.02	0.09	0.02	0.10
V35076-V35080	1879	271	8	0.033	1.41	0.03	0.11	0.01	0.09	0.03	0.13	0.03	0.14
V35077-V35078	1578	8	8	0.033	1.41	0.01	0.05	0.00	0.03	0.00	0.01	0.00	0.01
V35078-V35079	1577	262	8	0.033	1.43	0.01	0.05	0.00	0.03	0.00	0.05	0.00	0.05
V35079-V35080	1576	303	8	0.029	1.33	0.01	0.09	0.00	0.07	0.02	0.12	0.02	0.13
V35080-V35081	1575	318	8	0.015	0.95	0.03	0.12	0.02	0.09	0.05	0.14	0.06	0.15
V35081-V35097	1574	308	8	0.039	1.53	0.04	0.12	0.02	0.10	0.05	0.14	0.06	0.15
V35082-V35083	3435	108	8	0.046	1.68	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.01
V35083-V35097	1573	349	8	0.070	2.07	0.00	0.07	0.00	0.06	0.00	0.09	0.00	0.09
V35084-V35085	1572	174	6	0.007	0.30	0.00	0.08	0.00	0.06	0.00	0.07	0.00	0.07
V35085-V35086	1571	86	6	0.007	0.31	0.01	0.09	0.00	0.06	0.00	0.08	0.00	0.08
V35086-V35087	1570	67	6	0.009	0.35	0.01	0.10	0.00	0.08	0.00	0.09	0.00	0.10
V35087-V35088	1569	370	8	0.004	0.49	0.01	0.07	0.00	0.06	0.01	0.08	0.01	0.08
V35088-V35089	1568	319	8	0.035	1.47	0.01	0.06	0.01	0.05	0.02	0.08	0.02	0.09
V35089-V35091	1567	352	8	0.040	1.56	0.01	0.08	0.01	0.07	0.03	0.11	0.03	0.12
V35090-V35091	1566	92	8	0.010	0.80	0.00	0.05	0.00	0.04	0.00	0.07	0.00	0.07
V35091-V35092	2150	208	8	0.010	0.79	0.01	0.08	0.01	0.07	0.03	0.11	0.03	0.12
V35092-V35096	2149	246	8	0.035	1.45	0.01	0.08	0.01	0.07	0.03	0.11	0.03	0.12
V35093-V35094	2148	253	6	0.013	0.41	0.01	0.10	0.00	0.07	0.01	0.08	0.01	0.09
V35094-V35095	2147	184	6	0.016	0.46	0.01	0.08	0.00	0.06	0.01	0.08	0.01	0.09
V35095-V35096	2146	73	8	0.066	2.00	0.01	0.07	0.00	0.06	0.01	0.09	0.02	0.10
V35096-V35097	2145	97	8	0.027	1.29	0.02	0.11	0.02	0.09	0.04	0.14	0.05	0.15
V35097-V35098	2144	273	8	0.070	2.07	0.07	0.13	0.05	0.11	0.10	0.15	0.12	0.17
V35098-V35099	2143	270	8	0.071	2.08	0.07	0.12	0.05	0.10	0.10	0.14	0.12	0.15
V35099-V35100	2142	257	8	0.140	2.92	0.07	0.17	0.05	0.15	0.10	0.23	0.12	0.25
V35100-V35107	2141	192	10	0.027	2.31	0.17	0.19	0.15	0.18	0.34	0.27	0.44	0.31
V35101-V35102	2140	294	8	0.054	1.81	0.00	0.05	0.00	0.04	0.00	0.05	0.00	0.05
V35102.A0-V35102.B0	8123	225	8	0.026	1.27	0.00	0.04	0.00	0.03	0.01	0.07	0.01	0.07
V35102.B0-V35102.C0	8124	229	8	0.026	1.27	0.01	0.06	0.00	0.05	0.02	0.10	0.02	0.11
V35102.C0-V35102.D0	8125	276	8	0.029	1.32	0.01	0.07	0.01	0.06	0.04	0.10	0.04	0.11
V35102.CA-V35102.CB	8121	170	8	0.065	1.99	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V35102.CB-V35102.CC	8122	210	8	0.065	1.99	0.00	0.04	0.00	0.03	0.01	0.05	0.01	0.06
V35102.CC-V35102.C0	8120	240	8	0.050	1.75	0.01	0.06	0.00	0.05	0.02	0.09	0.02	0.10
V35102.D0-V35102.E0	8126	226	8	0.094	2.40	0.01	0.07	0.01	0.06	0.04	0.11	0.04	0.12
V35102.E0-V35102	8127	199	8	0.022	1.16	0.01	0.07	0.01	0.07	0.04	0.11	0.04	0.12
V35102-V35103	2139	242	8	0.071	2.08	0.02	0.07	0.02	0.07	0.04	0.11	0.05	0.12
V35103-V35104	2138	253	8	0.045	1.66	0.02	0.07	0.02	0.06	0.05	0.10	0.06	0.11
V35104-V35105	2137	84	8	0.286	4.18	0.02	0.06	0.02	0.06	0.05	0.10	0.06	0.11
V35105-V35106	2136	141	8	0.042	1.61	0.02	0.09	0.02	0.09	0.05	0.14	0.06	0.16
V35106-V35107	2135	130	8	0.010	0.78	0.02	0.18	0.02	0.17	0.05	0.26	0.06	0.29
V35107-V35108	2132	159	10	0.025	2.24	0.18	0.22	0.17	0.21	0.39	0.32	0.50	0.36

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V35108-V35109	2131	352	10	0.010	1.42	0.18	0.24	0.17	0.23	0.39	0.36	0.50	0.41
V35109-V35125	2130	350	10	0.010	1.43	0.18	0.26	0.17	0.24	0.39	0.37	0.50	0.42
V35110-V35111	1782	210	8	0.011	0.81	0.00	0.07	0.00	0.04	0.00	0.06	0.00	0.06
V35111-V35112	1781	257	8	0.011	0.81	0.01	0.09	0.00	0.06	0.01	0.07	0.01	0.08
V35112-V35114	1780	346	8	0.010	0.80	0.01	0.09	0.01	0.07	0.01	0.08	0.01	0.09
V35113-V35114	1779	71	8	0.030	1.35	0.00	0.06	0.00	0.04	0.01	0.06	0.01	0.07
V35114-V35115	1778	180	8	0.025	1.24	0.02	0.09	0.01	0.07	0.02	0.09	0.02	0.10
V35115-V35116	1777	242	8	0.022	1.15	0.02	0.08	0.01	0.06	0.02	0.07	0.02	0.08
V35116-V35117	1776	152	8	0.230	3.74	0.02	0.05	0.01	0.04	0.02	0.05	0.03	0.06
V35117-V35124	1775	288	8	0.209	3.57	0.02	0.10	0.01	0.08	0.02	0.10	0.03	0.11
V35118-V35119	1774	246	8	0.020	1.11	0.01	0.07	0.00	0.05	0.01	0.06	0.01	0.07
V35119-V35120	1773	86	8	0.010	0.79	0.01	0.07	0.00	0.05	0.01	0.07	0.01	0.07
V35120-V35121	1611	346	8	0.014	0.94	0.01	0.08	0.00	0.06	0.01	0.08	0.01	0.09
V35121-V35122	1610	76	8	0.010	0.78	0.01	0.06	0.01	0.05	0.01	0.06	0.01	0.07
V35122-V35123	1609	157	8	0.467	5.33	0.01	0.04	0.01	0.03	0.01	0.04	0.01	0.04
V35123-V35124	1607	39	8	0.215	3.62	0.01	0.09	0.01	0.08	0.01	0.09	0.01	0.10
V35124-V35125	1606	115	8	0.010	0.77	0.03	0.24	0.02	0.22	0.03	0.31	0.04	0.35
V35125-V35126	365	256	10	0.010	1.44	0.22	0.25	0.20	0.24	0.42	0.36	0.54	0.41
V35126-V35144	364	351	10	0.015	1.74	0.22	0.24	0.20	0.23	0.42	0.35	0.55	0.40
V35127-V35128	886	103	8	0.019	1.09	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V35128-V35129	885	349	8	0.020	1.11	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.02
V35129-V35136	884	249	8	0.013	0.88	0.01	0.08	0.01	0.07	0.00	0.05	0.00	0.07
V35130-V35131	883	290	6	0.005	0.25	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.02
V35131-V35132	882	310	6	0.007	0.31	0.00	0.07	0.00	0.06	0.00	0.07	0.00	0.09
V35132-V35135	881	280	6	0.011	0.39	0.00	0.06	0.00	0.06	0.02	0.13	0.02	0.14
V35133-V35134	880	262	6	0.006	0.27	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.02
V35134-V35135	879	266	6	0.011	0.37	0.00	0.04	0.00	0.05	0.00	0.06	0.00	0.09
V35135-V35136	878	85	6	0.036	0.69	0.00	0.08	0.01	0.08	0.02	0.13	0.03	0.14
V35136-V35137	877	249	8	0.027	1.29	0.02	0.10	0.01	0.09	0.02	0.14	0.03	0.16
V35137-V35139	876	270	8	0.004	0.52	0.02	0.13	0.01	0.12	0.04	0.21	0.05	0.23
V35138-V35139	875	386	8	0.005	0.55	0.00	0.08	0.00	0.08	0.00	0.13	0.00	0.15
V35139-V35140	874	299	8	0.003	0.45	0.02	0.14	0.02	0.14	0.05	0.23	0.06	0.25
V35140-V35141	873	330	8	0.005	0.53	0.02	0.11	0.02	0.11	0.05	0.17	0.06	0.18
V35141-V35142	872	269	8	0.115	2.65	0.02	0.06	0.02	0.06	0.06	0.11	0.08	0.12
V35142-V35143	871	301	8	0.169	3.21	0.02	0.07	0.02	0.07	0.09	0.13	0.10	0.14
V35143-V35144	870	111	8	0.066	2.00	0.02	0.19	0.02	0.19	0.09	0.30	0.10	0.34
V35144-V35145	246	300	10	0.016	1.81	0.24	0.25	0.22	0.25	0.51	0.38	0.65	0.43
V35145-V35146	245	128	10	0.012	1.56	0.24	0.27	0.23	0.26	0.51	0.40	0.65	0.46
V35146-V35147	244	273	10	0.010	1.43	0.24	0.28	0.23	0.28	0.51	0.42	0.65	0.49
V35147-V35148	243	360	10	0.010	1.43	0.24	0.25	0.23	0.25	0.51	0.38	0.65	0.43
V35148-V35149	242	322	10	0.027	2.32	0.24	0.21	0.23	0.21	0.53	0.32	0.67	0.36
V35149-V35204	241	365	10	0.031	2.47	0.24	0.29	0.23	0.29	0.53	0.48	0.67	0.53
V35150-V35152	240	292	8	0.042	1.59	0.00	0.06	0.00	0.05	0.01	0.08	0.01	0.09
V35151.A0-V35151.B0	362	86	8	0.012	0.86	0.00	0.04	0.00	0.03	0.00	0.05	0.00	0.05
V35151.B0-V35151.C0	361	175	8	0.009	0.75	0.00	0.05	0.00	0.04	0.01	0.07	0.01	0.07
V35151.C0-V35151.D0	360	253	8	0.012	0.84	0.00	0.05	0.00	0.04	0.01	0.06	0.01	0.07
V35151.D0-V35151.E0	359	147	8	0.048	1.71	0.00	0.04	0.00	0.03	0.01	0.05	0.01	0.05
V35151.E0-V35151	166	47	8	0.100	2.47	0.01	0.05	0.00	0.04	0.01	0.06	0.01	0.07
V35151.F0-V35151	8295	5	8	0.000	0.11	0.00	0.06	0.00	0.05	0.00	0.07	0.00	0.08
V35151-V35152	363	99	8	0.017	1.02	0.01	0.07	0.01	0.07	0.01	0.10	0.01	0.11
V35152-V35153	165	104	8	0.006	0.59	0.01	0.08	0.01	0.07	0.02	0.10	0.02	0.11
V35153-V35154	164	351	8	0.037	1.50	0.01	0.06	0.01	0.05	0.02	0.07	0.02	0.08
V35154-V35155.C0	8096	24	8	0.072	2.09	0.01	0.06	0.01	0.06	0.02	0.08	0.02	0.09
V35155.A0-V35155.B0	8136	367	8	0.029	1.32	0.00	0.06	0.00	0.04	0.02	0.11	0.02	0.11
V35155.B0-V35155.C0	8137	75	8	0.005	0.56	0.01	0.07	0.00	0.06	0.02	0.11	0.02	0.12
V35155.C0-V35155	8135	318	8	0.072	2.10	0.02	0.06	0.01	0.06	0.04	0.09	0.04	0.10
V35155-V35172	1423	126	8	0.079	2.19	0.02	0.08	0.02	0.07	0.04	0.11	0.05	0.13
V35156-V35158	1422	76	6	0.010	0.36	0.00	0.02	0.00	0.02	0.01	0.10	0.01	0.10
V35157-V35158	1420	55	6	0.020	0.51	0.00	0.04	0.00	0.03	0.00	0.08	0.00	0.08
V35158-V35160	1419	193	8	0.017	1.02	0.00	0.04	0.00	0.03	0.01	0.08	0.01	0.08
V35159-V35160	1418	25	6	0.027	0.59	0.00	0.05	0.00	0.04	0.00	0.08	0.00	0.08
V35160-V35162	1417	193	8	0.017	1.02	0.00	0.05	0.00	0.04	0.01	0.08	0.02	0.08
V35161-V35162	1416	73	8	0.053	1.81	0.00	0.02	0.00	0.02	0.00	0.04	0.00	0.04
V35162-V35165	1415	168	8	0.029	1.33	0.00	0.05	0.00	0.04	0.01	0.08	0.02	0.09
V35163-V35165	1414	28	6	0.020	0.51	0.00	0.05	0.00	0.04	0.00	0.09	0.00	0.09
V35164-V35165	1413	27	6	0.020	0.51	0.00	0.05	0.00	0.04	0.00	0.09	0.00	0.09
V35165-V35167	1412	168	8	0.030	1.35	0.01	0.06	0.01	0.05	0.02	0.09	0.02	0.10
V35167-V35168	1410	68	8	0.015	0.96	0.01	0.08	0.01	0.07	0.02	0.10	0.02	0.11
V35168-V35170	1409	188	8	0.012	0.87	0.02	0.11	0.01	0.08	0.02	0.11	0.03	0.12
V35169-V35170	1406	6	6	0.057	0.86	0.00	0.10	0.00	0.07	0.01	0.11	0.01	0.11
V35170-V35171	1405	187	8	0.013	0.89	0.02	0.10	0.01	0.08	0.03	0.12	0.03	0.13
V35171-V35172	1404	131	8	0.050	1.75	0.02	0.09	0.01	0.07	0.06	0.13	0.06	0.14
V35172-V35173	1403	226	8	0.079	2.20	0.04	0.10	0.03	0.09	0.09	0.14	0.11	0.15
V35173-V35174.G0	3426	105	8	0.064	1.97	0.04	0.10	0.03	0.09	0.09	0.17	0.11	0.18
V35174.A0-V35174.B0	3353	206	8	0.013	0.88	0.00	0.05	0.00	0.03	0.01	0.09	0.01	0.09
V35174.B0-V35174.C0	3354	174	8	0.040	1.57	0.01	0.05	0.00	0.04	0.04	0.11	0.04	0.11
V35174.C0-V35174.D0	3355	145	8	0.069	2.05	0.01	0.05	0.01	0.04	0.04	0.10	0.05	0.10
V35174.D0-V35174.E0	3356	80	8	0.089	2.33	0.01	0.05	0.01	0.04	0.05	0.11	0.05	0.11
V35174.E0-V35174.F0	3357	94	8	0.051	1.77	0.01	0.07	0.01	0.06	0.05	0.18	0.05	0.19
V35174.F0-V35174.G0	3424	185	8	0.005	0.55	0.01	0.10	0.01	0.09	0.07	0.22	0.07	0.23
V35174.G0-V35174	3425	245	8	0.062	1.95	0.05	0.12	0.04	0.10	0.16	0.21	0.18	0.22
V35174-V35175	1402	350	8	0.039	1.55	0.05	0.14	0.04	0.12	0.16	0.25	0.18	0.27
V35175-V35178	1401	349	8	0.018	1.06	0.05	0.14	0.04	0.13	0.17	0.25	0.19	0.27
V35176-V35177.A0	3344	70	8	0.037	1.49	0.00	0.01	0.00	0.01	0.00	0.04	0.00	0.04
V35177.A0-V35177	3345	280	8	0.038	1.51	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.04
V35177-V35178.E0	3346	55	8	0.058	1.88	0.01	0.05	0.00	0.04	0.00	0.05	0.00	0.05
V35178.A0-V35178.B0	3348	108	8	0.013	0.88	0.00	0.03	0.00	0.02	0.01	0.09	0.01	0.09
V35178.B0-V35178.C0	3350	240	8	0.011	0.83	0.00	0.03	0.00	0.03	0.01	0.09	0.01	0.09
V35178.C0-V35178.D0	3351	153	8	0.012	0.85	0.00	0.04	0.00	0.04	0.02	0.09	0.02	0.10
V35178.D0-V35178.E0	3352	148	8	0.018	1.06	0.00	0.04	0.00	0.04	0.02	0.08	0.02	0.09
V35178.E0-V35178	3347	292	8	0.085	2.28	0.01	0.09	0.01	0.08	0.02	0.15	0.02	0.16
V35178-V35193	322	221	10	0.043	2.92	0.06	0.09	0.05	0.09	0.19	0.16	0.22	0.17
V35179-V35180	321	371	10	0.015	1.71	0.00	0.01	0.00	0.01	0.01	0.06	0.01	0.06
V35180-V35191	319	369	10	0.076	3.90	0.00	0.05	0.00	0.05	0.03	0.09	0.03	0.10
V35181-V35183	318	260	8	0.011	0.80	0.01	0.08	0.00	0.05	0.01	0.07	0.01	0.08
V35182-V35183	317	280	8	0.059	1.89	0.01	0.06	0.00	0.05	0.00	0.06	0.00	0.06
V35183-V35187	316	240	8	0.011	0.81	0.01	0.10	0.01	0.08	0.01	0.10	0.01	0.11
V35184-V35186	315	246	8	0.038	1.52	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03
V35185-V35186	314	18	6	0.021	0.52	0.00	0.03	0.00	0.02	0.00	0.03	0.00	0.04
V35186-V35187	313	298	8	0.049	1.73	0.00	0.06	0.00	0.05	0.00	0.07	0.00	0.08
V35187-V35189	312	221	8	0.010	0.78	0.02	0.10	0.01	0.08	0.02	0.11	0.03	0.13
V35188-V35189	311	326	6	0.056	0.86	0.00	0.07	0.00	0.06	0.00	0.09	0.00	0.10
V35189-V35190	310	29	8	0.016	1.00	0.02	0.10	0.01	0.09	0.03	0.12	0.03	0.13
V35190-V35191	309	350	8	0.010	0.79	0.02	0.11	0.01	0.10	0.03	0.14	0.03	0.16
V35191-V35192	308	244	10	0.010	1.44	0.02	0.09	0.02	0.09	0.05	0.13	0.06	0.15
V35192-V35193	307	173	10	0.007	1.20	0.02	0.09	0.02	0.09	0.05	0.14	0.06	0.15
V35193-V35202.A0	8221	60	10	0.171	5.86	0.08	0.12	0.08	0.11	0.24	0.20	0.28	0.21

Appendix C-2. Table 2 - Gravity Main Model Output for Collection System with Recommended Improvements for Existing Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V35202.A0-V35202.B0	8245	246	10	0.014	1.69	0.09	0.15	0.08	0.15	0.24	0.26	0.28	0.29
V35202.B0-V35202.C0	8246	127	10	0.013	1.62	0.09	0.16	0.08	0.15	0.26	0.27	0.30	0.29
V35202.C0-V35202.D0	8244	224	10	0.013	1.61	0.09	0.17	0.08	0.16	0.26	0.29	0.30	0.31
V35202.D0-V35202.E0	8243	317	10	0.013	1.62	0.09	0.12	0.08	0.12	0.26	0.21	0.30	0.23
V35202.E0-V35202.F0	8242	99	10	0.297	7.72	0.09	0.12	0.08	0.12	0.26	0.21	0.31	0.23
V35202.F0-V35202.G0	8241	350	10	0.010	1.42	0.09	0.17	0.08	0.16	0.26	0.29	0.31	0.32
V35202.G0-V35202.H0	8240	248	10	0.010	1.42	0.09	0.17	0.08	0.16	0.26	0.29	0.31	0.32
V35202.H0-V35202.I0	8239	248	10	0.010	1.42	0.09	0.17	0.08	0.17	0.26	0.29	0.31	0.32
V35202.I0-V35202.J0	8238	307	10	0.013	1.62	0.09	0.14	0.09	0.14	0.26	0.24	0.31	0.26
V35202.J0-V35202.K0	8237	189	10	0.080	4.01	0.09	0.10	0.09	0.10	0.29	0.18	0.34	0.19
V35202.K0-V35202.L0	8236	150	10	0.098	4.43	0.09	0.10	0.09	0.10	0.29	0.17	0.34	0.19
V35202.L0-V35202.M0	8235	95	10	0.098	4.43	0.09	0.11	0.09	0.11	0.29	0.19	0.34	0.21
V35202.M0-V35202	1408	84	10	0.039	2.78	0.09	0.14	0.09	0.14	0.29	0.29	0.34	0.31
V35202-V35203	815	331	10	0.014	1.66	0.09	0.14	0.09	0.15	0.42	0.32	0.48	0.34
V35203-V35204	576	365	10	0.028	2.37	0.09	0.25	0.09	0.25	0.42	0.46	0.48	0.51
V35204-V35205	696	506	15	0.004	2.52	0.32	0.25	0.33	0.25	0.95	0.44	1.16	0.49
V35205-V35206	3427	315	15	0.004	2.59	0.32	0.19	0.33	0.19	0.95	0.32	1.16	0.35
V35206-V35207	575	167	15	0.087	12.30	0.32	0.19	0.33	0.19	0.95	0.32	1.16	0.36
V35207-V35208	574	498	15	0.004	2.54	0.32	0.20	0.33	0.21	0.96	0.35	1.18	0.39
V35208-V35225	3428	203	15	0.027	6.92	0.32	0.15	0.34	0.15	0.96	0.26	1.18	0.28
V35209-V35210	573	194	8	0.050	1.75	0.01	0.04	0.00	0.03	0.01	0.05	0.01	0.05
V35210-V35212	572	198	8	0.050	1.74	0.01	0.06	0.00	0.04	0.01	0.06	0.01	0.07
V35211-V35212	571	330	8	0.071	2.09	0.01	0.07	0.00	0.04	0.01	0.07	0.01	0.07
V35212-V35213	570	212	8	0.047	1.70	0.03	0.09	0.01	0.06	0.02	0.09	0.03	0.09
V35213-V35214	569	241	8	0.059	1.89	0.03	0.09	0.01	0.06	0.03	0.10	0.04	0.10
V35214-V35215	568	286	8	0.050	1.75	0.03	0.11	0.02	0.09	0.04	0.14	0.05	0.14
V35215-V35220	567	132	8	0.010	0.78	0.03	0.15	0.02	0.11	0.05	0.18	0.05	0.19
V35216-V35217	566	13	8	0.009	0.75	0.01	0.08	0.00	0.05	0.01	0.09	0.01	0.09
V35217-V35218	565	199	8	0.015	0.96	0.01	0.07	0.00	0.05	0.01	0.08	0.01	0.08
V35218-V35219	564	251	8	0.015	0.96	0.01	0.07	0.00	0.05	0.01	0.08	0.01	0.08
V35219-V35220	563	343	8	0.024	1.20	0.01	0.11	0.01	0.09	0.01	0.13	0.02	0.14
V35220-V35222	562	190	8	0.010	0.78	0.04	0.16	0.02	0.12	0.06	0.19	0.07	0.20
V35222-V35223	561	162	8	0.010	0.78	0.05	0.19	0.03	0.15	0.06	0.22	0.07	0.23
V35223-V35224	560	61	8	0.005	0.53	0.05	0.14	0.03	0.11	0.06	0.16	0.07	0.18
V35224-V35225	3429	61	8	0.354	4.65	0.05	0.18	0.03	0.17	0.07	0.29	0.08	0.32
V35225-V34110	3629	232	15	0.027	6.85	0.37	0.18	0.37	0.18	1.03	0.30	1.26	0.65
V35270-V34164	V35270-V34164	92	8	0.280	4.14	0.00	0.13	0.00	0.16	0.01	0.16	0.01	0.19
2016 CIP	8077_P00	283	12	0.008	2.09	0.75	0.44	1.50	0.81	1.05	0.53	1.60	0.83
2016 CIP	8077_P01	79	15	0.002	2.05	0.19	0.26	0.32	0.42	0.23	0.32	0.33	0.44
2016 CIP	8077_P02	217	15	0.006	3.30	0.56	0.28	1.18	0.41	0.82	0.34	1.27	0.43
2016 CIP	8077_P03	220	15	0.003	2.39	0.56	0.31	1.18	0.47	0.82	0.38	1.27	0.49
2016 CIP	8077_P04	168	15	0.007	3.40	0.56	0.27	1.18	0.41	0.82	0.33	1.27	0.43
2016 CIP	8077_P05	366	15	0.008	3.68	0.56	0.26	1.18	0.39	0.82	0.32	1.27	0.41
2016 CIP	8077_P06	234	15	0.016	5.28	0.56	0.22	1.18	0.32	0.81	0.27	1.27	0.33
2016 CIP	8077_P07	83	15	0.005	3.04	0.56	0.29	1.18	0.43	0.81	0.35	1.27	0.45
2016 CIP	8077_P08	362	15	0.003	2.42	0.53	0.31	1.13	0.46	0.73	0.36	1.18	0.47
2016 CIP	8077_P09	159	15	0.005	2.93	0.53	0.29	1.13	0.42	0.73	0.34	1.18	0.43
2016 CIP	8077_P10	91	15	0.005	3.09	0.53	0.28	1.13	0.42	0.73	0.33	1.17	0.43
2016 CIP	8077_P11	153	12	0.007	1.87	0.31	0.27	0.73	0.43	0.46	0.34	0.79	0.45
2016 CIP	8077_P12	26	12	0.011	2.43	0.31	0.24	0.73	0.37	0.46	0.29	0.79	0.39
2016 CIP	8077_P13	21	12	0.016	2.95	0.31	0.22	0.73	0.34	0.46	0.27	0.79	0.35
2016 CIP	8077_P14	263	12	0.008	2.08	0.30	0.26	0.72	0.41	0.46	0.32	0.79	0.43
2016 CIP	8077_P15	227	12	0.014	2.68	0.30	0.24	0.72	0.38	0.46	0.30	0.78	0.40
2016 CIP	8077_P16	43	12	0.011	2.45	0.30	0.24	0.72	0.37	0.46	0.29	0.78	0.39
2016 CIP	8077_P17	193	10	0.009	1.35	0.22	0.28	0.40	0.37	0.27	0.31	0.39	0.37
2016 CIP	8077_P18	418	10	0.009	1.33	0.22	0.28	0.40	0.37	0.27	0.31	0.39	0.37
2016 CIP	8077_P20	23	8	0.146	2.99	0.03	0.07	0.05	0.09	0.08	0.11	0.09	0.12
2016 CIP	8077_P21	54	8	0.221	3.67	0.00	0.03	0.00	0.05	0.00	0.06	0.00	0.06
2016 CIP	8077_P22	154	8	0.084	2.26	0.03	0.07	0.05	0.10	0.08	0.12	0.09	0.13
2016 CIP	8077_P23	31	8	0.015	0.95	0.03	0.18	0.05	0.21	0.08	0.24	0.09	0.26
2016 CIP	8077_P24	322	8	0.006	0.59	0.03	0.14	0.05	0.20	0.08	0.25	0.09	0.27

Note: 2016 CIP pipes manually added to the model based on drawings for near term CIP projects received March 2016. Asset ID unavailable for these pipes.

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Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B01001-B01003	86	508	8	0.010	0.77	0.02	0.09	0.02	0.09	0.01	0.08	0.67	0.08
B01002-B01003	3300	101	8	0.040	1.55	0.00	0.06	0.00	0.06	0.00	0.04	0.67	0.05
B01003-B01004	85	257	8	0.038	1.51	0.02	0.08	0.02	0.09	0.01	0.07	0.67	0.08
B01004-B01005	82	338	8	0.042	1.60	0.02	0.11	0.03	0.13	0.01	0.10	0.67	0.12
B01005-B01006	81	355	8	0.006	0.58	0.02	0.16	0.03	0.18	0.02	0.15	0.67	0.19
B01006-B01007	80	398	8	0.004	0.50	0.03	0.18	0.05	0.21	0.03	0.18	0.67	0.23
B01007-B01010	79	265	8	0.004	0.49	0.04	0.21	0.05	0.24	0.04	0.20	0.67	0.25
B01008-B01009	78	149	6	0.072	0.97	0.00	0.05	0.00	0.06	0.00	0.04	0.50	0.04
B01009-B01010	77	152	6	0.070	0.96	0.01	0.18	0.01	0.21	0.00	0.17	0.50	0.21
B01010-B01011	76	141	8	0.004	0.49	0.05	0.19	0.07	0.22	0.05	0.18	0.67	0.23
B01011-B01013	75	499	8	0.022	1.15	0.05	0.13	0.07	0.16	0.05	0.13	0.67	0.16
B01012-B01013	3301	140	8	0.081	2.22	0.00	0.07	0.00	0.08	0.00	0.07	0.67	0.08
B01013-B01014	71	429	8	0.082	2.24	0.07	0.15	0.09	0.17	0.05	0.13	0.67	0.17
B01014-B01020	70	123	8	0.019	1.09	0.07	0.17	0.10	0.20	0.06	0.15	0.67	0.20
B01015-B01016	299	398	8	0.073	2.10	0.00	0.02	0.00	0.02	0.01	0.04	0.67	0.05
B01016-B01017	298	349	8	0.064	1.98	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.06
B01017-B01018	161	351	8	0.076	2.15	0.01	0.06	0.01	0.08	0.01	0.08	0.67	0.10
B01018-B01020	156	342	8	0.014	0.92	0.01	0.12	0.02	0.15	0.02	0.12	0.67	0.16
B01019-B01020	153	478	8	0.005	0.52	0.01	0.12	0.01	0.13	0.01	0.11	0.67	0.14
B01020-B01021	140	358	8	0.047	1.70	0.09	0.27	0.14	0.32	0.08	0.26	0.67	0.33
B01021-B01024	130	65	8	0.001	0.22	0.09	0.28	0.14	0.33	0.08	0.27	0.67	0.34
B01022.A0-B01022	7648	6	8	0.002	0.35	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
B01022-B01023	121	235	8	0.085	2.28	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
B01023-B01024	289	226	8	0.078	2.18	0.01	0.11	0.01	0.13	0.01	0.10	0.67	0.13
B01024-B01025	700	285	8	0.049	1.73	0.10	0.16	0.16	0.19	0.09	0.15	0.67	0.20
B01025-B01026	691	250	8	0.111	2.60	0.11	0.15	0.16	0.19	0.10	0.15	0.67	0.19
B01026.A0-B01026	7649	36	8	0.013	0.88	0.00	0.09	0.00	0.11	0.00	0.10	0.67	0.13
B01026-B01050	690	177	8	0.055	1.84	0.11	0.20	0.17	0.25	0.10	0.20	0.67	0.26
B01027-B01028	3308	20	8	0.002	0.35	0.01	0.07	0.01	0.07	0.00	0.06	0.67	0.06
B01028-B01030	689	372	8	0.067	2.02	0.01	0.08	0.01	0.09	0.00	0.08	0.67	0.09
B01029-B01030	681	64	8	0.005	0.55	0.01	0.11	0.01	0.11	0.01	0.12	0.67	0.12
B01030-B01034	683	217	8	0.005	0.55	0.02	0.16	0.02	0.18	0.02	0.17	0.67	0.20
B01031.B0-B01031.E0	527	216	8	0.006	0.60	0.01	0.09	0.01	0.09	0.01	0.11	0.67	0.11
B01031.D0-B01031.E0	530	180	8	0.016	0.98	0.01	0.09	0.01	0.09	0.01	0.11	0.67	0.11
B01031.E0-B01031.F0	531	338	8	0.016	0.98	0.02	0.09	0.02	0.10	0.03	0.11	0.67	0.12
B01031.F0-B01031	532	109	8	0.080	2.21	0.02	0.07	0.03	0.08	0.03	0.09	0.67	0.10
B01031-B01032	533	119	8	0.081	2.22	0.02	0.07	0.03	0.08	0.04	0.09	0.67	0.11
B01032-B01033	680	240	8	0.071	2.08	0.03	0.08	0.04	0.09	0.04	0.10	0.67	0.11
B01033-B01034	684	295	8	0.104	2.52	0.03	0.14	0.04	0.16	0.04	0.16	0.67	0.18
B01034-B01035	679	335	8	0.007	0.67	0.05	0.18	0.07	0.20	0.07	0.19	0.67	0.23
B01035-B01036	675	264	8	0.022	1.15	0.06	0.19	0.08	0.22	0.07	0.19	0.67	0.23
B01036-B01037	674	322	10	0.006	1.06	0.08	0.19	0.10	0.21	0.07	0.18	0.83	0.22
B01037-B01038	673	326	10	0.005	1.00	0.08	0.19	0.11	0.22	0.07	0.19	0.83	0.23
B01038.A0-B01038	1834	37	6	0.323	2.06	0.00	0.17	0.00	0.20	0.01	0.19	0.50	0.22
B01038-B01039	672	251	10	0.005	1.00	0.08	0.20	0.11	0.24	0.08	0.20	0.83	0.25
B01039-B01047	671	115	10	0.004	0.85	0.08	0.21	0.11	0.25	0.08	0.21	0.83	0.27
B01040-B01041	3303	45	8	0.583	5.97	0.00	0.01	0.00	0.01	0.00	0.02	0.67	0.02
B01041-B01043	3304	180	8	0.021	1.13	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
B01043-B01044	670	308	8	0.055	1.83	0.00	0.05	0.01	0.07	0.00	0.06	0.67	0.08
B01044-B01045	669	304	8	0.004	0.49	0.00	0.06	0.01	0.09	0.01	0.07	0.67	0.10
B01045-B01046	3306	193	8	0.037	1.50	0.01	0.05	0.02	0.06	0.01	0.05	0.67	0.07
B01046-B01047	3307	168	8	0.216	3.63	0.01	0.16	0.02	0.19	0.01	0.15	0.67	0.20
B01047-B01048	668	233	10	0.006	1.06	0.10	0.18	0.14	0.21	0.09	0.18	0.83	0.23
B01048-B01049	667	342	10	0.025	2.24	0.10	0.14	0.14	0.17	0.10	0.14	0.83	0.18
B01049-B01050	665	398	10	0.027	2.34	0.10	0.17	0.14	0.20	0.10	0.16	0.83	0.21
B01050-B01051	664	249	12	0.026	3.70	0.21	0.16	0.32	0.20	0.20	0.16	1.00	0.21
B01051-B01053	663	265	12	0.024	3.56	0.21	0.16	0.32	0.20	0.20	0.16	1.00	0.22
B01052-B01053	3309	46	8	0.006	0.59	0.00	0.12	0.00	0.15	0.00	0.13	0.67	0.17
B01053-B01055	528	499	12	0.024	3.57	0.21	0.16	0.32	0.20	0.20	0.16	1.00	0.22
B01054-B01055	3310	47	8	0.013	0.89	0.00	0.12	0.00	0.15	0.00	0.13	0.67	0.17
B01055-B01056	525	271	12	0.024	3.57	0.21	0.16	0.33	0.21	0.20	0.16	1.00	0.22
B01056-B01057.J0	524	235	12	0.024	3.57	0.21	0.17	0.33	0.22	0.20	0.18	1.00	0.24
B01057.A0-B01057.B0	8071	103	8	0.013	0.89	0.00	0.05	0.01	0.06	0.02	0.11	0.67	0.12
B01057.AA-B01057.A0	B01057.AA-B01057.A0	203	8	0.013	0.88	0.00	0.05	0.00	0.05	0.01	0.08	0.67	0.09
B01057.B0-B01057.CB	B01057.B0-B01057.CB	100	8	0.012	0.86	0.00	0.05	0.01	0.07	0.02	0.11	0.67	0.12
B01057.C0-B01057.DB	B01057.C0-B01057.DB	67	8	0.009	0.73	0.00	0.05	0.01	0.09	0.03	0.13	0.67	0.15
B01057.CA-B01057.CB	B01057.CA-B01057.CB	201	8	0.010	0.80	0.00	0.02	0.00	0.03	0.00	0.05	0.67	0.06
B01057.CB-B01057.C0	B01057.CB-B01057.C0	133	8	0.018	1.05	0.00	0.05	0.01	0.08	0.02	0.12	0.67	0.13
B01057.D0-B01057.EB	B01057.D0-B01057.EB	43	8	0.037	1.50	0.01	0.05	0.02	0.09	0.03	0.10	0.67	0.12
B01057.DA-B01057.DB	B01057.DA-B01057.DB	217	8	0.010	0.78	0.00	0.02	0.00	0.04	0.00	0.06	0.67	0.07
B01057.DB-B01057.DF	B01057.DB-B01057.DF	143	8	0.015	0.95	0.00	0.05	0.01	0.09	0.03	0.12	0.67	0.14
B01057.DC-B01057.DE	B01057.DC-B01057.DE	126	8	0.012	0.84	0.00	0.02	0.00	0.03	0.00	0.00	0.67	0.02
B01057.DD-B01057.DE	B01057.DD-B01057.DE	100	8	0.012	0.85	0.00	0.02	0.00	0.03	0.00	0.00	0.67	0.02
B01057.DE-B01057.DF	B01057.DE-B01057.DF	134	8	0.011	0.84	0.00	0.05	0.01	0.08	0.00	0.06	0.67	0.09
B01057.DF-B01057.D0	B01057.DF-B01057.D0	33	8	0.020	1.09	0.01	0.06	0.02	0.09	0.03	0.10	0.67	0.13
B01057.E0-B01057.F0	8075	67	8	0.019	1.07	0.01	0.08	0.03	0.13	0.05	0.17	0.67	0.20
B01057.EA-B01057.EB	B01057.EA-B01057.EB	153	8	0.010	0.78	0.00	0.05	0.00	0.06	0.01	0.09	0.67	0.10
B01057.EB-B01057.E0	B01057.EB-B01057.E0	136	8	0.056	1.85	0.01	0.06	0.03	0.10	0.04	0.12	0.67	0.15
B01057.F0-B01057.G0	7818	300	8	0.009	0.73	0.01	0.11	0.03	0.15	0.06	0.19	0.67	0.23
B01057.G0-B01057.H0	7819	321	8	0.009	0.73	0.02	0.12	0.04	0.16	0.06	0.19	0.67	0.22
B01057.H0-B01057.I0	7836	335	8	0.012	0.84	0.02	0.12	0.05	0.17	0.06	0.18	0.67	0.22
B01057.I0-B01057.J0	7972	149	8	0.012	0.85	0.03	0.20	0.05	0.26	0.06	0.24	0.67	0.31
B01057.J0-B01057	8301	111	12	0.025	3.63	0.23	0.15	0.39	0.19	0.26	0.16	1.00	0.21
B01057-B01058	523	324	12	0.114	7.78	0.23	0.27	0.39	0.40	0.26	0.30	1.00	0.46
B01058-B01060	522	476	15	0.008	2.03	0.88	0.33	1.98	0.51	1.14	0.38	1.25	0.58
B01060-B01061	3283	115	15	0.009	2.15	0.88	0.37	1.99	0.62	1.14	0.50	1.25	0.73
B01061-B01062	519	399	27	0.007	5.74	2.11	0.25	5.92	0.43	4.57	0.38	2.25	0.52
B01062-B01063	3312	502	27	0.005	4.90	2.11	0.23	5.93	0.39	4.57	0.34	2.25	0.47
B01063-B01065	512	245	27	0.016	8.55	2.11	0.26	5.94	0.45	4.57	0.39	2.25	0.55
B01064-B01065	3313	21	8	0.541	5.74	0.00	0.50	0.00	0.50	0.00	0.50	0.67	0.50
B01065-B01068	506	280	27	0.002	4.86	2.11	0.31	5.95	0.55	4.57	0.47	2.25	0.69
B01066-B01068	3315	23	8	0.414	5.02	0.00	0.50	0.00	0.50	0.00	0.50	0.67	0.50
B01067-B01068	3314	21	8	0.595	6.02	0.00	0.51	0.00	0.51	0.00	0.50	0.67	0.50
B01068-B01093	505	447	27	0.003	5.50	2.11	0.30	5.96	0.53	4.57	0.45	2.25	0.65
B01069-B01070	504	117	8	0.017	1.03	0.00	0.04	0.00	0.04	0.02	0.10	0.67	0.10
B01070-B01071	503	221	8	0.018	1.06	0.00	0.04	0.00	0.05	0.02	0.10	0.67	0.11
B01071-B01075	500	127	8	0.018	1.04	0.00	0.07	0.01	0.09	0.02	0.11	0.67	0.13
B01072-B01073	206	210	8	0.038	1.52	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
B01073-B01074	199	300	8	0.039	1.54	0.01	0.07	0.01	0.07	0.01	0.06	0.67	0.07
B01074-B01075	493	300	8	0.033	1.41	0.02	0.09	0.02	0.10	0.01	0.09	0.67	0.11
B01075-B01076.A0	488	296	8	0.019	1.09	0.03	0.11	0.04	0.13	0.04	0.13	0.67	0.16
B01076.A0-B01076	B01076.A0-B01076	51	8	0.017	1.02	0.00	0.07	0.00	0.08	0.00	0.09	0.67	0.10
B01076-B01079	483	297	8	0.021	1.13	0.03	0.11	0.04	0.13	0.05	0.14	0.67	0.16
B01077-B01078	478	187	8	0.045	1.65	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
B01078-B01079	471	228	8	0.063	1.96	0.00	0.06	0.00	0.08	0.01	0.09	0.67	0.11
B01079-B01080	466	169	8	0.038	1.51	0.03	0.09	0.05	0.12	0.06	0.13	0.67	0.15
B01080-B01082	459	252	8	0.078	2.17	0.03	0.14	0.05	0.20	0.06	0.18	0.67	0.24

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B01081.A0-B01081.B0	7848	177	8	0.040	1.56	0.01	0.05	0.01	0.07	0.00	0.03	0.67	0.06
B01081.AA-B01081.AB	7849	330	8	0.013	0.91	0.00	0.05	0.00	0.05	0.00	0.00	0.67	0.02
B01081.AB-B01081.A0	7850	206	8	0.038	1.53	0.01	0.04	0.01	0.05	0.00	0.00	0.67	0.04
B01081.B0-B01081.CH	7839	52	8	0.021	1.12	0.01	0.06	0.01	0.09	0.01	0.07	0.67	0.10
B01081.C0-B01081.D0	7846	99	8	0.014	0.92	0.01	0.08	0.03	0.13	0.02	0.09	0.67	0.14
B01081.CA-B01081.CC	7855	209	8	0.005	0.54	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.06
B01081.CB-B01081.CC	7841	79	8	0.020	1.10	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
B01081.CC-B01081.CD	7856	161	8	0.005	0.53	0.00	0.05	0.00	0.07	0.00	0.05	0.67	0.08
B01081.CD-B01081.CE	7854	60	8	0.007	0.66	0.00	0.05	0.01	0.07	0.00	0.05	0.67	0.07
B01081.CE-B01081.CF	7853	84	8	0.064	1.98	0.01	0.04	0.01	0.05	0.01	0.04	0.67	0.05
B01081.CF-B01081.CG	7852	177	8	0.101	2.48	0.01	0.04	0.01	0.05	0.01	0.04	0.67	0.06
B01081.CG-B01081.CH	7851	73	8	0.058	1.88	0.01	0.06	0.01	0.08	0.01	0.06	0.67	0.09
B01081.CH-B01081.C0	7840	276	8	0.028	1.30	0.01	0.08	0.03	0.11	0.02	0.09	0.67	0.13
B01081.D0-B01081.E0	7847	171	8	0.014	0.92	0.01	0.08	0.03	0.13	0.02	0.09	0.67	0.14
B01081.E0-B01081.FI	B01081.EO-B01081.FI	65	8	0.013	0.91	0.01	0.10	0.04	0.15	0.02	0.10	0.67	0.16
B01081.EA-B01081.E0	B01081.EA-B01081.EO	207	8	0.011	0.82	0.00	0.04	0.00	0.07	0.00	0.05	0.67	0.07
B01081.F0-B01081.G0	7843	67	8	0.095	2.40	0.02	0.08	0.06	0.12	0.02	0.07	0.67	0.12
B01081.FA-B01081.FB	B01081.FA-B01081.FB	69	8	0.011	0.81	0.00	0.04	0.00	0.04	0.00	0.00	0.67	0.01
B01081.FB-B01081.FC	B01081.FB-B01081.FC	112	8	0.011	0.82	0.01	0.09	0.01	0.09	0.00	0.00	0.67	0.03
B01081.FC-B01081.FE	B01081.FC-B01081.FE	52	8	0.011	0.82	0.01	0.09	0.01	0.09	0.00	0.01	0.67	0.04
B01081.FD-B01081.FE	B01081.FD-B01081.FE	68	8	0.010	0.78	0.00	0.04	0.00	0.05	0.00	0.01	0.67	0.03
B01081.FE-B01081.FF	B01081.FE-B01081.FF	133	8	0.011	0.81	0.01	0.09	0.01	0.10	0.00	0.03	0.67	0.06
B01081.FF-B01081.FG	B01081.FF-B01081.FG	322	8	0.010	0.79	0.01	0.09	0.02	0.10	0.00	0.03	0.67	0.07
B01081.FG-B01081.FH	B01081.FG-B01081.FH	93	8	0.011	0.84	0.01	0.08	0.02	0.10	0.00	0.03	0.67	0.07
B01081.FH-B01081.FI	B01081.FH-B01081.FI	110	8	0.014	0.93	0.01	0.10	0.02	0.14	0.00	0.06	0.67	0.12
B01081.FI-B01081.F0	B01081.FI-B01081.FO	104	8	0.016	1.00	0.02	0.09	0.06	0.14	0.02	0.08	0.67	0.14
B01081.G0-B01081.H0	7844	272	8	0.042	1.60	0.02	0.11	0.06	0.16	0.02	0.11	0.67	0.17
B01081.H0-B01081.I0	7838	116	8	0.009	0.76	0.02	0.13	0.06	0.20	0.03	0.14	0.67	0.21
B01081.I0-B01081	7837	82	8	0.010	0.78	0.02	0.11	0.06	0.18	0.03	0.12	0.67	0.19
B01081-B01082	449	127	8	0.023	1.19	0.02	0.15	0.06	0.22	0.03	0.18	0.67	0.26
B01082-B01083	114	252	8	0.010	0.77	0.06	0.16	0.12	0.23	0.09	0.20	0.67	0.27
B01083-B01084	113	144	8	0.071	2.08	0.06	0.11	0.13	0.16	0.10	0.14	0.67	0.19
B01084-B01085	102	104	8	0.109	2.58	0.06	0.11	0.13	0.16	0.10	0.14	0.67	0.19
B01085-B01086	287	144	8	0.064	1.98	0.06	0.14	0.13	0.20	0.10	0.17	0.67	0.24
B01086-B01088	96	51	8	0.020	1.09	0.06	0.16	0.13	0.23	0.10	0.20	0.67	0.28
B01087-B01088	2127	15	8	0.000	0.06	0.00	0.16	0.00	0.24	0.00	0.20	0.67	0.28
B01088-B01089	95	209	8	0.022	1.15	0.06	0.15	0.13	0.21	0.10	0.18	0.67	0.25
B01089-B01090	93	63	8	0.045	1.65	0.06	0.13	0.13	0.19	0.10	0.16	0.67	0.23
B01090-B01091	92	101	8	0.044	1.63	0.06	0.15	0.13	0.22	0.10	0.19	0.67	0.26
B01091-B01092	91	82	8	0.015	0.95	0.06	0.17	0.14	0.26	0.10	0.22	0.67	0.31
B01092-B01093	90	90	8	0.013	0.88	0.06	0.18	0.14	0.27	0.10	0.22	0.67	0.31
B01093-B01096	89	54	27	0.004	6.42	2.16	0.31	6.11	0.54	4.62	0.46	2.25	0.66
B01094-B01096	3317	26	8	0.187	3.38	0.00	0.50	0.00	0.50	0.00	0.50	0.67	0.50
B01095-B01096	3316	32	8	0.149	3.01	0.00	0.50	0.00	0.50	0.00	0.50	0.67	0.50
B01096-B01097	88	439	27	0.002	4.96	2.16	0.25	6.11	0.43	4.62	0.37	2.25	0.52
B01097-B01099	69	383	27	0.024	15.78	2.16	0.24	6.12	0.41	4.62	0.35	2.25	0.50
B01098-B01099	68	13	8	0.228	3.73	0.00	0.50	0.00	0.50	0.00	0.50	0.67	0.50
B01099-B01100	67	523	27	0.003	5.86	2.16	0.31	6.14	0.55	4.63	0.47	2.25	0.69
B01100-B01101	66	520	27	0.002	5.00	2.16	0.30	6.15	0.53	4.63	0.45	2.25	0.65
B01101-B01127	FM09	390	27	0.005	7.35	2.16	0.23	6.17	0.39	4.63	0.33	2.25	0.46
B01102-B01103	3319	24	8	0.002	0.35	0.02	0.12	0.02	0.12	0.02	0.12	0.67	0.12
B01103-B01105	64	231	8	0.012	0.84	0.01	0.09	0.01	0.09	0.02	0.09	0.67	0.10
B01104-B01105	63	22	8	0.002	0.35	0.00	0.06	0.00	0.06	0.00	0.06	0.67	0.07
B01105-B01106	62	230	8	0.015	0.95	0.01	0.08	0.02	0.09	0.02	0.09	0.67	0.10
B01106.A0-B01106	60	19	8	0.002	0.35	0.00	0.05	0.00	0.05	0.00	0.06	0.67	0.07
B01106-B01107	61	46	8	0.028	1.31	0.01	0.07	0.02	0.08	0.02	0.09	0.67	0.10
B01107-B01111.A0	2121	20	8	0.036	1.47	0.01	0.10	0.02	0.11	0.02	0.11	0.67	0.12
B01108-B01109	58	300	8	0.023	1.18	0.01	0.08	0.01	0.08	0.01	0.06	0.67	0.06
B01109-B01110	57	163	8	0.011	0.82	0.01	0.08	0.01	0.09	0.01	0.06	0.67	0.07
B01110-B01111	56	35	8	0.034	1.45	0.01	0.11	0.02	0.12	0.01	0.09	0.67	0.11
B01111.A0-B01111.B0	2134	224	8	0.007	0.63	0.02	0.14	0.03	0.14	0.02	0.13	0.67	0.15
B01111.B0-B01111.C0	2122	202	8	0.007	0.63	0.03	0.14	0.03	0.15	0.02	0.13	0.67	0.15
B01111.C0-B01111	2123	50	8	0.008	0.70	0.03	0.14	0.03	0.15	0.02	0.13	0.67	0.16
B01111-B01113.A0	2124	102	8	0.014	0.92	0.04	0.16	0.05	0.17	0.03	0.14	0.67	0.17
B01113.A0-B01113.B0	2125	187	8	0.009	0.72	0.05	0.17	0.06	0.19	0.03	0.14	0.67	0.18
B01113.B0-B01113.C0	7828	230	8	0.013	0.89	0.05	0.15	0.06	0.16	0.03	0.12	0.67	0.16
B01113-B01113.C0	2126	25	8	0.051	1.77	0.05	0.10	0.06	0.11	0.04	0.09	0.67	0.11
B01113-B01114	55	100	8	0.338	4.54	0.05	0.12	0.06	0.13	0.04	0.10	0.67	0.13
B01114-B01115	54	161	8	0.014	0.93	0.05	0.18	0.06	0.19	0.04	0.14	0.67	0.18
B01115-B01116	53	209	8	0.014	0.92	0.08	0.18	0.09	0.20	0.04	0.13	0.67	0.17
B01116-B01123	52	102	8	0.036	1.48	0.08	0.14	0.09	0.15	0.04	0.10	0.67	0.13
B01117-B01118	51	287	8	0.050	1.75	0.02	0.10	0.02	0.10	0.00	0.05	0.67	0.05
B01118-B01119	50	283	8	0.016	0.98	0.03	0.11	0.03	0.11	0.01	0.06	0.67	0.07
B01119-B01120	49	125	8	0.036	1.49	0.03	0.11	0.03	0.11	0.01	0.05	0.67	0.07
B01120-B01121	194	188	8	0.040	1.57	0.05	0.12	0.05	0.12	0.01	0.06	0.67	0.08
B01121-B01122	193	192	8	0.040	1.56	0.05	0.14	0.05	0.14	0.01	0.07	0.67	0.10
B01122-B01123	192	225	8	0.021	1.14	0.05	0.13	0.05	0.14	0.01	0.08	0.67	0.11
B01123-B01124	3006	157	8	0.339	4.55	0.13	0.17	0.15	0.18	0.07	0.12	0.67	0.16
B01124-B01125	3005	101	8	0.025	1.25	0.13	0.20	0.15	0.21	0.07	0.14	0.67	0.18
B01125-B01126	191	201	8	0.081	2.23	0.13	0.18	0.15	0.19	0.07	0.13	0.67	0.17
B01126-B01127	190	20	8	0.044	1.63	0.13	0.40	0.15	0.60	0.07	0.49	0.67	0.59
B01127-B01128	FMB2_2	54	27	0.023	15.62	2.25	0.18	6.31	0.60	4.65	0.26	2.25	0.63
B01151-B01061	B01151-B01061	252	27	0.000	1.21	1.36	0.30	3.93	0.50	3.51	0.45	2.25	0.60
B01152-B01151	FM07	79	27	0.001	4.64	1.36	0.36	3.93	0.59	3.51	0.55	2.25	0.72
B02001-B01058	2977	323	12	0.022	3.44	0.65	0.36	1.57	0.57	0.94	0.42	1.00	0.64
B02002-B02003	183	158	8	0.029	1.34	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B02003-B02004	182	165	8	0.064	1.98	0.01	0.04	0.01	0.04	0.01	0.04	0.67	0.05
B02004-B02027	181	134	8	0.113	2.63	0.01	0.30	0.01	0.49	0.01	0.36	0.67	0.52
B02005-B02006	48	278	8	0.010	0.78	0.04	0.15	0.04	0.15	0.01	0.07	0.67	0.07
B02006-B02007	47	299	8	0.036	1.48	0.05	0.15	0.06	0.15	0.01	0.08	0.67	0.09
B02007-B02008	46	329	8	0.023	1.20	0.07	0.18	0.07	0.19	0.02	0.11	0.67	0.13
B02008-B02009	45	272	8	0.016	0.99	0.07	0.15	0.08	0.15	0.03	0.09	0.67	0.11
B02009-B02010	6938	143	8	0.410	5.00	0.08	0.12	0.09	0.13	0.03	0.08	0.67	0.09
B02010-B02014	6937	31	8	0.042	1.60	0.08	0.15	0.09	0.16	0.03	0.10	0.67	0.12
B02011.A0-B02011	7651	52	8	0.008	0.70	0.00	0.01	0.00	0.01	0.00	0.04	0.67	0.04
B02011-B02012	6936	339	8	0.020	1.10	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
B02012-B02013	6935	365	8	0.058	1.89	0.00	0.02	0.00	0.04	0.01	0.04	0.67	0.06
B02013-B02014	6934	297	8	0.057	1.87	0.00	0.08	0.01	0.10	0.01	0.07	0.67	0.10
B02014-B02015	6933	303	8	0.058	1.89	0.08	0.14	0.10	0.16	0.04	0.10	0.67	0.13
B02015-B02016.B0	6939	365	8	0.066	2.00	0.08	0.13	0.10	0.14	0.04	0.09	0.67	0.12
B02016.A0-B02016.B0	7294	269	8	0.014	0.91	0.00	0.55	0.00	0.56	0.00	0.54	0.67	0.55
B02016.B0-B02016	6940	32	8	0.194	3.44	0.09	0.12	0.11	0.14	0.05	0.09	0.67	0.12
B02016-B02024	6932	383	8	0.075	2.14	0.09	0.17	0.11	0.20	0.05	0.13	0.67	0.18
B02017-B02018	6931	456	8	0.050	1.75	0.01	0.06	0.01	0.06	0.00	0.05	0.67	0.05
B02018-B02019	6930	268	8	0.080	2.21	0.02	0.07	0.02	0.08	0.01	0.06	0.67	0.07
B02019-B02022	6929	250	8	0.055	1.82	0.02	0.09	0.03	0.10	0.02	0.08	0.67	0.10
B02020-B02021.D0	2982	193	8	0.006	0.63	0.01	0.24	0.01	0.25	0.01	0.23	0.67	0.25

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B02021.A0-B02021.C0	2980	311	8	0.009	0.75	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
B02021.B0-B02021.C0	2981	196	8	0.011	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
B02021.C0-B02021.D0	2979	78	8	0.083	2.26	0.00	0.21	0.01	0.23	0.01	0.21	0.67	0.24
B02021.D0-B02021	3047	74	8	0.002	0.38	0.02	0.23	0.02	0.25	0.01	0.22	0.67	0.25
B02021-B02022.B0	7830	167	8	0.048	1.71	0.02	0.07	0.02	0.09	0.02	0.07	0.67	0.09
B02022.A0-B02022.B0	7829	282	8	0.011	0.83	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
B02022.B0-B02022	7293	160	8	0.047	1.70	0.02	0.08	0.03	0.10	0.02	0.08	0.67	0.11
B02022-B02023	6928	234	8	0.073	2.11	0.04	0.10	0.06	0.12	0.04	0.10	0.67	0.12
B02023-B02024	6927	346	8	0.070	2.07	0.04	0.15	0.07	0.18	0.04	0.13	0.67	0.17
B02024-B02025	6926	216	8	0.044	1.63	0.13	0.18	0.19	0.21	0.09	0.15	0.67	0.20
B02025-B02026	6925	233	8	0.112	2.62	0.13	0.16	0.19	0.19	0.09	0.13	0.67	0.18
B02026-B02027	6924	196	12	0.048	5.04	0.14	0.24	0.20	0.38	0.09	0.27	1.00	0.43
B02027-B02001	2975	325	12	0.010	2.28	0.64	0.34	1.56	0.55	0.94	0.41	1.00	0.64
B02028-B02030	B02028-B02030	113	8	0.198	3.48	0.00	0.00	0.00	0.02	0.03	0.14	0.67	0.14
B02029-B02030	B02029-B02030	40	8	0.443	5.20	0.00	0.00	0.00	0.02	0.03	0.13	0.67	0.13
B02030-B02031	6923	128	8	0.010	0.76	0.00	0.28	0.00	0.50	0.07	0.48	0.67	0.60
B02031-B02027	2976	98	15	0.004	1.45	0.51	0.30	1.36	0.51	0.90	0.39	1.25	0.59
B02032-B02031	2973	378	15	0.028	7.03	0.51	0.24	1.35	0.40	0.83	0.32	1.25	0.46
B02033-B02032	2972	383	15	0.007	3.53	0.50	0.23	1.34	0.37	0.83	0.29	1.25	0.42
B02034-B02033	2971	378	15	0.007	3.56	0.48	0.26	1.32	0.44	0.83	0.34	1.25	0.49
B02036.A0-B02036.C0	B02036.A0-B02036.C0	127	8	0.111	2.60	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B02036.C0-B02036.D0	B02036.C0-B02036.D0	67	8	0.023	1.19	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
B02036.D0-B02036	B02036.D0-B02036	69	8	0.023	1.18	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B02036-B02038	6922	214	8	0.023	1.20	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.04
B02037-B02038	3626	30	8	0.002	0.35	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.02
B02038-B02039	6921	202	8	0.069	2.05	0.00	0.26	0.01	0.45	0.00	0.35	0.67	0.51
B02039-B02034	2970	385	15	0.006	3.10	0.48	0.26	1.31	0.44	0.83	0.34	1.25	0.50
B02040-B02041	6920	350	8	0.049	1.72	0.00	0.03	0.00	0.04	0.00	0.02	0.67	0.02
B02041-B02042	6919	351	8	0.048	1.71	0.01	0.06	0.01	0.07	0.00	0.02	0.67	0.05
B02042-B02043	6918	282	8	0.032	1.40	0.01	0.53	0.02	0.54	0.00	0.51	0.67	0.53
B02043-B02039	2969	42	15	0.005	3.01	0.48	0.40	1.30	0.62	0.82	0.51	1.25	0.69
B02044-B02043	2968	25	15	0.004	2.66	0.47	0.50	1.28	0.75	0.81	0.62	1.25	0.83
B02045-B02046	2978	241	8	0.081	2.22	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B02046-B02048	6917	155	8	0.049	1.72	0.00	0.02	0.00	0.05	0.00	0.03	0.67	0.05
B02047-B02048	6916	238	8	0.051	1.77	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.04
B02048-B02049	6915	99	8	0.013	0.89	0.00	0.04	0.01	0.08	0.00	0.05	0.67	0.09
B02049-B02055	6914	94	8	0.004	0.50	0.00	0.06	0.01	0.12	0.00	0.06	0.67	0.12
B02050-B02051	6913	110	8	0.065	2.00	0.00	0.01	0.00	0.02	0.00	0.00	0.67	0.01
B02051-B02052	6912	116	8	0.084	2.26	0.00	0.02	0.00	0.03	0.00	0.01	0.67	0.02
B02052-B02053	6911	177	8	0.064	1.97	0.00	0.02	0.00	0.04	0.00	0.02	0.67	0.04
B02053-B02054	6910	166	8	0.043	1.62	0.00	0.03	0.01	0.05	0.00	0.02	0.67	0.04
B02054-B02055	6909	314	8	0.059	1.89	0.00	0.05	0.01	0.10	0.00	0.04	0.67	0.10
B02055-B02056	6908	120	8	0.004	0.49	0.00	0.07	0.02	0.15	0.00	0.07	0.67	0.15
B02056-B02063	6907	83	8	0.005	0.55	0.01	0.07	0.02	0.13	0.00	0.06	0.67	0.13
B02057-B02058	6906	140	8	0.065	2.00	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.02
B02059-B02058	6905	106	8	0.119	2.69	0.00	0.02	0.00	0.03	0.00	0.01	0.67	0.03
B02060-B02059	6904	142	8	0.077	2.16	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
B02061-B02060	6903	176	8	0.083	2.25	0.00	0.03	0.01	0.05	0.00	0.02	0.67	0.05
B02061-B02062	6902	286	8	0.024	1.20	0.00	0.04	0.01	0.07	0.00	0.03	0.67	0.06
B02062-B02063	6901	195	8	0.020	1.11	0.00	0.05	0.01	0.10	0.00	0.04	0.67	0.09
B02063-B02064	6900	161	8	0.028	1.32	0.01	0.06	0.04	0.12	0.01	0.05	0.67	0.12
B02064-B02065	6899	73	8	0.032	1.39	0.01	0.06	0.04	0.12	0.01	0.05	0.67	0.12
B02065-B02066	6898	188	8	0.027	1.28	0.01	0.07	0.04	0.14	0.01	0.06	0.67	0.13
B02066-B02067	2965	195	8	0.022	1.16	0.01	0.06	0.05	0.12	0.01	0.06	0.67	0.12
B02067-B02068	2966	26	8	0.100	2.47	0.01	0.22	0.05	0.39	0.01	0.29	0.67	0.43
B02068-B02044	2967	195	12	0.018	3.07	0.47	0.42	1.28	0.67	0.81	0.54	1.00	0.76
B02069-B02070	6897	288	8	0.091	2.35	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.02
B02070-B02071	6896	61	8	0.033	1.43	0.00	0.02	0.00	0.04	0.00	0.02	0.67	0.04
B02071-B02073	6895	105	8	0.091	2.35	0.00	0.03	0.00	0.05	0.00	0.03	0.67	0.05
B02072-B02073	6894	48	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B02073-B02074	3322	180	8	0.015	0.96	0.00	0.03	0.01	0.06	0.00	0.03	0.67	0.06
B02074-B02075	3323	121	8	0.102	2.50	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.05
B02075-B02076	3324	47	8	0.122	2.72	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.05
B02076-B02077.A0	3325	120	8	0.140	2.92	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.05
B02077.A0-B02077	3326	69	8	0.069	2.05	0.00	0.04	0.01	0.06	0.01	0.04	0.67	0.06
B02077-B02079	6188	301	8	0.049	1.73	0.00	0.25	0.01	0.42	0.01	0.34	0.67	0.49
B02078-B02079.D0	8345	57	12	0.008	2.00	0.42	0.31	1.05	0.51	0.72	0.41	1.00	0.59
B02079.A0-B02079.B0	8279	10	8	0.035	1.46	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.01
B02079.B0-B02079.C0	8346	263	8	0.050	1.75	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
B02079.C0-B02079.D0	8347	113	8	0.056	1.85	0.00	0.24	0.00	0.40	0.00	0.32	0.67	0.46
B02079.D0-B02079	3648	214	12	0.008	2.07	0.42	0.31	1.05	0.51	0.73	0.41	1.00	0.60
B02079-B02080	1968	220	12	0.008	1.99	0.43	0.32	1.07	0.53	0.74	0.43	1.00	0.62
B02080-B02081	6178	301	12	0.007	1.98	0.43	0.29	1.08	0.48	0.74	0.39	1.00	0.56
B02081-B02082	5993	251	12	0.016	2.92	0.43	0.29	1.08	0.49	0.74	0.39	1.00	0.57
B02082.A0-B02082.B0	3332	168	8	0.055	1.84	0.01	0.05	0.02	0.08	0.01	0.05	0.67	0.08
B02082.AA-B02082.AB	B02082.AA-B02082.AB	344	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.00	0.67	0.02
B02082.AB-B02082.AF	B02082.AB-B02082.AF	183	8	0.015	0.96	0.00	0.04	0.01	0.06	0.00	0.02	0.67	0.05
B02082.AC-B02082.AD	B02082.AC-B02082.AD	257	8	0.010	0.78	0.00	0.00	0.00	0.02	0.01	0.08	0.67	0.08
B02082.AD-B02082.AF	B02082.AD-B02082.AF	143	8	0.010	0.78	0.00	0.02	0.00	0.05	0.01	0.06	0.67	0.08
B02082.AE-B02082.AF	B02082.AE-B02082.AF	340	8	0.021	1.14	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
B02082.AF-B02082.AG	B02082.AF-B02082.AG	66	8	0.132	2.83	0.01	0.05	0.02	0.07	0.01	0.05	0.67	0.08
B02082.AG-B02082.A0	B02082.AG-B02082.A0	20	8	0.037	1.49	0.01	0.05	0.02	0.08	0.01	0.05	0.67	0.08
B02082.B0-B02082.C0	3331	209	8	0.072	2.09	0.01	0.05	0.02	0.07	0.01	0.05	0.67	0.08
B02082.C0-B02082.D0	3330	42	8	0.105	2.53	0.01	0.05	0.03	0.09	0.01	0.06	0.67	0.09
B02082.D0-B02082.E0	3329	253	8	0.027	1.28	0.01	0.06	0.03	0.09	0.01	0.06	0.67	0.10
B02082.E0-B02082.F0	3328	71	8	0.083	2.25	0.01	0.05	0.03	0.08	0.01	0.05	0.67	0.08
B02082.F0-B02082.G0	3327	108	8	0.102	2.49	0.01	0.05	0.03	0.08	0.01	0.05	0.67	0.09
B02082.G0-B02082.H0	3054	74	8	0.070	2.07	0.01	0.05	0.03	0.09	0.01	0.05	0.67	0.10
B02082.H0-B02082.M0	3053	53	8	0.048	1.72	0.01	0.08	0.03	0.13	0.01	0.08	0.67	0.14
B02082.I0-B02082.J0	3048	77	8	0.008	0.70	0.00	0.05	0.01	0.09	0.00	0.05	0.67	0.09
B02082.IA-B02082.IB	348	270	8	0.072	2.10	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.02
B02082.IB-B02082.IF	349	91	8	0.067	2.02	0.00	0.03	0.00	0.06	0.00	0.04	0.67	0.06
B02082.IC-B02082.ID	350	139	8	0.070	2.07	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B02082.ID-B02082.IE	920	122	8	0.094	2.39	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.04
B02082.IE-B02082.IF	921	75	8	0.012	0.87	0.00	0.04	0.00	0.06	0.00	0.04	0.67	0.07
B02082.IF-B02082.I0	922	48	8	0.010	0.78	0.00	0.05	0.01	0.08	0.00	0.05	0.67	0.08
B02082.J0-B02082.K0	3050	78	8	0.009	0.76	0.00	0.05	0.01	0.09	0.00	0.05	0.67	0.09
B02082.K0-B02082.L0	3051	78	8	0.009	0.76	0.00	0.05	0.01	0.09	0.00	0.05	0.67	0.09
B02082.L0-B02082.M0	3052	197	8	0.011	0.80	0.00	0.07	0.01	0.13	0.00	0.07	0.67	0.13
B02082.M0-B02082.N0	3334	287	8	0.012	0.86	0.02	0.08	0.05	0.15	0.01	0.08	0.67	0.16
B02082.N0-B02082.P0	3335	168	8	0.035	1.47	0.02	0.08	0.05	0.14	0.02	0.07	0.67	0.14
B02082.O0-B02082.P0	3337	114	8	0.017	1.02	0.00	0.05	0.00	0.08	0.00	0.05	0.67	0.08
B02082.P0-B02082.Q0	3336	89	8	0.036	1.48	0.02	0.07	0.06	0.13	0.02	0.07	0.67	0.13
B02082.Q0-B02082.R0	6870	89	8	0.071	2.08	0.02	0.06	0.06	0.12	0.02	0.06	0.67	0.12
B02082.R0-B02082.S0	6871	98	8	0.069	2.05	0.02	0.07	0.06	0.12	0.02	0.07	0.67	0.13
B02082.S0-B02082.T0	3338	95	8	0.046	1.68	0.02	0.09	0.06	0.16	0.02	0.08	0.67	0.16
B02082.T0-B02082.U0	3339	212	8	0.017	1.02	0.02	0.08	0.06	0.15	0.02	0.08	0.67	0.15

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B02082.U0-B02082.V0	3340	104	8	0.107	2.55	0.02	0.07	0.07	0.13	0.02	0.07	0.67	0.13
B02082.UA-B02082.UB	B02082.UA-B02082.UB	48	8	0.009	0.75	0.00	0.00	0.00	0.01	0.00	0.04	0.67	0.04
B02082.UB-B02082.U0	B02082.UB-B02082.U0	208	8	0.011	0.83	0.00	0.03	0.00	0.07	0.00	0.05	0.67	0.08
B02082.V0-B02082.W0	3341	234	8	0.037	1.49	0.02	0.08	0.07	0.16	0.02	0.09	0.67	0.17
B02082.W0-B02082.X0	3342	23	8	0.019	1.09	0.02	0.10	0.07	0.20	0.02	0.10	0.67	0.21
B02082.X0-B02082.Y0	3343	79	8	0.007	0.66	0.02	0.11	0.07	0.22	0.02	0.12	0.67	0.23
B02082.Y0-B02082.Z0	3358	38	8	0.009	0.74	0.02	0.16	0.07	0.39	0.02	0.25	0.67	0.47
B02082.Z0-B02082	3423	49	8	0.004	0.47	0.02	0.35	0.07	0.70	0.02	0.52	0.67	0.85
B02082-B02083	6156	251	12	0.007	1.94	0.45	0.33	1.16	0.57	0.76	0.45	1.00	0.67
B02083-B02084	6138	273	12	0.008	2.03	0.45	0.26	1.17	0.44	0.77	0.35	1.00	0.51
B02084-B02068	2964	118	12	0.073	6.23	0.46	0.22	1.22	0.38	0.80	0.30	1.00	0.43
B02085-B02084	3321	195	12	0.125	8.16	0.01	0.11	0.05	0.18	0.03	0.14	1.00	0.20
B02086-B02087	6122	359	8	0.018	1.06	0.00	0.06	0.00	0.07	0.00	0.07	0.67	0.07
B02087-B02088	6498	290	8	0.005	0.55	0.01	0.07	0.01	0.10	0.01	0.10	0.67	0.12
B02088-B02085	1845	245	12	0.039	4.54	0.01	0.03	0.04	0.06	0.03	0.05	1.00	0.07
B02089-B02088	1844	86	8	0.077	2.16	0.01	0.05	0.03	0.10	0.02	0.08	0.67	0.11
B02090-B02089	1843	270	8	0.076	2.16	0.01	0.04	0.03	0.08	0.02	0.07	0.67	0.10
B02091-B02090	1842	136	8	0.076	2.15	0.01	0.04	0.03	0.08	0.02	0.07	0.67	0.09
B02092-B02091	5896	184	8	0.050	1.74	0.00	0.04	0.02	0.08	0.02	0.07	0.67	0.09
B02093-B02092	1841	242	8	0.050	1.75	0.00	0.04	0.02	0.08	0.01	0.07	0.67	0.09
B02094-B02093	1840	156	8	0.029	1.32	0.00	0.04	0.02	0.08	0.01	0.07	0.67	0.09
B02095-B02094	1839	269	8	0.098	2.44	0.00	0.04	0.02	0.07	0.01	0.06	0.67	0.08
B02096-B02095	1838	39	8	0.076	2.15	0.00	0.03	0.02	0.06	0.01	0.05	0.67	0.07
B02097-B02096	1837	266	8	0.018	1.04	0.00	0.03	0.01	0.07	0.01	0.06	0.67	0.08
B02098-B02097	1836	348	8	0.021	1.13	0.00	0.04	0.01	0.07	0.01	0.06	0.67	0.08
B02099-B02098	186	174	8	0.043	1.61	0.00	0.03	0.01	0.05	0.00	0.05	0.67	0.06
B02100-B02099	187	159	8	0.010	0.80	0.00	0.02	0.00	0.04	0.00	0.05	0.67	0.06
B02101-B02100	1835	226	8	0.003	0.44	0.00	0.02	0.00	0.03	0.00	0.05	0.67	0.05
B03001-B03002	6481	300	8	0.004	0.49	0.01	0.10	0.01	0.11	0.01	0.10	0.67	0.10
B03002-B03003	4479	305	8	0.004	0.49	0.01	0.10	0.02	0.11	0.01	0.09	0.67	0.10
B03003-B03004	6477	429	8	0.032	1.39	0.01	0.09	0.02	0.11	0.01	0.11	0.67	0.13
B03004-B03010	6260	57	8	0.005	0.54	0.01	0.09	0.02	0.12	0.02	0.12	0.67	0.14
B03005-B03006	5661	131	8	0.050	1.74	0.00	0.02	0.00	0.03	0.00	0.01	0.67	0.02
B03006-B03007	6113	119	8	0.050	1.75	0.00	0.02	0.00	0.03	0.00	0.01	0.67	0.02
B03007-B03008	2417	167	8	0.114	2.64	0.00	0.03	0.00	0.05	0.00	0.01	0.67	0.04
B03008-B03009	4769	165	8	0.023	1.17	0.00	0.04	0.01	0.05	0.00	0.01	0.67	0.05
B03009-B03010	5760	187	8	0.062	1.94	0.00	0.05	0.01	0.07	0.00	0.04	0.67	0.07
B03010-B03011.C0	7820	152	8	0.060	1.91	0.02	0.07	0.03	0.10	0.02	0.08	0.67	0.11
B03011.A0-B03011.B0	7835	75	8	0.115	2.65	0.00	0.01	0.00	0.01	0.00	0.00	0.67	0.01
B03011.B0-B03011.C0	7868	300	8	0.090	2.34	0.00	0.04	0.00	0.06	0.00	0.04	0.67	0.06
B03011.C0-B03011	7821	125	8	0.067	2.03	0.02	0.07	0.04	0.10	0.02	0.08	0.67	0.11
B03011-B03014	3016	188	8	0.065	1.99	0.02	0.07	0.04	0.11	0.02	0.08	0.67	0.12
B03013-B03014	4190	413	6	0.090	1.09	0.00	0.06	0.00	0.09	0.00	0.06	0.50	0.08
B03014-B03024	5743	387	8	0.049	1.72	0.02	0.13	0.05	0.22	0.02	0.16	0.67	0.24
B03015-B03016	4189	175	8	0.103	2.51	0.00	0.02	0.00	0.03	0.00	0.01	0.67	0.02
B03016-B03017	1107	166	8	0.018	1.06	0.00	0.03	0.00	0.04	0.00	0.01	0.67	0.03
B03017-B03018	5733	274	8	0.143	2.95	0.00	0.03	0.01	0.05	0.00	0.02	0.67	0.04
B03018-B03019	5716	321	8	0.028	1.30	0.00	0.04	0.01	0.07	0.00	0.03	0.67	0.07
B03019-B03021	4833	184	8	0.019	1.08	0.00	0.05	0.01	0.09	0.00	0.06	0.67	0.09
B03020-B03021	605	240	8	0.144	2.97	0.00	0.03	0.00	0.05	0.01	0.07	0.67	0.08
B03021-B03022	4816	74	8	0.021	1.12	0.01	0.05	0.02	0.09	0.02	0.08	0.67	0.10
B03022-B03023	5974	343	8	0.035	1.46	0.01	0.05	0.02	0.08	0.02	0.07	0.67	0.09
B03023-B03024	5868	352	8	0.092	2.37	0.01	0.11	0.03	0.19	0.03	0.15	0.67	0.22
B03024-B03025	5852	373	8	0.004	0.48	0.03	0.13	0.08	0.22	0.04	0.16	0.67	0.25
B03025-B03026	5395	349	8	0.109	2.58	0.03	0.13	0.09	0.21	0.05	0.15	0.67	0.24
B03026-B03027	5844	282	8	0.004	0.48	0.03	0.17	0.09	0.30	0.05	0.21	0.67	0.34
B03027-B03028	5831	322	8	0.004	0.51	0.03	0.17	0.10	0.30	0.05	0.22	0.67	0.34
B03028-B03067	5817	349	8	0.004	0.48	0.03	0.21	0.10	0.40	0.05	0.25	0.67	0.44
B03029-B03030	5641	322	8	0.105	2.53	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
B03030-B03031	5624	65	8	0.011	0.81	0.00	0.04	0.01	0.07	0.00	0.06	0.67	0.07
B03031-B03034	1015	230	8	0.005	0.54	0.00	0.06	0.01	0.10	0.00	0.09	0.67	0.11
B03032-B03033	595	200	8	0.105	2.54	0.00	0.01	0.00	0.02	0.01	0.04	0.67	0.04
B03033-B03034	5813	102	8	0.145	2.97	0.00	0.04	0.00	0.07	0.01	0.07	0.67	0.09
B03034-B03035	5796	255	8	0.006	0.58	0.00	0.05	0.01	0.09	0.01	0.08	0.67	0.10
B03035-B03036	5781	358	8	0.125	2.76	0.00	0.03	0.02	0.05	0.01	0.04	0.67	0.06
B03036-B03043.A0	4723	50	8	0.435	5.15	0.01	0.51	0.02	0.52	0.01	0.52	0.67	0.53
B03038-B03039	1280	340	8	0.004	0.52	0.00	0.01	0.00	0.03	0.00	0.02	0.67	0.04
B03039-B03040	1262	373	8	0.004	0.49	0.00	0.02	0.00	0.08	0.00	0.02	0.67	0.08
B03040-B03041	5695	298	8	0.004	0.48	0.00	0.03	0.01	0.10	0.00	0.02	0.67	0.10
B03041-B03042	4811	290	8	0.004	0.52	0.00	0.03	0.01	0.09	0.00	0.02	0.67	0.09
B03042-B03043.A0	7295	45	8	0.057	1.86	0.00	0.51	0.02	0.53	0.00	0.51	0.67	0.53
B03043.A0-B03043	7299	356	8	0.003	0.41	0.01	0.53	0.04	0.56	0.01	0.54	0.67	0.56
B03043-B03044	4978	242	8	0.034	1.45	0.01	0.05	0.04	0.12	0.01	0.07	0.67	0.12
B03044-B03047	4547	105	8	0.048	1.72	0.01	0.05	0.05	0.12	0.01	0.07	0.67	0.12
B03045-B03046	4178	5	8	1.440	9.37	0.00	0.02	0.00	0.02	0.00	0.00	0.67	0.00
B03046-B03047	7296	215	8	0.065	2.00	0.00	0.04	0.00	0.07	0.00	0.03	0.67	0.06
B03047-B03048	5504	244	8	0.048	1.72	0.01	0.07	0.05	0.14	0.01	0.08	0.67	0.15
B03048-B03049	5495	428	8	0.017	1.02	0.01	0.07	0.05	0.14	0.02	0.07	0.67	0.14
B03049-B03062	5494	267	8	0.112	2.61	0.01	0.11	0.06	0.22	0.02	0.12	0.67	0.22
B03050-B03051	5493	166	8	0.005	0.56	0.00	0.03	0.00	0.03	0.00	0.00	0.67	0.01
B03051-B03053	3037	271	8	0.082	2.24	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B03052-B03053	3456	224	8	0.002	0.34	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
B03053-B03060.A0	3462	115	8	0.063	1.97	0.00	0.03	0.01	0.05	0.01	0.05	0.67	0.06
B03054-B03055	2281	15	8	0.020	1.10	0.00	0.02	0.00	0.02	0.00	0.00	0.67	0.00
B03055-B03056	5492	130	8	0.042	1.61	0.00	0.02	0.00	0.03	0.00	0.00	0.67	0.01
B03056-B03059	5491	279	8	0.088	2.32	0.00	0.03	0.00	0.04	0.00	0.00	0.67	0.03
B03057-B03058	2275	15	8	0.020	1.10	0.00	0.03	0.00	0.03	0.00	0.00	0.67	0.00
B03058-B03059	5490	130	8	0.039	1.53	0.00	0.03	0.00	0.04	0.00	0.00	0.67	0.02
B03059-B03060	5489	228	8	0.064	1.97	0.01	0.07	0.01	0.11	0.00	0.05	0.67	0.10
B03060.A0-B03060	3463	123	8	0.010	0.79	0.00	0.08	0.01	0.12	0.01	0.09	0.67	0.13
B03060-B03061	5488	398	8	0.005	0.57	0.01	0.08	0.03	0.13	0.01	0.08	0.67	0.13
B03061-B03062	5486	379	8	0.049	1.73	0.01	0.12	0.03	0.21	0.01	0.12	0.67	0.21
B03062-B03063	5485	350	8	0.004	0.51	0.03	0.13	0.10	0.24	0.03	0.13	0.67	0.24
B03063-B03066	5484	185	8	0.085	2.27	0.03	0.07	0.11	0.14	0.03	0.07	0.67	0.14
B03064-B03065	5483	295	8	0.085	2.28	0.00	0.04	0.00	0.04	0.00	0.00	0.67	0.02
B03065-B03066	5482	252	8	0.014	0.91	0.00	0.06	0.01	0.09	0.00	0.03	0.67	0.08
B03066-B03067	5481	128	8	0.211	3.58	0.03	0.16	0.12	0.31	0.03	0.17	0.67	0.32
B03067-B03068	5480	349	8	0.004	0.48	0.06	0.24	0.22	0.47	0.08	0.27	0.67	0.50
B03068-B03077	5479	335	8	0.005	0.57	0.06	0.23	0.23	0.44	0.08	0.26	0.67	0.46
B03069-B03070	5478	234	8	0.125	2.76	0.00	0.03	0.00	0.03	0.00	0.00	0.67	0.02
B03070-B03071	5477	298	8	0.007	0.64	0.00	0.04	0.00	0.06	0.00	0.00	0.67	0.05
B03071-B03072	4167	194	8	0.026	1.26	0.00	0.04	0.01	0.06	0.00	0.00	0.67	0.05
B03072-B03075	2366	261	8	0.081	2.22	0.00	0.04	0.01	0.07	0.00	0.01	0.67	0.06
B03073-B03074	5476	241	8	0.118	2.69	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.02
B03074-B03075	4948	163	8	0.063	1.95	0.00	0.03	0.00	0.06	0.00	0.02	0.67	0.06
B03075-B03076	4947	215	8	0.024	1.20	0.01	0.06	0.02	0.11	0.00	0.05	0.67	0.11
B03076-B03077	4946	318	8	0.005	0.57	0.01	0.15	0.02	0.28	0.01	0.17	0.67	0.29

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B03077-B03078	4945	20	8	0.004	0.52	0.07	0.18	0.26	0.34	0.09	0.20	0.67	0.35
B03078-B03080	4944	237	8	0.066	2.01	0.07	0.14	0.26	0.26	0.09	0.15	0.67	0.27
B03079-B03080	4942	331	8	0.025	1.23	0.00	0.08	0.00	0.15	0.00	0.09	0.67	0.16
B03080-B03094	4941	246	8	0.042	1.61	0.07	0.22	0.27	0.39	0.09	0.24	0.67	0.41
B03081-B03082	4940	350	8	0.092	2.37	0.00	0.05	0.00	0.05	0.00	0.00	0.67	0.02
B03082-B03083	4939	205	8	0.054	1.81	0.03	0.09	0.03	0.09	0.00	0.00	0.67	0.04
B03083-B03084	4938	290	8	0.043	1.61	0.03	0.10	0.03	0.11	0.00	0.05	0.67	0.07
B03084-B03085	4937	276	8	0.022	1.15	0.03	0.10	0.03	0.12	0.02	0.09	0.67	0.10
B03085-B03086	4936	198	8	0.030	1.35	0.03	0.11	0.04	0.12	0.02	0.09	0.67	0.11
B03086-B03087	4935	252	8	0.020	1.11	0.03	0.10	0.04	0.12	0.02	0.10	0.67	0.11
B03087-B03088	4083	316	8	0.036	1.49	0.03	0.11	0.04	0.13	0.02	0.09	0.67	0.11
B03088-B03089	4158	151	8	0.032	1.40	0.05	0.14	0.06	0.15	0.02	0.10	0.67	0.12
B03089-B03090	4934	179	8	0.024	1.21	0.05	0.13	0.07	0.15	0.02	0.09	0.67	0.12
B03090-B03091	4070	204	8	0.043	1.61	0.05	0.13	0.07	0.16	0.02	0.11	0.67	0.14
B03091-B03092	4933	241	8	0.021	1.14	0.05	0.13	0.07	0.16	0.05	0.13	0.67	0.15
B03092-B03093	4932	207	8	0.041	1.58	0.05	0.13	0.07	0.16	0.05	0.13	0.67	0.15
B03093-B03094	4931	353	8	0.025	1.22	0.05	0.21	0.07	0.33	0.05	0.23	0.67	0.35
B03094-B03173	4930	156	8	0.007	0.67	0.12	0.37	0.34	0.60	0.14	0.39	0.67	0.63
B03107-B03108	3885	150	6	0.006	0.28	0.00	0.06	0.00	0.07	0.00	0.04	0.50	0.04
B03108-B03110	4919	239	8	0.004	0.49	0.00	0.07	0.00	0.08	0.00	0.05	0.67	0.07
B03109-B03110	3900	197	6	0.025	0.58	0.00	0.07	0.00	0.09	0.00	0.04	0.50	0.06
B03110-B03112	4918	288	8	0.004	0.49	0.01	0.10	0.01	0.12	0.00	0.05	0.67	0.10
B03111-B03112	3909	212	6	0.023	0.55	0.00	0.10	0.00	0.12	0.00	0.03	0.50	0.07
B03112-B03113	4917	256	8	0.004	0.50	0.01	0.10	0.02	0.13	0.00	0.08	0.67	0.12
B03113-B03114	4916	262	8	0.013	0.88	0.01	0.08	0.02	0.11	0.02	0.10	0.67	0.13
B03114-B03172	4915	271	8	0.013	0.88	0.01	0.20	0.03	0.28	0.02	0.21	0.67	0.28
B03115-B03117	741	265	8	0.008	0.70	0.00	0.04	0.00	0.05	0.01	0.06	0.67	0.06
B03116-B03117	744	300	8	0.034	1.44	0.00	0.03	0.00	0.04	0.00	0.02	0.67	0.02
B03117-B03118	4914	220	8	0.102	2.50	0.01	0.04	0.01	0.05	0.01	0.04	0.67	0.05
B03118-B03122	4913	217	8	0.102	2.50	0.01	0.07	0.02	0.10	0.01	0.06	0.67	0.09
B03119-B03121	3458	190	8	0.032	1.40	0.00	0.03	0.00	0.04	0.00	0.00	0.67	0.01
B03120-B03121	742	100	8	0.032	1.40	0.00	0.02	0.00	0.03	0.00	0.00	0.67	0.01
B03121-B03122	4912	231	8	0.072	2.09	0.00	0.07	0.01	0.09	0.00	0.04	0.67	0.08
B03122-B03123	5475	63	8	0.008	0.71	0.01	0.08	0.03	0.11	0.01	0.06	0.67	0.10
B03123-B03124	5474	162	8	0.140	2.92	0.02	0.07	0.03	0.08	0.01	0.05	0.67	0.07
B03124-B03125	5473	273	8	0.107	2.55	0.03	0.11	0.05	0.13	0.02	0.08	0.67	0.11
B03125-B03127	5472	113	8	0.012	0.86	0.04	0.28	0.05	0.33	0.02	0.21	0.67	0.29
B03126-B03127	5471	301	8	0.005	0.58	0.00	0.21	0.00	0.25	0.00	0.16	0.67	0.22
B03127-B03128	5470	238	8	0.000	0.02	0.04	0.28	0.05	0.34	0.02	0.21	0.67	0.30
B03128-B03129	5469	277	8	0.013	0.90	0.04	0.12	0.06	0.16	0.02	0.11	0.67	0.15
B03129-B03130	5468	312	8	0.044	1.64	0.04	0.10	0.06	0.13	0.06	0.12	0.67	0.15
B03130-B03131	5467	333	8	0.060	1.91	0.04	0.10	0.06	0.13	0.06	0.12	0.67	0.15
B03131-B03166.M0	7622	353	8	0.042	1.61	0.04	0.17	0.07	0.23	0.06	0.17	0.67	0.24
B03132-B03133	746	87	8	0.022	1.16	0.00	0.03	0.00	0.03	0.00	0.00	0.67	0.01
B03133-B03134	5466	350	8	0.060	1.91	0.00	0.04	0.00	0.04	0.00	0.00	0.67	0.03
B03134-B03135	5465	194	8	0.085	2.28	0.01	0.04	0.01	0.05	0.00	0.01	0.67	0.04
B03135-B03136	5464	316	8	0.089	2.33	0.01	0.05	0.01	0.06	0.00	0.01	0.67	0.05
B03136-B03137	5463	350	8	0.088	2.32	0.01	0.07	0.02	0.08	0.00	0.01	0.67	0.06
B03137-B03140	5461	368	8	0.031	1.38	0.02	0.07	0.03	0.09	0.00	0.01	0.67	0.07
B03138-B03139	2061	139	8	0.036	1.48	0.00	0.02	0.00	0.03	0.00	0.00	0.67	0.01
B03139-B03140	5460	85	8	0.031	1.38	0.00	0.04	0.00	0.06	0.00	0.00	0.67	0.04
B03140-B03166.C0	5459	143	8	0.143	2.95	0.02	0.08	0.04	0.11	0.00	0.04	0.67	0.09
B03144-B03145	745	249	8	0.106	2.54	0.00	0.02	0.00	0.02	0.00	0.00	0.67	0.01
B03145-B03146	5457	210	8	0.107	2.56	0.00	0.03	0.01	0.04	0.00	0.02	0.67	0.04
B03146-B03150	5456	344	8	0.059	1.90	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.07
B03147-B03149	743	135	8	0.036	1.47	0.00	0.03	0.00	0.04	0.00	0.02	0.67	0.02
B03148-B03149	3457	220	8	0.016	0.99	0.00	0.04	0.00	0.04	0.01	0.05	0.67	0.05
B03149-B03150	5455	361	8	0.089	2.33	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.06
B03150-B03151	5454	270	8	0.059	1.89	0.02	0.06	0.03	0.09	0.01	0.06	0.67	0.08
B03151-B03156	5453	348	8	0.079	2.20	0.02	0.08	0.03	0.10	0.01	0.06	0.67	0.09
B03152-B03153	747	155	8	0.173	3.25	0.01	0.04	0.01	0.04	0.00	0.03	0.67	0.03
B03153-B03155	5452	365	8	0.081	2.22	0.01	0.05	0.01	0.05	0.01	0.04	0.67	0.05
B03154-B03155	5451	161	8	0.124	2.76	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.03
B03155-B03156	5450	120	8	0.091	2.35	0.01	0.08	0.02	0.09	0.01	0.06	0.67	0.08
B03156-B03157	5449	183	8	0.092	2.36	0.05	0.13	0.08	0.15	0.02	0.08	0.67	0.12
B03157-B03166.F0	8283	123	8	0.020	1.11	0.05	0.14	0.08	0.17	0.02	0.09	0.67	0.14
B03161.A0-B03161.B0	8058	75	8	0.148	3.01	0.00	0.00	0.00	0.01	0.01	0.03	0.67	0.03
B03161.B0-B03161.C0	8059	109	8	0.163	3.16	0.00	0.03	0.00	0.04	0.01	0.03	0.67	0.04
B03161.C0-B03161.D0	8060	122	8	0.094	2.40	0.02	0.06	0.02	0.07	0.01	0.05	0.67	0.05
B03161.D0-B03166.G0	8061	102	8	0.052	1.78	0.02	0.15	0.02	0.19	0.01	0.12	0.67	0.17
B03166.A0-B03166.B0	8313	290	8	0.055	1.83	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
B03166.B0-B03166.D0	8304	128	8	0.034	1.45	0.00	0.06	0.00	0.08	0.00	0.05	0.67	0.08
B03166.C0-B03166.D0	8305	37	8	0.012	0.85	0.02	0.10	0.04	0.14	0.01	0.07	0.67	0.12
B03166.D0-B03166.G0	8306	332	8	0.030	1.35	0.02	0.17	0.04	0.21	0.01	0.12	0.67	0.19
B03166.F0-B03166.G0	5448	145	8	0.037	1.50	0.05	0.19	0.08	0.23	0.02	0.13	0.67	0.20
B03166.G0-B03166.H0	8312	250	8	0.008	0.71	0.09	0.25	0.14	0.31	0.04	0.18	0.67	0.28
B03166.H0-B03166.I0	8311	275	8	0.008	0.71	0.09	0.23	0.15	0.29	0.05	0.16	0.67	0.26
B03166.I0-B03166.J0	5415	155	8	0.022	1.16	0.09	0.17	0.15	0.22	0.05	0.13	0.67	0.20
B03166.J0-B03166.K0	8310	90	8	0.064	1.98	0.09	0.17	0.15	0.21	0.05	0.12	0.67	0.20
B03166.K0-B03166.L0	5414	209	8	0.023	1.18	0.09	0.20	0.15	0.26	0.05	0.15	0.67	0.24
B03166.L0-B03166.M0	5413	203	8	0.013	0.88	0.09	0.23	0.15	0.30	0.05	0.19	0.67	0.29
B03166.M0-B03167	5412	410	8	0.017	1.01	0.13	0.25	0.23	0.33	0.10	0.23	0.67	0.33
B03167-B03168	5411	334	8	0.017	1.01	0.14	0.31	0.24	0.42	0.13	0.30	0.67	0.43
B03168-B03169	5113	189	8	0.004	0.48	0.14	0.38	0.25	0.51	0.13	0.36	0.67	0.52
B03169-B03170	5112	164	8	0.004	0.50	0.14	0.31	0.25	0.41	0.13	0.29	0.67	0.41
B03170-B03171	5111	280	8	0.029	1.32	0.16	0.24	0.27	0.32	0.13	0.22	0.67	0.31
B03171-B03172	5110	215	8	0.023	1.19	0.16	0.29	0.27	0.38	0.15	0.28	0.67	0.38
B03172-B03173	5109	506	8	0.010	0.78	0.18	0.39	0.30	0.57	0.17	0.39	0.67	0.58
B03173-B03174	2004	353	10	0.006	1.08	0.30	0.42	0.65	0.62	0.31	0.43	0.83	0.64
B03174-B03176	2003	66	10	0.000	0.06	0.30	0.35	0.66	0.50	0.31	0.35	0.83	0.52
B03175-B03176	1199	165	8	0.039	1.54	0.03	0.63	0.03	0.70	0.03	0.64	0.67	0.71
B03176-B03178	2002	276	10	0.045	2.99	0.30	0.28	0.66	0.43	0.32	0.29	0.83	0.44
B03177-B03178	1736	60	8	0.002	0.35	0.00	0.34	0.00	0.57	0.00	0.35	0.67	0.60
B03178-B03181	2001	296	10	0.008	1.24	0.30	0.32	0.67	0.50	0.32	0.33	0.83	0.51
B03179-B03180	4063	167	6	0.084	1.05	0.00	0.02	0.00	0.03	0.00	0.03	0.50	0.03
B03180-B03181	2000	201	8	0.054	1.81	0.00	0.20	0.00	0.30	0.00	0.21	0.67	0.31
B03181-B03182	1999	271	10	0.013	1.63	0.31	0.28	0.68	0.42	0.33	0.29	0.83	0.44
B03182-B03183	1998	253	10	0.022	2.12	0.31	0.26	0.68	0.39	0.34	0.27	0.83	0.40
B03183-B02078	3643	253	10	0.024	2.17	0.31	0.31	0.68	0.50	0.34	0.38	0.83	0.56
B04001-B04002	2877	71	8	0.009	0.74	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.01
B04002-B04003	1358	207	8	0.064	1.98	0.00	0.02	0.00	0.03	0.00	0.01	0.67	0.02
B04003-B04004	1335	214	8	0.079	2.20	0.00	0.02	0.00	0.04	0.00	0.02	0.67	0.04
B04004-B04006	2878	461	8	0.059	1.89	0.00	0.03	0.01	0.06	0.00	0.03	0.67	0.06
B04005.C0-B04005	B04005.C0-B04005	85	8	0.146	2.99	0.00	0.01	0.00	0.01	0.00	0.02	0.67	0.02
B04005-B04006	2879	168	8	0.117	2.67	0.00	0.02	0.00	0.05	0.00	0.03	0.67	0.05
B04006-B04008	2880	286	8	0.038	1.53	0.00	0.05	0.02	0.11	0.00	0.06	0.67	0.12
B04007-B04008	3460	252	8	0.056	1.85	0.00	0.04	0.00	0.08	0.00	0.04	0.67	0.08

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B04008-B04009.F0	8266	85	8	0.003	0.44	0.00	0.07	0.02	0.15	0.01	0.08	0.67	0.15
B04009.A0-B04009.B0	8268	15	8	0.010	0.78	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.01
B04009.B0-B04009.D0	8269	173	8	0.046	1.68	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.02
B04009.C0-B04009.D0	8270	25	8	0.010	0.78	0.00	0.01	0.00	0.02	0.00	0.03	0.67	0.03
B04009.D0-B04009.E0	8271	139	8	0.109	2.57	0.00	0.01	0.00	0.03	0.00	0.02	0.67	0.03
B04009.E0-B04009.F0	8272	38	8	0.191	3.41	0.00	0.04	0.00	0.09	0.00	0.05	0.67	0.09
B04009.F0-B04009	8267	124	8	0.008	0.68	0.00	0.05	0.03	0.12	0.01	0.06	0.67	0.12
B04009-B04032	1334	336	8	0.042	1.60	0.01	0.04	0.03	0.10	0.01	0.06	0.67	0.10
B04030.B0-B04030	3835	98	8	0.004	0.49	0.00	0.01	0.00	0.02	0.01	0.11	0.67	0.11
B04030-B04032	2120	403	8	0.004	0.51	0.00	0.03	0.00	0.07	0.01	0.09	0.67	0.10
B04032-B04033	1330	171	8	0.065	1.99	0.01	0.05	0.04	0.11	0.02	0.08	0.67	0.12
B04033-B04036	1329	137	8	0.025	1.22	0.01	0.05	0.04	0.13	0.02	0.09	0.67	0.14
B04034-B04035	2128	236	8	0.006	0.58	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
B04035-B04036	1328	247	8	0.037	1.50	0.00	0.04	0.00	0.08	0.00	0.06	0.67	0.09
B04036-B04037.E0	B04036-B04037.E0	390	8	0.034	1.44	0.01	0.05	0.05	0.13	0.02	0.08	0.67	0.14
B04037.A0-B04037.B0	B04037.A0-B04037.B0	81	8	0.011	1.07	0.00	0.00	0.00	0.01	0.00	0.00	0.67	0.01
B04037.B0-B04037.C0	B04037.B0-B04037.C0	270	8	0.012	0.84	0.00	0.00	0.00	0.03	0.00	0.01	0.67	0.03
B04037.C0-B04037.D0	B04037.C0-B04037.D0	296	8	0.056	1.84	0.00	0.01	0.00	0.03	0.00	0.01	0.67	0.04
B04037.D0-B04037.E0	B04037.D0-B04037.E0	77	8	0.238	3.81	0.00	0.03	0.01	0.08	0.00	0.04	0.67	0.09
B04037.E0-B04037	B04037.E0-B04037	27	8	0.055	1.83	0.01	0.05	0.06	0.14	0.02	0.08	0.67	0.15
B04037-B04038	1325	370	8	0.036	1.49	0.01	0.06	0.06	0.15	0.02	0.10	0.67	0.17
B04038-B04039	1324	403	8	0.025	1.23	0.01	0.08	0.07	0.19	0.04	0.14	0.67	0.23
B04039-B04041	1323	298	8	0.011	0.83	0.02	0.09	0.08	0.19	0.04	0.14	0.67	0.22
B04040-B04041	2129	160	8	0.019	1.08	0.00	0.05	0.00	0.09	0.00	0.07	0.67	0.10
B04041-B04042	1321	234	8	0.038	1.53	0.02	0.08	0.08	0.16	0.04	0.12	0.67	0.19
B04042-B04043	3479	190	8	0.031	1.37	0.02	0.09	0.09	0.19	0.04	0.14	0.67	0.22
B04043-B04044	3480	259	8	0.012	0.87	0.02	0.10	0.09	0.22	0.04	0.16	0.67	0.25
B04044-B04045	1318	209	8	0.012	0.87	0.02	0.10	0.09	0.22	0.05	0.16	0.67	0.26
B04045-B04046	3481	108	8	0.012	0.87	0.02	0.10	0.10	0.23	0.05	0.17	0.67	0.26
B04046-B04058	3109	149	8	0.012	0.86	0.02	0.13	0.10	0.26	0.05	0.22	0.67	0.32
B04047-B04048	1927	280	8	0.052	1.78	0.00	0.00	0.00	0.02	0.00	0.05	0.67	0.05
B04048-B04052	1317	238	10	0.012	1.57	0.00	0.01	0.00	0.04	0.01	0.07	0.83	0.08
B04051-B04052	1933	200	8	0.017	1.01	0.00	0.02	0.00	0.04	0.01	0.07	0.67	0.08
B04052-B04055	1316	205	10	0.012	1.57	0.00	0.05	0.01	0.10	0.02	0.10	0.83	0.13
B04053-B04054	1935	225	8	0.001	0.24	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
B04054.A0-B04054.B0	4929	323	8	0.026	1.27	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
B04054.B0-B04054.C0	4928	309	8	0.039	1.54	0.00	0.03	0.00	0.05	0.01	0.05	0.67	0.06
B04054.C0-B04054.G0	4927	307	8	0.064	1.98	0.01	0.05	0.01	0.07	0.01	0.08	0.67	0.10
B04054.D0-B04054.E0	4926	116	8	0.065	1.99	0.00	0.00	0.00	0.01	0.02	0.08	0.67	0.08
B04054.E0-B04054.F0	4923	271	8	0.068	2.04	0.00	0.01	0.00	0.03	0.03	0.08	0.67	0.09
B04054.F0-B04054.G0	4922	381	8	0.074	2.13	0.00	0.03	0.00	0.06	0.03	0.09	0.67	0.11
B04054.G0-B04054.H0	4921	212	8	0.046	1.67	0.01	0.07	0.03	0.11	0.04	0.13	0.67	0.16
B04054.H0-B04054.IC	8178	164	8	0.011	0.84	0.01	0.10	0.03	0.15	0.04	0.16	0.67	0.21
B04054.I0-B04054.K0	4920	180	8	0.010	0.78	0.02	0.12	0.04	0.19	0.04	0.19	0.67	0.25
B04054.IA-B04054.IB	8176	237	8	0.026	1.26	0.00	0.04	0.00	0.04	0.00	0.02	0.67	0.03
B04054.IB-B04054.IC	8177	373	8	0.023	1.18	0.00	0.08	0.01	0.11	0.00	0.11	0.67	0.14
B04054.IC-B04054.I0	8179	67	8	0.007	0.64	0.02	0.11	0.04	0.17	0.04	0.17	0.67	0.22
B04054.J0-B04054.K0	3867	47	6	0.010	0.36	0.00	0.10	0.00	0.16	0.00	0.16	0.50	0.20
B04054.K0-B04054.L0	3850	366	8	0.004	0.48	0.02	0.12	0.05	0.20	0.04	0.19	0.67	0.25
B04054.L0-B04054	3860	300	8	0.016	1.00	0.02	0.08	0.05	0.13	0.05	0.12	0.67	0.16
B04054-B04055	1315	30	8	0.227	3.72	0.02	0.07	0.06	0.13	0.05	0.12	0.67	0.16
B04055-B04056	1314	242	10	0.016	1.81	0.02	0.07	0.07	0.13	0.06	0.14	0.83	0.18
B04056-B04057	1313	297	10	0.020	2.01	0.02	0.08	0.07	0.15	0.09	0.17	0.83	0.21
B04057-B04058	1312	130	10	0.008	1.24	0.02	0.10	0.08	0.20	0.10	0.20	0.83	0.27
B04058-B04089	25	103	10	0.011	1.46	0.04	0.23	0.18	0.41	0.15	0.42	0.83	0.54
B04059-B04060	3560	155	8	0.003	0.46	0.00	0.04	0.00	0.07	0.01	0.15	0.67	0.15
B04060-B04065	1310	109	8	0.000	0.02	0.00	0.05	0.00	0.10	0.01	0.15	0.67	0.16
B04061-B04065	3517	273	6	0.003	0.18	0.00	0.06	0.00	0.07	0.00	0.10	0.50	0.10
B04062-B04063	1936	195	8	0.005	0.54	0.00	0.03	0.00	0.03	0.01	0.07	0.67	0.07
B04063-B04064	1309	273	8	0.101	2.48	0.00	0.02	0.00	0.03	0.01	0.06	0.67	0.06
B04064-B04065	44	116	8	0.086	2.29	0.00	0.03	0.01	0.05	0.02	0.08	0.67	0.09
B04065-B04066	43	110	8	0.045	1.65	0.00	0.06	0.02	0.11	0.03	0.17	0.67	0.18
B04066-B04067	87	257	8	0.002	0.35	0.00	0.08	0.02	0.15	0.04	0.22	0.67	0.24
B04067-B04068	42	253	8	0.005	0.53	0.00	0.06	0.02	0.13	0.04	0.18	0.67	0.19
B04068-B04070	41	76	8	0.012	0.87	0.01	0.06	0.02	0.12	0.05	0.17	0.67	0.19
B04069-B04070	3602	167	8	0.199	3.49	0.00	0.04	0.00	0.06	0.02	0.12	0.67	0.13
B04070-B04071	40	35	8	0.013	0.91	0.01	0.06	0.03	0.12	0.07	0.19	0.67	0.20
B04071-B04072	39	179	8	0.018	1.04	0.01	0.05	0.03	0.10	0.07	0.16	0.67	0.17
B04072-B04074	38	322	8	0.064	1.97	0.01	0.04	0.03	0.09	0.09	0.14	0.67	0.15
B04073-B04074	3121	250	8	0.002	0.35	0.00	0.04	0.00	0.06	0.00	0.11	0.67	0.11
B04074-B04075	37	280	8	0.092	2.37	0.01	0.05	0.04	0.10	0.10	0.15	0.67	0.16
B04075-B04079	36	255	8	0.049	1.73	0.01	0.06	0.04	0.11	0.10	0.17	0.67	0.18
B04076-B04078	3363	270	6	0.002	0.15	0.00	0.08	0.00	0.09	0.01	0.19	0.50	0.19
B04077-B04078	3122	92	6	0.002	0.17	0.00	0.08	0.00	0.09	0.01	0.18	0.50	0.18
B04078-B04079	35	353	6	0.002	0.16	0.00	0.09	0.01	0.14	0.02	0.24	0.50	0.24
B04079-B04081	34	191	8	0.049	1.73	0.01	0.06	0.05	0.12	0.12	0.18	0.67	0.19
B04080-B04081	33	132	6	0.002	0.16	0.00	0.07	0.00	0.10	0.00	0.17	0.50	0.18
B04081-B04083	32	228	8	0.068	2.04	0.01	0.07	0.06	0.13	0.13	0.19	0.67	0.21
B04082-B04083	2051	196	6	0.071	0.97	0.00	0.05	0.00	0.10	0.01	0.17	0.50	0.18
B04083-B04088	31	208	8	0.031	1.38	0.01	0.07	0.06	0.14	0.14	0.21	0.67	0.23
B04084-B04085	30	103	8	0.010	0.78	0.00	0.02	0.00	0.02	0.00	0.05	0.67	0.05
B04085-B04086	29	192	8	0.080	2.21	0.00	0.02	0.00	0.03	0.01	0.06	0.67	0.06
B04086-B04087	28	215	8	0.071	2.09	0.00	0.03	0.01	0.04	0.02	0.07	0.67	0.07
B04087-B04088	27	351	8	0.088	2.32	0.00	0.05	0.01	0.09	0.02	0.14	0.67	0.15
B04088-B04089	26	100	8	0.049	1.72	0.02	0.25	0.08	0.44	0.16	0.49	0.67	0.60
B04089-B04092	927	109	10	0.000	0.04	0.06	0.23	0.26	0.42	0.29	0.44	0.83	0.56
B04090-B04091	24	423	8	0.030	1.35	0.00	0.03	0.00	0.03	0.01	0.06	0.67	0.06
B04091-B04092	23	305	8	0.099	2.45	0.00	0.09	0.01	0.17	0.02	0.20	0.67	0.24
B04092-B04093.B0	351	173	10	0.021	2.06	0.06	0.15	0.27	0.27	0.31	0.28	0.83	0.36
B04093.A0-B04093.B0	8300	75	8	0.012	0.86	0.04	0.18	0.04	0.25	0.01	0.22	0.67	0.27
B04093.B0-B04093	8299	125	10	0.014	1.67	0.11	0.17	0.31	0.29	0.32	0.30	0.83	0.39
B04093-B04095	347	336	10	0.013	1.60	0.11	0.18	0.31	0.30	0.33	0.31	0.83	0.40
B04094-B04095	346	299	6	0.002	0.16	0.00	0.18	0.00	0.28	0.01	0.34	0.50	0.40
B04095-B04097	345	241	10	0.013	1.60	0.11	0.17	0.32	0.29	0.34	0.30	0.83	0.39
B04096-B04097	3372	310	6	0.073	0.98	0.00	0.15	0.00	0.25	0.00	0.27	0.50	0.33
B04097-B04098	344	125	10	0.017	1.83	0.11	0.17	0.32	0.30	0.34	0.31	0.83	0.39
B04098-B04105.B0	22	138	10	0.012	1.57	0.11	0.18	0.33	0.31	0.34	0.32	0.83	0.40
B04099-B04100	19	360	8	0.100	2.47	0.00	0.02	0.00	0.03	0.01	0.05	0.67	0.05
B04100-B04101	3384	223	8	0.060	1.92	0.00	0.03	0.01	0.05	0.01	0.07	0.67	0.07
B04101-B04103	2680	336	8	0.027	1.27	0.00	0.04	0.01	0.06	0.01	0.08	0.67	0.08
B04102-B04103	2659	40	8	0.121	2.72	0.00	0.02	0.00	0.04	0.01	0.06	0.67	0.06
B04103-B04104	2667	230	8	0.052	1.79	0.00	0.03	0.01	0.06	0.02	0.08	0.67	0.09
B04104-B04105	2675	201	8	0.067	2.02	0.00	0.11	0.02	0.20	0.02	0.21	0.67	0.27
B04105.A0-B04105.B0	6869	249	8	0.008	0.69	0.01	0.61	0.01	0.69	0.04	0.70	0.67	0.75
B04105.B0-B04105	18	168	10	0.015	1.71	0.11	0.17	0.33	0.29	0.35	0.30	0.83	0.38
B04105-B04106	17	323	10	0.025	2.22	0.11	0.15	0.35	0.27	0.38	0.28	0.83	0.35
B04106-B02078	3394	197	10	0.026	2.29	0.11	0.26	0.36	0.44	0.38	0.39	0.83	0.53

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B07001-B07002	1507	73	8	0.020	1.12	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B07002-B07003	1506	190	8	0.016	0.97	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B07003-B07004	1505	239	8	0.025	1.24	0.00	0.05	0.00	0.07	0.00	0.06	0.67	0.07
B07004-B07005	1504	446	8	0.005	0.55	0.01	0.08	0.01	0.11	0.01	0.08	0.67	0.11
B07005-B07010	1503	135	8	0.005	0.55	0.01	0.07	0.02	0.10	0.01	0.07	0.67	0.11
B07006-B07007	1502	77	8	0.004	0.50	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B07007-B07008	1501	177	8	0.029	1.33	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B07008-B07009	1500	180	8	0.008	0.70	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.05
B07009-B07010	1499	178	8	0.086	2.29	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.06
B07010-B07011	1498	61	8	0.064	1.98	0.01	0.05	0.03	0.08	0.01	0.05	0.67	0.08
B07011-B07012	1497	382	8	0.102	2.49	0.01	0.05	0.03	0.08	0.01	0.05	0.67	0.08
B07012-B07013	1496	410	8	0.095	2.41	0.01	0.06	0.03	0.11	0.01	0.07	0.67	0.11
B07013-B07022	1495	252	8	0.014	0.92	0.01	0.08	0.04	0.14	0.01	0.09	0.67	0.14
B07014-B07017	1494	466	8	0.024	1.21	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
B07015-B07016	1493	162	8	0.018	1.05	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
B07016-B07017	1492	141	8	0.034	1.44	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
B07017-B07019	1491	225	8	0.019	1.09	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.07
B07018-B07019	1490	131	8	0.017	1.01	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B07019-B07022	1489	137	8	0.083	2.26	0.01	0.06	0.02	0.10	0.01	0.07	0.67	0.11
B07020-B07021	1488	196	8	0.020	1.11	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B07021-B07022	1487	247	8	0.047	1.69	0.00	0.05	0.00	0.09	0.00	0.06	0.67	0.09
B07022-B07023	1486	178	8	0.037	1.49	0.02	0.08	0.06	0.14	0.02	0.09	0.67	0.14
B07023-B07024	2245	236	8	0.048	1.70	0.02	0.10	0.07	0.17	0.02	0.11	0.67	0.18
B07024-B07028	2246	201	8	0.010	0.77	0.02	0.10	0.07	0.18	0.03	0.11	0.67	0.19
B07025-B07026	1485	159	8	0.020	1.09	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B07026-B07027	1484	123	8	0.019	1.08	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B07027-B07028	1483	140	8	0.020	1.10	0.00	0.06	0.00	0.10	0.00	0.07	0.67	0.10
B07028-B07029	1482	178	8	0.046	1.68	0.03	0.09	0.08	0.15	0.03	0.09	0.67	0.15
B07029-B07038	1481	178	8	0.055	1.83	0.03	0.10	0.08	0.16	0.03	0.11	0.67	0.17
B07030-B07031	1480	139	8	0.044	1.64	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
B07031-B07033	1479	142	8	0.055	1.82	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
B07032-B07033	1478	122	8	0.051	1.77	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B07033-B07034	1476	257	8	0.015	0.96	0.00	0.06	0.01	0.08	0.00	0.07	0.67	0.09
B07034-B07037	1244	214	8	0.004	0.49	0.01	0.07	0.01	0.10	0.01	0.08	0.67	0.10
B07035-B07036	1243	181	8	0.050	1.75	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
B07036-B07037	1242	90	8	0.066	2.01	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.06
B07037-B07038	1241	243	8	0.024	1.21	0.01	0.09	0.02	0.14	0.01	0.09	0.67	0.14
B07038-B07043	1240	102	8	0.033	1.41	0.04	0.16	0.10	0.26	0.04	0.17	0.67	0.28
B07039-B07040	1239	180	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.05
B07040-B07041	1238	202	8	0.004	0.49	0.00	0.06	0.00	0.07	0.00	0.07	0.67	0.08
B07041-B07042	1237	136	8	0.004	0.50	0.00	0.05	0.01	0.07	0.00	0.06	0.67	0.08
B07042-B07043	1236	153	8	0.032	1.40	0.00	0.12	0.01	0.20	0.01	0.14	0.67	0.21
B07043-B07044	1235	171	8	0.004	0.49	0.04	0.17	0.12	0.29	0.05	0.19	0.67	0.30
B07044-B07051	1234	219	8	0.018	1.04	0.04	0.14	0.12	0.23	0.05	0.15	0.67	0.24
B07045-B07046	1233	82	8	0.010	0.78	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B07046-B07047	1232	82	8	0.010	0.79	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
B07047-B07050	1231	153	8	0.010	0.78	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.06
B07048-B07049	1230	139	8	0.004	0.49	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
B07049-B07050	1229	54	8	0.004	0.50	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
B07050-B07051	1228	148	8	0.017	1.02	0.00	0.10	0.01	0.15	0.01	0.11	0.67	0.16
B07051-B07055	1227	131	8	0.017	1.02	0.05	0.16	0.13	0.27	0.06	0.18	0.67	0.29
B07054.A0-B07054.B0	B07054.A0-B07054.B0	86	8	0.025	1.62	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B07054.B0-B07054.C0	B07054.B0-B07054.C0	271	8	0.017	1.02	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
B07054.C0-B07054.D0	B07054.C0-B07054.D0	271	8	0.011	0.81	0.00	0.06	0.01	0.07	0.00	0.05	0.67	0.07
B07054.D0-B07054.H0	B07054.D0-B07054.H0	125	8	0.012	0.84	0.01	0.05	0.01	0.07	0.00	0.05	0.67	0.08
B07054.F0-B07054.G0	B07054.F0-B07054.G0	127	8	0.014	0.93	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B07054.G0-B07054.H0	B07054.G0-B07054.H0	110	8	0.110	2.59	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
B07054.H0-B07054.I0	B07054.H0-B07054.I0	134	8	0.061	1.92	0.01	0.05	0.02	0.08	0.01	0.07	0.67	0.10
B07054.I0-B07054.J0	B07054.I0-B07054.J0	54	8	0.013	0.89	0.01	0.07	0.02	0.11	0.01	0.10	0.67	0.13
B07054.J0-B07054	B07054.J0-B07054	145	8	0.005	0.57	0.01	0.09	0.02	0.13	0.01	0.12	0.67	0.15
B07054-B07055	1226	55	8	0.004	0.48	0.01	0.14	0.02	0.22	0.02	0.16	0.67	0.24
B07055-B07057	1225	215	8	0.010	0.78	0.06	0.19	0.15	0.32	0.07	0.22	0.67	0.34
B07056-B07057	1224	197	8	0.004	0.49	0.00	0.12	0.00	0.18	0.00	0.14	0.67	0.20
B07057-B07058	1223	217	8	0.010	0.78	0.06	0.16	0.16	0.26	0.08	0.18	0.67	0.27
B07058-B07079	B07058-B07079	94	8	0.096	2.42	0.06	0.37	0.16	0.59	0.08	0.56	0.67	0.59
B07059.A0-B07090	B07059.A0-B07090	151	8	0.064	1.97	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.01
B07062.A0-B07062	B07062.A0-B07062	172	8	0.016	0.99	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
B07062-B07063	1160	244	8	0.180	3.31	0.00	0.02	0.00	0.03	0.01	0.03	0.67	0.04
B07063-B07064	1475	67	8	0.079	2.20	0.00	0.02	0.01	0.04	0.01	0.04	0.67	0.05
B07079-B01152	B07079-B01152	210	20	0.011	9.64	1.36	0.36	3.92	0.62	3.51	0.58	1.67	0.77
B07080-B07079	B07080-B07079	253	20	0.012	10.03	1.30	0.25	3.75	0.43	3.44	0.41	1.67	0.55
B07081-B07080	B07081-B07080	642	20	0.004	5.83	1.30	0.29	3.73	0.51	3.43	0.49	1.67	0.67
B07082-B07081	B07082-B07081	571	20	0.004	5.66	1.30	0.33	3.72	0.60	3.43	0.57	1.67	0.81
B07083-B07082	B07083-B07082	111	8	0.125	2.76	0.00	0.42	0.01	0.52	0.01	0.52	0.67	0.52
B07084-B07082	B07084-B07082	65	20	0.004	5.79	1.30	0.32	3.71	0.59	3.43	0.56	1.67	0.81
B07085-B07084	B07085-B07084	51	20	0.007	7.57	1.30	0.30	3.70	0.55	3.43	0.53	1.67	0.75
B07086-B07085	B07086-B07085	221	20	0.006	6.77	1.30	0.29	3.70	0.53	3.43	0.50	1.67	0.70
B07087-B07086	B07087-B07086	262	20	0.006	6.79	1.30	0.30	3.69	0.53	3.43	0.50	1.67	0.69
B07089-B07087	B07089-B07087	248	8	0.025	1.24	0.00	0.38	0.00	0.52	0.00	0.50	0.67	0.52
B07090-B07089	B07090-B07089	36	8	0.052	1.78	0.00	0.02	0.00	0.03	0.00	0.01	0.67	0.03
B08001-B08002	1997	20	8	0.002	0.33	0.00	0.04	0.00	0.04	0.01	0.05	0.67	0.05
B08002-B08004	748	54	8	0.498	5.51	0.00	0.04	0.00	0.04	0.01	0.05	0.67	0.05
B08003-B08004	1140	23	8	0.002	0.35	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
B08004-B08005	1141	246	8	0.005	0.54	0.00	0.05	0.00	0.06	0.01	0.08	0.67	0.09
B08005-B08006	2302	357	8	0.004	0.51	0.00	0.06	0.01	0.09	0.01	0.09	0.67	0.11
B08006-B08007	2301	355	8	0.004	0.50	0.00	0.06	0.01	0.10	0.01	0.12	0.67	0.14
B08007-B08020	2300	350	8	0.006	0.59	0.00	0.14	0.01	0.20	0.02	0.27	0.67	0.30
B08008-B08009	2299	39	8	0.008	0.71	0.04	0.16	0.04	0.16	0.06	0.19	0.67	0.19
B08009-B08010	2298	311	8	0.009	0.75	0.04	0.16	0.04	0.16	0.06	0.19	0.67	0.19
B08010-B08011	2297	268	8	0.010	0.80	0.04	0.15	0.04	0.15	0.06	0.18	0.67	0.18
B08011-B08012	2296	341	8	0.024	1.21	0.04	0.13	0.04	0.13	0.07	0.16	0.67	0.16
B08012-B08014	2295	270	8	0.030	1.35	0.04	0.32	0.04	0.33	0.07	0.42	0.67	0.43
B08013-B08014	2294	294	8	0.019	1.07	0.00	0.26	0.00	0.27	0.02	0.39	0.67	0.40
B08014-B08015	2293	80	8	0.003	0.39	0.04	0.32	0.05	0.33	0.09	0.42	0.67	0.44
B08015-B08016	2292	300	8	0.044	1.63	0.05	0.17	0.05	0.18	0.10	0.24	0.67	0.25
B08016-B08019	2291	299	8	0.004	0.50	0.05	0.18	0.05	0.19	0.10	0.26	0.67	0.28
B08017-B08019	2290	81	8	0.032	1.39	0.00	0.56	0.00	0.57	0.03	0.61	0.67	0.61
B08018.A0-B08018.B0	1142	301	8	0.013	0.90	0.00	0.02	0.00	0.02	0.00	0.05	0.67	0.05
B08018.B0-B08018	1143	291	8	0.028	1.30	0.00	0.03	0.00	0.05	0.01	0.08	0.67	0.09
B08018.C0-B08018	1144	42	8	0.015	0.96	0.00	0.04	0.00	0.05	0.00	0.07	0.67	0.08
B08019.A0-B08019	1146	56	8	0.073	2.12	0.01	0.56	0.01	0.57	0.03	0.61	0.67	0.61
B08019.A0-B08019	CDT-51	341	8	0.022	1.15	0.00	0.52	0.01	0.53	0.03	0.55	0.67	0.56
B08019-B08020	2289	345	10	0.030	2.45	0.05	0.14	0.07	0.18	0.15	0.25	0.83	0.27
B08020-B08021	2288	279	10	0.003	0.83	0.06	0.15	0.09	0.19	0.17	0.26	0.83	0.28
B08022-B08024	2768	324	15	0.004	2.53	0.50	0.27	1.87	0.55	1.62	0.50	1.25	0.77
B08023-B08024	909	111	8	0.010	0.79	0.00	0.21	0.00	0.43	0.00	0.41	0.67	0.52
B08024-B08025.A0	FM11	42	15	0.012	4.59	0.50	0.23	1.87	0.48	1.63	0.44	1.25	0.61

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B08025.A0-B08025	2285	191	15	0.008	3.77	0.50	0.30	1.88	0.61	1.63	0.56	1.25	0.82
B08025-B08028	2286	176	15	0.002	1.89	0.50	0.29	1.88	0.58	1.63	0.55	1.25	0.79
B08026.D0-B08026.F0	B08026.D0-B08026.F0	150	8	0.049	1.73	0.00	0.01	0.00	0.02	0.01	0.05	0.67	0.06
B08026.F0-B08026.G0	B08026.F0-B08026.G0	155	8	0.039	1.55	0.00	0.01	0.00	0.03	0.01	0.06	0.67	0.07
B08026.G0-B08026.H0	B08026.G0-B08026.H0	141	8	0.030	1.35	0.00	0.02	0.00	0.05	0.01	0.08	0.67	0.08
B08026.H0-B08026.I0	B08026.H0-B08026.I0	56	8	0.011	0.81	0.00	0.09	0.01	0.18	0.01	0.23	0.67	0.27
B08026.I0-B08026	B08026.I0-B08026	180	8	0.031	1.36	0.07	0.16	0.27	0.31	0.46	0.41	0.67	0.46
B08026-B08027	3243	150	8	0.026	1.25	0.07	0.17	0.27	0.32	0.46	0.42	0.67	0.48
B08027-B08028	3242	116	8	0.024	1.22	0.08	0.30	0.27	0.58	0.46	0.62	0.67	0.74
B08028-B08021	2287	248	10	0.027	2.31	0.06	0.22	0.10	0.40	0.17	0.40	0.83	0.54
B08028-B08030	3241	221	15	0.017	5.50	0.63	0.25	2.26	0.50	2.19	0.49	1.25	0.67
B08029-B08030	1147	51	8	0.131	2.83	0.00	0.27	0.00	0.51	0.00	0.51	0.67	0.51
B08030-B08032	3239	370	15	0.009	4.03	0.63	0.25	2.26	0.50	2.19	0.49	1.25	0.68
B08031.A0-B08031.B0	1152	66	8	0.042	1.60	0.01	0.08	0.05	0.15	0.09	0.20	0.67	0.22
B08031.B0-B08031.C0	1153	108	8	0.012	0.84	0.01	0.07	0.05	0.12	0.09	0.17	0.67	0.19
B08031.C0-B08031.D0	1059	77	8	0.350	4.62	0.01	0.07	0.05	0.13	0.09	0.17	0.67	0.20
B08031.D0-B08031.E0	1060	179	8	0.006	0.62	0.01	0.10	0.05	0.20	0.09	0.26	0.67	0.29
B08031.E0-B08031	1061	147	8	0.006	0.63	0.01	0.09	0.05	0.17	0.09	0.22	0.67	0.25
B08031-B08032	3238	81	8	0.027	1.28	0.01	0.25	0.05	0.50	0.09	0.51	0.67	0.60
B08032-B08050	3237	267	15	0.017	5.46	0.65	0.29	2.32	0.58	2.28	0.57	1.25	0.77
B08033.A0-B08033	7652	160	8	0.100	2.47	0.00	0.02	0.00	0.02	0.00	0.05	0.67	0.05
B08033-B08034	3236	376	8	0.045	1.65	0.00	0.03	0.00	0.04	0.02	0.08	0.67	0.08
B08034-B08043	3235	419	8	0.060	1.91	0.00	0.07	0.01	0.12	0.03	0.19	0.67	0.20
B08035-B08036	1062	185	8	0.005	0.56	0.00	0.03	0.00	0.03	0.00	0.07	0.67	0.07
B08036-B08038	3234	195	8	0.006	0.58	0.00	0.03	0.00	0.06	0.01	0.09	0.67	0.09
B08037-B08038	1063	221	8	0.158	3.10	0.00	0.02	0.00	0.04	0.01	0.07	0.67	0.07
B08038-B08040	3233	107	8	0.024	1.21	0.00	0.03	0.01	0.05	0.02	0.08	0.67	0.09
B08039-B08040	1065	118	8	0.024	1.21	0.00	0.02	0.00	0.03	0.01	0.06	0.67	0.06
B08040-B08041	1066	183	8	0.156	3.09	0.00	0.02	0.01	0.05	0.03	0.07	0.67	0.08
B08041-B08042	1067	273	8	0.137	2.89	0.00	0.03	0.01	0.05	0.03	0.08	0.67	0.09
B08042-B08043	3232	209	8	0.105	2.53	0.00	0.07	0.02	0.13	0.04	0.19	0.67	0.20
B08043-B08048	1068	213	8	0.003	0.46	0.01	0.08	0.03	0.15	0.07	0.21	0.67	0.23
B08044-B08045	3459	150	8	0.045	1.66	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
B08045-B08047	3231	185	8	0.032	1.39	0.00	0.02	0.00	0.04	0.01	0.05	0.67	0.05
B08046-B08047	3230	90	8	0.285	4.17	0.00	0.01	0.00	0.02	0.00	0.03	0.67	0.04
B08047-B08048	1150	118	8	0.173	3.25	0.00	0.04	0.01	0.06	0.01	0.09	0.67	0.10
B08048-B08031.A0	1151	107	8	0.094	2.40	0.01	0.06	0.04	0.11	0.09	0.14	0.67	0.16
B08050-B08051	3229	27	18	0.003	2.11	0.65	0.29	2.33	0.57	2.28	0.57	1.50	0.77
B08051-B08052	3228	372	18	0.003	2.34	0.65	0.24	2.33	0.46	2.28	0.46	1.50	0.62
B08052-B08054	3227	308	18	0.015	5.16	0.65	0.20	2.34	0.39	2.28	0.38	1.50	0.50
B08054-B08071	3226	127	18	0.010	4.11	0.65	0.20	2.35	0.39	2.28	0.38	1.50	0.50
B08055-B08056	4317	348	8	0.010	0.76	0.00	0.02	0.00	0.03	0.01	0.06	0.67	0.06
B08056-B08058	4316	282	8	0.037	1.50	0.00	0.03	0.00	0.05	0.01	0.07	0.67	0.07
B08057-B08058	4314	220	8	0.007	0.65	0.00	0.02	0.00	0.04	0.00	0.06	0.67	0.07
B08058-B08061	4313	176	8	0.035	1.46	0.00	0.03	0.01	0.08	0.02	0.08	0.67	0.10
B08059-B08060	4312	339	8	0.005	0.57	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.03
B08060-B08061	4311	361	8	0.039	1.55	0.00	0.02	0.00	0.06	0.00	0.06	0.67	0.08
B08061-B08062	4310	328	8	0.027	1.29	0.00	0.05	0.02	0.13	0.02	0.13	0.67	0.16
B08062-B08063	4309	361	8	0.004	0.49	0.00	0.06	0.03	0.15	0.02	0.14	0.67	0.18
B08063-B08064	4308	295	8	0.015	0.94	0.01	0.05	0.03	0.12	0.03	0.12	0.67	0.16
B08064-B08066	4307	484	8	0.018	1.04	0.01	0.13	0.03	0.19	0.03	0.18	0.67	0.22
B08065.A0-B08065.B0	B08065.A0-B08065.B0	246	8	0.021	1.13	0.03	0.12	0.03	0.12	0.00	0.07	0.67	0.07
B08065.B0-B08065.C0	B08065.B0-B08065.C0	88	8	0.010	0.80	0.03	0.13	0.03	0.13	0.02	0.11	0.67	0.11
B08065.C0-B08065.D0	B08065.C0-B08065.D0	190	8	0.009	0.75	0.03	0.13	0.03	0.13	0.02	0.11	0.67	0.12
B08065.D0-B08065	B08065.D0-B08065	54	8	0.010	0.79	0.03	0.13	0.03	0.13	0.02	0.11	0.67	0.12
B08065-B08066	4306	310	8	0.015	0.96	0.03	0.16	0.03	0.19	0.02	0.17	0.67	0.20
B08066-B08067	4305	274	8	0.004	0.48	0.04	0.23	0.07	0.30	0.06	0.29	0.67	0.34
B08067-B08068	4304	245	8	0.002	0.38	0.04	0.20	0.08	0.26	0.07	0.25	0.67	0.30
B08068-B08071	4303	42	8	0.024	1.21	0.04	0.28	0.08	0.50	0.07	0.46	0.67	0.60
B08069-B08070	4302	122	8	0.055	1.83	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
B08070-B08071	4301	272	8	0.021	1.13	0.00	0.23	0.00	0.43	0.00	0.41	0.67	0.52
B08071-B08072	4300	231	18	0.016	5.26	0.69	0.21	2.43	0.40	2.31	0.39	1.50	0.52
B08072-B08091	4299	404	18	0.008	3.79	0.69	0.23	2.44	0.43	2.31	0.42	1.50	0.56
B08073-B08074	1252	282	6	0.121	1.26	0.00	0.03	0.00	0.03	0.00	0.05	0.50	0.05
B08074-B08076	1073	218	6	0.092	1.10	0.00	0.10	0.00	0.10	0.01	0.07	0.50	0.08
B08075-B08076	1254	204	6	0.156	1.43	0.00	0.09	0.00	0.09	0.00	0.06	0.50	0.06
B08076-B08077	1255	339	6	0.038	0.71	0.04	0.15	0.04	0.15	0.01	0.08	0.50	0.10
B08077-B08085	4298	137	6	0.084	1.05	0.04	0.17	0.04	0.17	0.01	0.09	0.50	0.12
B08078-B08079	4297	197	8	0.025	1.23	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B08079-B08080	4296	151	8	0.117	2.67	0.00	0.07	0.00	0.07	0.01	0.04	0.67	0.04
B08080-B08081	4295	223	8	0.046	1.68	0.05	0.11	0.05	0.11	0.01	0.05	0.67	0.05
B08081-B08082	4294	117	8	0.094	2.39	0.05	0.10	0.05	0.10	0.01	0.05	0.67	0.06
B08082-B08083	4293	104	8	0.096	2.42	0.05	0.09	0.05	0.09	0.01	0.04	0.67	0.05
B08083-B08084	4292	85	8	0.268	4.04	0.05	0.12	0.05	0.12	0.01	0.06	0.67	0.07
B08084-B08085	4291	136	8	0.014	0.93	0.05	0.16	0.05	0.16	0.01	0.08	0.67	0.10
B08085-B08086	4236	280	8	0.048	1.72	0.09	0.15	0.09	0.15	0.02	0.14	0.67	0.15
B08086-B08087	4235	283	8	0.053	1.80	0.09	0.16	0.09	0.16	0.17	0.21	0.67	0.21
B08087-B08090	4234	65	8	0.043	1.62	0.09	0.18	0.09	0.18	0.17	0.26	0.67	0.26
B08088-B08089	1072	58	8	0.039	1.55	0.00	0.03	0.00	0.03	0.07	0.19	0.67	0.19
B08089-B08090	4538	357	8	0.005	0.55	0.00	0.13	0.00	0.13	0.07	0.27	0.67	0.27
B08090-B08091	4537	372	8	0.024	1.21	0.10	0.35	0.10	0.56	0.24	0.62	0.67	0.65
B08091-B08092	4536	106	18	0.011	4.32	0.79	0.23	2.54	0.43	2.54	0.43	1.50	0.56
B08092-B08093	3974	365	18	0.009	3.93	0.79	0.24	2.55	0.44	2.54	0.44	1.50	0.59
B08093-B08094	3972	119	18	0.008	3.78	0.79	0.25	2.55	0.46	2.54	0.46	1.50	0.61
B08094-B08095	4957	169	18	0.007	3.47	0.79	0.27	2.56	0.51	2.54	0.51	1.50	0.69
B08095.A0-B08095	5380	124	8	0.009	0.73	0.00	0.32	0.00	0.50	0.00	0.52	0.67	0.55
B08095-B08096	5674	226	18	0.004	2.70	0.79	0.29	2.56	0.55	2.54	0.55	1.50	0.76
B08096-B08097	5366	253	18	0.004	2.70	0.80	0.31	2.57	0.57	2.54	0.57	1.50	0.78
B08097-B08098	5355	22	18	0.001	1.26	0.80	0.30	2.58	0.56	2.55	0.56	1.50	0.77
B08098-B08099	5609	259	18	0.005	2.82	0.80	0.27	2.58	0.51	2.55	0.51	1.50	0.68
B08099-B08116	B08099-B08116	102	18	0.006	3.29	0.80	0.24	2.58	0.45	2.55	0.45	1.50	0.59
B08101-B08102	B08101-B08102	203	8	0.026	1.26	0.00	0.01	0.00	0.01	0.02	0.07	0.67	0.07
B08102-B08103	B08102-B08103	224	8	0.075	2.14	0.00	0.02	0.00	0.04	0.02	0.07	0.67	0.08
B08103-B08104	B08103-B08104	27	4	0.091	0.37	0.00	0.06	0.01	0.10	0.02	0.17	0.33	0.18
B08104-B08105	1070	174	8	0.032	1.39	0.00	0.03	0.01	0.05	0.02	0.09	0.67	0.09
B08105-B08106	5542	135	8	0.040	1.57	0.00	0.03	0.01	0.06	0.02	0.09	0.67	0.10
B08106-B08107	5261	298	8	0.040	1.56	0.00	0.03	0.01	0.05	0.03	0.08	0.67	0.09
B08107-B08120	B08107-B08120	21	8	0.170	3.22	0.00	0.03	0.01	0.06	0.03	0.08	0.67	0.09
B08110-B08111	B08110-B08111	96	8	0.013	0.88	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
B08111-B08112	B08111-B08112	252	8	0.021	1.14	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
B08112-B08115	B08112-B08115	25	8	0.018	1.05	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.05
B08114-B08115	B08114-B08115	39	8	0.015	0.97	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B08115-B08118	B08115-B08118	9	8	0.213	3.60	0.00	0.19	0.01	0.34	0.01	0.33	0.67	0.42
B08116-B08117	B08116-B08117	134	18	0.011	7.16	0.80	0.23	2.59	0.43	2.55	0.43	1.50	0.56
B08117-B08118	B08117-B08118	254	18	0.010	6.94	0.80	0.20	2.59	0.36	2.55	0.36	1.50	0.47
B08118-B08119	B08118-B08119	78	18	0.047	14.75	0.81	0.18	2.61	0.33	2.55	0.33	1.50	0.42
B08119-B08126	B08119-B08126	40	18	0.016	8.52	0.81	0.20	2.61	0.37	2.55	0.36	1.50	0.47

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B08120-B08121	B08120-B08121	62	8	0.045	1.65	0.00	0.04	0.01	0.07	0.03	0.10	0.67	0.11
B08121-B08122	B08121-B08122	138	8	0.028	1.31	0.00	0.03	0.01	0.07	0.03	0.10	0.67	0.11
B08122-B08124	B08122-B08124	41	8	0.096	2.42	0.00	0.04	0.02	0.07	0.03	0.10	0.67	0.11
B08124-B08125	B08124-B08125	95	8	0.019	1.07	0.00	0.04	0.02	0.09	0.03	0.12	0.67	0.13
B08125-B08126	B08125-B08126	85	8	0.021	1.13	0.00	0.24	0.02	0.44	0.03	0.44	0.67	0.56
B08126-B08154	B08126-B08154	64	18	0.021	9.86	0.81	0.23	2.63	0.40	2.58	0.39	1.50	0.51
B08154-B07087	B08154-B07087	152	20	0.015	11.00	1.30	0.26	3.68	0.46	3.43	0.44	1.67	0.60
B08155-B14319	B08155-B14319	186	16	0.008	4.50	0.50	0.25	1.04	0.36	0.85	0.32	1.33	0.42
B08156-B08155	CDT-41	75	16	0.008	4.43	0.50	0.23	1.04	0.33	0.85	0.30	1.33	0.38
B09001-B09002	5256	116	8	0.006	0.63	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B09002-B09003	5252	267	8	0.059	1.90	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.06
B09003-B09006	5246	329	8	0.027	1.28	0.00	0.04	0.01	0.06	0.02	0.09	0.67	0.10
B09004-B09005	2771	31	8	0.000	0.14	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B09005-B09006	5242	201	8	0.210	3.58	0.00	0.02	0.00	0.04	0.00	0.06	0.67	0.06
B09006-B09007	5240	55	8	0.025	1.23	0.00	0.04	0.01	0.07	0.02	0.09	0.67	0.10
B09007-B09010	5236	135	8	0.044	1.63	0.00	0.03	0.01	0.07	0.02	0.09	0.67	0.10
B09008-B09009	2770	130	8	0.002	0.35	0.00	0.01	0.00	0.03	0.00	0.03	0.67	0.04
B09009-B09010	8055	370	8	0.002	0.35	0.00	0.03	0.00	0.06	0.00	0.06	0.67	0.08
B09010-B09011	3420	138	8	0.053	1.80	0.00	0.04	0.02	0.08	0.03	0.11	0.67	0.12
B09011-B09039	3415	352	8	0.047	1.70	0.00	0.06	0.02	0.13	0.06	0.17	0.67	0.19
B09012-B09013	5521	100	8	0.015	0.95	0.00	0.01	0.00	0.02	0.06	0.16	0.67	0.16
B09013-B09015	5442	239	8	0.047	1.69	0.00	0.02	0.00	0.03	0.06	0.13	0.67	0.13
B09014-B09015	5434	136	8	0.201	3.50	0.00	0.02	0.00	0.03	0.00	0.07	0.67	0.07
B09015-B09016	5430	287	8	0.053	1.79	0.00	0.03	0.01	0.05	0.06	0.13	0.67	0.13
B09016-B09017	5098	230	8	0.050	1.74	0.00	0.04	0.01	0.08	0.06	0.19	0.67	0.19
B09017-B09018	5093	299	8	0.004	0.50	0.00	0.05	0.01	0.12	0.06	0.24	0.67	0.25
B09018-B09028	5086	282	8	0.004	0.49	0.00	0.08	0.02	0.17	0.06	0.28	0.67	0.30
B09019-B09020	5084	211	8	0.197	3.47	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
B09020-B09021	5076	178	8	0.005	0.55	0.00	0.03	0.00	0.05	0.00	0.05	0.67	0.07
B09021-B09026	5342	245	8	0.010	0.78	0.00	0.05	0.01	0.10	0.00	0.11	0.67	0.13
B09022-B09023	5331	74	8	0.004	0.50	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
B09023-B09025	5330	215	8	0.032	1.39	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.05
B09024-B09025	5328	150	8	0.109	2.58	0.00	0.02	0.00	0.02	0.03	0.07	0.67	0.07
B09025-B09026	5312	230	8	0.124	2.75	0.00	0.05	0.01	0.09	0.03	0.12	0.67	0.13
B09026-B09027	4673	261	8	0.004	0.50	0.00	0.06	0.02	0.11	0.03	0.14	0.67	0.16
B09027-B09028	4672	249	8	0.032	1.39	0.01	0.07	0.02	0.15	0.03	0.21	0.67	0.24
B09028-B09029	4671	281	8	0.004	0.50	0.01	0.07	0.04	0.16	0.10	0.23	0.67	0.25
B09029-B09030	5305	274	8	0.086	2.29	0.01	0.05	0.05	0.10	0.10	0.14	0.67	0.16
B09030-B09031	5302	434	8	0.075	2.14	0.01	0.06	0.05	0.13	0.10	0.17	0.67	0.19
B09031-B09032	5294	311	8	0.020	1.12	0.01	0.07	0.06	0.15	0.10	0.20	0.67	0.22
B09032-B09034	4760	233	8	0.026	1.25	0.01	0.07	0.06	0.15	0.10	0.19	0.67	0.21
B09033-B09034	2769	113	8	0.020	1.10	0.00	0.05	0.00	0.08	0.00	0.10	0.67	0.11
B09034-B09035	388	251	8	0.032	1.40	0.01	0.07	0.06	0.15	0.10	0.18	0.67	0.21
B09035-B09036	379	245	8	0.031	1.37	0.01	0.07	0.07	0.15	0.10	0.18	0.67	0.21
B09036-B09037	378	205	8	0.031	1.36	0.01	0.07	0.07	0.16	0.10	0.18	0.67	0.22
B09037-B09038	4755	358	8	0.034	1.44	0.01	0.07	0.07	0.15	0.10	0.17	0.67	0.20
B09038-B09039	4753	272	8	0.053	1.80	0.02	0.07	0.08	0.16	0.10	0.19	0.67	0.22
B09039-B09040	4747	309	8	0.047	1.70	0.02	0.08	0.11	0.17	0.18	0.22	0.67	0.25
B09040-B09047	4738	310	8	0.050	1.74	0.02	0.08	0.11	0.18	0.19	0.22	0.67	0.26
B09041-B09042	1303	113	6	0.108	1.19	0.00	0.03	0.00	0.03	0.00	0.03	0.50	0.03
B09042-B09044	1289	249	6	0.007	0.31	0.00	0.04	0.00	0.06	0.00	0.04	0.50	0.06
B09043-B09044	656	278	6	0.084	1.05	0.00	0.03	0.00	0.04	0.00	0.03	0.50	0.04
B09044.A0-B09044	2772	123	8	0.006	0.58	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B09044-B09045	3410	277	8	0.050	1.75	0.00	0.03	0.01	0.06	0.00	0.03	0.67	0.06
B09045-B09046	3407	263	8	0.020	1.10	0.00	0.04	0.01	0.09	0.00	0.04	0.67	0.09
B09046-B09047	3406	304	8	0.009	0.72	0.00	0.07	0.01	0.14	0.00	0.14	0.67	0.18
B09047-B09055	3405	136	8	0.048	1.70	0.02	0.11	0.13	0.25	0.19	0.30	0.67	0.36
B09048-B09049	2773	83	8	0.235	3.78	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B09049-B09051	2774	103	8	0.088	2.31	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
B09050-B09051	3404	48	8	0.023	1.19	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B09051-B09052	3403	322	8	0.061	1.94	0.00	0.05	0.00	0.06	0.01	0.07	0.67	0.08
B09052-B09053	3401	111	8	0.004	0.47	0.00	0.07	0.01	0.10	0.01	0.11	0.67	0.12
B09053-B09054	653	131	8	0.004	0.50	0.01	0.08	0.01	0.10	0.01	0.13	0.67	0.14
B09054-B09055	647	362	8	0.005	0.53	0.01	0.11	0.01	0.21	0.02	0.26	0.67	0.30
B09055-B09059	642	204	8	0.008	0.71	0.03	0.15	0.15	0.32	0.22	0.38	0.67	0.45
B09056-B09057	2775	157	8	0.087	2.30	0.00	0.02	0.00	0.03	0.01	0.04	0.67	0.04
B09057-B09058	5232	256	8	0.044	1.65	0.00	0.05	0.00	0.06	0.01	0.08	0.67	0.08
B09058-B09059	4378	251	8	0.004	0.49	0.00	0.11	0.01	0.20	0.01	0.24	0.67	0.28
B09059-B09060	4371	182	8	0.010	0.79	0.04	0.14	0.17	0.29	0.23	0.34	0.67	0.40
B09060-B09061	4363	300	8	0.023	1.18	0.04	0.12	0.17	0.26	0.23	0.30	0.67	0.36
B09061-B09062	4357	168	8	0.023	1.18	0.04	0.12	0.17	0.26	0.23	0.30	0.67	0.36
B09062-B09064	212	70	8	0.023	1.18	0.04	0.12	0.17	0.27	0.24	0.31	0.67	0.37
B09063-B09064	867	253	8	0.020	1.12	0.00	0.07	0.00	0.14	0.00	0.16	0.67	0.19
B09064-B09081.A0	2776	276	8	0.021	1.13	0.04	0.13	0.18	0.26	0.24	0.30	0.67	0.36
B09065.A0-B09065	2777	97	8	0.007	0.66	0.00	0.01	0.00	0.01	0.01	0.07	0.67	0.07
B09065-B09066	860	212	8	0.094	2.39	0.00	0.03	0.00	0.03	0.01	0.07	0.67	0.07
B09066-B09067	4353	222	8	0.032	1.41	0.00	0.04	0.01	0.05	0.02	0.09	0.67	0.09
B09067-B09081	4343	360	8	0.085	2.27	0.01	0.10	0.01	0.17	0.04	0.23	0.67	0.26
B09068-B09069	2778	146	8	0.182	3.33	0.00	0.02	0.00	0.02	0.01	0.06	0.67	0.06
B09069-B09070	4339	465	8	0.059	1.89	0.00	0.03	0.00	0.04	0.02	0.08	0.67	0.08
B09070-B09071	4333	199	8	0.062	1.95	0.00	0.03	0.01	0.05	0.03	0.09	0.67	0.09
B09071-B09074	5225	139	8	0.055	1.83	0.00	0.04	0.01	0.07	0.03	0.11	0.67	0.12
B09072-B09073	5222	136	8	0.079	2.19	0.00	0.02	0.00	0.02	0.01	0.06	0.67	0.06
B09073-B09074	4988	344	8	0.109	2.57	0.00	0.03	0.00	0.05	0.03	0.10	0.67	0.10
B09074-B09075	4985	113	8	0.055	1.83	0.01	0.05	0.02	0.08	0.07	0.13	0.67	0.14
B09075-B09078	4905	178	8	0.049	1.72	0.01	0.08	0.02	0.13	0.07	0.22	0.67	0.22
B09076-B09077	4894	145	8	0.004	0.49	0.00	0.02	0.00	0.03	0.00	0.06	0.67	0.06
B09077-B09078	5213	326	8	0.004	0.50	0.00	0.06	0.00	0.11	0.01	0.20	0.67	0.20
B09078-B09079	5203	154	8	0.005	0.53	0.01	0.09	0.03	0.14	0.09	0.24	0.67	0.25
B09079-B09080	4284	247	8	0.030	1.36	0.02	0.07	0.04	0.11	0.10	0.17	0.67	0.18
B09080-B09081	5191	191	8	0.064	1.98	0.02	0.11	0.04	0.20	0.11	0.27	0.67	0.30
B09081.A0-B09081	7583	225	8	0.028	1.30	0.04	0.14	0.18	0.27	0.25	0.34	0.67	0.39
B09081-B09082	5190	308	8	0.028	1.30	0.07	0.17	0.24	0.32	0.39	0.41	0.67	0.47
B09082-B09085	5186	41	8	0.015	0.95	0.07	0.18	0.25	0.34	0.40	0.44	0.67	0.51
B09084.A0-B09084	7584	50	6	0.002	0.16	0.00	0.05	0.00	0.06	0.00	0.16	0.50	0.20
B09084-B09085	2780	184	6	0.001	0.11	0.00	0.15	0.00	0.26	0.01	0.40	0.50	0.48
B09085-B09087	5185	200	8	0.019	1.08	0.07	0.17	0.25	0.32	0.40	0.41	0.67	0.47
B09086-B09087	2779	136	6	0.002	0.17	0.00	0.14	0.00	0.22	0.01	0.33	0.50	0.36
B09087-B09088	2224	182	8	0.027	1.29	0.07	0.17	0.25	0.32	0.41	0.42	0.67	0.48
B09088-B09089	2223	296	8	0.020	1.10	0.07	0.17	0.26	0.32	0.45	0.43	0.67	0.48
B09089-B08026.I0	B09089-B08026.I0	42	8	0.028	1.32	0.07	0.16	0.26	0.30	0.45	0.40	0.67	0.45
B10001-B10002	761	184	8	0.008	0.68	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
B10002-B10003	775	204	8	0.017	1.01	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B10003-B10004	2219	211	8	0.029	1.33	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.05
B10004-B10005	3090	207	8	0.030	1.36	0.00	0.03	0.01	0.06	0.00	0.04	0.67	0.06
B10005-B10006	3084	270	8	0.030	1.34	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.07
B10006-B10007	4529	269	8	0.030	1.35	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.08

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B10007-B10008	4522	365	8	0.040	1.57	0.00	0.15	0.02	0.33	0.01	0.24	0.67	0.38
B10008-B10009	4509	206	10	0.014	1.66	0.15	0.22	0.73	0.50	0.45	0.38	0.83	0.60
B10009-B10015	1602	250	10	0.009	1.36	0.15	0.21	0.74	0.48	0.45	0.37	0.83	0.58
B10010-B10011	2073	191	8	0.033	1.42	0.00	0.02	0.00	0.02	0.00	0.04	0.67	0.04
B10011-B10012	2070	206	8	0.089	2.33	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
B10012-B10014	2066	180	8	0.151	3.03	0.00	0.02	0.01	0.03	0.00	0.03	0.67	0.04
B10013-B10014	3218	154	8	0.011	0.82	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
B10014-B10015	3216	259	8	0.296	4.25	0.00	0.13	0.01	0.29	0.01	0.22	0.67	0.34
B10015-B10016	3200	461	10	0.021	2.07	0.16	0.18	0.75	0.40	0.45	0.30	0.83	0.47
B10016-B10025	5180	420	10	0.035	2.65	0.16	0.21	0.76	0.48	0.46	0.36	0.83	0.57
B10017-B10019	5179	224	8	0.002	0.35	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
B10018-B10019	5178	231	8	0.004	0.50	0.00	0.03	0.00	0.04	0.00	0.02	0.67	0.03
B10019-B10021	5177	183	8	0.091	2.36	0.00	0.03	0.01	0.06	0.00	0.02	0.67	0.05
B10020-B10021	5176	225	8	0.027	1.28	0.00	0.03	0.00	0.04	0.00	0.02	0.67	0.04
B10021-B10023	5175	149	8	0.023	1.17	0.00	0.04	0.01	0.08	0.00	0.03	0.67	0.07
B10022-B10023	5174	188	8	0.433	5.14	0.00	0.52	0.00	0.54	0.00	0.52	0.67	0.54
B10023-B10024	5173	249	8	0.027	1.29	0.01	0.06	0.02	0.10	0.00	0.04	0.67	0.09
B10024-B10025	5171	213	8	0.007	0.67	0.01	0.19	0.02	0.43	0.00	0.30	0.67	0.50
B10025-B10026	5170	362	12	0.005	1.61	0.16	0.22	0.79	0.50	0.46	0.37	1.00	0.60
B10026-B10027	5162	256	12	0.004	1.51	0.16	0.23	0.80	0.53	0.46	0.39	1.00	0.63
B10027.A0-B10027.B0	B10027.A0-B10027.B0	115	8	0.060	2.49	0.00	0.01	0.00	0.01	0.00	0.01	0.67	0.01
B10027.B0-B10027.C0	B10027.B0-B10027.C0	115	8	0.146	2.99	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.02
B10027.C0-B10027.D0	B10027.C0-B10027.D0	316	8	0.137	2.90	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.04
B10027.D0-B10027	B10027.D0-B10027	106	8	0.063	1.96	0.00	0.18	0.01	0.44	0.00	0.31	0.67	0.51
B10027-B10070	2408	189	12	0.004	1.39	0.17	0.24	0.81	0.54	0.46	0.42	1.00	0.65
B10028-B10029	2393	206	8	0.005	0.55	0.00	0.04	0.00	0.04	0.01	0.11	0.67	0.11
B10029-B10030	2488	230	8	0.005	0.55	0.00	0.04	0.00	0.06	0.01	0.10	0.67	0.11
B10030-B10031	2483	228	8	0.016	1.00	0.00	0.03	0.01	0.05	0.01	0.07	0.67	0.08
B10031-B10032	4883	174	8	0.201	3.50	0.00	0.03	0.01	0.05	0.02	0.06	0.67	0.07
B10032-B10033	4875	182	8	0.050	1.74	0.00	0.03	0.01	0.05	0.02	0.06	0.67	0.07
B10033-B10034	320	167	8	0.200	3.50	0.00	0.03	0.01	0.05	0.02	0.05	0.67	0.06
B10034-B10035	8202	154	8	0.187	3.38	0.01	0.05	0.02	0.08	0.02	0.08	0.67	0.10
B10035-B10036	4715	142	8	0.010	0.78	0.01	0.05	0.02	0.08	0.02	0.08	0.67	0.10
B10036-B10037	1608	66	8	0.334	4.52	0.01	0.04	0.02	0.07	0.02	0.07	0.67	0.09
B10037-B10038	2133	110	8	0.020	1.11	0.01	0.06	0.02	0.11	0.02	0.11	0.67	0.13
B10038-B10039	5042	288	8	0.010	0.78	0.01	0.07	0.02	0.11	0.02	0.10	0.67	0.13
B10039-B10040	5038	272	8	0.041	1.59	0.01	0.06	0.03	0.09	0.02	0.09	0.67	0.11
B10040-B10054	5032	254	8	0.064	1.98	0.01	0.07	0.03	0.11	0.03	0.15	0.67	0.16
B10041-B10042	4664	336	8	0.108	2.56	0.00	0.01	0.00	0.02	0.02	0.06	0.67	0.06
B10042-B10043	4661	176	8	0.144	2.96	0.00	0.01	0.00	0.03	0.02	0.06	0.67	0.06
B10043-B10044.A0	1579	135	8	0.157	3.09	0.00	0.01	0.01	0.03	0.02	0.06	0.67	0.06
B10044.A0-B10044	412	134	8	0.247	3.88	0.00	0.01	0.01	0.03	0.02	0.05	0.67	0.06
B10044-B10045	3464	116	8	0.260	3.99	0.00	0.01	0.01	0.04	0.02	0.06	0.67	0.06
B10045-B10046	4650	175	8	0.154	3.06	0.00	0.01	0.01	0.04	0.02	0.06	0.67	0.07
B10046-B10047	2530	282	8	0.207	3.55	0.00	0.02	0.01	0.06	0.02	0.07	0.67	0.09
B10047-B10048	2547	316	8	0.035	1.45	0.00	0.02	0.02	0.07	0.02	0.08	0.67	0.10
B10048-B10049	4643	244	8	0.100	2.47	0.00	0.01	0.02	0.05	0.03	0.07	0.67	0.08
B10049-B10050	4639	102	8	1.968	10.96	0.00	0.50	0.02	0.52	0.09	0.53	0.67	0.53
B10050-B10051	4630	45	8	4.390	16.36	0.00	0.51	0.02	0.54	0.09	0.58	0.67	0.58
B10051-B10053	5018	105	8	0.056	1.84	0.00	0.03	0.02	0.09	0.09	0.16	0.67	0.16
B10052-B10053	5005	235	8	0.060	1.91	0.00	0.03	0.00	0.05	0.00	0.10	0.67	0.10
B10053-B10054	5004	224	8	0.047	1.70	0.00	0.06	0.03	0.12	0.10	0.19	0.67	0.20
B10054-B10057	5000	186	8	0.043	1.63	0.02	0.08	0.07	0.15	0.16	0.21	0.67	0.23
B10055-B10056	4993	415	8	0.012	0.86	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B10055-B10058	4259	206	8	0.042	1.61	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
B10056-B10057	4253	399	8	0.047	1.70	0.00	0.06	0.01	0.10	0.00	0.12	0.67	0.14
B10057-B10060	4244	197	8	0.041	1.59	0.02	0.12	0.08	0.21	0.16	0.28	0.67	0.31
B10058-B10059	4242	471	8	0.026	1.26	0.00	0.05	0.01	0.06	0.00	0.05	0.67	0.06
B10059-B10060	4132	341	8	0.032	1.41	0.01	0.10	0.01	0.16	0.01	0.20	0.67	0.23
B10060-B10062	3818	194	8	0.007	0.68	0.03	0.17	0.10	0.29	0.17	0.39	0.67	0.43
B10061-B10062	3816	350	8	0.007	0.63	0.00	0.11	0.00	0.17	0.00	0.23	0.67	0.26
B10062-B10063	3808	204	8	0.004	0.52	0.04	0.19	0.11	0.33	0.20	0.47	0.67	0.52
B10063-B10064	3804	281	8	0.004	0.49	0.04	0.19	0.11	0.32	0.24	0.48	0.67	0.52
B10064-B10068	3794	276	8	0.006	0.60	0.04	0.19	0.12	0.33	0.25	0.48	0.67	0.53
B10065-B10066	3789	381	8	0.031	1.38	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B10065-B10067	556	186	8	0.049	1.74	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B10066-B10068	4700	221	8	0.030	1.36	0.00	0.12	0.01	0.21	0.00	0.27	0.67	0.31
B10067-B10068	4694	268	8	0.035	1.47	0.00	0.12	0.00	0.20	0.00	0.28	0.67	0.31
B10068-B10069	4682	261	8	0.004	0.49	0.05	0.21	0.14	0.36	0.26	0.51	0.67	0.57
B10069-B10070	4624	123	8	0.004	0.51	0.05	0.28	0.14	0.57	0.26	0.59	0.67	0.77
B10070-B10071	4622	182	12	0.006	1.84	0.21	0.20	0.95	0.44	0.72	0.38	1.00	0.54
B10071-B10072	4617	257	12	0.024	3.58	0.21	0.16	0.96	0.35	0.73	0.30	1.00	0.42
B10072-B10073	4610	292	12	0.028	3.84	0.21	0.16	0.96	0.34	0.73	0.29	1.00	0.41
B10073-B10074	4603	292	12	0.030	4.00	0.21	0.16	0.97	0.35	0.73	0.31	1.00	0.43
B10074-B10075	4598	326	12	0.021	3.30	0.21	0.19	0.97	0.43	0.75	0.37	1.00	0.53
B10075-B10076	4597	413	12	0.008	2.08	0.21	0.23	0.98	0.53	0.78	0.47	1.00	0.69
B10076-B10081	4585	273	12	0.005	1.58	0.21	0.25	0.99	0.55	0.79	0.49	1.00	0.72
B10077-B10078	4502	209	8	0.072	2.09	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
B10078.A0-B10078	2119	316	8	0.002	0.35	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
B10078-B10079	4498	295	8	0.068	2.04	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.05
B10079-B10080	4273	290	8	0.139	2.91	0.01	0.05	0.01	0.06	0.00	0.05	0.67	0.06
B10080-B10081	2325	409	8	0.104	2.52	0.02	0.21	0.02	0.43	0.02	0.38	0.67	0.53
B10081-B10082	2317	52	12	0.006	1.78	0.23	0.23	1.02	0.50	0.81	0.44	1.00	0.62
B10082-B10083	2308	133	12	0.010	2.35	0.23	0.20	1.02	0.43	0.81	0.38	1.00	0.53
B10083-B10084	959	234	12	0.020	3.24	0.23	0.19	1.02	0.41	0.81	0.37	1.00	0.51
B10084.A0-B10084.B0	1722	97	8	0.036	1.47	0.00	0.02	0.00	0.02	0.07	0.15	0.67	0.15
B10084.B0-B10084.C0	2717	151	8	0.039	1.55	0.00	0.05	0.00	0.06	0.07	0.17	0.67	0.17
B10084.C0-B10084.D0	1975	278	8	0.025	1.24	0.02	0.10	0.02	0.10	0.10	0.21	0.67	0.21
B10084.D0-B10084.E0	2737	212	8	0.012	0.85	0.02	0.15	0.02	0.15	0.10	0.26	0.67	0.26
B10084.E0-B10084.F0	2754	82	8	0.005	0.55	0.04	0.20	0.04	0.20	0.10	0.32	0.67	0.32
B10084.F0-B10084.G0	2811	266	8	0.005	0.55	0.04	0.16	0.04	0.16	0.13	0.27	0.67	0.27
B10084.G0-B10084	711	167	8	0.055	1.83	0.04	0.21	0.05	0.37	0.13	0.39	0.67	0.49
B10084-B10085	1592	290	12	0.016	2.91	0.27	0.20	1.07	0.41	0.94	0.38	1.00	0.51
B10085-B10089	548	264	12	0.021	3.35	0.27	0.22	1.07	0.46	0.94	0.43	1.00	0.60
B10086.A0-B10086.B0	2933	198	8	0.058	1.88	0.00	0.03	0.00	0.03	0.01	0.05	0.67	0.05
B10086.B0-B10086	1851	192	8	0.128	2.80	0.00	0.04	0.01	0.05	0.01	0.07	0.67	0.07
B10086-B10088	2836	330	8	0.022	1.15	0.01	0.06	0.01	0.07	0.02	0.13	0.67	0.13
B10087-B10088	2688	219	8	0.130	2.82	0.00	0.04	0.00	0.05	0.02	0.11	0.67	0.11
B10088-B10089	2348	71	8	0.016	1.00	0.01	0.22	0.02	0.44	0.06	0.46	0.67	0.58
B10089-B10092	1535	341	12	0.007	1.95	0.28	0.25	1.09	0.53	1.00	0.51	1.00	0.71
B10090-B10091	953	325	8	0.002	0.35	0.00	0.01	0.00	0.02	0.00	0.04	0.67	0.04
B10091-B10092	944	221	8	0.089	2.33	0.00	0.20	0.00	0.42	0.01	0.39	0.67	0.52
B10092-B10093	4269	310	12	0.007	1.98	0.28	0.25	1.11	0.54	1.01	0.51	1.00	0.72
B10093-B10094	4263	347	12	0.008	2.01	0.28	0.24	1.11	0.50	1.03	0.48	1.00	0.66
B10094-B08022	2765	265	12	0.012	2.52	0.28	0.31	1.12	0.63	1.04	0.59	1.00	0.80
B11001-B11002	2494	292	8	0.076	2.15	0.00	0.02	0.00	0.02	0.05	0.11	0.67	0.11
B11002-B11003	4459	162	8	0.051	1.76	0.00	0.03	0.00	0.04	0.05	0.13	0.67	0.13

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B11003-B11004	4450	35	8	0.032	1.40	0.00	0.02	0.01	0.04	0.05	0.11	0.67	0.11
B11004-B11005	4443	209	8	0.218	3.65	0.00	0.02	0.01	0.04	0.05	0.09	0.67	0.09
B11005-B11006	6373	248	8	0.134	2.86	0.00	0.04	0.01	0.07	0.05	0.14	0.67	0.15
B11006-B11007	6581	223	8	0.007	0.67	0.00	0.05	0.01	0.10	0.06	0.19	0.67	0.20
B11007-B11008	4435	291	8	0.008	0.70	0.00	0.05	0.02	0.11	0.06	0.20	0.67	0.20
B11008-B11021	4428	206	8	0.008	0.71	0.00	0.05	0.02	0.11	0.06	0.17	0.67	0.18
B11009-B11010	4419	196	8	0.095	2.40	0.00	0.02	0.00	0.02	0.00	0.00	0.67	0.01
B11010-B11011	4415	282	8	0.054	1.81	0.00	0.02	0.00	0.03	0.00	0.00	0.67	0.03
B11011-B11012	4414	76	8	0.127	2.79	0.00	0.02	0.01	0.04	0.00	0.01	0.67	0.03
B11012-B11021	4412	278	8	0.167	3.19	0.00	0.03	0.01	0.07	0.00	0.08	0.67	0.10
B11013-B11014	4410	250	8	0.040	1.57	0.00	0.02	0.00	0.03	0.00	0.00	0.67	0.02
B11014-B11015	4409	249	8	0.021	1.13	0.00	0.02	0.00	0.04	0.00	0.00	0.67	0.03
B11015-B11018	1094	120	8	0.304	4.31	0.00	0.02	0.01	0.04	0.00	0.02	0.67	0.04
B11016-B11017	1077	173	8	0.005	0.56	0.00	0.04	0.00	0.04	0.01	0.10	0.67	0.10
B11017-B11018	4398	263	8	0.005	0.56	0.00	0.03	0.00	0.05	0.01	0.08	0.67	0.08
B11018-B11019	6259	147	8	0.175	3.27	0.00	0.03	0.01	0.06	0.01	0.05	0.67	0.07
B11019-B11020	5281	195	8	0.045	1.65	0.00	0.03	0.02	0.07	0.01	0.07	0.67	0.08
B11020-B11021	4117	309	8	0.095	2.41	0.00	0.04	0.02	0.09	0.02	0.11	0.67	0.12
B11021-B11023	4097	220	8	0.071	2.08	0.01	0.07	0.05	0.15	0.09	0.19	0.67	0.22
B11022-B11023	331	21	8	0.001	0.30	0.00	0.11	0.00	0.22	0.00	0.27	0.67	0.31
B11023-B11024	913	249	8	0.010	0.79	0.01	0.07	0.06	0.16	0.09	0.19	0.67	0.22
B11024-B11025	4382	450	8	0.080	2.21	0.01	0.05	0.06	0.11	0.09	0.14	0.67	0.16
B11025-B11026	4229	237	8	0.097	2.43	0.01	0.06	0.07	0.12	0.09	0.13	0.67	0.16
B11026-B11028	4225	132	8	0.097	2.43	0.02	0.06	0.07	0.12	0.09	0.14	0.67	0.16
B11027-B11026	3066	351	6	0.007	0.31	0.00	0.06	0.00	0.10	0.00	0.09	0.50	0.11
B11028-B11030	4224	342	8	0.079	2.20	0.02	0.06	0.08	0.13	0.09	0.14	0.67	0.17
B11029-B11030	4223	378	8	0.005	0.56	0.00	0.05	0.00	0.08	0.00	0.07	0.67	0.08
B11030-B11037	4222	39	8	0.092	2.37	0.02	0.07	0.09	0.14	0.09	0.15	0.67	0.18
B11031-B11032	4221	119	8	0.020	1.09	0.00	0.02	0.00	0.02	0.00	0.04	0.67	0.04
B11032-B11033	640	98	8	0.113	2.63	0.00	0.02	0.00	0.03	0.01	0.05	0.67	0.05
B11033-B11035	636	166	8	0.021	1.12	0.00	0.03	0.00	0.04	0.01	0.05	0.67	0.05
B11034-B11035	631	331	8	0.006	0.60	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.05
B11035-B11036	257	322	8	0.170	3.22	0.00	0.03	0.01	0.05	0.01	0.04	0.67	0.05
B11036-B11037	254	328	8	0.142	2.94	0.00	0.06	0.01	0.10	0.01	0.10	0.67	0.13
B11037-B11040	7368	412	8	0.060	1.91	0.03	0.09	0.10	0.17	0.11	0.17	0.67	0.22
B11038-B11039	623	250	8	0.006	0.60	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.06
B11039-B11043	6865	152	8	0.005	0.55	0.00	0.07	0.00	0.13	0.00	0.12	0.67	0.16
B11040-B11043	612	64	8	0.033	1.41	0.03	0.10	0.11	0.19	0.11	0.19	0.67	0.24
B11041-B11042	1158	5	8	0.152	3.04	0.00	0.01	0.00	0.01	0.01	0.04	0.67	0.04
B11042-B11043	3039	492	8	0.136	2.88	0.00	0.06	0.00	0.10	0.01	0.11	0.67	0.14
B11043-B11046	2764	186	8	0.036	1.49	0.03	0.10	0.12	0.20	0.12	0.19	0.67	0.24
B11044-B11045	3455	163	6	0.099	1.14	0.00	0.03	0.00	0.03	0.00	0.01	0.50	0.01
B11045-B11046	2763	251	6	0.084	1.05	0.00	0.08	0.00	0.15	0.00	0.13	0.50	0.18
B11046-B11047	2762	159	8	0.035	1.46	0.03	0.10	0.13	0.21	0.12	0.20	0.67	0.25
B11047-B11048	2761	329	8	0.028	1.32	0.03	0.13	0.13	0.28	0.12	0.25	0.67	0.34
B11048-B11049	2760	284	8	0.044	1.64	0.09	0.17	0.43	0.36	0.31	0.30	0.67	0.44
B11049-B11050	2759	297	8	0.038	1.52	0.09	0.16	0.44	0.36	0.31	0.30	0.67	0.44
B11050-B11051	2758	378	8	0.051	1.76	0.09	0.18	0.44	0.40	0.31	0.33	0.67	0.49
B11051-B11055	2757	234	8	0.019	1.06	0.09	0.20	0.44	0.46	0.32	0.38	0.67	0.57
B11052-B11053	2756	342	8	0.080	2.21	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B11053-B11054	2755	343	8	0.073	2.11	0.00	0.02	0.01	0.04	0.00	0.03	0.67	0.04
B11054-B11055	2956	128	8	0.088	2.32	0.00	0.12	0.01	0.26	0.01	0.21	0.67	0.32
B11055-B11056	2955	116	8	0.017	1.03	0.09	0.20	0.46	0.47	0.33	0.39	0.67	0.58
B11056-B11057	2954	193	8	0.019	1.06	0.09	0.20	0.46	0.45	0.33	0.38	0.67	0.56
B11057-B11061	2953	157	8	0.022	1.15	0.10	0.21	0.46	0.47	0.34	0.39	0.67	0.59
B11058-B11059	3270	273	8	0.081	2.22	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
B11059-B11060	910	334	8	0.057	1.87	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.04
B11060-B11061	908	338	8	0.059	1.90	0.00	0.12	0.01	0.27	0.00	0.22	0.67	0.34
B11061-B11062	907	233	8	0.016	0.98	0.10	0.21	0.48	0.49	0.34	0.41	0.67	0.61
B11062-B11113	906	349	8	0.018	1.04	0.10	0.21	0.48	0.49	0.35	0.39	0.67	0.59
B11063-B11064	905	265	8	0.007	0.66	0.00	0.24	0.00	0.25	0.00	0.25	0.67	0.26
B11064-B11065	904	71	8	0.017	1.03	0.00	0.73	0.01	0.74	0.01	0.74	0.67	0.74
B11065-B11066	903	14	8	0.107	2.55	0.00	0.52	0.01	0.52	0.01	0.52	0.67	0.53
B11066-B11067	902	265	8	0.019	1.07	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.05
B11067-B11068	901	332	8	0.043	1.62	0.00	0.05	0.01	0.08	0.00	0.06	0.67	0.09
B11068-B11084	900	324	8	0.004	0.49	0.00	0.06	0.01	0.12	0.00	0.07	0.67	0.12
B11069-B11070	899	337	8	0.004	0.47	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
B11070-B11084	898	314	8	0.075	2.15	0.00	0.04	0.01	0.08	0.00	0.04	0.67	0.08
B11071-B11072	835	160	8	0.055	1.84	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.02
B11072-B11076	897	227	8	0.078	2.18	0.00	0.02	0.00	0.04	0.00	0.02	0.67	0.04
B11073-B11074	1190	291	8	0.006	0.58	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
B11074-B11075	896	176	8	0.073	2.10	0.00	0.02	0.00	0.04	0.00	0.01	0.67	0.03
B11075-B11076	895	175	8	0.089	2.33	0.00	0.03	0.01	0.05	0.00	0.02	0.67	0.04
B11076-B11082	894	206	8	0.127	2.78	0.00	0.03	0.01	0.06	0.00	0.03	0.67	0.06
B11077-B11078	893	300	8	0.033	1.42	0.00	0.00	0.00	0.01	0.00	0.02	0.67	0.02
B11078-B11082	892	185	8	0.110	2.59	0.00	0.02	0.00	0.05	0.00	0.02	0.67	0.05
B11079-B11080	1364	235	6	0.053	0.84	0.00	0.02	0.00	0.03	0.00	0.04	0.50	0.04
B11080-B11081	1311	195	6	0.014	0.43	0.00	0.03	0.00	0.06	0.00	0.05	0.50	0.07
B11081-B11082	891	259	6	0.013	0.41	0.00	0.04	0.00	0.09	0.00	0.05	0.50	0.09
B11082-B11083	890	170	8	0.112	2.61	0.01	0.03	0.03	0.07	0.01	0.03	0.67	0.07
B11083-B11084	889	83	8	0.205	3.54	0.01	0.04	0.03	0.10	0.01	0.04	0.67	0.10
B11084-B11087	888	341	8	0.046	1.68	0.01	0.06	0.06	0.14	0.01	0.06	0.67	0.14
B11085-B11086	887	302	8	0.004	0.49	0.00	0.03	0.00	0.03	0.00	0.01	0.67	0.03
B11086-B11087	2952	409	8	0.021	1.13	0.00	0.05	0.00	0.10	0.00	0.04	0.67	0.10
B11087-B11092	2951	211	8	0.032	1.40	0.01	0.10	0.07	0.22	0.01	0.09	0.67	0.22
B11088.A0-B11088	2949	30	8	0.009	0.76	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B11088-B11089	2950	400	8	0.080	2.21	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
B11089-B11092	2948	413	8	0.060	1.92	0.00	0.08	0.01	0.16	0.00	0.07	0.67	0.16
B11090-B11091	2947	318	6	0.003	0.20	0.00	0.03	0.00	0.05	0.00	0.03	0.50	0.05
B11091-B11092	2946	397	6	0.003	0.19	0.00	0.11	0.00	0.23	0.00	0.10	0.50	0.23
B11092-B11094	203	256	8	0.005	0.53	0.02	0.14	0.09	0.31	0.02	0.13	0.67	0.31
B11094-B11097	666	86	8	0.003	0.41	0.02	0.15	0.10	0.32	0.02	0.14	0.67	0.32
B11095-B11096	3454	163	8	0.030	1.34	0.00	0.02	0.00	0.02	0.00	0.04	0.67	0.04
B11096-B11097	2945	349	8	0.052	1.78	0.00	0.09	0.00	0.17	0.00	0.09	0.67	0.17
B11097-B11099	2944	319	8	0.005	0.55	0.02	0.15	0.11	0.32	0.02	0.15	0.67	0.32
B11098-B11099	1767	76	8	0.002	0.35	0.00	0.10	0.00	0.23	0.00	0.11	0.67	0.23
B11099-B11100	1766	324	8	0.003	0.46	0.03	0.16	0.11	0.34	0.03	0.16	0.67	0.34
B11100-B11106.A0	59	366	8	0.004	0.49	0.03	0.17	0.12	0.37	0.03	0.17	0.67	0.37
B11101-B11102	1765	115	8	0.009	0.73	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B11102-B11104	1764	206	8	0.098	2.45	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.02
B11103-B11104	1818	11	8	20.204	35.11	0.00	0.50	0.00	0.50	0.00	0.50	0.67	0.50
B11104-B11105	1763	145	8	0.004	0.49	0.00	0.02	0.00	0.03	0.00	0.01	0.67	0.03
B11105-B11106	1762	334	8	0.004	0.50	0.00	0.09	0.00	0.19	0.00	0.08	0.67	0.19
B11106.A0-B11106	94	93	8	0.002	0.38	0.03	0.17	0.12	0.37	0.03	0.17	0.67	0.37
B11106-B11110	1761	124	8	0.005	0.53	0.03	0.16	0.13	0.34	0.03	0.16	0.67	0.34
B11107-B11108	7582	168	8	0.005	0.55	0.00	0.03	0.00	0.04	0.00	0.02	0.67	0.03
B11108-B11109	1876	361	8	0.009	0.72	0.00	0.03	0.00	0.05	0.00	0.02	0.67	0.04

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B11109-B11110	1875	234	8	0.074	2.12	0.00	0.10	0.01	0.20	0.00	0.09	0.67	0.20
B11110-B11111	1874	136	8	0.005	0.53	0.03	0.17	0.14	0.37	0.03	0.17	0.67	0.37
B11111-B11112	1873	349	8	0.004	0.49	0.03	0.14	0.14	0.31	0.03	0.14	0.67	0.31
B11112-B11113	16	352	8	0.032	1.41	0.03	0.16	0.15	0.36	0.03	0.23	0.67	0.40
B11113-B11117	1872	372	8	0.027	1.29	0.13	0.22	0.63	0.50	0.38	0.37	0.67	0.60
B11114-B11115	188	309	6	0.020	0.52	0.00	0.03	0.00	0.03	0.00	0.03	0.50	0.03
B11115-B11116	1871	53	6	0.119	1.25	0.00	0.03	0.00	0.04	0.00	0.03	0.50	0.04
B11116-B11117.A0	B11116-B11117.A0	233	6	0.090	1.09	0.00	0.03	0.00	0.04	0.00	0.03	0.50	0.04
B11117.A0-B11117	B11117.A0-B11117	30	6	0.264	1.86	0.00	0.16	0.01	0.36	0.00	0.26	0.50	0.42
B11117-B11118	1870	317	8	0.027	1.27	0.13	0.22	0.64	0.51	0.38	0.37	0.67	0.60
B11118-B11119.C0	7484	128	8	0.026	1.27	0.13	0.22	0.65	0.51	0.38	0.37	0.67	0.60
B11119.A0-B11119.B0	1877	300	8	0.119	2.70	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B11119.B0-B11119.C0	1526	272	8	0.100	2.46	0.00	0.12	0.00	0.27	0.00	0.20	0.67	0.32
B11119.C0-B11119	7191	206	8	0.027	1.28	0.13	0.22	0.66	0.51	0.38	0.37	0.67	0.60
B11119-B11120	1869	288	8	0.027	1.29	0.14	0.23	0.66	0.52	0.38	0.38	0.67	0.61
B11120-B11133	1868	96	10	0.016	1.77	0.14	0.19	0.66	0.43	0.38	0.32	0.83	0.50
B11121-B11122	1867	22	8	0.012	0.86	0.00	0.03	0.00	0.03	0.01	0.13	0.67	0.13
B11122-B11123	1866	301	8	0.007	0.67	0.00	0.03	0.00	0.03	0.05	0.15	0.67	0.15
B11123-B11124	1865	335	8	0.073	2.11	0.00	0.03	0.01	0.04	0.05	0.11	0.67	0.11
B11124-B11125	1864	106	8	0.073	2.11	0.00	0.04	0.01	0.06	0.05	0.12	0.67	0.12
B11125-B11126	1863	319	8	0.036	1.48	0.01	0.05	0.01	0.07	0.05	0.13	0.67	0.14
B11126-B11130	1862	392	8	0.025	1.24	0.01	0.08	0.02	0.13	0.05	0.19	0.67	0.21
B11127-B11128	1861	70	8	0.013	0.89	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B11128-B11129	1860	281	8	0.177	3.28	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
B11129-B11130	1859	291	8	0.065	1.99	0.00	0.07	0.01	0.11	0.00	0.14	0.67	0.15
B11130-B11131	1858	521	8	0.004	0.49	0.01	0.09	0.03	0.15	0.06	0.19	0.67	0.21
B11131-B11132	1857	213	8	0.033	1.41	0.01	0.09	0.04	0.17	0.06	0.21	0.67	0.24
B11132-B11133	1856	147	8	0.002	0.35	0.01	0.18	0.04	0.38	0.06	0.35	0.67	0.48
B11133-B11134	1855	186	10	0.017	1.84	0.15	0.19	0.70	0.43	0.44	0.34	0.83	0.52
B11134-B10008	1477	176	10	0.016	1.77	0.15	0.20	0.71	0.45	0.44	0.35	0.83	0.54
B11143-B11094	179	321	6	0.005	0.25	0.00	0.13	0.00	0.25	0.00	0.12	0.50	0.25
B12002-B12003	1816	4	8	0.002	0.35	0.00	0.07	0.00	0.17	0.00	0.21	0.67	0.24
B12003.A0-B12003.B0	7902	214	8	0.145	2.98	0.00	0.01	0.00	0.01	0.01	0.06	0.67	0.06
B12003.B0-B12003.C0	7903	65	8	0.125	2.76	0.00	0.01	0.00	0.03	0.02	0.07	0.67	0.07
B12003.C0-B12003.D0	7904	135	8	0.095	2.40	0.00	0.02	0.00	0.04	0.02	0.08	0.67	0.08
B12003.D0-B12003.E0	7905	166	8	0.047	1.69	0.00	0.02	0.01	0.05	0.02	0.10	0.67	0.10
B12003.E0-B12003.F0	7906	84	8	0.019	1.06	0.00	0.03	0.01	0.06	0.02	0.10	0.67	0.11
B12003.F0-B12003.G0	7907	43	8	0.025	1.23	0.00	0.03	0.01	0.06	0.02	0.09	0.67	0.10
B12003.G0-B12003.K0	7908	99	8	0.042	1.61	0.00	0.03	0.01	0.06	0.02	0.10	0.67	0.10
B12003.H0-B12003.I0	7897	43	8	0.043	1.63	0.00	0.01	0.00	0.01	0.01	0.04	0.67	0.04
B12003.I0-B12003.J0	7898	59	8	0.074	2.12	0.00	0.08	0.00	0.10	0.01	0.15	0.67	0.15
B12003.J0-B12003.K0	7899	73	8	0.001	0.24	0.00	0.09	0.00	0.12	0.01	0.18	0.67	0.18
B12003.K0-B12003.L0	7900	303	8	0.034	1.43	0.00	0.03	0.01	0.07	0.03	0.10	0.67	0.11
B12003.L0-B12003.N0	7901	35	8	0.065	1.99	0.00	0.04	0.02	0.09	0.03	0.13	0.67	0.14
B12003.M0-B12003.N0	7890	130	8	0.006	0.62	0.00	0.03	0.00	0.09	0.01	0.13	0.67	0.14
B12003.MA-B12003.MB	B12003.MA-B12003.MB	240	8	0.058	1.88	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.02
B12003.MB-B12003.MC	B12003.MB-B12003.MC	60	8	0.010	0.80	0.00	0.01	0.00	0.04	0.00	0.03	0.67	0.05
B12003.MC-B12003.M0	B12003.MC-B12003.M0	16	8	0.020	1.10	0.00	0.02	0.00	0.05	0.00	0.07	0.67	0.08
B12003.N0-B12003.O0	7891	60	8	0.008	0.70	0.00	0.05	0.02	0.12	0.04	0.17	0.67	0.19
B12003.O0-B12003.P0	7892	88	8	0.007	0.66	0.00	0.06	0.02	0.13	0.05	0.18	0.67	0.20
B12003.P0-B12003.Q0	7893	91	8	0.007	0.66	0.00	0.05	0.02	0.12	0.05	0.16	0.67	0.18
B12003.Q0-B12003.Y0	7894	9	8	0.026	1.26	0.00	0.06	0.03	0.13	0.05	0.17	0.67	0.20
B12003.R0-B12003.S0	7438	275	8	0.068	2.03	0.00	0.01	0.00	0.02	0.00	0.00	0.67	0.01
B12003.S0-B12003.T0	7439	37	8	0.108	2.57	0.00	0.01	0.00	0.03	0.00	0.00	0.67	0.03
B12003.T0-B12003.U0	7440	138	8	0.016	0.99	0.00	0.04	0.02	0.08	0.03	0.10	0.67	0.12
B12003.TA-B12003.TB	7430	89	8	0.149	3.01	0.00	0.01	0.00	0.01	0.01	0.05	0.67	0.05
B12003.TB-B12003.TC	7431	168	8	0.132	2.83	0.00	0.01	0.00	0.02	0.01	0.05	0.67	0.05
B12003.TC-B12003.TD	7435	291	8	0.090	2.34	0.00	0.02	0.00	0.04	0.01	0.08	0.67	0.08
B12003.TD-B12003.TE	7436	149	8	0.033	1.42	0.00	0.03	0.01	0.07	0.03	0.13	0.67	0.14
B12003.TE-B12003.T0	7437	281	8	0.005	0.55	0.00	0.04	0.01	0.09	0.03	0.16	0.67	0.16
B12003.U0-B12003.V0	7441	82	8	0.105	2.53	0.00	0.03	0.02	0.06	0.03	0.08	0.67	0.09
B12003.V0-B12003.W0	7442	89	8	0.107	2.55	0.00	0.03	0.02	0.06	0.03	0.08	0.67	0.09
B12003.W0-B12003.X0	7443	74	8	0.092	2.37	0.00	0.03	0.02	0.07	0.03	0.08	0.67	0.10
B12003.X0-B12003.Y0	7889	70	8	0.069	2.05	0.00	0.03	0.02	0.07	0.03	0.09	0.67	0.10
B12003.Y0-B12003.Z0	7895	34	8	0.010	0.80	0.01	0.06	0.05	0.14	0.08	0.18	0.67	0.21
B12003.Z0-B12003	7896	255	8	0.043	1.63	0.01	0.05	0.05	0.12	0.08	0.15	0.67	0.17
B12003-B12004	1854	203	8	0.012	0.84	0.01	0.06	0.05	0.15	0.08	0.19	0.67	0.22
B12004-B12006	1853	196	8	0.030	1.35	0.01	0.07	0.05	0.17	0.08	0.20	0.67	0.24
B12005-B12006	1815	5	8	0.002	0.35	0.00	0.08	0.00	0.20	0.00	0.24	0.67	0.28
B12006-B12008	1852	23	8	0.006	0.59	0.01	0.07	0.06	0.17	0.08	0.21	0.67	0.24
B12007-B12008	1814	3	8	0.002	0.35	0.00	0.06	0.00	0.14	0.00	0.17	0.67	0.19
B12008-B12009	1760	164	8	0.032	1.40	0.01	0.06	0.06	0.13	0.08	0.15	0.67	0.18
B12009-B12010	1759	235	8	0.070	2.06	0.01	0.05	0.06	0.12	0.08	0.15	0.67	0.17
B12010-B12011	1758	273	8	0.050	1.75	0.01	0.06	0.06	0.13	0.09	0.16	0.67	0.18
B12011-B12012	1757	300	8	0.050	1.74	0.01	0.07	0.07	0.15	0.09	0.17	0.67	0.20
B12012-B12013	1756	358	8	0.026	1.25	0.01	0.08	0.07	0.16	0.10	0.19	0.67	0.23
B12013-B12014	1755	334	8	0.027	1.29	0.01	0.07	0.07	0.16	0.10	0.18	0.67	0.22
B12014-B12015	2943	313	8	0.048	1.71	0.01	0.06	0.08	0.14	0.10	0.16	0.67	0.19
B12015-B12016	2942	319	8	0.071	2.08	0.02	0.07	0.08	0.16	0.11	0.18	0.67	0.21
B12016-B12017	2941	155	8	0.024	1.20	0.02	0.08	0.09	0.19	0.11	0.21	0.67	0.25
B12017-B12030	2940	156	8	0.022	1.15	0.02	0.09	0.09	0.18	0.11	0.19	0.67	0.24
B12018-B12019	2939	341	8	0.035	1.45	0.00	0.03	0.00	0.04	0.01	0.06	0.67	0.06
B12019-B12020	5546	346	8	0.040	1.56	0.00	0.04	0.01	0.06	0.01	0.07	0.67	0.08
B12020-B12021	3402	345	8	0.026	1.27	0.01	0.05	0.01	0.07	0.02	0.07	0.67	0.08
B12021-B12024	5228	231	8	0.054	1.82	0.01	0.05	0.02	0.08	0.02	0.07	0.67	0.09
B12022-B12023	2938	306	6	1.016	3.66	0.00	0.53	0.00	0.53	0.00	0.53	0.50	0.53
B12023-B12024	393	423	6	0.032	0.65	0.00	0.07	0.01	0.09	0.00	0.07	0.50	0.10
B12024-B12025	5096	117	8	0.056	1.85	0.01	0.06	0.03	0.09	0.02	0.08	0.67	0.10
B12025-B12028	2937	288	8	0.030	1.36	0.01	0.07	0.03	0.11	0.02	0.09	0.67	0.12
B12026-B12027	2936	186	6	0.008	0.33	0.00	0.03	0.00	0.04	0.00	0.04	0.50	0.04
B12027-B12028	2935	227	6	0.066	0.93	0.00	0.06	0.00	0.10	0.00	0.07	0.50	0.10
B12028-B12029	2934	64	8	0.031	1.37	0.01	0.07	0.04	0.11	0.02	0.08	0.67	0.11
B12029-B12030	2932	352	8	0.068	2.03	0.01	0.07	0.04	0.13	0.02	0.12	0.67	0.16
B12030-B12031.C0	2163	323	8	0.066	2.01	0.03	0.09	0.13	0.19	0.13	0.18	0.67	0.23
B12031.A0-B12031.B0	7824	130	8	0.076	2.15	0.00	0.01	0.00	0.01	0.00	0.00	0.67	0.00
B12031.B0-B12031.C0	7823	160	8	0.084	2.26	0.00	0.02	0.00	0.02	0.00	0.00	0.67	0.02
B12031.C0-B12031	2164	61	8	0.041	1.57	0.03	0.10	0.14	0.21	0.13	0.20	0.67	0.26
B12031-B12043	2931	70	8	0.030	1.35	0.03	0.11	0.14	0.22	0.13	0.21	0.67	0.27
B12032-B12033	2930	3	8	0.002	0.35	0.00	0.02	0.00	0.02	0.00	0.05	0.67	0.05
B12033-B12035	2929	130	8	0.034	1.44	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
B12034-B12035	2261	197	8	0.084	2.26	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
B12035-B12036	2260	51	8	0.037	1.50	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.04
B12036-B12037	2259	152	8	0.100	2.46	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.05
B12037-B12038	2258	213	8	0.037	1.51	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.05
B12038-B12039	2257	136	8	0.083	2.25	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.07
B12039-B12040	2161	82	8	0.015	0.97	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.07
B12040-B12042	2160	225	8	0.076	2.16	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.07

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B12042-B12043	2159	256	8	0.019	1.06	0.00	0.08	0.02	0.16	0.00	0.13	0.67	0.18
B12043-B12063	2158	176	8	0.032	1.39	0.04	0.11	0.16	0.24	0.13	0.22	0.67	0.30
B12044-B12045	5446	158	8	0.431	5.13	0.00	0.01	0.00	0.01	0.01	0.03	0.67	0.03
B12045-B12046	2157	59	8	0.448	5.23	0.00	0.01	0.00	0.02	0.01	0.03	0.67	0.03
B12046-B12047.A0	4315	141	8	0.382	4.83	0.00	0.01	0.00	0.02	0.01	0.03	0.67	0.03
B12047-B12047.A0	3240	183	8	0.117	2.67	0.00	0.02	0.00	0.04	0.01	0.05	0.67	0.05
B12047-B12048	2156	307	8	0.042	1.61	0.00	0.03	0.01	0.08	0.01	0.09	0.67	0.11
B12048-B12049	2155	289	8	0.005	0.56	0.00	0.03	0.01	0.08	0.02	0.10	0.67	0.12
B12049-B12050	2154	281	8	0.153	3.06	0.00	0.02	0.01	0.06	0.06	0.12	0.67	0.13
B12050-B12051	2153	144	8	0.039	1.53	0.00	0.02	0.02	0.08	0.06	0.14	0.67	0.15
B12051-B12106	2152	151	8	0.035	1.46	0.00	0.02	0.02	0.08	0.06	0.13	0.67	0.14
B12052-B12056	2151	300	8	0.088	2.32	0.00	0.02	0.03	0.08	0.07	0.12	0.67	0.13
B12055-B12103	B12055-B12103	108	8	0.102	2.50	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.02
B12056-B12057	1589	279	8	0.062	1.94	0.00	0.03	0.03	0.09	0.07	0.13	0.67	0.14
B12057-B12058	1588	296	8	0.063	1.96	0.00	0.04	0.04	0.12	0.07	0.16	0.67	0.18
B12058-B12062	1587	264	8	0.015	0.95	0.00	0.04	0.04	0.13	0.07	0.16	0.67	0.19
B12062-B12063	2927	337	8	0.064	1.98	0.00	0.07	0.05	0.18	0.07	0.18	0.67	0.24
B12063-B12064	2926	294	8	0.038	1.52	0.04	0.17	0.22	0.40	0.17	0.35	0.67	0.52
B12064-B12086	2925	90	8	0.003	0.39	0.04	0.22	0.22	0.52	0.18	0.44	0.67	0.67
B12065-B12066	2924	310	8	0.036	1.48	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
B12066-B12067	2923	498	8	0.040	1.57	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.05
B12067-B12068	2922	205	8	0.114	2.64	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.05
B12068-B12070	2324	56	8	0.111	2.60	0.00	0.03	0.01	0.06	0.00	0.03	0.67	0.06
B12069-B12070	4411	151	8	0.005	0.55	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.05
B12070-B12071	3793	131	8	0.114	2.63	0.01	0.04	0.02	0.07	0.01	0.05	0.67	0.08
B12071-B12072	2921	231	8	0.022	1.16	0.01	0.05	0.02	0.09	0.01	0.05	0.67	0.09
B12072-B12073	2920	282	8	0.039	1.54	0.01	0.05	0.02	0.09	0.01	0.05	0.67	0.10
B12073-B12074	2919	251	8	0.020	1.10	0.01	0.06	0.03	0.11	0.01	0.06	0.67	0.11
B12074-B12075	2918	224	8	0.022	1.17	0.01	0.06	0.03	0.11	0.01	0.05	0.67	0.10
B12075-B12076	2917	237	8	0.046	1.68	0.01	0.05	0.03	0.09	0.01	0.05	0.67	0.09
B12076-B12086	2916	168	8	0.101	2.48	0.01	0.13	0.04	0.29	0.01	0.22	0.67	0.35
B12077-B12079	2915	283	8	0.007	0.67	0.00	0.04	0.00	0.05	0.00	0.03	0.67	0.05
B12078-B12079	2914	240	8	0.009	0.74	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.07
B12079-B12080	2913	301	8	0.005	0.53	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.07
B12080-B12081	2912	182	8	0.082	2.23	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.05
B12082-B12083	2910	120	8	0.004	0.52	0.00	0.02	0.00	0.02	0.00	0.05	0.67	0.05
B12083-B12084	4943	111	8	0.018	1.04	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
B12084-B12085	5487	143	8	0.263	4.00	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.05
B12085-B12081	2911	134	8	0.134	2.86	0.00	0.03	0.01	0.06	0.00	0.03	0.67	0.06
B12085-B12086	2909	334	8	0.098	2.45	0.00	0.12	0.02	0.28	0.01	0.22	0.67	0.34
B12086-B12087	2908	191	8	0.007	0.64	0.06	0.18	0.29	0.40	0.19	0.32	0.67	0.49
B12087-B12088	2907	374	8	0.033	1.41	0.06	0.15	0.29	0.34	0.19	0.27	0.67	0.41
B12088-B11048	7264	396	8	0.016	1.00	0.06	0.16	0.29	0.36	0.19	0.30	0.67	0.44
B12094-B12062	B12094-B12062	108	8	0.017	1.02	0.00	0.02	0.01	0.09	0.00	0.09	0.67	0.12
B12095-B12094	B12095-B12094	180	8	0.159	3.11	0.00	0.00	0.01	0.05	0.00	0.04	0.67	0.06
B12096-B12095	B12096-B12095	185	8	0.162	3.14	0.00	0.00	0.01	0.03	0.00	0.03	0.67	0.04
B12097-B12096	B12097-B12096	165	8	0.165	3.17	0.00	0.00	0.00	0.03	0.00	0.03	0.67	0.04
B12098-B12097	B12098-B12097	72	8	0.173	3.25	0.00	0.00	0.00	0.02	0.00	0.03	0.67	0.03
B12099-B12098	B12099-B12098	68	8	0.156	3.09	0.00	0.00	0.00	0.02	0.00	0.03	0.67	0.03
B12100-B12099	B12100-B12099	68	8	0.109	2.58	0.00	0.00	0.00	0.02	0.00	0.03	0.67	0.03
B12101-B12100	B12101-B12100	63	8	0.057	1.87	0.00	0.00	0.00	0.01	0.00	0.03	0.67	0.03
B12102-B12055	B12102-B12055	85	8	0.094	2.40	0.00	0.00	0.00	0.01	0.00	0.00	0.67	0.01
B12103-B12104	B12103-B12104	176	8	0.057	1.87	0.00	0.01	0.00	0.04	0.00	0.02	0.67	0.05
B12104-B12105	B12104-B12105	127	8	0.007	0.63	0.00	0.02	0.00	0.06	0.00	0.02	0.67	0.06
B12105-B12106	B12105-B12106	103	8	0.015	0.97	0.00	0.01	0.01	0.05	0.00	0.03	0.67	0.06
B12105-B12106	CDT-48	34	8	0.041	1.59	0.00	0.02	0.01	0.06	0.00	0.07	0.67	0.09
B13001-B13002	2958	150	6	0.094	1.11	0.00	0.03	0.00	0.03	0.00	0.02	0.50	0.02
B13002-B13003	2906	316	6	0.148	1.39	0.00	0.04	0.00	0.05	0.00	0.03	0.50	0.05
B13003-B13005	2905	373	6	0.030	0.63	0.00	0.05	0.01	0.07	0.00	0.03	0.50	0.06
B13004-B13005	2957	148	8	0.002	0.35	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
B13005-B13006	2364	217	8	0.106	2.54	0.00	0.04	0.01	0.06	0.00	0.03	0.67	0.05
B13006-B13007	2204	184	8	0.057	1.86	0.01	0.04	0.01	0.07	0.00	0.03	0.67	0.06
B13007-B13012	2205	281	8	0.057	1.87	0.01	0.05	0.02	0.08	0.00	0.04	0.67	0.08
B13008-B13009	7654	291	8	0.035	1.46	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.02
B13009-B13010	2201	352	8	0.133	2.85	0.00	0.03	0.01	0.04	0.00	0.02	0.67	0.04
B13010-B13011	2202	148	8	0.048	1.72	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.07
B13011-B13012	2363	97	8	0.011	0.82	0.00	0.05	0.01	0.09	0.00	0.04	0.67	0.09
B13012-B13013	2362	144	8	0.058	1.87	0.01	0.06	0.03	0.10	0.01	0.05	0.67	0.10
B13013-B13026	2361	323	8	0.040	1.55	0.01	0.08	0.04	0.14	0.01	0.07	0.67	0.14
B13014-B13015	2193	190	8	0.003	0.45	0.00	0.20	0.00	0.21	0.00	0.21	0.67	0.22
B13015-B13016	2194	77	8	0.009	0.75	0.01	0.70	0.01	0.70	0.01	0.70	0.67	0.71
B13016-B13017	2195	195	8	0.005	0.55	0.00	0.51	0.01	0.52	0.00	0.51	0.67	0.52
B13017-B13018	2360	150	8	0.190	3.41	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.04
B13018-B13019	2359	258	8	0.070	2.07	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.07
B13019-B13020	2196	250	8	0.011	0.82	0.00	0.06	0.01	0.10	0.00	0.06	0.67	0.10
B13020.A0-B13020.B0	2197	136	8	0.060	1.92	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B13020.B0-B13020.C0	2198	380	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B13020.C0-B13020	2199	91	8	0.078	2.18	0.00	0.05	0.01	0.08	0.00	0.05	0.67	0.08
B13020-B13024	2200	265	8	0.012	0.84	0.01	0.07	0.02	0.11	0.01	0.07	0.67	0.11
B13021-B13022	2203	135	8	0.007	0.65	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
B13022-B13023	2358	219	8	0.059	1.89	0.00	0.03	0.00	0.04	0.01	0.04	0.67	0.04
B13023-B13024	2357	337	8	0.076	2.15	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.08
B13024-B13025	2356	86	8	0.048	1.71	0.01	0.07	0.04	0.11	0.01	0.07	0.67	0.11
B13025-B13026	2355	272	8	0.048	1.72	0.02	0.09	0.04	0.14	0.02	0.08	0.67	0.14
B13026-B13222.A0	2354	248	8	0.024	1.21	0.03	0.10	0.08	0.17	0.02	0.09	0.67	0.17
B13028-B13029	1539	212	8	0.002	0.35	0.00	0.06	0.00	0.06	0.01	0.11	0.67	0.11
B13029-B13030	2352	182	8	0.002	0.35	0.00	0.06	0.00	0.07	0.01	0.10	0.67	0.11
B13030-B13032	2351	43	8	0.008	0.71	0.00	0.10	0.01	0.14	0.01	0.18	0.67	0.19
B13031-B13032	1540	191	6	0.003	0.21	0.00	0.14	0.00	0.17	0.01	0.24	0.50	0.25
B13032-B13033	1537	134	8	0.000	0.02	0.00	0.11	0.01	0.16	0.02	0.21	0.67	0.22
B13033-B13034	1538	209	8	0.003	0.42	0.00	0.08	0.01	0.13	0.02	0.16	0.67	0.18
B13034.A0-B13034.B0	2959	242	8	0.010	0.78	0.00	0.02	0.00	0.02	0.01	0.06	0.67	0.06
B13034.B0-B13034.C0	2960	130	8	0.114	2.63	0.00	0.02	0.00	0.03	0.01	0.04	0.67	0.05
B13034.C0-B13034.D0	2961	51	8	0.196	3.46	0.00	0.02	0.01	0.03	0.01	0.04	0.67	0.05
B13034.D0-B13034	1536	186	8	0.170	3.22	0.00	0.06	0.01	0.09	0.01	0.11	0.67	0.13
B13034-B13035	1543	345	8	0.005	0.54	0.01	0.07	0.02	0.12	0.03	0.13	0.67	0.15
B13035.A0-B13035.B0	1541	228	8	0.063	1.95	0.00	0.51	0.00	0.51	0.00	0.51	0.67	0.51
B13035.B0-B13035	1542	128	8	0.156	3.08	0.00	0.03	0.00	0.05	0.00	0.05	0.67	0.06
B13035-B13036	1544	58	8	0.086	2.29	0.01	0.05	0.03	0.08	0.03	0.08	0.67	0.10
B13036-B13037	1545	214	8	0.103	2.50	0.01	0.05	0.03	0.08	0.03	0.08	0.67	0.10
B13037-B13038	1546	339	8	0.089	2.33	0.01	0.06	0.04	0.10	0.03	0.09	0.67	0.12
B13038-B13043	1547	175	8	0.033	1.42	0.01	0.07	0.04	0.12	0.03	0.10	0.67	0.14
B13039-B13040	2350	278	6	0.079	1.02	0.00	0.03	0.00	0.04	0.00	0.02	0.50	0.03
B13040-B13041	1548	159	6	0.047	0.78	0.00	0.05	0.00	0.06	0.00	0.04	0.50	0.06
B13041-B13042	1549	246	8	0.010	0.78	0.00	0.04	0.01	0.06	0.00	0.03	0.67	0.06
B13042-B13043	1550	268	8	0.031	1.38	0.00	0.05	0.01	0.09	0.00	0.07	0.67	0.10
B13043-B13222.B0	1551	321	8	0.046	1.67	0.02	0.07	0.05	0.13	0.04	0.11	0.67	0.15

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B13053-B13054	3461	288	6	0.216	1.69	0.00	0.03	0.00	0.03	0.00	0.03	0.50	0.04
B13054-B13055	2344	247	6	0.102	1.16	0.00	0.52	0.00	0.52	0.00	0.52	0.50	0.52
B13055-B13056.D0	1248	126	8	0.007	0.66	0.00	0.53	0.01	0.54	0.01	0.53	0.67	0.54
B13056.A0-B13056.BA	7193	79	8	0.030	1.34	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B13056.B0-B13056.C0	1249	237	8	0.172	3.24	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B13056.BA-B13056.B0	7194	87	8	0.104	2.52	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B13056.C0-B13056.D0	1250	80	8	0.026	1.26	0.00	0.04	0.01	0.07	0.00	0.05	0.67	0.07
B13056.D0-B13056	1251	96	8	0.024	1.21	0.01	0.05	0.02	0.07	0.01	0.05	0.67	0.08
B13056.E0-B13056	8318	65	8	0.004	0.49	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B13056-B13222.I0	2343	305	8	0.055	1.84	0.01	0.04	0.02	0.07	0.01	0.05	0.67	0.08
B13059.A0-B13059	7653	121	8	0.055	1.83	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B13059-B13060	2342	190	8	0.055	1.83	0.00	0.04	0.00	0.05	0.00	0.06	0.67	0.07
B13060-B13061	2904	215	8	0.004	0.52	0.00	0.05	0.01	0.06	0.01	0.07	0.67	0.08
B13061-B13063	2903	166	8	0.078	2.18	0.00	0.05	0.01	0.07	0.01	0.07	0.67	0.08
B13062-B13063	2902	156	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.07	0.67	0.07
B13063-B13076	2695	350	8	0.011	0.82	0.01	0.07	0.01	0.10	0.01	0.11	0.67	0.13
B13073-B13074	2694	252	8	0.073	2.12	0.00	0.03	0.00	0.03	0.00	0.06	0.67	0.06
B13074-B13075	2693	320	8	0.011	0.81	0.00	0.03	0.00	0.05	0.01	0.08	0.67	0.08
B13075-B13076	2692	123	8	0.066	2.01	0.00	0.05	0.01	0.08	0.02	0.09	0.67	0.11
B13076-B13077	2691	111	8	0.017	1.01	0.01	0.06	0.03	0.10	0.03	0.10	0.67	0.13
B13077-B13078	2690	217	8	0.070	2.07	0.01	0.05	0.03	0.08	0.03	0.08	0.67	0.10
B13078-B13079	2689	220	8	0.070	2.06	0.01	0.05	0.03	0.09	0.03	0.09	0.67	0.11
B13079-B13080	2687	200	8	0.061	1.92	0.01	0.07	0.03	0.11	0.03	0.11	0.67	0.14
B13080-B13081	2686	263	8	0.016	0.98	0.01	0.08	0.04	0.14	0.03	0.14	0.67	0.17
B13081-B13082	2685	251	8	0.011	0.83	0.01	0.08	0.04	0.14	0.04	0.14	0.67	0.17
B13082-B13083	2684	189	8	0.020	1.10	0.01	0.08	0.04	0.15	0.04	0.14	0.67	0.18
B13083-B13084	2683	198	8	0.014	0.92	0.01	0.07	0.05	0.14	0.04	0.13	0.67	0.16
B13084-B13088	2847	153	8	0.061	1.93	0.01	0.06	0.05	0.11	0.04	0.10	0.67	0.13
B13085-B13086	1055	170	8	0.005	0.57	0.00	0.03	0.00	0.04	0.00	0.07	0.67	0.07
B13086-B13087	2846	211	8	0.004	0.52	0.00	0.05	0.00	0.07	0.01	0.10	0.67	0.10
B13087-B13088	2845	355	8	0.003	0.45	0.00	0.06	0.01	0.09	0.01	0.11	0.67	0.13
B13088-B13089	2844	187	8	0.098	2.44	0.02	0.06	0.06	0.11	0.06	0.11	0.67	0.14
B13089-B13090	2843	140	8	0.079	2.19	0.02	0.07	0.06	0.13	0.06	0.12	0.67	0.15
B13090-B13222.K0	1054	337	8	0.047	1.69	0.02	0.15	0.06	0.28	0.06	0.21	0.67	0.32
B13097-B13098	2842	129	8	0.078	2.18	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.02
B13098-B13222.O0	B13098-B13222.O0	188	8	0.068	2.04	0.00	0.11	0.00	0.21	0.00	0.14	0.67	0.23
B13102-B13103	1058	107	6	0.048	0.79	0.00	0.06	0.00	0.09	0.00	0.10	0.50	0.12
B13103.A0-B13103.B0	1131	225	8	0.117	2.67	0.00	0.02	0.00	0.03	0.00	0.05	0.67	0.05
B13103.B0-B13103.C0	789	353	8	0.051	1.77	0.00	0.03	0.00	0.04	0.02	0.07	0.67	0.07
B13103.C0-B13103.I0	788	179	8	0.071	2.07	0.00	0.13	0.01	0.21	0.02	0.25	0.67	0.28
B13103.D0-B13103.E0	1137	104	8	0.044	1.64	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B13103.E0-B13103.G0	1136	202	8	0.060	1.92	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
B13103.F0-B13103.G0	1135	70	8	0.073	2.11	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B13103.G0-B13103.H0	1134	204	8	0.074	2.12	0.00	0.03	0.01	0.04	0.01	0.04	0.67	0.05
B13103.H0-B13103.I0	1132	190	8	0.119	2.70	0.00	0.14	0.01	0.21	0.01	0.24	0.67	0.27
B13103.I0-B13103	787	367	8	0.000	0.01	0.01	0.15	0.02	0.24	0.03	0.27	0.67	0.31
B13103-B13105	B13103-B13105	399	8	0.022	1.17	0.01	0.09	0.03	0.14	0.03	0.15	0.67	0.18
B13104-B13105.A0	1057	295	8	0.157	3.10	0.00	0.03	0.00	0.03	0.01	0.04	0.67	0.04
B13105.A0-B13105	B13105.A0-B13105	162	8	0.121	2.72	0.01	0.08	0.01	0.10	0.01	0.12	0.67	0.13
B13105-B13106	B13105-B13106	378	8	0.009	0.74	0.02	0.11	0.04	0.17	0.06	0.19	0.67	0.22
B13106-B13109	2838	351	8	0.009	0.74	0.02	0.13	0.05	0.21	0.06	0.24	0.67	0.28
B13107-B13108	1056	154	8	0.125	2.77	0.00	0.01	0.00	0.01	0.01	0.04	0.67	0.04
B13108-B13109	B13108-B13109	270	8	0.264	4.01	0.00	0.08	0.00	0.13	0.01	0.16	0.67	0.19
B13109-B13110	1529	249	8	0.004	0.51	0.02	0.12	0.06	0.19	0.08	0.22	0.67	0.25
B13110-B13111	1528	279	8	0.047	1.69	0.02	0.08	0.06	0.13	0.08	0.15	0.67	0.17
B13111-B13113	B13111-B13113	386	8	0.058	1.88	0.02	0.54	0.07	0.56	0.08	0.57	0.67	0.58
B13112-B13113	B13112-B13113	154	8	0.041	1.57	0.00	0.51	0.00	0.51	0.00	0.52	0.67	0.52
B13113-B13114	B13113-B13114	15	8	0.366	4.73	0.03	0.62	0.07	0.70	0.09	0.72	0.67	0.76
B13114-B13115	B13114-B13115	550	8	0.002	0.34	0.02	0.16	0.07	0.27	0.09	0.29	0.67	0.35
B13115-B13116	2107	126	8	0.060	1.91	0.02	0.08	0.08	0.15	0.09	0.16	0.67	0.19
B13116-B13119	2106	377	8	0.038	1.52	0.02	0.09	0.08	0.17	0.09	0.18	0.67	0.22
B13117-B13118	733	112	8	0.165	3.17	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B13118-B13119	732	250	8	0.117	2.68	0.00	0.06	0.00	0.10	0.01	0.12	0.67	0.13
B13119-B13126	2105	213	8	0.030	1.36	0.03	0.10	0.09	0.17	0.10	0.18	0.67	0.22
B13120-B13122	734	170	8	0.015	0.94	0.00	0.51	0.00	0.52	0.01	0.52	0.67	0.52
B13121-B13122	735	72	8	0.037	1.51	0.00	0.51	0.00	0.52	0.00	0.52	0.67	0.52
B13122-B13123	1813	48	8	0.061	1.93	0.00	0.03	0.00	0.04	0.01	0.05	0.67	0.05
B13123-B13124	2104	221	8	0.064	1.98	0.00	0.03	0.01	0.04	0.01	0.05	0.67	0.06
B13124-B13125	2103	239	8	0.059	1.90	0.00	0.04	0.01	0.05	0.01	0.06	0.67	0.07
B13125-B13126	2102	384	8	0.049	1.73	0.00	0.07	0.01	0.11	0.02	0.12	0.67	0.14
B13126-B13222.R0	2101	96	8	0.056	1.84	0.03	0.18	0.11	0.35	0.12	0.28	0.67	0.40
B13127-B13128	739	318	8	0.133	2.85	0.00	0.02	0.00	0.03	0.00	0.01	0.67	0.03
B13128-B13133	740	267	8	0.023	1.20	0.00	0.04	0.00	0.07	0.00	0.03	0.67	0.06
B13129-B13130	2100	146	6	0.211	1.67	0.00	0.02	0.00	0.02	0.00	0.01	0.50	0.02
B13130-B13131	2099	147	6	0.196	1.60	0.00	0.02	0.00	0.03	0.00	0.01	0.50	0.03
B13131-B13132.C0	1064	67	6	0.166	1.48	0.00	0.03	0.00	0.05	0.00	0.02	0.50	0.04
B13132.A0-B13132.B0	1145	72	8	0.191	3.41	0.00	0.02	0.00	0.03	0.00	0.01	0.67	0.02
B13132.AA-B13132.AB	7195	129	8	0.163	3.16	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.01
B13132.AB-B13132.A0	7196	20	8	0.157	3.09	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.02
B13132.B0-B13132.C0	1149	135	8	0.103	2.50	0.00	0.03	0.00	0.04	0.00	0.02	0.67	0.03
B13132.C0-B13132	1253	34	6	0.142	1.37	0.00	0.04	0.01	0.06	0.00	0.03	0.50	0.06
B13132-B13133	2098	369	6	0.089	1.08	0.00	0.06	0.01	0.09	0.00	0.04	0.50	0.09
B13133-B13137	2097	244	8	0.029	1.34	0.01	0.06	0.02	0.11	0.00	0.05	0.67	0.10
B13134-B13135	2096	48	8	0.031	1.38	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B13135-B13136	2095	218	8	0.169	3.21	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B13136-B13137	2094	350	8	0.114	2.64	0.00	0.05	0.00	0.08	0.00	0.04	0.67	0.08
B13137-B13138	738	351	8	0.014	0.92	0.01	0.08	0.03	0.14	0.01	0.06	0.67	0.14
B13138-B13139	2093	369	8	0.010	0.78	0.01	0.08	0.04	0.14	0.01	0.06	0.67	0.13
B13139-B13143	2092	343	8	0.038	1.52	0.01	0.07	0.04	0.13	0.01	0.05	0.67	0.12
B13140-B13141	437	340	8	0.053	1.80	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.05
B13141-B13142	2091	106	8	0.006	0.58	0.00	0.03	0.00	0.06	0.00	0.04	0.67	0.06
B13142-B13143.A0	934	239	8	0.034	1.45	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.05
B13143.A0-B13143	937	246	8	0.035	1.46	0.00	0.06	0.01	0.10	0.00	0.05	0.67	0.10
B13143-B13222.R0	2090	110	8	0.036	1.48	0.02	0.18	0.06	0.33	0.01	0.23	0.67	0.36
B13147-B13148	2089	4	8	0.283	4.16	0.00	0.01	0.00	0.01	0.00	0.02	0.67	0.02
B13148-B13222.V0	2835	258	8	0.030	1.36	0.00	0.12	0.00	0.23	0.00	0.18	0.67	0.27
B13150-B13222.W0	2833	413	8	0.040	1.57	0.00	0.13	0.00	0.24	0.00	0.18	0.67	0.27
B13153-B13222.Y0	2832	292	8	0.063	1.96	0.00	0.14	0.00	0.26	0.01	0.21	0.67	0.30
B13155.A0-B13222.Z0	3320	162	6	0.098	1.13	0.00	0.18	0.00	0.33	0.00	0.26	0.50	0.38
B13156-B13157	1138	233	8	0.007	0.64	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.06
B13157-B13158	2828	51	8	0.003	0.42	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.06
B13158-B13160	2827	245	8	0.076	2.15	0.00	0.04	0.00	0.05	0.01	0.05	0.67	0.06
B13159-B13160	2826	231	8	0.039	1.55	0.01	0.05	0.01	0.05	0.01	0.07	0.67	0.07
B13160-B13165	2825	158	8	0.076	2.16	0.01	0.06	0.02	0.07	0.02	0.08	0.67	0.09
B13161-B13162	2824	78	8	0.004	0.49	0.00	0.04	0.00	0.04	0.00	0.08	0.67	0.08
B13162-B13163	1139	163	8	0.004	0.49	0.00	0.06	0.00	0.06	0.01	0.09	0.67	0.09
B13163-B13164	725	226	8	0.004	0.50	0.00	0.06	0.00	0.08	0.01	0.11	0.67	0.11

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B13164-B13165	2823	67	8	0.004	0.50	0.00	0.06	0.01	0.08	0.01	0.11	0.67	0.11
B13165-B13166	2822	451	8	0.061	1.94	0.01	0.07	0.03	0.10	0.04	0.13	0.67	0.14
B13166-B13173.A0	7989	165	8	0.015	0.97	0.01	0.08	0.03	0.12	0.05	0.15	0.67	0.17
B13168-B13170	727	240	8	0.065	1.99	0.00	0.03	0.00	0.03	0.01	0.05	0.67	0.05
B13169-B13170	2821	375	6	0.031	0.64	0.00	0.04	0.00	0.05	0.00	0.06	0.50	0.07
B13170-B13173.E0	7211	136	8	0.046	1.67	0.00	0.04	0.01	0.06	0.01	0.07	0.67	0.09
B13173.A0-B13173.B0	729	265	8	0.017	1.03	0.01	0.09	0.03	0.13	0.05	0.16	0.67	0.18
B13173.B0-B13173.C0	2829	223	8	0.011	0.81	0.01	0.09	0.04	0.15	0.05	0.17	0.67	0.20
B13173.C0-B13173.D0	7991	141	8	0.011	0.84	0.01	0.08	0.04	0.13	0.05	0.15	0.67	0.18
B13173.D0-B13173	7992	168	8	0.032	1.39	0.01	0.08	0.04	0.13	0.05	0.15	0.67	0.18
B13173.E0-B13173.F0	7212	104	8	0.012	0.85	0.00	0.05	0.01	0.08	0.01	0.09	0.67	0.11
B13173.F0-B13173.G0	7213	91	8	0.012	0.86	0.00	0.04	0.01	0.07	0.01	0.08	0.67	0.09
B13173.G0-B13173	7987	156	8	0.052	1.78	0.00	0.06	0.01	0.10	0.01	0.11	0.67	0.14
B13173-B13174	730	329	8	0.023	1.17	0.02	0.10	0.06	0.16	0.07	0.18	0.67	0.21
B13174-B13208	2820	430	8	0.016	0.99	0.02	0.17	0.06	0.29	0.08	0.30	0.67	0.37
B13179.A0-B13179.B0	7197	86	8	0.178	3.29	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
B13179.B0-B13179.C0	7198	160	8	0.011	0.82	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.05
B13179.C0-B13179.D0	7199	209	8	0.139	2.91	0.00	0.03	0.00	0.04	0.01	0.06	0.67	0.06
B13179.D0-B13179.E0	7200	85	8	0.028	1.30	0.00	0.04	0.01	0.06	0.01	0.07	0.67	0.08
B13179.E0-B13179	7202	40	8	0.023	1.18	0.00	0.04	0.01	0.06	0.01	0.07	0.67	0.07
B13179-B13180	3436	163	8	0.066	2.01	0.00	0.04	0.01	0.05	0.01	0.06	0.67	0.07
B13180-B13197	1534	259	8	0.097	2.43	0.01	0.07	0.01	0.11	0.02	0.12	0.67	0.14
B13181-B13182	1533	387	8	0.072	2.09	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.05
B13182-B13183	1532	292	8	0.024	1.22	0.00	0.04	0.01	0.06	0.01	0.06	0.67	0.07
B13183-B13184	590	366	8	0.031	1.37	0.00	0.04	0.01	0.07	0.01	0.07	0.67	0.09
B13184-B13185	1898	206	8	0.028	1.31	0.01	0.04	0.01	0.07	0.02	0.07	0.67	0.09
B13185-B13186	2793	280	8	0.061	1.93	0.01	0.04	0.02	0.07	0.02	0.07	0.67	0.09
B13186-B13188	538	279	8	0.087	2.30	0.01	0.04	0.02	0.07	0.02	0.07	0.67	0.09
B13187-B13188	1897	215	8	0.175	3.27	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.06
B13188-B13190	537	63	8	0.087	2.31	0.01	0.05	0.03	0.08	0.03	0.08	0.67	0.10
B13189-B13190	536	171	6	0.019	0.50	0.00	0.05	0.00	0.07	0.01	0.09	0.50	0.10
B13190-B13191	535	244	8	0.090	2.34	0.01	0.07	0.03	0.12	0.03	0.13	0.67	0.16
B13191-B13192	534	119	8	0.005	0.58	0.01	0.10	0.03	0.18	0.04	0.18	0.67	0.22
B13192-B13196	168	469	8	0.004	0.49	0.01	0.12	0.04	0.21	0.04	0.21	0.67	0.26
B13193-B13194	167	198	8	0.151	3.04	0.00	0.01	0.00	0.02	0.00	0.03	0.67	0.03
B13194-B13195	931	151	8	0.175	3.27	0.00	0.02	0.00	0.03	0.01	0.04	0.67	0.04
B13195-B13196	930	200	8	0.131	2.83	0.00	0.08	0.01	0.13	0.01	0.14	0.67	0.16
B13196-B13197	550	148	8	0.004	0.50	0.02	0.12	0.05	0.20	0.05	0.21	0.67	0.25
B13197-B13198	549	292	8	0.018	1.06	0.02	0.10	0.07	0.17	0.07	0.17	0.67	0.21
B13198-B13208	547	428	8	0.030	1.35	0.03	0.17	0.07	0.28	0.08	0.28	0.67	0.36
B13199-B13200	546	199	8	0.031	1.36	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B13200-B13201	545	111	8	0.031	1.37	0.00	0.04	0.00	0.05	0.00	0.03	0.67	0.04
B13201-B13203	544	180	8	0.030	1.34	0.01	0.06	0.01	0.08	0.00	0.05	0.67	0.07
B13202-B13203	543	278	8	0.019	1.07	0.00	0.06	0.00	0.07	0.00	0.05	0.67	0.06
B13203-B13204	542	320	8	0.007	0.66	0.01	0.09	0.01	0.11	0.01	0.08	0.67	0.11
B13204-B13205	541	69	8	0.008	0.71	0.01	0.10	0.02	0.13	0.01	0.09	0.67	0.13
B13205-B13206	540	187	8	0.004	0.50	0.01	0.12	0.02	0.15	0.01	0.10	0.67	0.15
B13206-B13207	539	344	8	0.004	0.49	0.02	0.12	0.02	0.16	0.01	0.12	0.67	0.16
B13207-B13208	814	140	8	0.004	0.50	0.02	0.18	0.03	0.29	0.02	0.26	0.67	0.34
B13211.B0-B13211.C0	B13211.B0-B13211.C0	102	8	0.012	0.85	0.00	0.02	0.00	0.02	0.00	0.05	0.67	0.05
B13211.C0-B13211.E0	B13211.C0-B13211.E0	189	8	0.011	0.82	0.00	0.02	0.00	0.03	0.00	0.05	0.67	0.05
B13211.D0-B13211.E0	B13211.D0-B13211.E0	79	8	0.014	1.18	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.04
B13211.E0-B13211.F0	B13211.E0-B13211.F0	131	8	0.093	2.38	0.00	0.15	0.01	0.24	0.01	0.24	0.67	0.31
B13211.F0-B13211	813	313	8	0.004	0.50	0.07	0.22	0.18	0.37	0.18	0.36	0.67	0.47
B13211.F0-B13211	CDT-49	102	8	0.004	0.51	0.07	0.25	0.18	0.42	0.17	0.42	0.67	0.54
B13211-B13213	811	69	8	0.016	0.99	0.07	0.24	0.19	0.40	0.18	0.40	0.67	0.52
B13212-B13213	810	224	8	0.004	0.47	0.00	0.16	0.00	0.27	0.01	0.30	0.67	0.38
B13213-B13214	809	216	8	0.003	0.40	0.07	0.27	0.19	0.46	0.19	0.47	0.67	0.61
B13214-B13215	808	157	8	0.005	0.54	0.07	0.26	0.20	0.44	0.20	0.45	0.67	0.59
B13215-B13217	807	200	8	0.003	0.45	0.07	0.27	0.20	0.46	0.21	0.46	0.67	0.60
B13216-B13217	806	299	8	0.047	1.70	0.00	0.14	0.00	0.22	0.00	0.23	0.67	0.29
B13217-B13218	805	99	8	0.004	0.51	0.07	0.22	0.20	0.36	0.21	0.37	0.67	0.47
B13218-B13219	804	373	8	0.023	1.19	0.07	0.16	0.21	0.27	0.22	0.28	0.67	0.35
B13219-B13222	803	273	8	0.034	1.43	0.07	0.33	0.21	0.60	0.23	0.53	0.67	0.67
B13220-B13221	802	147	6	0.050	0.81	0.00	0.03	0.00	0.03	0.01	0.06	0.50	0.06
B13221-B13222	801	41	6	0.081	1.03	0.00	0.35	0.00	0.52	0.01	0.53	0.50	0.53
B13222.A0-B13222.C0	2353	146	8	0.037	1.49	0.03	0.12	0.09	0.21	0.02	0.12	0.67	0.21
B13222.B0-B13222.C0	B13222.B0-B13222.C0	200	8	0.031	1.37	0.02	0.11	0.06	0.19	0.04	0.14	0.67	0.21
B13222.C0-B13222.D0	B13222.C0-B13222.D0	354	8	0.019	1.08	0.05	0.15	0.15	0.27	0.06	0.17	0.67	0.28
B13222.D0-B13222.F0	B13222.D0-B13222.F0	210	8	0.013	0.90	0.05	0.16	0.15	0.28	0.06	0.18	0.67	0.30
B13222.E0-B13222.F0	2347	327	8	0.070	2.07	0.00	0.09	0.00	0.15	0.00	0.10	0.67	0.16
B13222.F0-B13222.G0	B13222.F0-B13222.G0	313	8	0.013	0.90	0.05	0.16	0.16	0.28	0.06	0.18	0.67	0.30
B13222.G0-B13222.H0	B13222.G0-B13222.H0	204	8	0.016	0.99	0.05	0.16	0.17	0.28	0.06	0.17	0.67	0.30
B13222.H0-B13222.J0	B13222.H0-B13222.J0	157	8	0.014	0.93	0.05	0.16	0.17	0.28	0.06	0.17	0.67	0.30
B13222.I0-B13222.J0	15	238	8	0.050	1.75	0.01	0.10	0.02	0.18	0.01	0.11	0.67	0.18
B13222.J0-B13222.K0	790	89	8	0.022	1.16	0.06	0.19	0.19	0.35	0.07	0.23	0.67	0.38
B13222.K0-B13222.L0	B13222.K0-B13222.L0	243	8	0.008	0.71	0.08	0.21	0.26	0.40	0.13	0.28	0.67	0.44
B13222.L0-B13222.M0	B13222.L0-B13222.M0	166	8	0.013	0.90	0.08	0.20	0.27	0.38	0.13	0.26	0.67	0.42
B13222.M0-B13222.N0	B13222.M0-B13222.N0	221	8	0.012	0.85	0.08	0.20	0.27	0.38	0.13	0.26	0.67	0.41
B13222.N0-B13222.O0	B13222.N0-B13222.O0	248	8	0.015	0.96	0.08	0.20	0.27	0.38	0.13	0.26	0.67	0.42
B13222.O0-B13222.P0	B13222.O0-B13222.P0	219	8	0.011	0.82	0.08	0.21	0.28	0.41	0.13	0.27	0.67	0.44
B13222.P0-B13222.Q0	B13222.P0-B13222.Q0	251	8	0.010	0.80	0.08	0.22	0.28	0.42	0.13	0.28	0.67	0.46
B13222.Q0-B13222.R0	B13222.Q0-B13222.R0	352	8	0.009	0.72	0.08	0.25	0.29	0.48	0.13	0.34	0.67	0.54
B13222.R0-B13222.S0	B13222.R0-B13222.S0	276	10	0.008	1.25	0.13	0.22	0.46	0.42	0.26	0.31	0.83	0.48
B13222.S0-B13222.T0	B13222.S0-B13222.T0	203	10	0.008	1.26	0.13	0.22	0.47	0.42	0.26	0.31	0.83	0.48
B13222.T0-B13222.U0	B13222.T0-B13222.U0	171	10	0.008	1.28	0.13	0.21	0.47	0.40	0.26	0.29	0.83	0.44
B13222.U0-B13222.V0	B13222.U0-B13222.V0	139	10	0.014	1.67	0.13	0.19	0.47	0.36	0.27	0.27	0.83	0.41
B13222.V0-B13222.W0	2834	130	10	0.014	1.70	0.13	0.19	0.48	0.37	0.27	0.27	0.83	0.41
B13222.W0-B13222.X0	3302	307	10	0.013	1.64	0.13	0.19	0.48	0.37	0.27	0.27	0.83	0.42
B13222.X0-B13222.Y0	3311	236	10	0.014	1.66	0.13	0.20	0.49	0.39	0.28	0.29	0.83	0.44
B13222.Y0-B13222.Z0	2831	59	10	0.010	1.43	0.14	0.20	0.50	0.40	0.28	0.30	0.83	0.45
B13222.Z0-B13222	1846	79	10	0.012	1.56	0.14	0.30	0.50	0.57	0.29	0.46	0.83	0.69
B13222-B13229	1996	194	12	0.002	0.63	0.21	0.29	0.72	0.54	0.52	0.46	1.00	0.67
B13223-B13224	3333	130	8	0.039	1.53	0.00	0.03	0.00	0.03	0.01	0.07	0.67	0.07
B13224-B13227	3049	208	8	0.008	0.68	0.00	0.04	0.00	0.04	0.01	0.08	0.67	0.08
B13225-B13226	1995	130	8	0.093	2.38	0.00	0.01	0.00	0.02	0.00	0.03	0.67	0.03
B13226-B13227	1994	21	8	0.121	2.72	0.00	0.02	0.00	0.03	0.01	0.05	0.67	0.05
B13227-B13228	1993	221	8	0.097	2.44	0.00	0.03	0.01	0.05	0.02	0.07	0.67	0.07
B13228-B13229	1992	96	8	0.053	1.80	0.00	0.20	0.01	0.37	0.02	0.33	0.67	0.46
B13229-B13230	1991	72	12	0.006	1.06	0.22	0.27	0.73	0.52	0.55	0.44	1.00	0.65
B13230-B13231	1990	335	12	0.003	0.73	0.22	0.28	0.73	0.55	0.55	0.47	1.00	0.68
B13231.A0-B13231	7110	75	8	0.005	0.55	0.00	0.21	0.00	0.47	0.01	0.38	0.67	0.65
B13231-B08022	2767	314	12	0.004	0.90	0.22	0.33	0.74	0.65	0.57	0.58	1.00	0.81
B13242-B13222.C0	B13242-B13222.C0	30	8	0.041	1.58	0.00	0.08	0.00	0.13	0.00	0.09	0.67	0.14
B14001-B14002	1989	88	8	0.058	1.89	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B14002-B14004	1988	155	8	0.104	2.52	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
B14004-B14005	1987	262	8	0.035	1.46	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B14005-B14006.CH	7636	50	8	0.152	3.05	0.00	0.05	0.01	0.10	0.00	0.06	0.67	0.11
B14006.A0-B14006.B0	1256	334	8	0.033	1.42	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
B14006.AA-B14006.A0	2117	23	8	0.002	0.33	0.00	0.01	0.00	0.01	0.00	0.03	0.67	0.03
B14006.B0-B14006.C0	1257	287	8	0.066	2.01	0.00	0.04	0.01	0.07	0.00	0.05	0.67	0.08
B14006.C0-B14006.D0	B14006.C0-B14006.D0	33	8	0.045	1.66	0.01	0.06	0.04	0.12	0.01	0.07	0.67	0.12
B14006.CA-B14006.CB	7641	300	8	0.069	2.05	0.00	0.04	0.00	0.06	0.00	0.04	0.67	0.06
B14006.CB-B14006.CD	7642	308	8	0.005	0.55	0.00	0.05	0.01	0.10	0.00	0.06	0.67	0.10
B14006.CC-B14006.CD	7643	120	8	0.174	3.25	0.00	0.03	0.00	0.06	0.00	0.04	0.67	0.06
B14006.CD-B14006.CE	7640	184	8	0.005	0.55	0.00	0.07	0.01	0.12	0.00	0.08	0.67	0.13
B14006.CE-B14006.CF	7639	315	8	0.003	0.41	0.00	0.07	0.02	0.13	0.01	0.08	0.67	0.14
B14006.CF-B14006.CG	7635	259	8	0.005	0.56	0.00	0.06	0.02	0.12	0.01	0.07	0.67	0.13
B14006.CG-B14006.CH	7638	59	8	0.013	0.88	0.00	0.07	0.02	0.14	0.01	0.08	0.67	0.14
B14006.CH-B14006.C0	7637	114	8	0.005	0.57	0.01	0.07	0.03	0.14	0.01	0.08	0.67	0.14
B14006.D0-B14006	B14006.D0-B14006	124	8	0.026	1.25	0.01	0.07	0.04	0.14	0.01	0.08	0.67	0.15
B14006-B14008	1986	111	8	0.011	0.80	0.01	0.07	0.04	0.14	0.01	0.08	0.67	0.15
B14007-B14008	1985	236	8	0.045	1.67	0.00	0.04	0.00	0.07	0.00	0.04	0.67	0.07
B14008-B14013	2111	217	8	0.037	1.50	0.01	0.08	0.05	0.15	0.01	0.09	0.67	0.16
B14009-B14010	1984	106	8	0.047	1.69	0.00	0.00	0.00	0.01	0.00	0.02	0.67	0.02
B14010-B14011	1983	184	8	0.071	2.08	0.00	0.01	0.00	0.03	0.00	0.02	0.67	0.03
B14011-B14012	2962	197	8	0.026	1.27	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.05
B14012.A0-B14012	443	73	8	0.035	1.47	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
B14012-B14013	2113	234	8	0.050	1.74	0.00	0.06	0.01	0.12	0.00	0.07	0.67	0.12
B14013-B14014	2112	190	8	0.010	0.78	0.01	0.09	0.06	0.19	0.02	0.11	0.67	0.20
B14014-B14015	1982	250	8	0.011	0.82	0.01	0.08	0.06	0.18	0.02	0.10	0.67	0.18
B14015-B14016	1597	232	8	0.022	1.16	0.01	0.08	0.07	0.16	0.02	0.09	0.67	0.17
B14016-B14018	1596	245	8	0.025	1.24	0.01	0.08	0.07	0.16	0.02	0.09	0.67	0.17
B14017-B14018	1595	226	8	0.074	2.12	0.00	0.04	0.00	0.09	0.00	0.05	0.67	0.09
B14018-B14019	1594	351	8	0.027	1.27	0.01	0.07	0.07	0.16	0.02	0.09	0.67	0.17
B14019-B14020	2233	248	8	0.038	1.53	0.01	0.07	0.08	0.15	0.02	0.08	0.67	0.16
B14020-B14026	2963	195	8	0.040	1.56	0.01	0.08	0.08	0.18	0.02	0.10	0.67	0.19
B14021-B14022	1593	288	8	0.027	1.29	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B14022-B14023	1525	299	8	0.095	2.41	0.00	0.02	0.00	0.04	0.00	0.04	0.67	0.05
B14023-B14024	1524	348	8	0.070	2.07	0.00	0.02	0.01	0.04	0.01	0.04	0.67	0.05
B14024-B14025	1523	318	8	0.225	3.70	0.00	0.03	0.01	0.07	0.01	0.05	0.67	0.08
B14025-B14026	1522	62	8	0.013	0.90	0.00	0.07	0.02	0.15	0.01	0.09	0.67	0.16
B14026-B14027	1521	116	8	0.018	1.06	0.02	0.09	0.10	0.21	0.03	0.12	0.67	0.22
B14027-B14028	1520	349	8	0.019	1.08	0.02	0.09	0.10	0.21	0.03	0.12	0.67	0.22
B14028-B14031	1519	248	8	0.018	1.04	0.02	0.10	0.11	0.23	0.03	0.13	0.67	0.24
B14029-B14030	1518	120	8	0.050	1.74	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B14030-B14031	816	333	8	0.068	2.04	0.00	0.06	0.00	0.13	0.00	0.08	0.67	0.14
B14031-B14032	800	104	8	0.018	1.05	0.02	0.09	0.11	0.20	0.04	0.11	0.67	0.21
B14032-B14033	799	137	8	0.076	2.15	0.02	0.07	0.12	0.16	0.04	0.09	0.67	0.17
B14033-B14034	798	233	8	0.088	2.32	0.02	0.07	0.12	0.16	0.04	0.09	0.67	0.17
B14034-B14111.I0	797	223	8	0.078	2.19	0.02	0.12	0.12	0.24	0.04	0.20	0.67	0.28
B14035-B14036	431	144	8	0.026	1.25	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
B14036-B14038	2241	126	8	0.008	0.72	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.05
B14037-B14038	428	157	6	0.002	0.16	0.00	0.04	0.00	0.04	0.00	0.10	0.50	0.10
B14038-B14039	427	219	8	0.096	2.41	0.00	0.03	0.01	0.04	0.01	0.05	0.67	0.05
B14039-B14041	796	295	8	0.134	2.86	0.00	0.04	0.01	0.06	0.01	0.07	0.67	0.08
B14040-B14041	429	197	8	0.015	0.95	0.00	0.03	0.00	0.05	0.00	0.07	0.67	0.07
B14041-B14044	795	232	8	0.020	1.11	0.01	0.05	0.02	0.08	0.02	0.08	0.67	0.10
B14042-B14043	2240	64	8	0.080	2.21	0.00	0.01	0.00	0.01	0.00	0.02	0.67	0.02
B14043-B14044	724	261	8	0.091	2.35	0.00	0.03	0.00	0.04	0.00	0.06	0.67	0.06
B14044-B14052	723	303	8	0.077	2.17	0.01	0.07	0.02	0.13	0.03	0.15	0.67	0.18
B14045-B14046	722	335	8	0.002	0.35	0.00	0.04	0.00	0.05	0.01	0.10	0.67	0.10
B14046-B14048	721	212	8	0.002	0.35	0.00	0.04	0.00	0.09	0.01	0.11	0.67	0.13
B14047-B14048	2239	211	8	0.004	0.52	0.00	0.04	0.00	0.06	0.00	0.09	0.67	0.10
B14048-B14049	720	210	8	0.006	0.60	0.00	0.04	0.01	0.08	0.02	0.10	0.67	0.11
B14049-B14050	719	254	8	0.034	1.45	0.00	0.04	0.01	0.08	0.02	0.09	0.67	0.11
B14050-B14051	718	200	8	0.014	0.92	0.00	0.06	0.02	0.12	0.02	0.14	0.67	0.16
B14051-B14052	717	222	8	0.003	0.45	0.00	0.09	0.02	0.17	0.03	0.19	0.67	0.23
B14052-B14067	716	439	8	0.006	0.59	0.01	0.11	0.05	0.19	0.06	0.21	0.67	0.25
B14053-B14054	559	14	8	0.037	1.50	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B14054-B14057	715	341	8	0.099	2.46	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.05
B14055-B14056	714	70	8	0.064	1.97	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.01
B14056-B14057	713	7	8	0.177	3.29	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
B14057-B14067	794	445	8	0.032	1.40	0.00	0.07	0.01	0.12	0.01	0.13	0.67	0.16
B14058-B14059	2235	195	8	0.090	2.34	0.00	0.02	0.00	0.02	0.00	0.04	0.67	0.04
B14059-B14061	793	313	8	0.050	1.75	0.00	0.03	0.00	0.04	0.01	0.05	0.67	0.05
B14060-B14061	2236	129	6	0.102	1.16	0.00	0.03	0.00	0.04	0.00	0.05	0.50	0.06
B14061-B14063	856	134	8	0.052	1.78	0.00	0.04	0.01	0.06	0.01	0.06	0.67	0.07
B14062-B14063	2237	184	8	0.102	2.49	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
B14063-B14065	855	375	8	0.028	1.30	0.00	0.07	0.01	0.11	0.01	0.11	0.67	0.14
B14064-B14066	2238	210	8	0.094	2.39	0.00	0.04	0.00	0.06	0.00	0.06	0.67	0.07
B14065-B14066	854	254	8	0.003	0.44	0.01	0.08	0.02	0.13	0.02	0.12	0.67	0.15
B14066-B14067	853	334	8	0.028	1.30	0.01	0.08	0.03	0.14	0.02	0.15	0.67	0.18
B14067-B14068	852	238	8	0.024	1.22	0.03	0.11	0.10	0.19	0.10	0.20	0.67	0.24
B14068-B14070	851	299	8	0.024	1.21	0.03	0.12	0.10	0.21	0.11	0.22	0.67	0.27
B14069-B14070	430	238	8	0.111	2.60	0.00	0.07	0.00	0.12	0.01	0.14	0.67	0.16
B14070-B14075	850	162	8	0.014	0.93	0.03	0.13	0.11	0.24	0.12	0.24	0.67	0.30
B14071-B14073	849	155	8	0.065	1.99	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B14072-B14073	848	253	8	0.040	1.55	0.00	0.02	0.00	0.03	0.01	0.04	0.67	0.04
B14073-B14074	847	202	8	0.122	2.73	0.00	0.03	0.01	0.05	0.01	0.06	0.67	0.06
B14074-B14075	846	101	8	0.022	1.15	0.00	0.09	0.01	0.15	0.01	0.16	0.67	0.19
B14075-B14076	845	162	8	0.014	0.94	0.04	0.14	0.12	0.24	0.13	0.25	0.67	0.31
B14076-B14080	844	336	8	0.015	0.95	0.04	0.14	0.12	0.25	0.13	0.26	0.67	0.32
B14077-B14078	712	228	8	0.029	1.33	0.00	0.03	0.00	0.03	0.01	0.05	0.67	0.05
B14078-B14079	325	344	8	0.118	2.68	0.00	0.04	0.00	0.05	0.01	0.07	0.67	0.08
B14079-B14080	324	59	8	0.010	0.79	0.00	0.10	0.01	0.17	0.02	0.19	0.67	0.22
B14080-B14089	323	350	8	0.014	0.91	0.04	0.18	0.14	0.32	0.15	0.34	0.67	0.42
B14081-B14083	1531	214	6	0.002	0.16	0.00	0.07	0.00	0.08	0.01	0.16	0.50	0.16
B14082-B14083	1530	7	8	0.002	0.35	0.00	0.05	0.00	0.06	0.00	0.11	0.67	0.12
B14083-B14085	1785	89	8	0.002	0.35	0.00	0.05	0.00	0.06	0.01	0.11	0.67	0.11
B14084-B14085	1784	297	8	0.026	1.27	0.00	0.03	0.00	0.04	0.01	0.07	0.67	0.07
B14085-B14088	1783	342	8	0.031	1.38	0.00	0.07	0.01	0.13	0.02	0.19	0.67	0.22
B14086-B14087	2819	273	8	0.042	1.60	0.00	0.03	0.00	0.04	0.02	0.08	0.67	0.08
B14087-B14088	2818	267	8	0.015	0.96	0.00	0.07	0.00	0.13	0.02	0.19	0.67	0.22
B14088-B14089	2817	130	8	0.001	0.25	0.01	0.16	0.02	0.29	0.04	0.35	0.67	0.43
B14089-B14100	2816	210	8	0.006	0.58	0.05	0.18	0.16	0.33	0.20	0.36	0.67	0.43
B14091-B14092	2815	200	6	0.007	0.30	0.00	0.07	0.01	0.10	0.01	0.12	0.50	0.13
B14092-B14094.F0	8327	17	8	0.008	0.69	0.00	0.05	0.01	0.09	0.01	0.10	0.67	0.11
B14093-B14094.F0	2813	174	8	0.119	2.70	0.00	0.01	0.00	0.01	0.00	0.02	0.67	0.02
B14094.A0-B14094.B0	8323	205	8	0.053	1.80	0.00	0.02	0.00	0.02	0.00	0.04	0.67	0.04
B14094.B0-B14094.C0	8328	180	8	0.056	1.86	0.00	0.03	0.00	0.04	0.01	0.05	0.67	0.06
B14094.C0-B14094.D0	8329	47	8	0.012	0.86	0.00	0.04	0.01	0.06	0.01	0.08	0.67	0.09
B14094.D0-B14094.E0	8330	226	8	0.008	0.71	0.00	0.04	0.01	0.06	0.01	0.08	0.67	0.09
B14094.E0-B14094.F0	8331	69	8	0.031	1.37	0.00	0.04	0.01	0.06	0.01	0.07	0.67	0.08

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B14094.F0-B14094	8326	163	8	0.019	1.09	0.01	0.06	0.02	0.09	0.03	0.10	0.67	0.12
B14094-B14095	2812	368	8	0.036	1.49	0.01	0.06	0.02	0.09	0.03	0.10	0.67	0.12
B14095-B14097	2810	261	8	0.028	1.30	0.01	0.06	0.03	0.10	0.03	0.11	0.67	0.13
B14096-B14097	433	152	6	0.004	0.24	0.00	0.54	0.00	0.57	0.01	0.58	0.50	0.59
B14097-B14098	2809	104	8	0.031	1.38	0.01	0.07	0.03	0.11	0.04	0.12	0.67	0.14
B14098-B14100	2808	284	8	0.025	1.24	0.01	0.11	0.03	0.20	0.04	0.21	0.67	0.25
B14099-B14100	434	105	8	0.009	0.75	0.00	0.09	0.00	0.15	0.00	0.17	0.67	0.20
B14100-B14101	2807	222	8	0.025	1.23	0.06	0.20	0.21	0.36	0.24	0.40	0.67	0.49
B14101-B14102	2806	154	8	0.004	0.49	0.06	0.25	0.21	0.47	0.25	0.52	0.67	0.65
B14102-B14103	435	126	8	0.003	0.44	0.06	0.26	0.21	0.48	0.25	0.53	0.67	0.67
B14103-B14104	436	97	8	0.004	0.47	0.06	0.25	0.21	0.47	0.25	0.52	0.67	0.65
B14104-B14105	438	170	8	0.004	0.49	0.07	0.24	0.21	0.43	0.25	0.47	0.67	0.58
B14105-B14106	439	202	8	0.013	0.88	0.07	0.15	0.22	0.26	0.25	0.28	0.67	0.34
B14106-B14107	440	127	8	0.486	5.45	0.07	0.13	0.22	0.23	0.25	0.25	0.67	0.30
B14107-B14111.A0	8006	32	10	0.011	1.48	0.07	0.15	0.22	0.26	0.27	0.29	0.83	0.34
B14111.A0-B14111.B0	8007	133	10	0.011	1.47	0.07	0.15	0.22	0.26	0.27	0.29	0.83	0.35
B14111.B0-B14111.C0	8008	80	10	0.011	1.47	0.07	0.15	0.22	0.26	0.27	0.29	0.83	0.35
B14111.C0-B14111.D0	8009	39	10	0.011	1.46	0.07	0.15	0.22	0.26	0.27	0.29	0.83	0.35
B14111.D0-B14111.E0	7094	39	10	0.011	1.47	0.07	0.15	0.22	0.27	0.27	0.30	0.83	0.36
B14111.E0-B14111.F0	7095	209	10	0.009	1.33	0.07	0.15	0.22	0.28	0.27	0.31	0.83	0.37
B14111.F0-B14111.G0	7096	178	10	0.009	1.33	0.07	0.15	0.23	0.28	0.27	0.31	0.83	0.37
B14111.G0-B14111.H0	7097	84	10	0.009	1.33	0.07	0.15	0.23	0.27	0.27	0.30	0.83	0.36
B14111.H0-B14111.I0	7098	48	10	0.015	1.74	0.07	0.13	0.23	0.25	0.31	0.27	0.83	0.33
B14111.I0-B14111.M0	7099	125	10	0.033	2.56	0.09	0.17	0.35	0.31	0.35	0.30	0.83	0.38
B14111.J0-B14111.K0	7102	141	10	0.010	1.42	0.00	0.08	0.00	0.08	0.03	0.10	0.83	0.10
B14111.K0-B14111.L0	7103	291	10	0.010	1.42	0.06	0.12	0.06	0.12	0.03	0.08	0.83	0.08
B14111.L0-B14111.M0	7101	27	10	0.058	3.42	0.06	0.16	0.06	0.22	0.03	0.21	0.83	0.26
B14111.M0-B14111	7100	96	10	0.010	1.42	0.15	0.24	0.40	0.41	0.38	0.41	0.83	0.54
B14111-B14154	2802	341	8	0.007	0.65	0.15	0.33	0.40	0.57	0.40	0.55	0.67	0.75
B14113-B14114	2800	324	8	0.080	2.21	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.04
B14114-B14115	2799	358	8	0.050	1.75	0.00	0.03	0.00	0.05	0.01	0.05	0.67	0.06
B14115-B14116	2798	359	8	0.031	1.38	0.00	0.03	0.01	0.07	0.01	0.05	0.67	0.08
B14116-B14119	2797	352	8	0.026	1.25	0.00	0.04	0.01	0.10	0.01	0.07	0.67	0.11
B14117-B14118	2796	166	8	0.189	3.40	0.00	0.01	0.00	0.01	0.00	0.02	0.67	0.02
B14118-B14119	2795	164	8	0.162	3.14	0.00	0.03	0.00	0.07	0.00	0.05	0.67	0.08
B14119-B14121	2753	63	8	0.011	0.81	0.00	0.04	0.02	0.09	0.01	0.07	0.67	0.11
B14120-B14121	2234	121	8	0.020	1.11	0.00	0.02	0.00	0.04	0.00	0.04	0.67	0.05
B14121-B14122	2752	242	8	0.107	2.56	0.00	0.04	0.02	0.08	0.01	0.06	0.67	0.09
B14122-B14123	2751	158	8	0.033	1.43	0.00	0.05	0.03	0.11	0.01	0.07	0.67	0.12
B14123-B14124	2750	124	8	0.015	0.95	0.00	0.05	0.03	0.13	0.01	0.08	0.67	0.14
B14124-B14130.A0	B14124-B14130.A0	33	8	0.010	0.79	0.00	0.05	0.03	0.13	0.01	0.09	0.67	0.15
B14125-B14126	2749	179	8	0.010	0.77	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
B14126-B14127	2748	360	8	0.010	0.78	0.00	0.04	0.00	0.05	0.00	0.03	0.67	0.05
B14127-B14128	2747	309	8	0.026	1.26	0.00	0.03	0.01	0.06	0.00	0.03	0.67	0.06
B14128-B14129	2746	352	8	0.072	2.09	0.00	0.03	0.01	0.06	0.00	0.03	0.67	0.06
B14129-B14130	2745	351	8	0.097	2.43	0.01	0.04	0.02	0.09	0.00	0.05	0.67	0.09
B14130.A0-B14130	B14130.A0-B14130	30	8	0.011	0.83	0.00	0.05	0.03	0.13	0.01	0.08	0.67	0.14
B14130-B14131	2744	273	8	0.043	1.62	0.01	0.06	0.05	0.12	0.02	0.07	0.67	0.13
B14131-B14144	2743	358	8	0.041	1.58	0.01	0.09	0.06	0.19	0.02	0.11	0.67	0.20
B14132-B14134	2742	86	8	0.083	2.25	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
B14133-B14134	2741	165	8	0.022	1.15	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
B14134-B14135	2740	152	8	0.042	1.60	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.05
B14135-B14136	2739	309	8	0.035	1.46	0.00	0.03	0.01	0.05	0.00	0.04	0.67	0.05
B14136-B14138	2738	284	8	0.080	2.21	0.00	0.04	0.01	0.06	0.01	0.04	0.67	0.06
B14137-B14138	2736	195	8	0.037	1.50	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B14138-B14140	2735	333	8	0.070	2.07	0.01	0.05	0.02	0.07	0.01	0.05	0.67	0.08
B14139-B14140	2734	190	8	0.043	1.62	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.05
B14140-B14141	2733	214	8	0.063	1.96	0.01	0.06	0.03	0.10	0.01	0.07	0.67	0.10
B14141-B14142	2732	364	8	0.020	1.10	0.01	0.07	0.03	0.12	0.01	0.08	0.67	0.12
B14142-B14143	2731	97	8	0.017	1.02	0.01	0.10	0.03	0.15	0.01	0.10	0.67	0.16
B14143-B14144	2730	113	8	0.004	0.49	0.01	0.12	0.03	0.22	0.01	0.13	0.67	0.22
B14144-B14145	2729	200	8	0.010	0.78	0.02	0.11	0.10	0.21	0.03	0.12	0.67	0.22
B14145-B14153	2728	186	8	0.050	1.74	0.02	0.09	0.10	0.16	0.03	0.10	0.67	0.17
B14146-B14147	2727	193	8	0.073	2.11	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
B14147-B14150	1981	228	8	0.050	1.74	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.07
B14148-B14150	1980	176	8	0.004	0.47	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.07
B14150-B14152	1979	95	8	0.004	0.49	0.00	0.07	0.01	0.10	0.00	0.08	0.67	0.11
B14151-B14152	1978	245	8	0.116	2.66	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.07
B14152-B14153	1977	163	8	0.004	0.49	0.01	0.08	0.01	0.14	0.01	0.09	0.67	0.15
B14153-B14154	1976	303	8	0.059	1.90	0.03	0.21	0.12	0.37	0.04	0.31	0.67	0.44
B14154-B14155	7995	358	10	0.007	1.20	0.18	0.27	0.52	0.48	0.44	0.43	0.83	0.59
B14155-B14156	1974	347	10	0.006	1.14	0.18	0.25	0.53	0.44	0.44	0.40	0.83	0.54
B14156-B14172	1973	333	10	0.016	1.77	0.19	0.22	0.54	0.37	0.47	0.34	0.83	0.45
B14157-B14159	1972	128	8	0.028	1.30	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
B14158-B14159	1971	176	8	0.012	0.85	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
B14159-B14161	1970	277	8	0.024	1.22	0.00	0.06	0.01	0.08	0.00	0.06	0.67	0.08
B14160-B14161	1969	258	8	0.005	0.53	0.00	0.06	0.00	0.07	0.00	0.05	0.67	0.07
B14161-B14164	2726	124	8	0.007	0.66	0.01	0.09	0.01	0.12	0.01	0.08	0.67	0.12
B14162-B14163	2725	175	8	0.005	0.55	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.04
B14163-B14164	2724	166	8	0.007	0.64	0.00	0.08	0.00	0.09	0.00	0.07	0.67	0.09
B14164-B14165	2723	115	8	0.006	0.59	0.01	0.10	0.02	0.14	0.01	0.09	0.67	0.13
B14165-B14166	2722	151	8	0.008	0.68	0.01	0.09	0.02	0.12	0.01	0.08	0.67	0.12
B14166-B14168	2721	68	8	0.032	1.40	0.02	0.09	0.03	0.12	0.01	0.08	0.67	0.12
B14167-B14168	2720	119	8	0.003	0.42	0.00	0.07	0.00	0.08	0.00	0.06	0.67	0.08
B14168-B14169	2719	109	8	0.007	0.67	0.02	0.12	0.03	0.16	0.01	0.11	0.67	0.16
B14169-B14170	2718	248	8	0.006	0.59	0.02	0.10	0.03	0.13	0.01	0.09	0.67	0.13
B14170-B14171	2716	74	8	0.114	2.63	0.02	0.07	0.04	0.09	0.02	0.06	0.67	0.09
B14171-B14172	2715	76	8	0.066	2.01	0.02	0.17	0.04	0.27	0.02	0.24	0.67	0.32
B14172-B14238	2714	79	12	0.017	2.98	0.21	0.22	0.59	0.35	0.49	0.31	1.00	0.42
B14173-B14174	2713	141	8	0.048	1.71	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B14174-B14176	1754	326	8	0.047	1.69	0.00	0.04	0.00	0.05	0.01	0.05	0.67	0.06
B14175-B14176	1753	153	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
B14176-B14177	1752	183	8	0.027	1.29	0.01	0.05	0.01	0.07	0.01	0.06	0.67	0.07
B14177-B14179	1850	187	8	0.030	1.35	0.01	0.06	0.01	0.08	0.01	0.07	0.67	0.09
B14178-B14179	1849	187	8	0.040	1.56	0.00	0.04	0.00	0.05	0.00	0.06	0.67	0.06
B14179-B14181	1848	286	8	0.030	1.35	0.01	0.07	0.02	0.09	0.02	0.08	0.67	0.10
B14180-B14181	1847	90	8	0.014	0.92	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
B14181-B14182	1770	258	8	0.030	1.35	0.01	0.07	0.03	0.09	0.02	0.08	0.67	0.10
B14182-B14184	6893	152	8	0.057	1.86	0.01	0.06	0.03	0.09	0.02	0.08	0.67	0.10
B14183-B14184	6892	38	8	0.080	2.21	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.05
B14184-B14204	6891	225	8	0.076	2.16	0.02	0.09	0.03	0.13	0.02	0.11	0.67	0.15
B14185-B14187	6890	173	8	0.004	0.49	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
B14186-B14187	6889	256	8	0.022	1.15	0.00	0.05	0.00	0.05	0.00	0.06	0.67	0.07
B14187-B14188	7581	306	8	0.004	0.49	0.00	0.08	0.01	0.10	0.01	0.10	0.67	0.12
B14188-B14189	7580	318	8	0.004	0.50	0.01	0.07	0.01	0.10	0.01	0.09	0.67	0.11
B14189-B14192	7579	268	8	0.040	1.56	0.01	0.06	0.02	0.08	0.01	0.08	0.67	0.10
B14190-B14191	7578	291	8	0.020	1.11	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B14191-B14192	7577	219	8	0.040	1.56	0.00	0.05	0.01	0.07	0.01	0.07	0.67	0.08
B14192-B14196	7576	274	8	0.036	1.48	0.01	0.08	0.03	0.11	0.02	0.10	0.67	0.13
B14193-B14194	7575	206	8	0.048	1.71	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B14194-B14195	7574	181	8	0.040	1.56	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
B14195-B14196	7573	159	8	0.039	1.55	0.00	0.06	0.01	0.09	0.01	0.08	0.67	0.10
B14196-B14198	7572	266	8	0.020	1.11	0.02	0.09	0.04	0.13	0.03	0.11	0.67	0.14
B14197-B14198	7571	290	8	0.045	1.65	0.00	0.05	0.00	0.07	0.00	0.07	0.67	0.08
B14198-B14199	7570	256	8	0.044	1.64	0.02	0.08	0.05	0.12	0.04	0.11	0.67	0.14
B14199-B14201	7569	223	8	0.036	1.48	0.02	0.12	0.05	0.18	0.04	0.16	0.67	0.20
B14200-B14201	7568	135	8	0.051	1.76	0.00	0.08	0.00	0.12	0.00	0.11	0.67	0.14
B14201-B14202	7567	78	8	0.004	0.50	0.02	0.16	0.06	0.24	0.04	0.21	0.67	0.27
B14202-B14203	7566	152	8	0.004	0.49	0.03	0.13	0.06	0.19	0.05	0.17	0.67	0.22
B14203-B14204	7565	298	8	0.050	1.74	0.03	0.10	0.06	0.15	0.05	0.13	0.67	0.17
B14204-B14205	7564	198	8	0.032	1.40	0.04	0.12	0.10	0.18	0.07	0.16	0.67	0.21
B14205-B14206	7563	339	8	0.030	1.35	0.04	0.13	0.10	0.20	0.07	0.17	0.67	0.22
B14206-B14228	7543	180	8	0.018	1.05	0.04	0.17	0.11	0.25	0.07	0.21	0.67	0.28
B14207-B14208	7542	38	8	0.030	1.35	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.02
B14208-B14209	557	39	8	0.025	1.22	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
B14209-B14210	7541	145	8	0.036	1.48	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B14210-B14211	7540	69	8	0.016	0.98	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
B14211-B14222	7539	462	8	0.048	1.71	0.00	0.05	0.01	0.06	0.00	0.05	0.67	0.06
B14212-B14213	7538	308	8	0.034	1.44	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B14213-B14214	7537	175	8	0.040	1.56	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
B14214-B14218	7536	46	8	0.041	1.57	0.01	0.06	0.01	0.07	0.01	0.05	0.67	0.07
B14215-B14216	7535	54	8	0.013	0.90	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B14216-B14217	7278	43	8	0.010	0.77	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
B14217-B14218	7277	91	8	0.015	0.95	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
B14218-B14219	7276	48	8	0.010	0.78	0.01	0.07	0.01	0.09	0.01	0.07	0.67	0.09
B14219-B14220	7275	148	8	0.013	0.88	0.01	0.06	0.01	0.08	0.01	0.06	0.67	0.08
B14220-B14221	3281	37	8	0.033	1.43	0.01	0.08	0.02	0.10	0.01	0.08	0.67	0.10
B14221-B14222	3280	128	8	0.004	0.50	0.01	0.08	0.02	0.11	0.01	0.08	0.67	0.11
B14222-B14223	3279	46	8	0.081	2.23	0.02	0.08	0.03	0.10	0.01	0.07	0.67	0.10
B14223-B14224	3278	251	8	0.015	0.95	0.02	0.50	0.03	0.54	0.02	0.50	0.67	0.54
B14224-B14227	3277	189	8	0.003	0.41	0.02	0.52	0.04	0.54	0.02	0.51	0.67	0.54
B14225-B14226	3276	494	8	0.014	0.93	0.02	0.09	0.02	0.09	0.01	0.07	0.67	0.07
B14226-B14227	3275	161	8	0.058	1.89	0.03	0.10	0.03	0.11	0.03	0.09	0.67	0.10
B14227.A0-B14228	3274	116	8	0.009	0.72	0.05	0.20	0.07	0.25	0.05	0.20	0.67	0.26
B14227-B14227.A0	7113	128	8	0.060	1.92	0.05	0.15	0.07	0.17	0.04	0.14	0.67	0.17
B14228-B14235	3273	76	8	0.018	1.03	0.10	0.20	0.18	0.27	0.12	0.21	0.67	0.28
B14229-B14230	3272	147	8	0.055	1.84	0.01	0.07	0.01	0.07	0.00	0.03	0.67	0.03
B14230-B14232	3271	154	8	0.030	1.35	0.01	0.09	0.01	0.09	0.00	0.04	0.67	0.05
B14231-B14232	3269	154	8	0.007	0.64	0.00	0.07	0.00	0.07	0.00	0.04	0.67	0.05
B14232-B14233	2710	355	8	0.017	1.01	0.02	0.08	0.02	0.08	0.00	0.04	0.67	0.06
B14233-B14234	2709	56	8	0.242	3.85	0.02	0.08	0.02	0.08	0.01	0.05	0.67	0.06
B14234-B14235	2708	43	8	0.017	1.03	0.02	0.14	0.02	0.17	0.01	0.13	0.67	0.17
B14235-B14236	2707	302	8	0.038	1.52	0.12	0.20	0.20	0.26	0.13	0.21	0.67	0.28
B14236-B14237	2706	354	8	0.022	1.16	0.12	0.24	0.20	0.32	0.13	0.25	0.67	0.34
B14237-B14238	2705	321	10	0.007	1.15	0.12	0.26	0.21	0.39	0.13	0.32	0.83	0.44
B14238-B14239	2704	78	12	0.010	2.29	0.33	0.27	0.80	0.43	0.61	0.37	1.00	0.50
B14239-B14274	2703	296	12	0.009	2.17	0.33	0.24	0.80	0.37	0.61	0.32	1.00	0.43
B14240-B14250	2702	126	8	0.014	0.92	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B14250-B14251	2701	80	8	0.014	0.93	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.05
B14251-B14252	2700	118	8	0.004	0.49	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
B14252-B14254	2699	217	8	0.025	1.23	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.06
B14253-B14254	1833	296	8	0.026	1.26	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B14254-B14257	1832	243	8	0.054	1.82	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.08
B14255-B14256	1831	260	8	0.049	1.73	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B14256-B14257	1830	321	8	0.023	1.19	0.00	0.05	0.01	0.07	0.00	0.05	0.67	0.07
B14257-B14258	1829	64	8	0.042	1.61	0.01	0.06	0.03	0.09	0.01	0.06	0.67	0.09
B14258-B14260	1828	162	8	0.045	1.65	0.01	0.08	0.03	0.11	0.01	0.08	0.67	0.11
B14259-B14260	1827	305	8	0.034	1.44	0.00	0.06	0.00	0.08	0.00	0.06	0.67	0.08
B14260-B14261	1826	122	8	0.014	0.94	0.02	0.09	0.03	0.13	0.02	0.09	0.67	0.14
B14261-B14264	1825	105	8	0.014	0.94	0.02	0.10	0.04	0.14	0.02	0.10	0.67	0.14
B14262-B14263	1824	235	8	0.016	0.99	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
B14263-B14264	1823	326	8	0.029	1.33	0.00	0.07	0.01	0.10	0.00	0.07	0.67	0.10
B14264-B14267	1822	231	8	0.020	1.10	0.02	0.09	0.05	0.13	0.02	0.09	0.67	0.14
B14265-B14266	1821	69	8	0.037	1.51	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B14266-B14267	1820	230	8	0.040	1.56	0.00	0.05	0.00	0.07	0.00	0.05	0.67	0.07
B14267-B14271	1812	51	8	0.060	1.91	0.02	0.09	0.05	0.13	0.03	0.09	0.67	0.14
B14268-B14269	1811	213	8	0.004	0.50	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
B14269-B14270	1810	245	8	0.027	1.29	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
B14270-B14271	1809	213	8	0.033	1.42	0.00	0.07	0.01	0.10	0.00	0.07	0.67	0.11
B14271-B14274	1808	145	8	0.030	1.35	0.03	0.20	0.07	0.30	0.03	0.24	0.67	0.33
B14272.A0-B14272	7273	323	8	0.048	1.72	0.00	0.05	0.00	0.05	0.00	0.02	0.67	0.02
B14272-B14273	7274	351	8	0.060	1.91	0.03	0.10	0.03	0.10	0.00	0.02	0.67	0.05
B14273-B14274	7272	359	8	0.013	0.88	0.03	0.21	0.03	0.28	0.00	0.20	0.67	0.29
B14274-B14275	7271	47	15	0.029	7.13	0.39	0.19	0.90	0.30	0.65	0.25	1.25	0.34
B14275-B14276	7270	44	15	0.006	3.34	0.39	0.23	0.90	0.35	0.65	0.30	1.25	0.40
B14276-B14277	7269	121	15	0.007	3.37	0.39	0.23	0.91	0.35	0.65	0.30	1.25	0.40
B14277-B14278	7268	107	15	0.007	3.37	0.39	0.23	0.91	0.35	0.65	0.30	1.25	0.40
B14278-B14279	7267	96	15	0.007	3.40	0.39	0.23	0.91	0.35	0.65	0.29	1.25	0.40
B14279-B14280	7266	184	15	0.007	3.50	0.42	0.23	0.93	0.35	0.65	0.29	1.25	0.40
B14280-B14281	7265	142	15	0.007	3.50	0.42	0.24	0.94	0.36	0.65	0.30	1.25	0.40
B14281-B14282	7263	169	15	0.007	3.48	0.42	0.21	0.94	0.32	0.71	0.28	1.25	0.36
B14282-B14300	7262	189	15	0.019	5.83	0.42	0.19	0.94	0.27	0.75	0.25	1.25	0.32
B14283-B14284	7261	125	8	0.020	1.11	0.01	0.06	0.01	0.06	0.01	0.08	0.67	0.08
B14284-B14286.A0	7114	253	8	0.014	0.92	0.01	0.08	0.01	0.08	0.02	0.11	0.67	0.11
B14285-B14286	7260	106	8	0.010	0.78	0.00	0.04	0.00	0.05	0.00	0.07	0.67	0.07
B14286.A0-B14286	935	86	8	0.014	0.92	0.01	0.08	0.01	0.09	0.03	0.13	0.67	0.13
B14286-B14292	7259	212	8	0.010	0.78	0.01	0.13	0.01	0.14	0.03	0.18	0.67	0.19
B14287-B14288	936	95	8	0.058	1.88	0.00	0.06	0.00	0.06	0.01	0.07	0.67	0.07
B14288-B14289	7258	172	8	0.020	1.11	0.02	0.09	0.02	0.09	0.02	0.11	0.67	0.11
B14289-B14290	7257	199	8	0.015	0.96	0.02	0.09	0.02	0.09	0.02	0.10	0.67	0.10
B14290-B14291	7256	163	8	0.054	1.81	0.02	0.08	0.02	0.09	0.03	0.11	0.67	0.11
B14291-B14292	7190	164	8	0.029	1.32	0.02	0.13	0.02	0.14	0.05	0.18	0.67	0.18
B14292-B14293	7187	129	8	0.009	0.73	0.04	0.16	0.05	0.17	0.08	0.22	0.67	0.22
B14293-B14298	7175	303	8	0.012	0.85	0.04	0.25	0.05	0.27	0.08	0.30	0.67	0.31
B14294-B14296	7532	66	8	0.072	2.10	0.00	0.05	0.00	0.05	0.00	0.03	0.67	0.03
B14295-B14296	7527	200	8	0.021	1.14	0.03	0.09	0.03	0.09	0.01	0.06	0.67	0.06
B14296-B14297	7525	277	8	0.071	2.08	0.03	0.08	0.03	0.08	0.01	0.05	0.67	0.06
B14297-B14298	6868	39	8	0.060	1.92	0.03	0.22	0.03	0.23	0.01	0.21	0.67	0.24
B14298-B14299	6864	407	8	0.002	0.36	0.07	0.24	0.08	0.26	0.09	0.26	0.67	0.28
B14299-B14300	6858	265	8	0.065	1.99	0.07	0.24	0.08	0.33	0.09	0.30	0.67	0.38
B14300-B14321	CDT-38	24	16	0.021	7.11	0.50	0.20	1.03	0.30	0.85	0.27	1.33	0.35
B14307-B14091	432	135	6	0.030	0.63	0.00	0.05	0.00	0.08	0.00	0.09	0.50	0.10
B14308-B14307	B14308-B14307	158	8	0.038	1.52	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
B14309-B14308	B14309-B14308	88	8	0.149	3.01	0.00	0.01	0.00	0.01	0.00	0.02	0.67	0.02

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B14310-B14311	B14310-B14311	227	8	0.010	0.79	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B14311-B14006.CA	B14311-B14006.CA	25	8	0.073	2.10	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
B14319-B08154	B14319-B08154	191	16	0.004	3.15	0.50	0.28	1.05	0.45	0.85	0.42	1.33	0.54
B14320-B08156	CDT-40	382	16	0.005	3.50	0.50	0.24	1.03	0.35	0.85	0.32	1.33	0.41
B14321-B14320	CDT-39	53	16	0.008	4.31	0.50	0.24	1.03	0.36	0.85	0.32	1.33	0.42
B15001.A0-B15001	7111	78	8	0.007	0.63	0.04	0.23	0.04	0.23	0.07	0.31	0.67	0.31
B15001.B0-B15001.C0	3640	144	8	0.005	0.55	0.03	0.15	0.03	0.15	0.05	0.19	0.67	0.19
B15001.C0-B15001.D0	8259	116	8	0.021	1.14	0.03	0.14	0.03	0.14	0.05	0.19	0.67	0.19
B15001.D0-B15001	8260	78	8	0.007	0.63	0.03	0.22	0.03	0.22	0.08	0.32	0.67	0.32
B15001-B15002	7520	429	8	0.004	0.49	0.07	0.22	0.07	0.22	0.14	0.31	0.67	0.31
B15002-B15009	7513	355	8	0.035	1.45	0.08	0.16	0.08	0.16	0.14	0.22	0.67	0.22
B15003-B15006	7502	160	8	0.010	0.78	0.00	0.05	0.00	0.06	0.01	0.10	0.67	0.10
B15004-B15005	7498	245	8	0.035	1.46	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
B15005-B15006	7491	240	8	0.056	1.84	0.01	0.06	0.01	0.07	0.01	0.08	0.67	0.09
B15006-B15007	7488	147	8	0.010	0.77	0.01	0.06	0.01	0.08	0.02	0.10	0.67	0.11
B15007-B15008	7224	262	8	0.041	1.59	0.01	0.06	0.01	0.07	0.02	0.08	0.67	0.09
B15008-B15009	7219	304	8	0.042	1.61	0.01	0.12	0.02	0.13	0.02	0.15	0.67	0.16
B15009-B15010.C0	3296	221	8	0.040	1.56	0.09	0.15	0.10	0.16	0.17	0.21	0.67	0.21
B15010.A0-B15010.B0	7428	140	8	0.000	0.09	0.00	0.09	0.00	0.09	0.00	0.07	0.67	0.07
B15010.B0-B15010.C0	3295	296	8	0.027	1.28	0.00	0.09	0.00	0.10	0.01	0.11	0.67	0.12
B15010.C0-B15010	3297	147	8	0.078	2.19	0.09	0.15	0.11	0.16	0.17	0.19	0.67	0.20
B15010-B15011	7447	375	8	0.067	2.02	0.11	0.18	0.12	0.19	0.17	0.22	0.67	0.23
B15011-B15072	7031	241	8	0.028	1.31	0.12	0.22	0.13	0.25	0.17	0.26	0.67	0.29
B15012-B15072	7410	86	8	0.010	0.78	0.00	0.13	0.00	0.16	0.00	0.15	0.67	0.18
B15013-B15014	7394	386	8	0.031	1.39	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.05
B15014-B15017	7384	283	8	0.004	0.48	0.00	0.08	0.01	0.11	0.00	0.07	0.67	0.11
B15015-B15016	7376	57	8	0.033	1.41	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
B15016-B15017	7367	316	8	0.034	1.43	0.00	0.06	0.00	0.08	0.00	0.05	0.67	0.08
B15017-B15018	7362	146	8	0.004	0.50	0.01	0.10	0.02	0.14	0.01	0.09	0.67	0.13
B15018-B15019	7351	158	8	0.004	0.50	0.01	0.10	0.02	0.13	0.01	0.08	0.67	0.13
B15019.A0-B15019	7346	120	8	0.102	2.49	0.00	0.05	0.00	0.06	0.00	0.04	0.67	0.06
B15019-B15022	558	226	8	0.013	0.90	0.01	0.09	0.02	0.12	0.01	0.08	0.67	0.12
B15020-B15021	7327	448	8	0.082	2.23	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B15021-B15027	3	197	8	0.065	1.99	0.00	0.06	0.01	0.08	0.00	0.05	0.67	0.08
B15022-B15025	6886	181	8	0.011	0.82	0.01	0.08	0.03	0.12	0.01	0.07	0.67	0.11
B15023-B15024	6879	231	8	0.008	0.70	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B15024-B15025	7314	277	8	0.066	2.00	0.00	0.05	0.00	0.07	0.00	0.04	0.67	0.06
B15025-B15026	7173	382	8	0.059	1.90	0.02	0.07	0.04	0.10	0.01	0.06	0.67	0.10
B15026-B15027	7164	160	8	0.079	2.20	0.02	0.08	0.05	0.11	0.02	0.07	0.67	0.11
B15027-B15059	7156	214	8	0.056	1.85	0.03	0.11	0.06	0.16	0.02	0.11	0.67	0.16
B15028-B15029	6604	379	8	0.018	1.04	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
B15029-B15030	6596	201	8	0.040	1.56	0.01	0.04	0.01	0.05	0.01	0.04	0.67	0.05
B15030-B15031	7145	401	8	0.056	1.85	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.07
B15031-B15039	3077	358	8	0.033	1.41	0.01	0.07	0.02	0.09	0.01	0.07	0.67	0.09
B15032-B15033	3069	275	8	0.027	1.28	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
B15033-B15035	3061	319	8	0.027	1.28	0.00	0.05	0.01	0.06	0.01	0.05	0.67	0.06
B15034-B15035	2465	88	8	0.004	0.48	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.06
B15035-B15038	2457	225	8	0.036	1.47	0.01	0.05	0.01	0.07	0.01	0.06	0.67	0.07
B15036-B15037	2451	207	8	0.037	1.51	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
B15037-B15038	7140	99	8	0.042	1.61	0.00	0.05	0.01	0.06	0.01	0.05	0.67	0.06
B15038-B15039	7134	261	8	0.081	2.22	0.01	0.06	0.02	0.08	0.02	0.07	0.67	0.09
B15039-B15042	2116	17	8	0.116	2.66	0.03	0.08	0.05	0.10	0.03	0.08	0.67	0.11
B15040-B15041	7124	171	8	0.049	1.73	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
B15041-B15042	7019	312	8	0.018	1.03	0.00	0.06	0.00	0.08	0.01	0.07	0.67	0.09
B15042-B15043	7010	204	8	0.081	2.22	0.03	0.08	0.06	0.11	0.04	0.09	0.67	0.12
B15043-B15056	6108	135	8	0.077	2.16	0.03	0.09	0.06	0.12	0.04	0.10	0.67	0.13
B15044-B15045	6099	278	8	0.020	1.10	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
B15045-B15050	177	300	8	0.020	1.10	0.01	0.07	0.01	0.08	0.01	0.07	0.67	0.09
B15046-B15047	6092	307	8	0.019	1.08	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
B15047-B15049	6085	341	8	0.028	1.31	0.01	0.05	0.01	0.06	0.00	0.05	0.67	0.06
B15048-B15049	6434	145	8	0.014	0.93	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
B15049-B15050	2171	265	8	0.060	1.91	0.01	0.07	0.01	0.09	0.01	0.07	0.67	0.09
B15050-B15051	2169	359	8	0.020	1.11	0.02	0.09	0.03	0.11	0.02	0.09	0.67	0.11
B15051-B15052	2492	195	8	0.041	1.59	0.02	0.09	0.04	0.11	0.02	0.09	0.67	0.11
B15052-B15065	6426	233	8	0.041	1.59	0.03	0.08	0.04	0.11	0.03	0.08	0.67	0.11
B15053.A0-B15053	1768	104	8	0.023	1.19	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B15053-B15052	6418	172	8	0.020	1.10	0.00	0.06	0.00	0.08	0.00	0.07	0.67	0.08
B15054-B15055	6411	355	8	0.034	1.44	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
B15055-B15056	6403	238	8	0.020	1.09	0.00	0.07	0.01	0.09	0.01	0.08	0.67	0.10
B15056-B15058	6394	174	8	0.061	1.93	0.04	0.10	0.07	0.13	0.05	0.11	0.67	0.14
B15057-B15058	6387	91	8	0.036	1.49	0.00	0.06	0.00	0.07	0.00	0.07	0.67	0.08
B15058-B15059	6997	164	8	0.075	2.14	0.04	0.12	0.08	0.16	0.05	0.12	0.67	0.17
B15059-B15062	6989	197	8	0.044	1.64	0.07	0.19	0.14	0.27	0.07	0.19	0.67	0.28
B15060-B15061	2983	200	8	0.009	0.72	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.02
B15061-B15062	6982	287	8	0.055	1.83	0.00	0.12	0.00	0.19	0.00	0.13	0.67	0.19
B15062-B15063	6973	301	8	0.006	0.61	0.07	0.21	0.15	0.31	0.07	0.22	0.67	0.32
B15063-B15064	6967	311	8	0.012	0.87	0.07	0.20	0.15	0.29	0.07	0.20	0.67	0.30
B15064-B15068	6641	186	8	0.010	0.80	0.07	0.22	0.16	0.33	0.08	0.23	0.67	0.34
B15065-B15067	6330	224	8	0.100	2.47	0.03	0.08	0.05	0.10	0.03	0.08	0.67	0.11
B15066-B15067	6324	322	8	0.023	1.17	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
B15067-B15068	5939	187	8	0.093	2.38	0.03	0.16	0.06	0.23	0.03	0.17	0.67	0.24
B15068-B15069	5933	188	8	0.010	0.78	0.10	0.25	0.22	0.37	0.11	0.27	0.67	0.39
B15069-B15070	5924	127	8	0.010	0.77	0.10	0.22	0.22	0.32	0.12	0.24	0.67	0.34
B15070-B15071	5917	352	8	0.035	1.45	0.10	0.18	0.22	0.26	0.12	0.19	0.67	0.28
B15071-B15072	5910	235	8	0.039	1.53	0.10	0.20	0.22	0.28	0.12	0.23	0.67	0.31
B15072-B15073	6463	302	8	0.055	1.83	0.22	0.31	0.35	0.39	0.29	0.35	0.67	0.44
B15073-B15112	6457	108	12	0.005	1.58	0.22	0.23	0.35	0.29	0.29	0.27	1.00	0.33
B15074-B15075	6057	459	8	0.049	1.73	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B15075-B15077	6050	264	8	0.052	1.77	0.00	0.05	0.01	0.08	0.00	0.05	0.67	0.08
B15076-B15077	6040	213	8	0.004	0.49	0.00	0.04	0.00	0.07	0.00	0.05	0.67	0.07
B15077-B15078	6033	343	8	0.006	0.58	0.00	0.05	0.01	0.09	0.00	0.05	0.67	0.09
B15078-B15079	6023	99	8	0.048	1.72	0.01	0.05	0.02	0.08	0.01	0.05	0.67	0.08
B15079-B15080	6443	242	8	0.025	1.24	0.01	0.05	0.02	0.08	0.01	0.05	0.67	0.09
B15080-B15081	6436	160	8	0.048	1.70	0.01	0.05	0.02	0.09	0.01	0.05	0.67	0.09
B15081-B15082	6351	197	8	0.025	1.24	0.01	0.05	0.02	0.09	0.01	0.05	0.67	0.09
B15082-B15091	6078	170	8	0.060	1.91	0.01	0.06	0.03	0.10	0.01	0.07	0.67	0.11
B15083-B15084	1047	322	8	0.019	1.07	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
B15084-B15085	1038	340	8	0.027	1.27	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.06
B15085-B15086	1030	58	8	0.068	2.04	0.01	0.04	0.01	0.05	0.01	0.04	0.67	0.06
B15086-B15089	6070	70	8	0.072	2.10	0.01	0.05	0.01	0.07	0.01	0.06	0.67	0.08
B15087-B15088	3294	15	8	0.010	0.78	0.00	0.01	0.00	0.01	0.00	0.03	0.67	0.03
B15088-B15089	3292	115	8	0.010	0.78	0.00	0.04	0.00	0.06	0.00	0.06	0.67	0.07
B15089-B15090	6953	166	8	0.015	0.95	0.01	0.06	0.01	0.08	0.01	0.07	0.67	0.09
B15090-B15091	6944	51	8	0.041	1.58	0.01	0.06	0.02	0.10	0.01	0.08	0.67	0.11
B15091-B15093	6843	162	8	0.036	1.49	0.02	0.08	0.05	0.13	0.02	0.09	0.67	0.13
B15092-B15093	6063	235	8	0.044	1.63	0.00	0.05	0.00	0.07	0.00	0.05	0.67	0.08
B15093-B15095	6059	181	8	0.042	1.60	0.02	0.08	0.06	0.13	0.03	0.09	0.67	0.13

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B15094-B15093	6342	244	8	0.016	0.99	0.00	0.06	0.00	0.08	0.00	0.06	0.67	0.08
B15095-B15097	6335	85	8	0.050	1.74	0.02	0.10	0.06	0.16	0.03	0.11	0.67	0.17
B15096-B15097	6584	242	8	0.004	0.49	0.00	0.08	0.00	0.11	0.00	0.09	0.67	0.12
B15097-B15106	6578	151	8	0.010	0.78	0.02	0.13	0.06	0.21	0.03	0.15	0.67	0.22
B15098-B15106	6572	180	8	0.004	0.51	0.00	0.09	0.00	0.13	0.00	0.10	0.67	0.14
B15099-B15101	6237	161	8	0.025	1.24	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
B15100-B15101	6319	109	8	0.011	0.83	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
B15101-B15102	6314	264	8	0.028	1.31	0.00	0.03	0.01	0.04	0.00	0.04	0.67	0.05
B15102-B15104	6229	150	8	0.102	2.49	0.00	0.06	0.01	0.08	0.01	0.07	0.67	0.09
B15103-B15104	6226	200	8	0.021	1.14	0.00	0.06	0.00	0.07	0.00	0.07	0.67	0.08
B15104-B15105	6218	214	8	0.004	0.49	0.01	0.09	0.02	0.13	0.01	0.10	0.67	0.13
B15105-B15106	6211	144	8	0.004	0.49	0.01	0.12	0.02	0.18	0.01	0.13	0.67	0.19
B15106-B15107	6201	135	8	0.014	0.92	0.04	0.12	0.09	0.19	0.04	0.14	0.67	0.20
B15107-B15108	6196	297	8	0.042	1.60	0.04	0.12	0.09	0.20	0.04	0.14	0.67	0.21
B15108-B15109	6563	307	8	0.011	0.81	0.04	0.15	0.10	0.24	0.04	0.16	0.67	0.25
B15109-B15110	6841	351	8	0.010	0.78	0.04	0.19	0.10	0.27	0.04	0.16	0.67	0.26
B15110-B15111	1128	500	8	0.010	0.78	0.08	0.18	0.13	0.24	0.04	0.16	0.67	0.23
B15111-B15112	588	248	8	0.064	1.97	0.08	0.22	0.13	0.29	0.11	0.26	0.67	0.33
B15112-B15243	6376	117	12	0.018	3.10	0.29	0.23	0.49	0.30	0.40	0.27	1.00	0.34
B15113-B15114	6367	258	8	0.005	0.54	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
B15114-B15127	762	480	8	0.012	0.87	0.01	0.05	0.01	0.08	0.01	0.06	0.67	0.08
B15115-B15117	6310	151	8	0.064	1.97	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
B15116-B15117	6303	253	8	0.005	0.54	0.00	0.05	0.00	0.05	0.00	0.06	0.67	0.06
B15117-B15114	6360	186	8	0.007	0.65	0.00	0.06	0.01	0.08	0.01	0.07	0.67	0.09
B15118-B15120	6296	205	8	0.013	0.87	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
B15119-B15120	6628	167	8	0.013	0.91	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
B15120-B15121	5880	364	8	0.029	1.32	0.01	0.05	0.01	0.06	0.01	0.06	0.67	0.07
B15121-B15122	6272	151	8	0.032	1.39	0.01	0.05	0.01	0.07	0.01	0.06	0.67	0.08
B15122-B15123	2698	294	8	0.045	1.65	0.01	0.06	0.02	0.07	0.01	0.07	0.67	0.08
B15123-B15126	3260	294	8	0.056	1.85	0.01	0.07	0.02	0.09	0.02	0.08	0.67	0.10
B15124-B15125	3258	407	8	0.056	1.85	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
B15125-B15126	3248	135	8	0.056	1.85	0.00	0.06	0.01	0.07	0.01	0.07	0.67	0.08
B15126-B15131	2025	223	8	0.039	1.55	0.02	0.07	0.03	0.11	0.03	0.09	0.67	0.12
B15127-B15128	6836	333	8	0.084	2.27	0.01	0.05	0.02	0.08	0.01	0.06	0.67	0.08
B15128-B15131	753	391	8	0.033	1.42	0.01	0.06	0.02	0.10	0.01	0.08	0.67	0.11
B15129-B15130	2481	214	8	0.019	1.06	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B15130-B15131	5151	351	8	0.055	1.83	0.00	0.05	0.00	0.07	0.00	0.05	0.67	0.08
B15131-B15144	B15131-B15144	196	8	0.125	2.76	0.03	0.09	0.07	0.14	0.04	0.11	0.67	0.15
B15133-B15134	5126	191	8	0.031	1.36	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
B15134-B15135	6825	65	8	0.055	1.84	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B15135-B15136	1678	141	8	0.084	2.26	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B15136-B15143	1662	173	8	0.064	1.98	0.00	0.06	0.01	0.07	0.00	0.06	0.67	0.07
B15137-B15139	6823	304	8	0.010	0.78	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
B15138-B15139	4570	128	8	0.046	1.68	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
B15139-B15140	4241	141	8	0.010	0.78	0.01	0.07	0.01	0.08	0.01	0.07	0.67	0.09
B15140-B15142	6802	192	8	0.010	0.78	0.01	0.08	0.01	0.10	0.01	0.08	0.67	0.10
B15141-B15142	6785	182	8	0.054	1.82	0.00	0.06	0.00	0.06	0.00	0.06	0.67	0.07
B15142-B15143	6768	238	8	0.011	0.80	0.01	0.08	0.02	0.10	0.01	0.09	0.67	0.11
B15143-B15144	3286	161	8	0.041	1.58	0.02	0.10	0.03	0.14	0.02	0.11	0.67	0.14
B15144-B15158	6751	357	8	0.056	1.85	0.05	0.13	0.12	0.19	0.07	0.14	0.67	0.20
B15145-B15146	6734	153	8	0.015	0.96	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B15146-B15147	6015	401	8	0.020	1.10	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
B15147-B15148	2021	276	8	0.032	1.40	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.07
B15148-B15149	1652	121	8	0.032	1.39	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.07
B15149.A0-B15149	1635	47	8	0.034	1.44	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B15149-B15150	3466	254	8	0.040	1.55	0.01	0.06	0.02	0.08	0.01	0.06	0.67	0.08
B15150-B15153	3467	380	8	0.031	1.37	0.01	0.06	0.02	0.09	0.01	0.06	0.67	0.09
B15151.A0-B15151.B0	7586	124	8	0.000	0.02	0.00	0.06	0.00	0.06	0.00	0.06	0.67	0.06
B15151.B0-B15151	3468	153	8	0.029	1.32	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
B15151-B15152	4139	168	8	0.017	1.03	0.00	0.05	0.01	0.06	0.00	0.05	0.67	0.06
B15152.A0-B15152	7112	52	6	0.002	0.16	0.00	0.07	0.00	0.07	0.00	0.07	0.50	0.08
B15152-B15155	6716	283	8	0.019	1.09	0.01	0.07	0.01	0.09	0.01	0.08	0.67	0.10
B15153-B15156	6699	189	8	0.028	1.30	0.01	0.11	0.03	0.16	0.01	0.11	0.67	0.16
B15154-B15155	3287	84	8	0.004	0.47	0.00	0.06	0.00	0.07	0.00	0.06	0.67	0.07
B15155-B15156	6682	85	8	0.005	0.53	0.01	0.12	0.01	0.16	0.01	0.13	0.67	0.17
B15156-B15157	4845	362	8	0.004	0.50	0.02	0.12	0.04	0.17	0.02	0.13	0.67	0.18
B15157-B15158	6282	234	8	0.028	1.31	0.02	0.12	0.05	0.17	0.03	0.13	0.67	0.18
B15158-B15159	6672	98	8	0.057	1.86	0.08	0.21	0.18	0.31	0.10	0.23	0.67	0.33
B15159-B15162	555	95	8	0.004	0.50	0.08	0.26	0.18	0.41	0.10	0.30	0.67	0.43
B15160-B15161	6656	325	8	0.008	0.70	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.06
B15161-B15162	6149	80	8	0.004	0.50	0.00	0.15	0.01	0.23	0.00	0.17	0.67	0.25
B15162-B15163	554	346	8	0.005	0.58	0.08	0.27	0.19	0.41	0.10	0.30	0.67	0.44
B15163-B15175	786	340	8	0.004	0.49	0.08	0.29	0.19	0.46	0.10	0.33	0.67	0.49
B15164-B15144	553	180	8	0.061	1.92	0.01	0.08	0.01	0.11	0.01	0.09	0.67	0.12
B15165-B15164	552	335	8	0.045	1.66	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
B15166-B15165	551	270	8	0.014	0.92	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B15166-B15167	785	230	8	0.034	1.45	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B15167-B15172	784	335	8	0.073	2.12	0.00	0.06	0.01	0.08	0.01	0.06	0.67	0.08
B15168-B15169	783	176	8	0.005	0.55	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.05
B15169-B15170	782	269	8	0.005	0.56	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
B15170-B15171	781	314	8	0.019	1.07	0.01	0.05	0.01	0.06	0.01	0.06	0.67	0.07
B15171-B15172	780	140	8	0.045	1.65	0.01	0.07	0.01	0.09	0.01	0.07	0.67	0.09
B15172-B15173	779	177	8	0.027	1.28	0.01	0.06	0.03	0.08	0.02	0.07	0.67	0.09
B15173-B15174	778	50	8	0.384	4.84	0.02	0.05	0.03	0.07	0.02	0.05	0.67	0.07
B15174-B15175	777	39	8	0.095	2.41	0.02	0.18	0.03	0.28	0.02	0.20	0.67	0.30
B15175-B15176	776	104	8	0.004	0.49	0.10	0.31	0.23	0.49	0.12	0.35	0.67	0.52
B15176-B15201	1509	183	8	0.004	0.49	0.10	0.26	0.23	0.40	0.12	0.29	0.67	0.43
B15177-B15179	774	306	8	0.071	2.07	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
B15178-B15179	773	225	8	0.040	1.56	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
B15179-B15180	772	197	8	0.092	2.37	0.01	0.04	0.01	0.05	0.01	0.05	0.67	0.06
B15180-B15182	771	125	8	0.055	1.83	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.07
B15181-B15182	2334	7	8	0.002	0.35	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.06
B15182-B15183	770	212	8	0.048	1.71	0.01	0.06	0.01	0.08	0.01	0.07	0.67	0.09
B15183.A0-B15183	2333	6	8	0.002	0.35	0.00	0.06	0.00	0.09	0.00	0.07	0.67	0.09
B15183-B15185	769	349	8	0.016	0.99	0.01	0.07	0.02	0.10	0.01	0.08	0.67	0.10
B15184-B15185	2332	6	8	0.002	0.35	0.00	0.06	0.00	0.09	0.00	0.07	0.67	0.10
B15185-B15199	3291	350	8	0.022	1.16	0.01	0.09	0.02	0.13	0.02	0.10	0.67	0.14
B15186.A0-B15186	767	99	8	0.030	1.34	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B15186-B15187	768	212	8	0.035	1.46	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
B15187-B15188	766	51	8	0.035	1.47	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
B15188-B15189	765	52	8	0.037	1.49	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.06
B15189-B15191	764	235	8	0.026	1.25	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.08
B15190-B15191	763	145	8	0.046	1.67	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.06
B15191-B15193	760	375	8	0.013	0.90	0.01	0.08	0.01	0.11	0.01	0.09	0.67	0.11
B15192-B15193	759	230	8	0.047	1.69	0.00	0.06	0.00	0.07	0.00	0.06	0.67	0.08
B15193-B15196	1515	184	8	0.008	0.72	0.01	0.10	0.02	0.14	0.02	0.11	0.67	0.14
B15194-B15195	1517	208	8	0.037	1.50	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B15195-B15196	1516	188	8	0.037	1.49	0.00	0.07	0.00	0.09	0.00	0.08	0.67	0.10
B15196-B15197	1514	101	8	0.013	0.90	0.02	0.08	0.03	0.11	0.02	0.08	0.67	0.11
B15197-B15198	1513	68	8	0.249	3.90	0.02	0.06	0.04	0.08	0.02	0.07	0.67	0.09
B15198-B15199	1512	139	8	0.048	1.71	0.02	0.09	0.04	0.13	0.02	0.10	0.67	0.14
B15199-B15200	1511	349	8	0.022	1.16	0.03	0.14	0.07	0.20	0.04	0.15	0.67	0.21
B15200-B15201	1510	111	8	0.006	0.60	0.03	0.18	0.07	0.27	0.04	0.20	0.67	0.28
B15201-B15202	1508	355	8	0.040	1.56	0.13	0.19	0.30	0.29	0.16	0.21	0.67	0.31
B15202-B15215	841	383	8	0.052	1.77	0.13	0.20	0.31	0.30	0.16	0.22	0.67	0.32
B15203-B15204	5282	115	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
B15204-B15207	1472	265	8	0.010	0.78	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.06
B15205-B15206	6555	203	8	0.029	1.34	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
B15206-B15207	6538	119	8	0.023	1.19	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.06
B15207-B15208	1471	186	8	0.023	1.18	0.00	0.05	0.01	0.07	0.01	0.06	0.67	0.08
B15208.A0-B15208	3288	101	8	0.034	1.45	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
B15208-B15209	286	258	8	0.023	1.18	0.01	0.07	0.02	0.10	0.01	0.07	0.67	0.10
B15209-B15210	1470	135	8	0.007	0.65	0.01	0.08	0.02	0.12	0.01	0.09	0.67	0.13
B15210-B15213	1467	245	8	0.010	0.78	0.01	0.07	0.02	0.11	0.01	0.08	0.67	0.11
B15211-B15212	1469	385	8	0.025	1.23	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B15212-B15213	1468	135	8	0.016	0.98	0.00	0.05	0.01	0.08	0.00	0.05	0.67	0.08
B15213-B15214	843	162	8	0.048	1.72	0.01	0.06	0.03	0.09	0.02	0.07	0.67	0.10
B15214-B15215	842	159	8	0.090	2.35	0.01	0.13	0.04	0.20	0.02	0.15	0.67	0.21
B15215.A0-B15216	839	344	10	0.013	1.63	0.15	0.23	0.35	0.35	0.18	0.25	0.83	0.37
B15215-B15215.A0	840	113	8	0.040	1.56	0.15	0.23	0.35	0.36	0.18	0.26	0.67	0.38
B15216-B15217	838	296	10	0.006	1.09	0.15	0.25	0.36	0.39	0.18	0.28	0.83	0.42
B15217-B15238	1463	147	10	0.006	1.09	0.15	0.27	0.36	0.42	0.18	0.31	0.83	0.45
B15218-B15219	837	159	8	0.100	2.47	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
B15219-B15220	836	237	8	0.065	1.98	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B15220-B15221	834	77	8	0.058	1.88	0.00	0.03	0.01	0.05	0.00	0.04	0.67	0.05
B15221-B15222	833	61	8	0.029	1.33	0.00	0.04	0.01	0.05	0.01	0.04	0.67	0.06
B15222-B15223	832	78	8	0.040	1.57	0.00	0.04	0.01	0.05	0.01	0.04	0.67	0.06
B15223-B15224	831	386	8	0.046	1.68	0.01	0.05	0.01	0.07	0.01	0.06	0.67	0.07
B15224-B15235	749	69	8	0.021	1.13	0.01	0.09	0.02	0.11	0.01	0.12	0.67	0.13
B15225-B15226	830	34	8	0.007	0.67	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B15226-B15227	372	154	8	0.008	0.70	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
B15227-B15228	371	234	8	0.033	1.42	0.00	0.08	0.00	0.08	0.00	0.10	0.67	0.10
B15228-B15229	370	344	8	0.042	1.61	0.05	0.11	0.05	0.11	0.09	0.15	0.67	0.15
B15229-B15230	369	97	8	0.108	2.57	0.05	0.10	0.05	0.10	0.10	0.13	0.67	0.13
B15230-B15233	367	123	8	0.111	2.60	0.05	0.10	0.05	0.10	0.10	0.14	0.67	0.14
B15231-B15232	368	219	8	0.090	2.35	0.00	0.51	0.00	0.51	0.00	0.51	0.67	0.51
B15232-B15233.A0	3289	244	8	0.161	3.13	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
B15233.A0-B15233	3290	57	8	0.039	1.55	0.00	0.07	0.01	0.08	0.00	0.09	0.67	0.09
B15233-B15234	366	75	8	0.073	2.12	0.05	0.12	0.06	0.13	0.10	0.17	0.67	0.17
B15234-B15235	750	122	8	0.028	1.30	0.05	0.13	0.06	0.14	0.10	0.18	0.67	0.18
B15235-B15236	1466	38	8	0.054	1.82	0.06	0.13	0.07	0.14	0.11	0.17	0.67	0.18
B15236-B15237	1465	165	8	0.043	1.62	0.06	0.15	0.08	0.16	0.11	0.20	0.67	0.21
B15237-B15238	1464	129	8	0.019	1.06	0.06	0.27	0.08	0.36	0.11	0.33	0.67	0.41
B15238-B15239	1462	296	10	0.006	1.10	0.21	0.32	0.44	0.46	0.29	0.38	0.83	0.51
B15239-B15240	1461	241	10	0.006	1.10	0.25	0.27	0.46	0.37	0.35	0.32	0.83	0.42
B15240-B15241	1460	105	10	0.045	2.99	0.25	0.21	0.47	0.29	0.35	0.25	0.83	0.32
B15241-B15242	1459	225	10	0.027	2.34	0.25	0.20	0.47	0.28	0.35	0.24	0.83	0.31
B15242-B15243	1458	64	10	0.065	3.62	0.25	0.24	0.47	0.32	0.35	0.28	0.83	0.36
B15243-V33136	2984	119	12	0.031	4.08	0.54	0.29	0.96	0.39	0.76	0.34	1.00	0.44
B15244-B15245	1457	249	8	0.017	1.03	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B15245-B15246	1456	75	8	0.041	1.58	0.00	0.02	0.00	0.04	0.00	0.02	0.67	0.04
B15246-B15247	1455	245	8	0.040	1.57	0.00	0.02	0.00	0.04	0.00	0.02	0.67	0.04
B15247-B15251	1451	382	8	0.075	2.15	0.00	0.03	0.01	0.06	0.00	0.03	0.67	0.06
B15248-B15250	1454	228	8	0.133	2.85	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B15249-B15250	1453	195	8	0.075	2.14	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
B15250-B15251	1452	85	8	0.087	2.31	0.00	0.03	0.01	0.06	0.00	0.03	0.67	0.06
B15252-B15253	1450	276	8	0.024	1.22	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.05
B15253-B15254	1449	384	8	0.004	0.49	0.00	0.07	0.01	0.08	0.00	0.06	0.67	0.08
B15254-B15257	1446	95	8	0.010	0.76	0.01	0.07	0.01	0.09	0.00	0.06	0.67	0.09
B15255-B15256	1448	176	8	0.107	2.56	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B15256-B15257	1447	116	8	0.107	2.55	0.00	0.05	0.00	0.06	0.00	0.04	0.67	0.06
B15257-B15259	1445	362	8	0.018	1.04	0.01	0.08	0.02	0.11	0.01	0.07	0.67	0.10
B15258-B15259	1444	359	8	0.022	1.15	0.00	0.05	0.00	0.07	0.00	0.05	0.67	0.07
B15259-B15260	1195	197	8	0.013	0.88	0.01	0.10	0.03	0.16	0.01	0.11	0.67	0.18
B15260-B15251	1196	331	8	0.040	1.56	0.00	0.08	0.02	0.14	0.00	0.09	0.67	0.16
B15260-B15263	2114	463	8	0.007	0.65	0.02	0.10	0.05	0.17	0.03	0.12	0.67	0.19
B15261-B15262	1194	157	8	0.034	1.44	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B15262-B15263	1193	80	8	0.062	1.94	0.00	0.05	0.00	0.08	0.00	0.05	0.67	0.09
B15263-B15267	2115	112	8	0.046	1.68	0.02	0.08	0.06	0.14	0.03	0.10	0.67	0.15
B15264-B15265	1192	190	8	0.097	2.43	0.00	0.01	0.00	0.01	0.00	0.03	0.67	0.03
B15265-B15266	1191	193	8	0.112	2.62	0.00	0.01	0.00	0.03	0.01	0.05	0.67	0.05
B15266-B15267	1189	188	8	0.059	1.91	0.00	0.05	0.00	0.09	0.01	0.08	0.67	0.11
B15267-B15270	1185	239	8	0.046	1.67	0.02	0.08	0.07	0.15	0.04	0.11	0.67	0.18
B15268-B15269	1187	226	8	0.037	1.50	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.02
B15269-B15270	1186	96	8	0.122	2.73	0.00	0.06	0.00	0.10	0.00	0.07	0.67	0.11
B15270-B15278	1396	426	8	0.029	1.33	0.02	0.12	0.08	0.21	0.04	0.14	0.67	0.24
B15271-B15272	1184	312	8	0.041	1.57	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
B15272-B15273	1181	129	8	0.072	2.09	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.04
B15273-B15275	1188	165	8	0.071	2.08	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
B15274-B15275	1180	96	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
B15275-B15277	1399	130	8	0.052	1.78	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.07
B15276.A0-B15276	2986	243	8	0.039	1.55	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.02
B15276-B15277	1400	299	8	0.073	2.11	0.00	0.04	0.00	0.06	0.00	0.04	0.67	0.06
B15277-B15278	1397	241	8	0.044	1.64	0.01	0.10	0.02	0.17	0.01	0.11	0.67	0.18
B15278-B15279	1395	469	8	0.012	0.85	0.03	0.12	0.11	0.21	0.05	0.14	0.67	0.23
B15279-B15280	1394	342	8	0.067	2.03	0.03	0.09	0.11	0.17	0.05	0.11	0.67	0.18
B15280-B15297	180	267	8	0.055	1.84	0.03	0.16	0.12	0.28	0.05	0.17	0.67	0.30
B15282-B15283	1392	159	8	0.013	0.88	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
B15283-B15284	1391	55	8	0.022	1.16	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
B15284-B15281	1390	158	8	0.084	2.27	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B15284-B15285	1389	153	8	0.044	1.64	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
B15285-B15286	1388	269	8	0.030	1.35	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.07
B15286-B15287	1387	386	8	0.027	1.28	0.01	0.09	0.01	0.12	0.01	0.09	0.67	0.12
B15287-B15288	1386	396	8	0.005	0.53	0.01	0.09	0.02	0.11	0.01	0.09	0.67	0.11
B15288-B15294	1380	159	8	0.177	3.29	0.02	0.52	0.03	0.53	0.02	0.53	0.67	0.53
B15289-B15290	1385	241	8	0.025	1.23	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
B15290-B15293	1382	373	8	0.030	1.35	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
B15291-B15292	1384	200	8	0.020	1.11	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
B15292-B15293	1383	276	8	0.016	0.99	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.06
B15293-B15294	1381	230	8	0.168	3.20	0.01	0.52	0.02	0.53	0.01	0.52	0.67	0.53
B15294-B15295	1379	144	8	0.139	2.91	0.03	0.55	0.05	0.57	0.03	0.55	0.67	0.57
B15295-B15296	1378	154	8	0.024	1.21	0.03	0.11	0.05	0.15	0.03	0.11	0.67	0.16
B15296-B15297	1377	56	8	0.019	1.09	0.03	0.17	0.06	0.27	0.03	0.18	0.67	0.29
B15297-B15298	1376	362	8	0.007	0.65	0.07	0.19	0.18	0.32	0.07	0.20	0.67	0.34

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
B15298-B15299	1375	300	15	0.013	4.81	0.07	0.09	0.18	0.14	0.07	0.09	1.25	0.15
B15299-B15303	1374	296	15	0.010	4.18	0.07	0.08	0.19	0.14	0.07	0.09	1.25	0.15
B15300-B15301	1371	150	8	0.007	0.65	0.00	0.05	0.00	0.07	0.00	0.06	0.67	0.07
B15301-B15302	1372	80	8	0.011	0.81	0.01	0.08	0.02	0.12	0.01	0.08	0.67	0.12
B15302-B15303	1373	258	8	0.008	0.69	0.01	0.12	0.02	0.18	0.01	0.12	0.67	0.19
B15303-B15304	1341	306	15	0.025	6.59	0.08	0.07	0.22	0.12	0.08	0.08	1.25	0.13
B15304-B15329	1340	294	15	0.041	8.43	0.08	0.08	0.23	0.13	0.08	0.08	1.25	0.14
B15305-B15301	1723	235	8	0.021	1.12	0.01	0.07	0.02	0.10	0.01	0.07	0.67	0.10
B15306-B15305	1370	264	8	0.013	0.90	0.01	0.06	0.01	0.08	0.01	0.06	0.67	0.08
B15307-B15306	1369	226	8	0.095	2.41	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.06
B15308-B15307	1368	281	8	0.075	2.14	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
B15309-B15308	1367	139	8	0.118	2.68	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
B15310.A0-B15312	1360	197	8	0.114	2.64	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
B15310-B15310.A0	1356	210	8	0.000	0.02	0.00	0.06	0.00	0.06	0.00	0.06	0.67	0.06
B15311-B15312	1359	209	8	0.024	1.22	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
B15312-B15313	1361	221	8	0.118	2.69	0.00	0.03	0.01	0.05	0.00	0.04	0.67	0.05
B15313-B15318	1366	185	8	0.080	2.21	0.00	0.04	0.01	0.07	0.01	0.05	0.67	0.07
B15314-B15315	1357	338	8	0.032	1.39	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
B15315-B15316	1362	201	8	0.061	1.93	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.05
B15316-B15317	1363	274	8	0.029	1.32	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.06
B15317-B15318	1365	199	8	0.071	2.09	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.07
B15318-B15329	1339	220	8	0.078	2.18	0.01	0.11	0.03	0.19	0.01	0.12	0.67	0.20
B15319-B15320	1355	299	8	0.090	2.34	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
B15320-B15321	1354	293	8	0.050	1.75	0.00	0.03	0.00	0.06	0.00	0.05	0.67	0.07
B15321-B15322	1338	173	8	0.012	0.87	0.00	0.03	0.01	0.05	0.01	0.04	0.67	0.06
B15322-B15326	1769	52	8	0.466	5.33	0.00	0.02	0.01	0.04	0.01	0.03	0.67	0.05
B15323-B15324	1353	305	8	0.020	1.11	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
B15324-B15325	1352	437	8	0.020	1.10	0.00	0.02	0.00	0.05	0.00	0.03	0.67	0.05
B15325-B15326	178	270	8	0.084	2.26	0.00	0.02	0.01	0.05	0.00	0.03	0.67	0.05
B15326-B15327	1724	119	8	0.318	4.40	0.00	0.03	0.02	0.06	0.01	0.04	0.67	0.06
B15327-B15328.C0	2997	21	8	0.119	2.70	0.00	0.03	0.02	0.07	0.01	0.04	0.67	0.07
B15328.A0-B15328.B0	2988	269	8	0.051	1.77	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.03
B15328.B0-B15328.D0	2998	172	8	0.012	0.86	0.00	0.04	0.00	0.06	0.00	0.04	0.67	0.06
B15328.C0-B15328.D0	2996	33	8	0.007	0.67	0.00	0.05	0.03	0.11	0.01	0.07	0.67	0.11
B15328.D0-B15328.H0	2995	101	8	0.158	3.10	0.01	0.04	0.03	0.08	0.01	0.05	0.67	0.09
B15328.E0-B15328.F0	2989	220	8	0.008	0.71	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
B15328.F0-B15328.G0	2991	136	8	0.009	0.75	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.06
B15328.G0-B15328.H0	2992	70	8	0.013	0.89	0.00	0.05	0.01	0.08	0.00	0.05	0.67	0.08
B15328.H0-B15328.I0	2994	95	8	0.074	2.13	0.01	0.05	0.04	0.09	0.01	0.06	0.67	0.09
B15328.I0-B15328	2993	64	8	0.132	2.84	0.01	0.07	0.04	0.14	0.01	0.08	0.67	0.15
B15328-B15329	1337	96	8	0.004	0.49	0.01	0.14	0.04	0.24	0.01	0.15	0.67	0.26
B15329-B15330	1336	498	15	0.024	6.45	0.10	0.08	0.31	0.14	0.11	0.09	1.25	0.15
B15330-V33169	2999	94	15	0.056	9.90	0.10	0.07	0.32	0.12	0.11	0.08	1.25	0.13
Splitted conduit	CDT-22	22	8	0.020	1.11	0.21	0.28	0.47	0.44	0.59	0.50	0.67	0.60
V01001-V01002	2892	348	8	0.025	1.24	0.01	0.08	0.01	0.08	0.01	0.10	0.67	0.10
V01002-V01003	2891	197	8	0.005	0.55	0.01	0.09	0.01	0.10	0.02	0.12	0.67	0.12
V01003.A0-V01004	2889	93	8	0.000	0.03	0.01	0.16	0.01	0.18	0.02	0.19	0.67	0.20
V01003-V01003.A0	2890	133	8	0.009	0.73	0.01	0.15	0.01	0.16	0.02	0.18	0.67	0.19
V01004-V01005	2888	50	8	0.007	0.63	0.02	0.15	0.02	0.16	0.02	0.15	0.67	0.17
V01005-V01006	2887	163	8	0.002	0.36	0.02	0.15	0.02	0.16	0.02	0.16	0.67	0.17
V01006-V01007	2886	190	8	0.007	0.67	0.02	0.13	0.03	0.14	0.02	0.13	0.67	0.15
V01007-V01023	2885	204	8	0.007	0.65	0.02	0.22	0.03	0.25	0.03	0.23	0.67	0.27
V01008-V01010	3371	126	8	0.033	1.42	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V01009-V01010	2058	210	8	0.006	0.60	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V01010-V01011	2057	184	8	0.031	1.38	0.00	0.03	0.00	0.05	0.00	0.03	0.67	0.04
V01011-V01014	3369	311	8	0.043	1.62	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.06
V01012-V01014	3370	217	6	0.011	0.38	0.00	0.05	0.00	0.06	0.00	0.05	0.50	0.06
V01013-V01014	3127	367	8	0.002	0.39	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.06
V01014-V01015	2031	372	8	0.039	1.55	0.01	0.05	0.02	0.07	0.01	0.05	0.67	0.07
V01015-V01016.K0	2056	221	8	0.065	2.00	0.01	0.12	0.02	0.17	0.01	0.12	0.67	0.17
V01016.A0-V01016.D0	3130	114	8	0.057	1.86	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V01016.AA-V01016.AB	3124	101	8	0.034	1.45	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V01016.AB-V01016.A0	3128	171	8	0.021	1.14	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V01016.B0-V01016.C0	3126	239	8	0.054	1.81	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V01016.C0-V01016.D0	3125	301	8	0.041	1.58	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V01016.D0-V01016.E0	3129	342	8	0.037	1.50	0.01	0.06	0.01	0.09	0.01	0.06	0.67	0.09
V01016.E0-V01016.G0	3131	44	8	0.005	0.54	0.01	0.08	0.02	0.12	0.01	0.08	0.67	0.12
V01016.F0-V01016.G0	3132	278	8	0.069	2.06	0.00	0.05	0.00	0.07	0.00	0.05	0.67	0.07
V01016.G0-V01016.H0	3133	185	8	0.006	0.61	0.01	0.09	0.02	0.14	0.01	0.09	0.67	0.14
V01016.H0-V01016.I0	2030	360	8	0.003	0.42	0.01	0.12	0.02	0.16	0.01	0.11	0.67	0.16
V01016.I0-V01016.J0	3487	354	8	0.005	0.56	0.03	0.16	0.04	0.19	0.02	0.13	0.67	0.17
V01016.J0-V01016.K0	3486	351	8	0.005	0.56	0.03	0.19	0.05	0.23	0.02	0.16	0.67	0.22
V01016.K0-V01016	3359	155	8	0.004	0.49	0.04	0.16	0.07	0.21	0.03	0.14	0.67	0.20
V01016-V01017	2048	327	8	0.034	1.45	0.04	0.12	0.07	0.16	0.03	0.11	0.67	0.16
V01017-V01019	2035	316	8	0.029	1.32	0.04	0.12	0.08	0.16	0.04	0.13	0.67	0.17
V01018-V01019	2045	304	6	0.006	0.27	0.01	0.58	0.01	0.61	0.02	0.59	0.50	0.62
V01019-V01020	2044	237	8	0.040	1.57	0.05	0.12	0.09	0.16	0.06	0.14	0.67	0.17
V01020-V01021.C0	3360	25	8	0.044	1.63	0.05	0.13	0.09	0.17	0.07	0.15	0.67	0.18
V01021.A0-V01021.B0	3374	77	8	0.005	0.57	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V01021.B0-V01021.C0	3373	300	8	0.005	0.55	0.01	0.11	0.01	0.13	0.01	0.12	0.67	0.14
V01021.C0-V01021	3375	190	8	0.039	1.55	0.06	0.14	0.10	0.18	0.08	0.17	0.67	0.20
V01021-V01022	3379	282	8	0.038	1.53	0.06	0.13	0.10	0.17	0.10	0.17	0.67	0.19
V01022-V01023	2884	219	8	0.066	2.00	0.07	0.21	0.11	0.26	0.10	0.24	0.67	0.29
V01023-V01024	2883	306	8	0.004	0.51	0.10	0.31	0.15	0.38	0.11	0.32	0.67	0.41
V01024-V01050	2882	327	8	0.004	0.48	0.10	0.35	0.15	0.48	0.11	0.40	0.67	0.56
V01028.A0-V01028	7605	35	8	1.471	9.47	0.00	0.51	0.00	0.51	0.00	0.51	0.67	0.51
V01028-V01030	2053	108	8	0.037	1.50	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V01029-V01030	2047	344	8	0.080	2.21	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V01030.A0-V01030.B0	1704	249	8	0.098	2.45	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V01030.B0-V01030.C0	1705	324	8	0.055	1.84	0.00	0.05	0.01	0.06	0.00	0.04	0.67	0.05
V01030.C0-V01030.E0	1706	223	8	0.011	0.82	0.01	0.06	0.01	0.07	0.00	0.05	0.67	0.06
V01030.E0-V01030.F0	1707	257	8	0.051	1.76	0.01	0.04	0.01	0.06	0.01	0.04	0.67	0.05
V01030.F0-V01030	1708	32	8	0.156	3.08	0.01	0.05	0.02	0.07	0.01	0.05	0.67	0.07
V01030-V01031	2052	192	8	0.031	1.38	0.01	0.07	0.02	0.09	0.01	0.07	0.67	0.09
V01031-V01034	2050	201	8	0.022	1.16	0.01	0.07	0.02	0.10	0.01	0.08	0.67	0.11
V01032-V01033	2046	200	6	0.053	0.84	0.00	0.03	0.00	0.03	0.00	0.04	0.50	0.04
V01033-V01034	2049	260	6	0.081	1.03	0.00	0.06	0.00	0.09	0.00	0.08	0.50	0.10
V01034-V01035	2034	187	8	0.027	1.29	0.01	0.08	0.03	0.11	0.02	0.09	0.67	0.12
V01035-V01036	2043	196	8	0.022	1.15	0.02	0.10	0.04	0.13	0.02	0.11	0.67	0.14
V01036-V01037	2042	217	8	0.010	0.80	0.02	0.13	0.04	0.19	0.03	0.16	0.67	0.20
V01037-V01041	2041	66	8	0.003	0.40	0.02	0.15	0.04	0.19	0.03	0.18	0.67	0.22
V01038-V01039	2055	171	8	0.083	2.25	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.04
V01039-V01040	2033	222	8	0.070	2.06	0.02	0.08	0.02	0.08	0.02	0.10	0.67	0.10
V01040-V01041	2040	240	8	0.023	1.18	0.03	0.12	0.03	0.13	0.04	0.15	0.67	0.15
V01041-V01042	3484	295	8	0.021	1.14	0.05	0.15	0.07	0.18	0.07	0.19	0.67	0.21
V01042-V01045	3485	281	8	0.011	0.81	0.05	0.18	0.07	0.21	0.08	0.21	0.67	0.24
V01043-V01044	2039	277	8	0.020	1.11	0.02	0.08	0.02	0.08	0.00	0.05	0.67	0.05

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V01044-V01045	2038	212	8	0.020	1.09	0.02	0.14	0.02	0.15	0.00	0.12	0.67	0.15
V01045-V01046	2037	48	8	0.011	0.82	0.07	0.20	0.09	0.23	0.08	0.22	0.67	0.25
V01046-V01048	2036	227	8	0.008	0.70	0.07	0.23	0.09	0.26	0.08	0.26	0.67	0.29
V01047-V01048.E0	3362	99	8	0.052	1.77	0.01	0.06	0.01	0.06	0.00	0.06	0.67	0.06
V01048.A0-V01048.B0	3367	91	8	0.045	1.66	0.01	0.06	0.01	0.06	0.02	0.07	0.67	0.07
V01048.B0-V01048.C0	3366	81	8	0.078	2.19	0.01	0.05	0.01	0.05	0.02	0.06	0.67	0.06
V01048.C0-V01048.D0	3365	60	8	0.126	2.77	0.01	0.13	0.01	0.13	0.02	0.16	0.67	0.16
V01048.D0-V01048.E0	3364	51	8	0.000	0.03	0.01	0.14	0.01	0.14	0.02	0.18	0.67	0.18
V01048.E0-V01048	3368	45	8	0.063	1.96	0.02	0.16	0.02	0.18	0.03	0.19	0.67	0.20
V01048-V01049	2032	281	8	0.009	0.74	0.09	0.20	0.11	0.22	0.12	0.23	0.67	0.25
V01049-V01050	3378	264	8	0.065	2.00	0.09	0.27	0.12	0.37	0.12	0.33	0.67	0.44
V01052-V01056	2881	174	10	0.010	1.42	0.75	0.43	1.32	0.61	1.05	0.52	0.83	0.73
V01053-V01054	3382	192	8	0.008	0.69	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.05
V01054-V01055	3381	203	8	0.008	0.70	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.06
V01055.A0-V01055	4033	22	8	0.002	0.35	0.00	0.02	0.00	0.02	0.00	0.05	0.67	0.05
V01055-V01056	3380	111	8	0.058	1.88	0.00	0.21	0.01	0.28	0.01	0.24	0.67	0.31
V01056-V01061	7553	190	10	0.072	3.81	0.76	0.40	1.33	0.53	1.05	0.48	0.83	0.59
V01061-V32153	7335	373	24	0.004	9.00	0.81	0.20	1.44	0.27	1.20	0.25	2.00	0.30
V01062-V32175	7026	313	36	0.012	46.67	6.67	0.31	11.90	0.43	11.80	0.43	3.00	0.52
V02001-V02002	3383	37	8	0.019	1.08	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V02002-V02003	2673	338	8	0.009	0.72	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V02003-V02006	2674	338	8	0.022	1.15	0.01	0.07	0.01	0.09	0.01	0.08	0.67	0.10
V02004-V02005	2681	184	6	0.003	0.20	0.00	0.06	0.00	0.06	0.00	0.06	0.50	0.06
V02005-V02006	2660	360	6	0.048	0.79	0.00	0.08	0.00	0.10	0.00	0.10	0.50	0.12
V02006-V02008	2661	180	8	0.006	0.61	0.01	0.07	0.02	0.09	0.01	0.08	0.67	0.10
V02008-V02011	2662	273	8	0.105	2.53	0.01	0.07	0.02	0.10	0.01	0.08	0.67	0.11
V02009-V02010	2668	333	8	0.052	1.79	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V02010-V02011	2670	323	8	0.098	2.45	0.00	0.07	0.01	0.09	0.00	0.07	0.67	0.09
V02011-V02014	2669	259	8	0.033	1.41	0.03	0.20	0.07	0.26	0.03	0.20	0.67	0.27
V02012.A0-V02012.B0	2893	356	8	0.034	1.44	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V02012.B0-V02012.C0	2897	102	8	0.108	2.57	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V02012.C0-V02012.E0	2895	168	8	0.080	2.21	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V02012.D0-V02012.E0	2894	266	8	0.077	2.16	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V02012.E0-V02012.H0	2896	215	8	0.043	1.62	0.01	0.06	0.01	0.08	0.01	0.06	0.67	0.08
V02012.F0-V02012.G0	2899	141	8	0.150	3.02	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V02012.G0-V02012.H0	2900	157	8	0.025	1.22	0.00	0.06	0.00	0.07	0.00	0.06	0.67	0.07
V02012.H0-V02012.L0	2898	151	8	0.010	0.78	0.01	0.07	0.02	0.10	0.01	0.07	0.67	0.10
V02012.I0-V02012.J0	2658	134	8	0.065	1.99	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V02012.J0-V02012.K0	2656	308	8	0.062	1.95	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V02012.K0-V02012.L0	2666	80	8	0.122	2.72	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.06
V02012.L0-V02012	V02012.L0-V02012	138	8	0.048	1.71	0.01	0.06	0.03	0.09	0.01	0.06	0.67	0.09
V02012.M0-V02012.N0	2657	187	6	0.045	0.77	0.00	0.02	0.00	0.03	0.00	0.02	0.50	0.03
V02012.N0-V02012.O0	2901	300	6	0.062	0.90	0.00	0.04	0.00	0.05	0.00	0.03	0.50	0.05
V02012.O0-V02012.P0	2663	206	6	0.027	0.60	0.00	0.05	0.00	0.07	0.00	0.04	0.50	0.07
V02012.P0-V02012	2664	28	6	0.025	0.57	0.00	0.05	0.01	0.07	0.00	0.05	0.50	0.07
V02012-V02013	4034	113	8	0.099	2.45	0.02	0.53	0.04	0.54	0.02	0.53	0.67	0.54
V02013-V02011	2672	96	8	0.017	1.02	0.02	0.55	0.04	0.57	0.02	0.55	0.67	0.58
V02014-V02020.G0	V02014-V02020.G0	16	8	0.003	0.44	0.03	0.21	0.07	0.28	0.04	0.22	0.67	0.28
V02015-V02016	3393	195	8	0.007	0.65	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V02016-V02017	3391	350	8	0.050	1.75	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V02017-V02018	3386	257	8	0.093	2.38	0.01	0.03	0.01	0.04	0.01	0.03	0.67	0.04
V02018-V02019	3385	24	8	0.207	3.55	0.01	0.03	0.01	0.05	0.01	0.03	0.67	0.05
V02019-V02020	3387	51	8	0.073	2.11	0.01	0.10	0.01	0.15	0.01	0.10	0.67	0.15
V02020.A0-V02020.B0	2676	117	8	0.064	1.97	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V02020.B0-V02020.D0	2671	267	8	0.086	2.29	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V02020.C0-V02020.D0	2678	124	8	0.038	1.52	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V02020.D0-V02020	2679	274	8	0.088	2.31	0.00	0.09	0.01	0.14	0.00	0.10	0.67	0.14
V02020.E0-V02020.F0	V02020.E0-V02020.F0	286	8	0.100	2.47	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V02020.F0-V02020.G0	V02020.F0-V02020.G0	273	8	0.100	2.47	0.00	0.08	0.01	0.11	0.00	0.08	0.67	0.11
V02020.G0-V02020	V02020.G0-V02020	201	8	0.020	1.12	0.04	0.14	0.08	0.21	0.04	0.15	0.67	0.21
V02020-V02025.C0	3392	177	8	0.012	0.85	0.05	0.15	0.10	0.22	0.05	0.16	0.67	0.22
V02021-V02022	2682	341	6	0.050	0.81	0.00	0.03	0.00	0.04	0.00	0.04	0.50	0.04
V02022-V02024	4035	129	8	0.052	1.77	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
V02023-V02024	3397	88	6	0.065	0.92	0.00	0.04	0.00	0.05	0.00	0.04	0.50	0.05
V02024-V02025.A0	3395	323	6	0.059	0.88	0.01	0.07	0.01	0.09	0.01	0.07	0.50	0.09
V02025.A0-V02025.B0	3390	124	6	0.024	0.56	0.01	0.07	0.01	0.09	0.01	0.07	0.50	0.09
V02025.B0-V02025.C0	3388	120	6	0.127	1.29	0.01	0.12	0.01	0.17	0.01	0.12	0.50	0.17
V02025.C0-V02025	3389	158	8	0.029	1.34	0.05	0.14	0.12	0.21	0.06	0.15	0.67	0.21
V02025-V02026	3396	183	8	0.022	1.16	0.05	0.16	0.12	0.23	0.06	0.17	0.67	0.24
V02026-V02028	3644	193	8	0.014	0.92	0.05	0.16	0.12	0.24	0.06	0.18	0.67	0.25
V02027-V02028	3641	52	6	0.104	1.17	0.00	0.11	0.00	0.16	0.00	0.14	0.50	0.18
V02028-V02031.D0	V02028-V02031.D0	162	8	0.017	1.03	0.05	0.16	0.12	0.23	0.07	0.18	0.67	0.24
V02029-V02030	3669	257	6	0.096	1.12	0.00	0.03	0.00	0.03	0.00	0.04	0.50	0.04
V02030-V02031	3671	245	6	0.108	1.19	0.00	0.11	0.00	0.15	0.00	0.12	0.50	0.16
V02031.A0-V02031.B0	V02031.A0-V02031.B0	10	8	0.092	2.37	0.00	0.01	0.00	0.01	0.00	0.01	0.67	0.01
V02031.B0-V02031.C0	V02031.B0-V02031.C0	316	8	0.092	2.37	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V02031.C0-V02031.D0	V02031.C0-V02031.D0	292	8	0.092	2.37	0.00	0.09	0.00	0.14	0.00	0.10	0.67	0.14
V02031.D0-V02031	V02031.D0-V02031	155	8	0.020	1.11	0.06	0.15	0.13	0.22	0.07	0.16	0.67	0.23
V02031-V02032	3674	188	8	0.040	1.56	0.06	0.13	0.14	0.20	0.08	0.15	0.67	0.21
V02032-V02039	3666	192	8	0.039	1.55	0.06	0.15	0.14	0.22	0.08	0.17	0.67	0.24
V02033-V02037	3645	380	6	0.036	0.69	0.00	0.01	0.00	0.02	0.00	0.03	0.50	0.04
V02034-V02035	3647	24	6	0.021	0.52	0.00	0.02	0.00	0.02	0.00	0.05	0.50	0.05
V02035-V02037	8193	215	6	0.068	0.95	0.00	0.02	0.00	0.03	0.00	0.04	0.50	0.04
V02037-V02039	3650	210	6	0.135	1.33	0.00	0.12	0.00	0.19	0.00	0.14	0.50	0.20
V02038-V02039	3659	50	6	0.104	1.17	0.00	0.12	0.00	0.17	0.00	0.14	0.50	0.18
V02039-V02040	3660	229	8	0.019	1.08	0.06	0.17	0.15	0.26	0.08	0.19	0.67	0.27
V02040-V02051	3661	226	8	0.015	0.97	0.06	0.21	0.15	0.32	0.09	0.24	0.67	0.34
V02041-V02042	3663	213	6	0.060	0.89	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V02042-V02043	3664	320	6	0.052	0.83	0.00	0.05	0.00	0.06	0.00	0.06	0.50	0.06
V02043-V02045	3675	137	8	0.032	1.40	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.06
V02044-V02045	3672	320	6	0.063	0.91	0.00	0.04	0.00	0.05	0.00	0.05	0.50	0.05
V02045-V02050	3667	340	8	0.054	1.82	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.07
V02046-V02048	3670	228	6	0.090	1.09	0.00	0.03	0.00	0.04	0.00	0.04	0.50	0.04
V02047-V02048	3658	128	8	0.039	1.54	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V02048-V02049	3673	272	8	0.043	1.62	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
V02049-V02050	3668	191	8	0.060	1.92	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V02050-V02051	3662	123	8	0.143	2.95	0.01	0.14	0.02	0.22	0.02	0.17	0.67	0.23
V02051-V02054	3665	152	8	0.008	0.70	0.08	0.18	0.18	0.28	0.10	0.21	0.67	0.29
V02052-V02053	3676	395	8	0.019	1.07	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V02053-V02054	3688	168	8	0.114	2.64	0.00	0.07	0.01	0.11	0.00	0.08	0.67	0.11
V02054-V02055	3689	21	8	0.120	2.70	0.08	0.25	0.19	0.37	0.11	0.29	0.67	0.39
V02055-V02057	3690	37	8	0.000	0.04	0.08	0.31	0.19	0.45	0.11	0.36	0.67	0.48
V02057-V02063	3692	219	8	0.008	0.70	0.08	0.24	0.19	0.37	0.11	0.28	0.67	0.39
V02058-V02062	8198	217	8	0.015	0.97	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V02059-V02062	3651	321	6	0.073	0.98	0.00	0.05	0.00	0.06	0.00	0.05	0.50	0.06
V02060-V02061	3655	241	6	0.074	0.99	0.00	0.03	0.00	0.03	0.00	0.04	0.50	0.04
V02061-V02062	3652	136	6	0.078	1.01	0.00	0.05	0.00	0.07	0.00	0.06	0.50	0.07

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V02062.A0-V02062.C0	3656	271	8	0.030	1.36	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.06
V02062.AA-V02062.AB	7054	145	8	0.034	1.44	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V02062.AB-V02062.AC	7055	159	8	0.013	0.88	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V02062.AC-V02062.AD	7056	133	8	0.059	1.90	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V02062.AD-V02062.AE	7057	107	8	0.028	1.31	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V02062.AE-V02062.A0	7058	49	8	0.033	1.42	0.00	0.04	0.01	0.06	0.01	0.05	0.67	0.06
V02062.B0-V02062.C0	3657	102	8	0.021	1.13	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V02062.C0-V02062	3653	262	8	0.067	2.02	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.07
V02062-V02063	3654	198	8	0.082	2.24	0.01	0.15	0.03	0.23	0.01	0.17	0.67	0.24
V02063-V02065	3683	124	8	0.008	0.71	0.09	0.25	0.22	0.39	0.13	0.29	0.67	0.41
V02064-V02065	3684	248	8	0.098	2.44	0.00	0.14	0.00	0.20	0.01	0.17	0.67	0.22
V02065-V02068	3686	291	8	0.008	0.70	0.10	0.25	0.22	0.38	0.13	0.29	0.67	0.40
V02066.A0-V02066.B0	3693	283	6	0.020	0.51	0.00	0.05	0.00	0.05	0.00	0.05	0.50	0.05
V02066.B0-V02066.E0	3694	309	6	0.030	0.63	0.01	0.08	0.01	0.08	0.00	0.05	0.50	0.07
V02066.C0-V02066.D0	3704	279	6	0.020	0.52	0.01	0.08	0.01	0.08	0.00	0.03	0.50	0.04
V02066.D0-V02066.E0	3695	92	6	0.017	0.47	0.01	0.09	0.01	0.09	0.00	0.05	0.50	0.06
V02066.E0-V02066	3679	105	6	0.069	0.95	0.02	0.11	0.02	0.11	0.01	0.07	0.50	0.09
V02066-V02068	3680	179	8	0.017	1.02	0.02	0.17	0.02	0.23	0.01	0.17	0.67	0.23
V02067-V02068	3687	179	8	0.025	1.24	0.01	0.15	0.01	0.21	0.00	0.16	0.67	0.21
V02068-V02069	3682	195	8	0.016	0.98	0.12	0.22	0.25	0.31	0.15	0.24	0.67	0.32
V02069-V02070	3700	70	8	0.052	1.78	0.12	0.28	0.26	0.40	0.15	0.30	0.67	0.41
V02070-V02072	4036	86	8	0.003	0.41	0.12	0.30	0.26	0.43	0.15	0.34	0.67	0.45
V02071-V02072	3699	173	6	0.020	0.51	0.01	0.21	0.01	0.27	0.02	0.24	0.50	0.29
V02072-V02073	3701	183	8	0.023	1.18	0.14	0.24	0.27	0.33	0.18	0.27	0.67	0.35
V02073-V02075	3702	91	8	0.021	1.13	0.16	0.26	0.28	0.35	0.19	0.28	0.67	0.37
V02074-V02075	3703	209	6	0.023	0.55	0.00	0.17	0.00	0.24	0.00	0.20	0.50	0.25
V02075-V02077	3698	214	8	0.018	1.06	0.16	0.28	0.29	0.37	0.19	0.30	0.67	0.38
V02076-V02077	3705	200	6	0.006	0.27	0.03	0.32	0.03	0.36	0.03	0.32	0.50	0.36
V02077-V02079.A0	V02077-V02079.A0	115	8	0.019	1.09	0.22	0.32	0.34	0.40	0.23	0.34	0.67	0.41
V02078-V02079	3715	193	6	0.019	0.51	0.00	0.20	0.00	0.25	0.01	0.25	0.50	0.29
V02079.A0-V02079	V02079.A0-V02079	146	8	0.015	0.97	0.22	0.30	0.34	0.38	0.26	0.33	0.67	0.40
V02079-V02080	3716	281	8	0.031	1.37	0.22	0.31	0.34	0.39	0.27	0.34	0.67	0.41
V02086.A0-V02086	7812	143	8	0.050	1.74	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V02086-V02087.D0	3677	264	8	0.019	1.08	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V02087.A0-V02087.B0	3696	85	6	0.009	0.35	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V02087.B0-V02087.C0	3697	154	6	0.025	0.58	0.00	0.05	0.00	0.05	0.00	0.05	0.50	0.05
V02087.C0-V02087.D0	3685	277	6	0.031	0.64	0.00	0.07	0.00	0.08	0.00	0.06	0.50	0.08
V02087.D0-V02087	3678	85	8	0.020	1.11	0.01	0.06	0.01	0.07	0.01	0.05	0.67	0.07
V02087-V02090	3681	321	8	0.020	1.11	0.01	0.06	0.01	0.08	0.01	0.08	0.67	0.10
V02088-V02089	3714	102	6	0.064	0.92	0.00	0.02	0.00	0.02	0.00	0.06	0.50	0.06
V02089-V02090	3713	350	6	0.058	0.88	0.00	0.05	0.00	0.07	0.01	0.11	0.50	0.11
V02090-V02091	3707	225	8	0.029	1.34	0.01	0.06	0.02	0.09	0.04	0.13	0.67	0.14
V02091-V02092	3708	346	8	0.019	1.07	0.01	0.06	0.02	0.09	0.05	0.13	0.67	0.14
V02092-V02106	3717	45	8	0.042	1.59	0.01	0.07	0.03	0.11	0.05	0.16	0.67	0.17
V02093-V02096	3720	336	8	0.014	0.94	0.02	0.11	0.04	0.14	0.07	0.19	0.67	0.20
V02094-V02095	3727	79	8	0.009	0.76	0.00	0.02	0.00	0.02	0.00	0.05	0.67	0.05
V02095-V02096	3725	349	8	0.011	0.80	0.00	0.01	0.00	0.02	0.00	0.06	0.67	0.06
V02106-V02093	3719	214	8	0.009	0.73	0.01	0.10	0.03	0.13	0.06	0.20	0.67	0.21
V03001-V03002	3929	244	8	0.007	0.64	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V03002-V03003	3927	349	8	0.007	0.65	0.00	0.13	0.00	0.16	0.00	0.13	0.67	0.16
V03003-V03009.AA	9	309	8	0.000	0.01	0.01	0.13	0.01	0.16	0.00	0.12	0.67	0.16
V03006-V03007.B0	8	252	8	0.074	2.12	0.00	0.51	0.00	0.51	0.00	0.51	0.67	0.51
V03007.A0-V03008.A0	7699	189	8	0.020	1.10	0.00	0.05	0.01	0.07	0.01	0.07	0.67	0.08
V03007.AA-V03007.A0	7555	323	8	0.061	1.93	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
V03007.B0-V03007.A0	7556	45	8	0.084	2.26	0.00	0.52	0.00	0.53	0.00	0.53	0.67	0.53
V03008.A0-V03009.A0	7700	172	8	0.007	0.65	0.00	0.07	0.01	0.11	0.01	0.09	0.67	0.11
V03009.A0-V03011.A0	7701	76	8	0.008	0.72	0.01	0.10	0.02	0.15	0.01	0.13	0.67	0.16
V03009.AA-V03009.A0	3903	42	8	0.105	2.53	0.01	0.06	0.01	0.09	0.01	0.07	0.67	0.09
V03011.A0-V03017.A0	7704	105	8	0.005	0.57	0.01	0.09	0.03	0.13	0.03	0.13	0.67	0.15
V03011.AA-V03011.A0	7703	98	8	0.036	1.48	0.00	0.07	0.00	0.10	0.01	0.12	0.67	0.13
V03011.AB-V03011.AA	7702	292	8	0.030	1.36	0.00	0.02	0.00	0.03	0.00	0.05	0.67	0.05
V03015-V03017	3905	325	6	0.050	0.81	0.00	0.10	0.00	0.14	0.00	0.13	0.50	0.15
V03016-V03017	3906	173	8	0.002	0.38	0.00	0.08	0.00	0.11	0.00	0.10	0.67	0.12
V03017.A0-V03017	7705	220	8	0.055	1.83	0.01	0.09	0.03	0.14	0.03	0.13	0.67	0.16
V03017-V03019	3907	320	8	0.005	0.55	0.02	0.13	0.04	0.20	0.03	0.18	0.67	0.22
V03018-V03019	3897	172	8	0.004	0.48	0.00	0.09	0.00	0.12	0.00	0.11	0.67	0.13
V03019-V03020	3861	344	8	0.004	0.49	0.02	0.14	0.05	0.21	0.04	0.18	0.67	0.23
V03020-V03049	3862	301	8	0.005	0.57	0.02	0.15	0.05	0.21	0.04	0.17	0.67	0.22
V03023.A0-V03023.B0	3935	247	8	0.008	0.69	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
V03023.B0-V03023.D0	3936	128	8	0.009	0.76	0.00	0.10	0.00	0.14	0.00	0.11	0.67	0.14
V03023.D0-V03023.G0	3921	195	8	0.004	0.48	0.02	0.16	0.05	0.22	0.03	0.16	0.67	0.22
V03023.E0-V03023.F0	3919	296	8	0.010	0.78	0.02	0.09	0.02	0.09	0.00	0.03	0.67	0.03
V03023.F0-V03023.G0	3920	60	8	0.192	3.42	0.02	0.12	0.02	0.14	0.00	0.09	0.67	0.12
V03023.G0-V03023.J0	3922	93	8	0.006	0.60	0.04	0.20	0.07	0.25	0.03	0.17	0.67	0.24
V03023.H0-V03023.I0	3923	50	8	0.012	0.84	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V03023.I0-V03023.J0	3924	111	8	0.138	2.90	0.00	0.12	0.00	0.15	0.00	0.11	0.67	0.14
V03023.J0-V03023	3925	148	8	0.003	0.45	0.04	0.21	0.07	0.27	0.03	0.18	0.67	0.25
V03023.K0-V03023.L0	3930	301	8	0.008	0.71	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V03023.L0-V03023	3931	58	8	0.240	3.82	0.00	0.11	0.01	0.14	0.00	0.10	0.67	0.13
V03023-V03041.D0	3918	242	8	0.005	0.56	0.05	0.20	0.08	0.25	0.04	0.17	0.67	0.23
V03025-V03026	3928	80	8	0.009	0.73	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.02
V03026-V03041.D0	3912	60	8	0.129	2.80	0.00	0.10	0.00	0.13	0.00	0.09	0.67	0.12
V03027-V03041.D0	3911	187	8	0.036	1.48	0.00	0.11	0.00	0.13	0.00	0.09	0.67	0.12
V03032.A0-V03032.B0	5951	137	8	0.031	1.38	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V03032.B0-V03032.C0	5953	96	8	0.083	2.25	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V03032.C0-V03032	5952	335	8	0.029	1.33	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V03032.D0-V03032	3926	102	6	0.067	0.94	0.00	0.04	0.00	0.05	0.00	0.05	0.50	0.06
V03032.DA-V03032.D0	962	62	8	0.060	1.91	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V03032-V03041.C0	7709	232	8	0.054	1.82	0.01	0.06	0.01	0.08	0.01	0.06	0.67	0.08
V03038-V03039	3859	172	6	0.043	0.75	0.00	0.05	0.00	0.05	0.00	0.04	0.50	0.04
V03039-V03041	3855	236	6	0.010	0.36	0.00	0.16	0.00	0.21	0.00	0.14	0.50	0.20
V03040-V03041	3856	173	6	0.068	0.95	0.00	0.14	0.00	0.19	0.00	0.13	0.50	0.18
V03041.A0-V03041.B0	7710	330	8	0.040	1.55	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V03041.B0-V03041.C0	7711	283	8	0.021	1.13	0.00	0.05	0.01	0.07	0.00	0.06	0.67	0.07
V03041.C0-V03041.F0	7713	315	8	0.020	1.10	0.01	0.14	0.02	0.19	0.01	0.13	0.67	0.18
V03041.D0-V03041.E0	7714	77	8	0.007	0.67	0.05	0.19	0.09	0.25	0.04	0.16	0.67	0.23
V03041.E0-V03041.F0	7716	103	8	0.007	0.64	0.05	0.20	0.09	0.27	0.04	0.18	0.67	0.25
V03041.F0-V03041.H0	7715	88	8	0.007	0.65	0.06	0.21	0.11	0.28	0.05	0.19	0.67	0.26
V03041.G0-V03041.H0	7712	173	8	0.027	1.29	0.00	0.11	0.00	0.14	0.00	0.11	0.67	0.14
V03041.H0-V03041.I0	7717	60	8	0.011	0.80	0.07	0.16	0.12	0.22	0.05	0.15	0.67	0.21
V03041.I0-V03041	3858	267	8	0.069	2.05	0.07	0.16	0.12	0.21	0.05	0.14	0.67	0.20
V03041-V03048	3857	320	8	0.012	0.86	0.07	0.23	0.13	0.31	0.06	0.21	0.67	0.30
V03042-V03043	3854	223	8	0.082	2.24	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V03043-V03046	3851	249	8	0.102	2.50	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V03044-V03045	3848	147	8	0.145	2.97	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V03045-V03046	3849	350	8	0.073	2.11	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V03046-V03047	3852	59	8	0.101	2.48	0.01	0.06	0.01	0.08	0.01	0.07	0.67	0.09

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V03047-V03048	3853	350	8	0.004	0.49	0.01	0.18	0.01	0.24	0.01	0.17	0.67	0.24
V03048-V03049	3863	47	8	0.004	0.48	0.08	0.22	0.15	0.30	0.07	0.21	0.67	0.29
V03049-V03054	3843	351	8	0.056	1.85	0.10	0.18	0.20	0.26	0.11	0.19	0.67	0.26
V03050-V03051	3847	110	8	0.062	1.95	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V03051-V03052	3842	185	8	0.046	1.67	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V03052-V03053	3844	317	8	0.048	1.71	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V03053-V03054	3845	29	8	0.488	5.46	0.00	0.11	0.01	0.16	0.00	0.12	0.67	0.16
V03054-V03055	3846	272	8	0.022	1.16	0.11	0.24	0.22	0.34	0.11	0.24	0.67	0.34
V03055-V03060	3836	173	8	0.010	0.77	0.11	0.23	0.22	0.32	0.11	0.23	0.67	0.33
V03056-V03058	3838	94	8	0.004	0.48	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V03057-V03058	3833	88	8	0.004	0.49	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V03058-V03059	3834	210	8	0.181	3.32	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V03059-V03060	3837	153	8	0.065	1.99	0.00	0.11	0.01	0.15	0.00	0.11	0.67	0.15
V03060-V03061	3828	223	8	0.036	1.49	0.12	0.41	0.23	0.57	0.12	0.42	0.67	0.57
V03061-V03064	3829	162	8	0.000	0.02	0.12	0.46	0.23	0.65	0.12	0.47	0.67	0.65
V03062-V03063	3825	256	8	0.119	2.70	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V03063-V03064	3827	265	8	0.157	3.09	0.00	0.15	0.00	0.22	0.00	0.16	0.67	0.22
V03064-V03065	3830	211	8	0.007	0.66	0.12	0.33	0.24	0.47	0.12	0.33	0.67	0.47
V03065-V03072	3165	226	8	0.004	0.49	0.12	0.28	0.24	0.40	0.12	0.28	0.67	0.40
V03066-V03070	3172	260	8	0.004	0.47	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V03067-V03068	3826	231	8	0.119	2.70	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V03068-V03069	3832	176	8	0.011	0.82	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V03069-V03070	3173	265	8	0.010	0.78	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.05
V03070-V03071.A0	3164	109	8	0.288	4.19	0.01	0.11	0.01	0.14	0.01	0.11	0.67	0.14
V03071.A0-V03071	5947	71	8	0.000	0.03	0.01	0.12	0.01	0.16	0.01	0.13	0.67	0.16
V03071-V03072	5954	101	8	0.027	1.29	0.01	0.13	0.02	0.18	0.01	0.13	0.67	0.18
V03072-V03073	3167	125	8	0.042	1.60	0.13	0.19	0.26	0.27	0.13	0.20	0.67	0.28
V03073-V03080	3170	124	8	0.041	1.58	0.13	0.60	0.26	0.64	0.14	0.60	0.67	0.64
V03074-V03076	3839	289	8	0.068	2.03	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V03075-V03076	3841	211	8	0.023	1.19	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V03076-V03077	3840	280	8	0.114	2.64	0.00	0.04	0.01	0.05	0.01	0.04	0.67	0.05
V03077-V03080	3166	351	8	0.050	1.75	0.01	0.52	0.01	0.53	0.01	0.52	0.67	0.53
V03078-V03079	3162	254	8	0.004	0.49	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
V03079-V03080	3163	350	8	0.025	1.24	0.00	0.52	0.00	0.52	0.00	0.52	0.67	0.52
V03080-V03111	3171	160	8	0.011	0.83	0.14	0.62	0.29	0.67	0.15	0.62	0.67	0.67
V03081-V03082	3908	236	8	0.029	1.34	0.00	0.22	0.00	0.23	0.00	0.22	0.67	0.23
V03082-V03083	3899	298	8	0.001	0.23	0.00	0.23	0.00	0.24	0.00	0.23	0.67	0.24
V03083-V03086.B0	V03083-V03086.B0	300	8	0.057	1.86	0.00	0.05	0.01	0.07	0.00	0.05	0.67	0.07
V03085.A0-V03085	3904	185	8	0.031	1.37	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V03085-V03086	3894	311	8	0.059	1.90	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V03086.A0-V03086.B0	V03086.A0-V03086.B0	99	8	0.015	0.95	0.00	0.05	0.00	0.06	0.00	0.04	0.67	0.06
V03086.B0-V03086.C0	V03086.B0-V03086.C0	65	8	0.007	0.66	0.00	0.05	0.01	0.08	0.00	0.05	0.67	0.08
V03086.C0-V03086	V03086.C0-V03086	300	8	0.066	2.01	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.07
V03086-V03088	3895	247	8	0.041	1.58	0.01	0.06	0.02	0.09	0.01	0.06	0.67	0.09
V03087-V03088	3896	36	6	0.002	0.16	0.00	0.07	0.00	0.08	0.00	0.07	0.50	0.08
V03088-V03096	3872	336	8	0.050	1.75	0.01	0.10	0.03	0.15	0.01	0.10	0.67	0.15
V03089.A0-V03089	3892	238	8	0.043	1.63	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V03089.AA-V03089.A0	V03089.AA-V03089.A0	2	8	0.037	1.50	0.00	0.01	0.00	0.01	0.00	0.02	0.67	0.02
V03089-V03090	4040	244	8	0.059	1.90	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V03090-V03095	3873	184	8	0.048	1.71	0.00	0.06	0.01	0.08	0.00	0.06	0.67	0.08
V03091-V03092	3866	102	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V03092-V03093	3864	293	8	0.075	2.14	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V03093-V03094	3868	183	8	0.011	0.84	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V03094-V03095.D0	3869	20	8	0.636	6.23	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.04
V03095.A0-V03095.B0	3865	351	8	0.085	2.28	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
V03095.B0-V03095.C0	3880	120	8	0.004	0.50	0.00	0.06	0.01	0.07	0.00	0.06	0.67	0.08
V03095.C0-V03095.D0	3871	59	8	0.005	0.56	0.00	0.05	0.01	0.07	0.00	0.05	0.67	0.07
V03095.D0-V03095	3870	164	8	0.074	2.12	0.01	0.06	0.02	0.08	0.01	0.06	0.67	0.08
V03095-V03096	3876	126	8	0.020	1.10	0.01	0.11	0.03	0.16	0.01	0.11	0.67	0.15
V03096-V03099	3877	281	8	0.011	0.83	0.03	0.10	0.06	0.14	0.03	0.10	0.67	0.14
V03097-V03098	3879	341	8	0.048	1.72	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V03098-V03099	3874	232	8	0.076	2.16	0.00	0.04	0.01	0.06	0.00	0.05	0.67	0.06
V03099-V03100	3878	9	8	0.394	4.90	0.03	0.10	0.07	0.14	0.03	0.10	0.67	0.14
V03100-V03104	3875	299	8	0.012	0.86	0.03	0.14	0.07	0.20	0.03	0.14	0.67	0.20
V03101-V03102	3881	99	8	0.000	0.02	0.01	0.12	0.01	0.12	0.00	0.02	0.67	0.02
V03102-V03103	3882	318	8	0.086	2.29	0.01	0.06	0.01	0.06	0.00	0.03	0.67	0.04
V03103-V03104	3883	270	8	0.014	0.92	0.01	0.11	0.01	0.14	0.00	0.09	0.67	0.13
V03104-V03108	3884	287	8	0.013	0.89	0.05	0.18	0.09	0.24	0.04	0.17	0.67	0.24
V03105-V03106	3887	180	8	0.018	1.06	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V03106-V03107	3891	61	8	0.130	2.82	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V03107-V03108	3890	291	8	0.013	0.89	0.00	0.12	0.00	0.16	0.00	0.12	0.67	0.16
V03108-V03109	3178	54	8	0.006	0.60	0.05	0.17	0.10	0.24	0.04	0.17	0.67	0.24
V03109-V03110	3176	180	8	0.019	1.06	0.05	0.15	0.10	0.21	0.05	0.14	0.67	0.20
V03110-V03111	3177	80	8	0.019	1.07	0.05	0.19	0.10	0.27	0.05	0.19	0.67	0.27
V03111-V03112	4039	70	8	0.040	1.56	0.19	0.26	0.39	0.37	0.19	0.26	0.67	0.37
V03112-V03113	3174	190	8	0.023	1.18	0.19	0.28	0.39	0.40	0.19	0.28	0.67	0.40
V03113-V03114	3175	179	8	0.020	1.09	0.19	0.31	0.39	0.45	0.19	0.31	0.67	0.45
V03114-V03115	3824	136	8	0.011	0.81	0.19	0.34	0.39	0.50	0.20	0.34	0.67	0.50
V03115-V03128	3154	217	8	0.010	0.78	0.19	0.38	0.39	0.59	0.20	0.40	0.67	0.59
V03116-V03117	3888	256	8	0.038	1.53	0.00	0.02	0.00	0.02	0.01	0.06	0.67	0.06
V03117.A0-V03117.B0	3886	184	8	0.036	1.48	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
V03117.B0-V03117	3889	192	8	0.053	1.80	0.00	0.03	0.00	0.04	0.01	0.05	0.67	0.05
V03117-V03118	3160	349	8	0.082	2.24	0.00	0.04	0.01	0.06	0.02	0.07	0.67	0.08
V03118.A0-V03118	7053	308	8	0.012	0.85	0.00	0.04	0.00	0.05	0.00	0.06	0.67	0.07
V03118-V03129	3159	215	8	0.037	1.51	0.01	0.25	0.02	0.39	0.02	0.28	0.67	0.42
V03121.A0-V03121	7669	239	8	0.045	1.65	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V03121.B0-V03121	3168	299	8	0.067	2.02	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
V03121-V03124	1965	279	8	0.064	1.98	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V03122-V03123	1964	223	8	0.066	2.01	0.00	0.02	0.00	0.02	0.00	0.04	0.67	0.04
V03123-V03124	1966	221	8	0.079	2.19	0.00	0.03	0.00	0.05	0.01	0.05	0.67	0.06
V03124-V03125	1967	47	8	0.067	2.02	0.01	0.04	0.02	0.06	0.02	0.06	0.67	0.07
V03125-V03126	1962	150	8	0.064	1.97	0.01	0.06	0.02	0.09	0.02	0.09	0.67	0.11
V03126-V03127	3156	276	8	0.007	0.64	0.01	0.07	0.02	0.12	0.02	0.11	0.67	0.14
V03127-V03128	3157	69	8	0.007	0.63	0.01	0.25	0.02	0.40	0.02	0.28	0.67	0.41
V03128-V03129	3155	266	8	0.004	0.52	0.20	0.44	0.42	0.69	0.22	0.47	0.67	0.71
V03129-V03130	1945	347	8	0.005	0.58	0.21	0.34	0.44	0.53	0.24	0.37	0.67	0.55
V03130-V03131	1946	209	8	0.047	1.69	0.21	0.39	0.44	0.57	0.24	0.41	0.67	0.59
V03131-V03149	1947	61	8	0.000	0.03	0.21	0.39	0.44	0.56	0.24	0.42	0.67	0.59
V03138-V03137	1960	53	8	0.017	1.02	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V03138-V03139	1961	62	8	0.047	1.69	0.00	0.03	0.00	0.03	0.01	0.04	0.67	0.04
V03139-V03145	1948	157	8	0.079	2.19	0.00	0.07	0.00	0.08	0.01	0.10	0.67	0.10
V03140-V03141	3153	154	8	0.025	1.23	0.00	0.00	0.00	0.01	0.00	0.00	0.67	0.01
V03141-V03143	3158	37	8	0.028	1.32	0.00	0.00	0.00	0.03	0.00	0.01	0.67	0.03
V03142-V03143	7517	77	8	0.025	1.22	0.00	0.00	0.00	0.02	0.00	0.02	0.67	0.03
V03143-V03144	1963	130	8	0.008	0.70	0.00	0.04	0.00	0.06	0.00	0.02	0.67	0.04
V03144-V03145	1955	227	8	0.037	1.50	0.02	0.10	0.02	0.11	0.00	0.09	0.67	0.10
V03145-V03148	1956	173	8	0.010	0.78	0.03	0.34	0.03	0.39	0.04	0.37	0.67	0.41

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V03146-V03147	1943	270	8	0.044	1.65	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.02
V03147-V03148	1944	265	8	0.028	1.31	0.00	0.28	0.00	0.34	0.00	0.30	0.67	0.35
V03148-V03149	1906	75	8	0.003	0.40	0.03	0.39	0.03	0.49	0.04	0.42	0.67	0.51
V03149-V03150	1905	175	8	0.062	1.95	0.24	0.25	0.48	0.36	0.28	0.28	0.67	0.38
V03150-V03154.A0	1951	90	12	0.021	3.31	0.24	0.18	0.48	0.26	0.30	0.20	1.00	0.27
V03151-V03152	1957	129	8	0.017	1.02	0.00	0.02	0.00	0.02	0.01	0.05	0.67	0.05
V03152-V03153.C0	1958	136	8	0.127	2.78	0.00	0.10	0.00	0.13	0.01	0.14	0.67	0.15
V03153.A0-V03153.C0	1949	249	8	0.154	3.06	0.00	0.10	0.00	0.12	0.00	0.13	0.67	0.14
V03153.B0-V03153.C0	1959	141	8	0.136	2.88	0.00	0.09	0.00	0.12	0.00	0.13	0.67	0.14
V03153.C0-V03153	1950	217	8	0.000	0.09	0.00	0.11	0.01	0.15	0.01	0.17	0.67	0.19
V03153-V03154	1952	55	12	0.016	2.94	0.01	0.12	0.01	0.16	0.03	0.15	1.00	0.19
V03154.A0-V03154.B0	1953	99	12	0.020	3.29	0.24	0.18	0.48	0.25	0.30	0.20	1.00	0.27
V03154.B0-V03154	1954	30	12	0.023	3.48	0.24	0.19	0.48	0.27	0.30	0.21	1.00	0.28
V03154-V03155	3501	334	12	0.015	2.83	0.25	0.20	0.50	0.28	0.33	0.23	1.00	0.30
V03155-V03156	3496	76	12	0.016	2.90	0.25	0.20	0.50	0.28	0.33	0.23	1.00	0.30
V03156-V03157	3489	277	12	0.015	2.85	0.25	0.20	0.51	0.29	0.35	0.24	1.00	0.31
V03157-V03158	3490	236	12	0.015	2.84	0.26	0.21	0.52	0.29	0.36	0.24	1.00	0.31
V03158-V03161	3491	127	12	0.015	2.77	0.26	0.22	0.52	0.31	0.36	0.25	1.00	0.33
V03159-V03160	3141	182	8	0.018	1.06	0.00	0.00	0.00	0.02	0.00	0.01	0.67	0.02
V03160-V03161	3492	203	8	0.011	0.80	0.00	0.17	0.00	0.26	0.00	0.20	0.67	0.27
V03161-V03166.A0	3151	190	12	0.011	2.36	0.26	0.24	0.52	0.35	0.36	0.28	1.00	0.37
V03162.A0-V03162	3152	239	8	0.004	0.52	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V03162-V03163	1942	362	8	0.016	0.98	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V03163-V03164	3495	350	8	0.061	1.93	0.00	0.02	0.01	0.05	0.00	0.04	0.67	0.05
V03164-V03165	3488	351	8	0.065	1.99	0.00	0.02	0.01	0.05	0.01	0.05	0.67	0.06
V03165-V03166.A0	3493	146	8	0.084	2.26	0.00	0.20	0.01	0.30	0.01	0.25	0.67	0.33
V03166.A0-V03166	3150	160	12	0.006	1.84	0.26	0.26	0.54	0.39	0.37	0.32	1.00	0.43
V03166.B0-V03166	3149	413	8	0.006	0.59	0.00	0.22	0.00	0.33	0.01	0.28	0.67	0.39
V03166-V03167	3147	396	8	0.010	0.79	0.26	0.39	0.55	0.60	0.38	0.48	0.67	0.66
V03167-V03191	3148	322	8	0.013	0.88	0.26	0.38	0.55	0.57	0.38	0.46	0.67	0.64
V03168.A0-V03168.B0	V03168.A0-V03168.B0	149	8	0.088	2.32	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.02
V03168.B0-V03168.C0	V03168.B0-V03168.C0	64	8	0.033	1.42	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
V03168.C0-V03168	V03168.C0-V03168	53	8	0.009	0.74	0.00	0.02	0.00	0.04	0.00	0.04	0.67	0.05
V03168-V03172	3730	314	8	0.007	0.64	0.00	0.04	0.00	0.07	0.00	0.06	0.67	0.09
V03169.A0-V03169	3831	4	6	7.622	10.01	0.00	0.51	0.00	0.51	0.00	0.52	0.50	0.52
V03169-V03170	3734	241	6	0.118	1.25	0.00	0.03	0.00	0.03	0.00	0.04	0.50	0.04
V03170-V03171	3731	31	6	0.095	1.12	0.00	0.03	0.00	0.04	0.00	0.04	0.50	0.05
V03171-V03172	3732	146	6	0.169	1.49	0.00	0.05	0.00	0.08	0.01	0.08	0.50	0.10
V03172-V03173	3733	332	8	0.004	0.51	0.00	0.05	0.01	0.11	0.01	0.09	0.67	0.13
V03173-V03175	3737	95	8	0.003	0.43	0.00	0.07	0.01	0.13	0.01	0.10	0.67	0.15
V03174.A0-V03174.B0	3134	178	8	0.007	0.64	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V03174.B0-V03174.C0	3749	122	8	0.059	1.89	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V03174.C0-V03174.D0	3739	67	8	0.108	2.56	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V03174.D0-V03174	3735	103	8	0.137	2.89	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.04
V03174-V03175	3736	257	8	0.065	1.99	0.00	0.05	0.01	0.09	0.01	0.07	0.67	0.11
V03175-V03176	3738	267	8	0.006	0.59	0.01	0.06	0.02	0.12	0.01	0.09	0.67	0.14
V03176-V03182	3740	250	8	0.026	1.27	0.01	0.06	0.02	0.10	0.01	0.09	0.67	0.12
V03177-V03180	3744	182	8	0.071	2.08	0.00	0.02	0.00	0.03	0.01	0.05	0.67	0.05
V03178.A0-V03178.B0	3135	96	8	0.154	3.06	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.05
V03178.B0-V03178.C0	3747	204	8	0.002	0.35	0.00	0.07	0.00	0.08	0.00	0.09	0.67	0.10
V03178.C0-V03178	3748	102	8	0.002	0.36	0.00	0.06	0.00	0.07	0.01	0.07	0.67	0.08
V03178-V03179	3746	20	8	0.079	2.20	0.00	0.03	0.01	0.04	0.01	0.04	0.67	0.05
V03179-V03180	3745	339	8	0.039	1.55	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V03180-V03181	3743	349	8	0.082	2.24	0.01	0.05	0.01	0.06	0.02	0.07	0.67	0.08
V03181-V03182	3741	312	8	0.086	2.29	0.02	0.07	0.02	0.09	0.04	0.10	0.67	0.11
V03182-V03183	3742	243	8	0.064	1.98	0.02	0.11	0.05	0.16	0.05	0.16	0.67	0.20
V03183-V03184	3136	361	8	0.005	0.55	0.02	0.14	0.05	0.21	0.05	0.19	0.67	0.25
V03184-V03187	3138	106	8	0.007	0.65	0.02	0.15	0.06	0.23	0.05	0.21	0.67	0.27
V03185.A0-V03185.B0	3504	269	8	0.103	2.51	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V03185.B0-V03185.D0	3494	294	8	0.083	2.24	0.00	0.04	0.01	0.05	0.01	0.06	0.67	0.06
V03185.C0-V03185.D0	4038	3	8	0.002	0.35	0.00	0.05	0.00	0.06	0.00	0.07	0.67	0.07
V03185.D0-V03185.F0	3502	119	8	0.017	1.02	0.01	0.05	0.01	0.07	0.01	0.09	0.67	0.09
V03185.E0-V03185.F0	3503	165	8	0.098	2.45	0.00	0.04	0.00	0.04	0.02	0.08	0.67	0.08
V03185.F0-V03185.G0	3143	225	8	0.020	1.12	0.01	0.07	0.01	0.08	0.03	0.10	0.67	0.11
V03185.G0-V03185	3142	310	8	0.033	1.43	0.02	0.07	0.02	0.08	0.03	0.09	0.67	0.10
V03185-V03186	3137	300	8	0.057	1.86	0.02	0.08	0.02	0.09	0.03	0.10	0.67	0.11
V03186-V03187	3139	125	8	0.022	1.17	0.02	0.13	0.03	0.18	0.03	0.17	0.67	0.21
V03187-V03188	3140	195	8	0.007	0.63	0.04	0.18	0.09	0.26	0.08	0.24	0.67	0.31
V03188-V03189	3144	167	8	0.005	0.56	0.04	0.19	0.09	0.27	0.08	0.25	0.67	0.33
V03189-V03190	3145	145	8	0.005	0.56	0.04	0.17	0.09	0.25	0.08	0.24	0.67	0.30
V03190-V03191	3146	290	8	0.010	0.79	0.04	0.16	0.09	0.23	0.08	0.21	0.67	0.27
V03192-V03194	V03192-V03194	35	8	0.061	1.93	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.02
V03193-V03194	V03193-V03194	213	8	0.013	0.91	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V03194-V03195	V03194-V03195	96	8	0.060	1.91	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V03195-V03198	V03195-V03198	119	8	0.067	2.01	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V03196-V03197	V03196-V03197	118	8	0.023	1.18	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V03197-V03198	V03197-V03198	89	8	0.027	1.29	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V03198-V03199	V03198-V03199	54	8	0.067	2.03	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V03199-V03200	V03199-V03200	185	8	0.037	1.50	0.00	0.05	0.01	0.07	0.00	0.05	0.67	0.07
V03200-V03202	V03200-V03202	329	8	0.011	0.84	0.01	0.06	0.01	0.09	0.01	0.07	0.67	0.09
V03201-V03202	V03201-V03202	29	8	0.059	1.89	0.00	0.04	0.00	0.05	0.01	0.06	0.67	0.07
V03202-V03203	V03202-V03203	144	8	0.016	0.98	0.01	0.13	0.02	0.18	0.01	0.16	0.67	0.19
V03203-V03207	V03203-V03207	81	8	0.000	0.03	0.01	0.13	0.02	0.18	0.01	0.15	0.67	0.19
V03204-V03205	V03204-V03205	96	8	0.102	2.49	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.02
V03205-V03206	V03205-V03206	86	8	0.097	2.44	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V03206-V03207	V03206-V03207	99	8	0.027	1.27	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
V03207-V03208	V03207-V03208	48	8	0.028	1.31	0.01	0.07	0.02	0.10	0.02	0.09	0.67	0.11
V03208-V03210	V03208-V03210	310	8	0.013	0.90	0.01	0.08	0.02	0.12	0.02	0.10	0.67	0.13
V03209-V03210	V03209-V03210	216	8	0.044	1.64	0.00	0.05	0.00	0.07	0.00	0.07	0.67	0.08
V03210-V03211	V03210-V03211	142	8	0.011	0.82	0.01	0.09	0.03	0.13	0.02	0.11	0.67	0.14
V03211-V03212	V03211-V03212	122	8	0.011	0.83	0.01	0.09	0.03	0.14	0.02	0.12	0.67	0.15
V03212-V03213	V03212-V03213	139	8	0.011	0.82	0.02	0.09	0.03	0.14	0.02	0.11	0.67	0.15
V03213-V03215	V03213-V03215	87	8	0.017	1.01	0.02	0.08	0.04	0.12	0.02	0.10	0.67	0.13
V03214-V03215	V03214-V03215	235	8	0.149	3.01	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.07
V03215-V03216.A0	V03215-V03216.A0	55	8	0.040	1.57	0.02	0.09	0.04	0.13	0.03	0.11	0.67	0.14
V03216.A0-V03216	V03216.A0-V03216	163	8	0.014	0.91	0.02	0.08	0.04	0.12	0.03	0.10	0.67	0.13
V03216-V03023.D0	V03216-V03023.D0	91	8	0.077	2.16	0.02	0.10	0.04	0.16	0.03	0.13	0.67	0.17
V04001-V04002	173	159	8	0.107	2.56	0.00	0.01	0.00	0.02	0.00	0.05	0.67	0.05
V04002-V04004	3751	231	8	0.106	2.55	0.00	0.04	0.00	0.04	0.03	0.08	0.67	0.08
V04003-V04004	3752	259	6	0.032	0.64	0.00	0.06	0.00	0.06	0.00	0.07	0.50	0.07
V04004-V04005	172	69	8	0.107	2.55	0.02	0.06	0.02	0.06	0.03	0.08	0.67	0.08
V04005-V04006	170	264	8	0.077	2.17	0.02	0.07	0.02	0.07	0.03	0.09	0.67	0.10
V04006-V04007	3754	271	8	0.038	1.52	0.02	0.08	0.02	0.08	0.04	0.11	0.67	0.11
V04007-V04011	3756	258	8	0.042	1.60	0.02	0.10	0.02	0.12	0.04	0.14	0.67	0.15
V04008-V04009.Q0	V04008-V04009.Q0	136	8	0.051	1.76	0.00	0.01	0.00	0.02	0.00	0.03	0.67	0.03
V04009.Q0-V04009	V04009.Q0-V04009	115	8	0.061	1.94	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
V04009-V04010	7519	303	8	0.082	2.24	0.00	0.03	0.00	0.04	0.01	0.04	0.67	0.05

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V04010-V04011	3750	129	8	0.068	2.04	0.00	0.08	0.01	0.10	0.01	0.11	0.67	0.12
V04011-V04018	169	11	8	0.009	0.74	0.02	0.11	0.04	0.14	0.05	0.16	0.67	0.17
V04012-V04014.A0	4042	81	8	0.005	0.54	0.00	0.31	0.00	0.31	0.01	0.34	0.67	0.34
V04013-V04014	4006	240	8	0.123	2.74	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
V04014.A0-V04014	7429	36	8	0.043	1.63	0.00	0.02	0.00	0.03	0.01	0.06	0.67	0.06
V04014-V04015	4043	355	8	0.021	1.14	0.00	0.04	0.00	0.06	0.01	0.07	0.67	0.08
V04015-V04016	3753	352	8	0.017	1.00	0.00	0.04	0.01	0.06	0.01	0.07	0.67	0.08
V04016-V04017	171	354	8	0.053	1.81	0.01	0.04	0.01	0.06	0.01	0.06	0.67	0.07
V04017-V04018	3755	291	8	0.117	2.67	0.01	0.07	0.02	0.10	0.02	0.10	0.67	0.12
V04018-V04019	3184	345	8	0.032	1.40	0.03	0.11	0.06	0.15	0.06	0.16	0.67	0.18
V04019-V04023	3180	350	8	0.020	1.11	0.03	0.14	0.06	0.20	0.07	0.21	0.67	0.24
V04020-V04021	3185	139	8	0.072	2.09	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V04021-V04022	3183	294	8	0.140	2.92	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V04022-V04023	3181	66	8	0.060	1.91	0.00	0.10	0.01	0.14	0.00	0.14	0.67	0.16
V04023-V04024	3182	293	8	0.005	0.57	0.04	0.17	0.07	0.24	0.08	0.25	0.67	0.29
V04024-V04025	4045	308	8	0.005	0.55	0.04	0.18	0.07	0.26	0.08	0.27	0.67	0.32
V04025-V04026	4046	121	8	0.004	0.46	0.04	0.19	0.07	0.27	0.08	0.27	0.67	0.33
V04026-V04031	4047	98	8	0.005	0.54	0.04	0.17	0.08	0.24	0.08	0.24	0.67	0.30
V04028.B0-V04028.C0	454	85	8	0.106	2.54	0.00	0.00	0.00	0.01	0.00	0.01	0.67	0.01
V04028.C0-V04028.D0	7078	106	8	0.114	2.64	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.02
V04028.D0-V04030.C0	7674	332	8	0.083	2.25	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.04
V04029-V04030	4048	193	8	0.008	0.71	0.00	0.03	0.00	0.06	0.00	0.06	0.67	0.07
V04030.A0-V04030.B0	3169	166	6	0.126	1.29	0.00	0.03	0.00	0.03	0.00	0.03	0.50	0.03
V04030.B0-V04030.C0	7676	146	6	0.043	0.75	0.00	0.03	0.00	0.05	0.00	0.05	0.50	0.06
V04030.C0-V04030	4044	312	8	0.075	2.14	0.00	0.04	0.01	0.07	0.01	0.07	0.67	0.09
V04030-V04031	3179	140	8	0.006	0.58	0.00	0.10	0.01	0.17	0.01	0.15	0.67	0.20
V04031-V32158	7392	197	8	0.010	0.78	0.04	0.15	0.09	0.23	0.09	0.22	0.67	0.28
V04033-V04034	4031	171	8	0.053	1.80	0.00	0.03	0.00	0.04	0.00	0.06	0.67	0.06
V04034-V04035	4020	257	8	0.008	0.69	0.00	0.04	0.00	0.05	0.01	0.07	0.67	0.07
V04035-V04038	4024	107	8	0.014	0.93	0.00	0.04	0.01	0.06	0.01	0.06	0.67	0.07
V04036-V04037	4030	178	8	0.023	1.17	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V04037-V04038	4021	172	8	0.017	1.00	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.06
V04038-V04039	4025	206	8	0.046	1.68	0.01	0.05	0.01	0.07	0.01	0.07	0.67	0.08
V04039-V04040	4007	271	8	0.021	1.14	0.01	0.07	0.01	0.09	0.01	0.09	0.67	0.10
V04040-V04041	4014	273	8	0.010	0.79	0.01	0.07	0.02	0.10	0.01	0.09	0.67	0.11
V04041-V04042	4015	353	8	0.027	1.28	0.01	0.06	0.02	0.09	0.02	0.08	0.67	0.10
V04042-V04043	4010	243	8	0.062	1.95	0.01	0.08	0.03	0.11	0.02	0.10	0.67	0.12
V04043-V04044	4012	206	8	0.010	0.78	0.02	0.09	0.03	0.12	0.02	0.10	0.67	0.13
V04044-V04060	3940	350	8	0.047	1.69	0.02	0.12	0.03	0.17	0.03	0.14	0.67	0.18
V04045-V04046	4022	342	8	0.023	1.18	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V04046-V04047	4026	308	8	0.020	1.10	0.00	0.04	0.01	0.06	0.00	0.05	0.67	0.06
V04047-V04048	4027	299	8	0.020	1.11	0.01	0.06	0.01	0.08	0.01	0.06	0.67	0.08
V04048-V04049	4008	300	8	0.014	0.91	0.01	0.08	0.01	0.11	0.01	0.09	0.67	0.11
V04049-V04050	4016	205	8	0.004	0.49	0.01	0.10	0.02	0.13	0.01	0.11	0.67	0.14
V04050-V04055	4017	318	8	0.004	0.50	0.01	0.12	0.02	0.17	0.01	0.13	0.67	0.17
V04051-V04052	4023	269	8	0.004	0.49	0.00	0.06	0.00	0.06	0.00	0.06	0.67	0.06
V04052-V04054	4028	252	8	0.004	0.49	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
V04053-V04054	4029	60	8	0.004	0.49	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
V04054-V04055	4009	264	8	0.073	2.10	0.01	0.09	0.01	0.12	0.01	0.10	0.67	0.13
V04055-V04056	4018	348	8	0.004	0.50	0.02	0.11	0.04	0.15	0.02	0.12	0.67	0.16
V04056-V04057	4019	235	8	0.040	1.56	0.02	0.09	0.04	0.12	0.02	0.10	0.67	0.13
V04057-V04058	4011	311	8	0.023	1.19	0.02	0.09	0.04	0.12	0.03	0.10	0.67	0.13
V04058-V04059	4013	165	8	0.050	1.75	0.02	0.08	0.05	0.11	0.03	0.09	0.67	0.12
V04059-V04060	3987	318	8	0.048	1.70	0.03	0.13	0.05	0.18	0.03	0.15	0.67	0.19
V04060-V04061	4004	322	8	0.011	0.81	0.04	0.14	0.09	0.20	0.06	0.16	0.67	0.21
V04061-V04062	4000	220	8	0.052	1.78	0.05	0.11	0.09	0.15	0.06	0.13	0.67	0.16
V04062-V04063	3991	328	8	0.063	1.95	0.05	0.11	0.10	0.15	0.06	0.12	0.67	0.16
V04063-V04064	3995	151	8	0.086	2.29	0.05	0.09	0.10	0.12	0.07	0.10	0.67	0.13
V04064-V04078	3997	51	8	0.516	5.61	0.05	0.53	0.10	0.55	0.07	0.54	0.67	0.55
V04065-V04066	3988	238	8	0.073	2.11	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
V04066-V04068	4005	157	8	0.013	0.88	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
V04067-V04068	3989	189	8	0.048	1.72	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V04068-V04069	4001	145	8	0.115	2.65	0.00	0.04	0.01	0.06	0.01	0.05	0.67	0.06
V04069-V04071	4002	226	8	0.015	0.96	0.01	0.07	0.01	0.10	0.01	0.09	0.67	0.11
V04070-V04071	3992	107	8	0.002	0.35	0.00	0.06	0.00	0.08	0.00	0.08	0.67	0.09
V04071-V04072	4003	375	8	0.005	0.54	0.01	0.07	0.01	0.09	0.01	0.08	0.67	0.10
V04072-V04076	3993	218	8	0.069	2.05	0.01	0.06	0.02	0.08	0.01	0.07	0.67	0.09
V04073-V04074	3990	159	8	0.070	2.07	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V04074-V04075	3994	283	8	0.102	2.49	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
V04075-V04076	3999	163	8	0.076	2.15	0.00	0.05	0.01	0.07	0.00	0.06	0.67	0.07
V04076-V04077	3996	188	8	0.044	1.65	0.01	0.06	0.03	0.08	0.02	0.07	0.67	0.09
V04077-V04078	3998	169	8	0.141	2.94	0.01	0.53	0.03	0.54	0.02	0.53	0.67	0.54
V04078-V04079	3937	223	8	0.007	0.67	0.06	0.56	0.14	0.59	0.09	0.57	0.67	0.60
V04079-V04080	3938	61	8	0.057	1.87	0.06	0.17	0.14	0.24	0.09	0.19	0.67	0.26
V04080-V04081	3939	226	8	0.009	0.76	0.06	0.18	0.14	0.27	0.09	0.21	0.67	0.28
V04081-V32162	7399	290	8	0.023	1.19	0.06	0.43	0.14	0.58	0.09	0.57	0.67	0.62
V04087-V04028.B0	V04087-V04028.B0	65	8	5.533	18.37	0.00	0.50	0.00	0.50	0.00	0.50	0.67	0.50
V05001-V05006	4072	368	12	0.005	1.69	0.31	0.30	0.46	0.36	0.32	0.30	1.00	0.39
V05002-V05004	3186	379	8	0.012	0.86	0.00	0.06	0.00	0.08	0.00	0.06	0.67	0.08
V05004.A0-V05004.B0	1743	293	8	0.093	2.38	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V05004.B0-V05004.C0	3194	30	8	0.034	1.43	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
V05004.C0-V05004.D0	3195	177	8	0.073	2.11	0.01	0.05	0.01	0.05	0.00	0.04	0.67	0.05
V05004.D0-V05004.M0	4052	203	8	0.023	1.19	0.01	0.11	0.01	0.12	0.01	0.09	0.67	0.11
V05004.E0-V05004.G0	1745	207	8	0.018	1.05	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.04
V05004.F0-V05004.G0	1197	102	8	0.010	0.78	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.04
V05004.G0-V05004.I0	1744	229	8	0.065	1.99	0.01	0.06	0.01	0.07	0.01	0.05	0.67	0.06
V05004.GA-V05004.G0	1198	133	8	0.065	1.99	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
V05004.I0-V05004.J0	4053	139	8	0.060	1.92	0.02	0.09	0.02	0.10	0.01	0.07	0.67	0.09
V05004.IB-V05004.IC	V05004.IB-V05004.IC	137	8	0.109	2.58	0.00	0.01	0.00	0.02	0.00	0.00	0.67	0.01
V05004.IC-V05004.ID	V05004.IC-V05004.ID	72	8	0.109	2.58	0.00	0.03	0.00	0.03	0.00	0.01	0.67	0.02
V05004.ID-V05004.IE	V05004.ID-V05004.IE	37	8	0.109	2.58	0.00	0.03	0.00	0.03	0.00	0.01	0.67	0.02
V05004.IE-V05004.IF	V05004.IE-V05004.IF	65	8	0.100	2.47	0.00	0.04	0.01	0.05	0.00	0.03	0.67	0.04
V05004.IF-V05004.I0	3196	110	8	0.010	0.78	0.00	0.06	0.01	0.07	0.00	0.05	0.67	0.06
V05004.J0-V05004.K0	3188	45	8	0.014	0.91	0.02	0.10	0.03	0.11	0.01	0.08	0.67	0.10
V05004.K0-V05004.L0	3189	33	8	0.019	1.07	0.02	0.09	0.03	0.10	0.01	0.07	0.67	0.09
V05004.L0-V05004.M0	3190	39	8	0.037	1.50	0.02	0.12	0.03	0.13	0.01	0.10	0.67	0.12
V05004.M0-V05004.N0	3191	99	8	0.006	0.58	0.03	0.15	0.04	0.18	0.02	0.13	0.67	0.16
V05004.N0-V05004.O0	3192	25	8	0.006	0.60	0.03	0.15	0.04	0.17	0.02	0.14	0.67	0.17
V05004.O0-V05004	3193	33	8	0.007	0.66	0.03	0.14	0.04	0.16	0.03	0.14	0.67	0.16
V05004-V05005	3187	237	8	0.014	0.92	0.03	0.13	0.04	0.15	0.03	0.13	0.67	0.15
V05005-V05006	3197	175	8	0.023	1.19	0.04	0.29	0.06	0.35	0.04	0.29	0.67	0.37
V05006-V05007	4058	384	12	0.006	1.81	0.35	0.29	0.52	0.36	0.36	0.29	1.00	0.38
V05007-V05012	4061	382	12	0.008	2.03	0.35	0.29	0.53	0.35	0.36	0.29	1.00	0.38
V05008-V05011	1738	225	8	0.057	1.87	0.02	0.11	0.02	0.11	0.01	0.10	0.67	0.10
V05009-V05010	3198	265	8	0.008	0.71	0.00	0.06	0.00	0.06	0.02	0.12	0.67	0.12
V05010-V05011	4059	273	8	0.008	0.70	0.02	0.13	0.02	0.13	0.03	0.14	0.67	0.14
V05011-V05012	4062	183	8	0.016	1.00	0.04	0.29	0.04	0.34	0.05	0.30	0.67	0.36

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V05012-V05013	1731	345	12	0.008	2.03	0.39	0.30	0.57	0.36	0.41	0.30	1.00	0.39
V05013-V05024	3769	345	12	0.008	2.04	0.39	0.33	0.57	0.40	0.41	0.33	1.00	0.42
V05014-V05015	1737	247	8	0.041	1.57	0.00	0.03	0.00	0.03	0.01	0.05	0.67	0.05
V05015-V05016	1739	81	8	0.030	1.34	0.01	0.05	0.01	0.05	0.01	0.05	0.67	0.05
V05016-V05017	1740	73	8	0.075	2.14	0.01	0.07	0.01	0.07	0.01	0.06	0.67	0.07
V05017-V05018	1741	88	8	0.008	0.71	0.01	0.10	0.01	0.10	0.01	0.09	0.67	0.09
V05018-V05019	1742	208	8	0.008	0.70	0.01	0.10	0.01	0.10	0.01	0.10	0.67	0.10
V05019-V05020	1734	210	8	0.008	0.70	0.01	0.13	0.02	0.13	0.01	0.11	0.67	0.12
V05020-V05021	1735	214	8	0.010	0.77	0.04	0.12	0.04	0.12	0.02	0.10	0.67	0.10
V05021-V05022	1728	262	8	0.114	2.63	0.04	0.42	0.04	0.43	0.03	0.40	0.67	0.41
V05022-V05023	3767	53	8	0.008	0.70	0.04	0.43	0.05	0.43	0.03	0.40	0.67	0.41
V05023-V05024	3770	84	8	0.100	2.47	0.04	0.31	0.05	0.37	0.03	0.30	0.67	0.38
V05024-V05025	3765	322	12	0.005	1.64	0.44	0.36	0.62	0.43	0.44	0.36	1.00	0.46
V05025-V05036	3758	325	12	0.005	1.69	0.44	0.31	0.63	0.38	0.44	0.31	1.00	0.40
V05026.A0-V05026	1726	128	8	0.022	1.15	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
V05026-V05027	2064	168	8	0.010	0.79	0.00	0.05	0.00	0.05	0.00	0.06	0.67	0.06
V05027-V05028	1725	89	8	0.011	0.83	0.00	0.05	0.01	0.06	0.01	0.06	0.67	0.07
V05028-V05030	2063	95	8	0.012	0.86	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V05029-V05030	2062	81	8	0.023	1.19	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V05030-V05031.B0	2059	249	8	0.093	2.38	0.00	0.04	0.01	0.05	0.01	0.04	0.67	0.05
V05031.A0-V05031.B0	2060	137	6	0.026	0.59	0.00	0.04	0.00	0.05	0.00	0.05	0.50	0.05
V05031.B0-V05031	3783	129	8	0.091	2.35	0.01	0.04	0.01	0.06	0.01	0.05	0.67	0.06
V05031-V05032	4049	190	8	0.083	2.25	0.01	0.05	0.01	0.07	0.01	0.06	0.67	0.07
V05032-V05033	4050	98	8	0.038	1.52	0.01	0.06	0.02	0.07	0.01	0.07	0.67	0.08
V05033-V05034	3766	330	8	0.057	1.87	0.01	0.06	0.02	0.08	0.02	0.07	0.67	0.09
V05035-V05036	3760	65	8	0.006	0.60	0.02	0.25	0.03	0.31	0.02	0.25	0.67	0.33
V05036-V05037	3761	342	12	0.019	3.13	0.45	0.34	0.66	0.42	0.46	0.34	1.00	0.45
V05037-V05041.A0	1429	122	12	0.003	1.22	0.45	0.39	0.66	0.47	0.46	0.39	1.00	0.50
V05038-V05039	1437	48	8	0.188	3.39	0.00	0.02	0.00	0.02	0.01	0.05	0.67	0.05
V05039-V05040	1432	312	8	0.025	1.24	0.00	0.51	0.00	0.52	0.01	0.51	0.67	0.53
V05040-V05041	1433	28	8	0.013	0.88	0.03	0.72	0.03	0.78	0.03	0.72	0.67	0.80
V05041.A0-V05041.B0	1430	192	14	0.005	2.39	0.45	0.35	0.67	0.42	0.46	0.35	1.17	0.45
V05041.B0-V05041	1434	132	14	0.001	1.32	0.45	0.33	0.67	0.40	0.46	0.33	1.17	0.43
V05041-V05046	1425	241	12	0.010	2.26	0.46	0.35	0.68	0.43	0.46	0.35	1.00	0.46
V05042-V05043	1436	32	8	0.003	0.44	0.01	0.08	0.01	0.08	0.00	0.05	0.67	0.05
V05043-V05044	1438	305	8	0.005	0.55	0.01	0.06	0.01	0.06	0.01	0.07	0.67	0.07
V05044-V05103	1426	300	8	0.037	1.50	0.01	0.21	0.01	0.25	0.01	0.23	0.67	0.29
V05046-V05047	175	222	12	0.004	1.46	0.46	0.38	0.68	0.47	0.46	0.38	1.00	0.50
V05047-V05048	FM13	113	12	0.005	1.56	0.46	0.37	0.68	0.45	0.46	0.36	1.00	0.47
V05048-V05091.A0	7378	152	12	0.006	1.82	0.46	0.27	0.71	0.55	0.49	0.55	1.00	0.63
V05051-V05052	4076	166	8	0.030	1.36	0.09	0.59	0.15	0.61	0.09	0.59	0.67	0.62
V05052-V05057	4055	252	8	0.010	0.78	0.09	0.62	0.16	0.66	0.09	0.64	0.67	0.68
V05057-V05058	4060	267	8	0.010	0.76	0.09	0.25	0.16	0.32	0.13	0.29	0.67	0.37
V05058-V05059.A0	4056	276	8	0.010	0.78	0.11	0.22	0.17	0.28	0.13	0.25	0.67	0.32
V05059.A0-V05059	4057	25	8	0.041	1.58	0.11	0.20	0.17	0.26	0.14	0.23	0.67	0.29
V05059-V05060	1727	117	8	0.015	0.96	0.11	0.26	0.17	0.33	0.14	0.28	0.67	0.37
V05060-V05068	1732	179	8	0.007	0.65	0.12	0.29	0.19	0.36	0.14	0.32	0.67	0.40
V05061.A0-V05061.B0	7076	24	8	0.014	0.94	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
V05061.B0-V05061	7077	244	8	0.012	0.85	0.00	0.04	0.00	0.04	0.01	0.06	0.67	0.06
V05061-V05062	4068	191	8	0.026	1.25	0.00	0.06	0.00	0.06	0.01	0.07	0.67	0.07
V05062-V05063	4065	347	8	0.021	1.13	0.02	0.11	0.02	0.11	0.01	0.11	0.67	0.11
V05063-V05064	4066	180	8	0.015	0.97	0.05	0.19	0.05	0.19	0.05	0.20	0.67	0.20
V05064-V05066	4067	241	8	0.004	0.49	0.05	0.17	0.05	0.17	0.06	0.19	0.67	0.19
V05065.A0-V05065	4069	139	8	2.007	11.06	0.00	0.00	0.01	0.50	0.04	0.54	0.67	0.54
V05065-V05066	4064	283	8	0.126	2.78	0.00	0.05	0.00	0.06	0.04	0.12	0.67	0.12
V05066-V05067	1729	355	8	0.067	2.03	0.05	0.12	0.05	0.13	0.09	0.17	0.67	0.17
V05067-V05068	1730	350	8	0.025	1.23	0.05	0.22	0.06	0.25	0.10	0.26	0.67	0.29
V05068-V05069	1733	82	8	0.014	0.93	0.18	0.32	0.25	0.38	0.23	0.37	0.67	0.44
V05069-V05075	3771	334	8	0.008	0.68	0.18	0.37	0.25	0.44	0.23	0.43	0.67	0.51
V05070-V05071	3782	116	8	0.048	1.70	0.00	0.00	0.00	0.01	0.01	0.05	0.67	0.05
V05071-V05072	3777	170	8	0.075	2.14	0.00	0.03	0.00	0.04	0.01	0.05	0.67	0.05
V05072.A0-V05072.B0	7670	113	8	0.031	1.37	0.00	0.04	0.00	0.04	0.00	0.00	0.67	0.01
V05072.B0-V05072	7671	218	8	0.017	1.03	0.01	0.07	0.01	0.07	0.00	0.02	0.67	0.04
V05072-V05073	3779	84	8	0.041	1.59	0.01	0.07	0.01	0.08	0.01	0.07	0.67	0.08
V05073.A0-V05073.B0	3781	63	8	0.068	2.03	0.00	0.02	0.00	0.02	0.02	0.07	0.67	0.07
V05073.B0-V05073.C0	3778	100	8	0.064	1.97	0.00	0.04	0.00	0.04	0.02	0.08	0.67	0.08
V05073.C0-V05073	3780	111	8	0.051	1.76	0.01	0.07	0.01	0.07	0.03	0.09	0.67	0.09
V05073-V05074.B0	3774	185	6	0.064	0.92	0.02	0.11	0.03	0.12	0.03	0.14	0.50	0.14
V05074.A0-V05074	3775	21	6	0.051	0.82	0.00	0.07	0.00	0.07	0.00	0.09	0.50	0.09
V05074.B0-V05074	3776	120	8	0.061	1.93	0.03	0.10	0.04	0.10	0.05	0.12	0.67	0.13
V05074.BA-V05074.BB	7672	97	8	0.083	2.25	0.01	0.06	0.01	0.06	0.02	0.08	0.67	0.08
V05074.BB-V05074.B0	7673	259	8	0.021	1.14	0.01	0.08	0.01	0.08	0.02	0.10	0.67	0.10
V05074-V05075	3768	299	8	0.034	1.44	0.03	0.25	0.04	0.29	0.05	0.30	0.67	0.34
V05075-V05076	3772	199	8	0.007	0.66	0.21	0.38	0.29	0.46	0.29	0.45	0.67	0.54
V05076-V05077	3764	139	8	0.008	0.71	0.21	0.40	0.29	0.48	0.29	0.47	0.67	0.57
V05077-V05078	3757	330	8	0.005	0.56	0.21	0.50	0.29	0.60	0.29	0.59	0.67	0.71
V05078-V05079	3762	29	8	0.000	0.05	0.21	0.50	0.29	0.60	0.29	0.59	0.67	0.71
V05079-V05080	1439	392	8	0.006	0.60	0.21	0.37	0.30	0.45	0.29	0.44	0.67	0.53
V05080-V05102	1435	363	8	0.015	0.96	0.21	0.52	0.30	0.64	0.29	0.63	0.67	0.72
V05081-V05083	1172	131	8	0.031	1.37	0.01	0.07	0.01	0.07	0.01	0.06	0.67	0.06
V05082-V05083	1174	53	8	0.020	1.09	0.00	0.06	0.00	0.06	0.00	0.05	0.67	0.05
V05083-V05084	1175	95	8	0.019	1.07	0.01	0.08	0.01	0.08	0.01	0.07	0.67	0.07
V05084-V05087	1176	38	8	0.017	1.03	0.01	0.08	0.01	0.08	0.01	0.07	0.67	0.08
V05085-V05086	1177	137	8	0.006	0.59	0.00	0.06	0.00	0.06	0.00	0.06	0.67	0.06
V05086-V05087	1178	109	8	0.006	0.61	0.00	0.07	0.00	0.08	0.01	0.07	0.67	0.07
V05087-V05088	1179	41	8	0.029	1.33	0.02	0.08	0.02	0.08	0.01	0.07	0.67	0.07
V05088-V05092	1162	152	8	0.076	2.16	0.02	0.07	0.02	0.07	0.01	0.06	0.67	0.06
V05089-V05091	1170	85	8	0.010	0.78	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V05090-V05091	1171	60	8	0.010	0.77	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V05091.A0-V30072	7379	12	12	0.075	6.32	0.46	0.59	1.26	0.84	1.16	0.88	1.00	0.91
V05091-V05092	1163	141	8	0.010	0.79	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.05
V05092-V05093	1164	57	8	0.103	2.50	0.02	0.07	0.03	0.08	0.02	0.06	0.67	0.07
V05093-V05097	1165	106	8	0.068	2.04	0.02	0.07	0.03	0.07	0.02	0.07	0.67	0.07
V05094-V05096	1173	91	8	0.007	0.65	0.00	0.05	0.00	0.05	0.00	0.03	0.67	0.04
V05095-V05096	1441	60	8	0.010	0.77	0.00	0.06	0.00	0.06	0.00	0.03	0.67	0.04
V05096-V05097	1169	102	8	0.007	0.66	0.00	0.06	0.01	0.06	0.00	0.05	0.67	0.06
V05097-V05098	1442	36	8	0.231	3.76	0.03	0.07	0.03	0.08	0.03	0.08	0.67	0.09
V05098-V05099	1443	255	8	0.079	2.20	0.03	0.12	0.03	0.13	0.05	0.16	0.67	0.16
V05099-V05100	1161	370	8	0.004	0.50	0.03	0.16	0.04	0.19	0.05	0.22	0.67	0.24
V05100-V05101	1440	388	8	0.004	0.49	0.03	0.15	0.04	0.18	0.05	0.21	0.67	0.23
V05101-V05102	1431	88	8	0.001	0.20	0.03	0.25	0.04	0.29	0.05	0.32	0.67	0.35
V05102-V05103	1427	112	8	0.001	0.23	0.24	0.54	0.34	0.67	0.34	0.66	0.67	0.76
V05103-V05104	FM4	123	8	0.012	0.87	0.25	0.37	0.36	0.46	0.34	0.45	0.67	0.54
V05104-V05105	1424	263	10	0.007	1.21	0.25	0.38	0.36	0.46	0.34	0.45	0.83	0.54
V05105-V05106	7380	201	10	0.002	0.59	0.25	0.30	0.36	0.37	0.34	0.36	0.83	0.42
V05106-V30073	7381	13	10	0.121	4.93	0.25	0.58	0.36	0.59	0.34	0.59	0.83	0.61
V05114-V05035	3759	325	8	0.048	1.70	0.02	0.09	0.02	0.12	0.02	0.10	0.67	0.13

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V06001-V06002	593	210	8	0.122	2.73	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V06002-V06003	594	185	8	0.081	2.22	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V06003.A0-V06003	1002	20	8	0.002	0.35	0.00	0.05	0.00	0.05	0.01	0.09	0.67	0.09
V06003-V06004.A0	7073	292	8	0.043	1.63	0.02	0.07	0.02	0.07	0.01	0.07	0.67	0.07
V06004.A0-V06004	7074	25	8	0.053	1.80	0.02	0.09	0.02	0.10	0.02	0.09	0.67	0.10
V06004-V06005	4081	116	8	0.006	0.60	0.02	0.12	0.02	0.12	0.02	0.11	0.67	0.12
V06005-V06008	4082	130	8	0.008	0.72	0.02	0.17	0.02	0.19	0.02	0.17	0.67	0.20
V06006-V06007	4078	22	8	0.012	0.87	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V06007-V06008	4079	231	8	0.090	2.34	0.00	0.13	0.00	0.14	0.00	0.13	0.67	0.15
V06008-V06009	4080	245	8	0.001	0.30	0.02	0.18	0.03	0.19	0.02	0.18	0.67	0.20
V06009-V06017	4086	94	8	0.010	0.78	0.02	0.21	0.03	0.24	0.02	0.21	0.67	0.25
V06010-V06011	4084	225	6	0.003	0.20	0.00	0.07	0.00	0.07	0.00	0.07	0.50	0.07
V06011-V06014	4090	351	6	0.005	0.25	0.00	0.12	0.00	0.14	0.00	0.11	0.50	0.13
V06012-V06013	4091	254	8	0.016	0.99	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V06013-V06014	4092	199	8	0.072	2.10	0.00	0.08	0.01	0.09	0.00	0.07	0.67	0.09
V06014-V06015	4085	306	6	0.003	0.21	0.01	0.17	0.02	0.20	0.01	0.15	0.50	0.19
V06015-V06016	4087	98	6	0.004	0.23	0.01	0.13	0.02	0.16	0.01	0.12	0.50	0.15
V06016-V06017	4088	299	6	0.061	0.90	0.01	0.25	0.02	0.29	0.01	0.24	0.50	0.29
V06017-V06024	4089	279	6	0.002	0.16	0.04	0.33	0.05	0.39	0.04	0.33	0.50	0.40
V06018-V06019	7534	238	8	0.006	0.62	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V06019-V06096.A0	7726	363	8	0.067	2.02	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V06024-V06040	4164	168	8	0.004	0.50	0.04	0.20	0.06	0.24	0.04	0.20	0.67	0.24
V06025-V06027	2384	207	8	0.010	0.77	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V06026-V06027	2386	235	8	0.004	0.49	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V06027-V06028	2382	293	8	0.048	1.70	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.05
V06028-V06029	2383	216	8	0.027	1.27	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.07
V06029-V06030	2376	201	8	0.025	1.23	0.01	0.06	0.01	0.08	0.01	0.06	0.67	0.08
V06030-V06031	2369	337	8	0.027	1.29	0.01	0.07	0.02	0.09	0.01	0.07	0.67	0.09
V06031-V06038	4168	381	8	0.020	1.12	0.01	0.09	0.02	0.12	0.01	0.09	0.67	0.12
V06032-V06033	2367	185	8	0.021	1.14	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V06033-V06034	2365	316	8	0.018	1.06	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V06034-V06037	4171	225	8	0.067	2.03	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V06035-V06036	1907	268	8	0.075	2.14	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V06036-V06037	1908	192	8	0.015	0.96	0.00	0.05	0.01	0.06	0.00	0.04	0.67	0.05
V06037-V06038	4169	274	8	0.080	2.21	0.01	0.08	0.02	0.10	0.01	0.07	0.67	0.10
V06038-V06039.A0	4170	246	8	0.019	1.09	0.03	0.11	0.05	0.14	0.02	0.10	0.67	0.14
V06039.A0-V06039.AA	7728	313	8	0.028	1.32	0.03	0.11	0.05	0.14	0.03	0.10	0.67	0.14
V06039.AA-V06096.G0	7729	42	8	0.027	1.29	0.03	0.11	0.06	0.14	0.03	0.10	0.67	0.14
V06040-V06096.H0	V06040-V06096.H0	321	8	0.004	0.48	0.04	0.18	0.06	0.22	0.04	0.18	0.67	0.23
V06042-V06045	1909	200	8	0.004	0.52	0.00	0.04	0.00	0.04	0.00	0.06	0.67	0.07
V06043-V06045	1910	365	8	0.004	0.48	0.00	0.05	0.00	0.05	0.00	0.06	0.67	0.07
V06044-V06045	2284	341	8	0.004	0.48	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.06
V06045-V06046	2282	284	8	0.059	1.90	0.01	0.06	0.01	0.08	0.01	0.08	0.67	0.10
V06046-V06047.A0	2283	194	8	0.012	0.86	0.01	0.17	0.02	0.21	0.02	0.20	0.67	0.25
V06047.A0-V06047	2280	185	8	0.000	0.06	0.01	0.17	0.02	0.21	0.02	0.20	0.67	0.25
V06047-V06049	2279	168	8	0.016	1.00	0.01	0.08	0.02	0.11	0.02	0.10	0.67	0.13
V06049-V06056	2276	213	8	0.016	0.98	0.02	0.09	0.03	0.12	0.02	0.10	0.67	0.14
V06050-V06051	1916	141	8	0.007	0.63	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V06051.A0-V06051.B0	1911	157	8	0.004	0.52	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.04
V06051.B0-V06051.C0	1912	169	8	0.004	0.52	0.00	0.06	0.00	0.07	0.00	0.05	0.67	0.06
V06051.C0-V06051	1917	134	8	0.004	0.50	0.00	0.06	0.01	0.08	0.00	0.05	0.67	0.08
V06051-V06054	2271	132	8	0.005	0.53	0.00	0.08	0.01	0.10	0.00	0.07	0.67	0.09
V06052-V06053	1918	95	8	0.005	0.56	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V06053-V06054	2272	127	8	0.004	0.50	0.00	0.07	0.00	0.08	0.00	0.06	0.67	0.08
V06054-V06055	2277	357	8	0.005	0.52	0.01	0.09	0.01	0.11	0.01	0.07	0.67	0.10
V06055-V06056	2337	49	8	0.008	0.71	0.01	0.09	0.02	0.12	0.01	0.08	0.67	0.12
V06056-V06058	2273	265	8	0.030	1.36	0.03	0.10	0.05	0.13	0.03	0.11	0.67	0.15
V06057-V06058	2274	287	8	0.075	2.14	0.00	0.06	0.00	0.08	0.00	0.06	0.67	0.08
V06058-V06059	2269	83	8	0.030	1.34	0.03	0.10	0.06	0.14	0.03	0.11	0.67	0.15
V06059-V06067	2264	269	8	0.040	1.55	0.03	0.10	0.06	0.14	0.03	0.11	0.67	0.15
V06060-V06061	2387	337	8	0.011	0.82	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.05
V06061-V06063	2388	247	8	0.050	1.75	0.01	0.04	0.01	0.04	0.01	0.04	0.67	0.04
V06062-V06063	2262	69	8	0.007	0.66	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V06063-V06064	2385	339	8	0.333	4.50	0.01	0.52	0.01	0.52	0.01	0.51	0.67	0.52
V06064-V06066	2270	200	8	0.572	5.91	0.01	0.53	0.02	0.54	0.01	0.53	0.67	0.54
V06065-V06066	2263	241	8	0.050	1.75	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V06066-V06067	2265	229	8	0.056	1.85	0.01	0.08	0.02	0.11	0.01	0.09	0.67	0.12
V06067-V06068	2266	265	8	0.054	1.81	0.04	0.15	0.08	0.21	0.05	0.16	0.67	0.22
V06068-V06069	2267	183	8	0.005	0.53	0.05	0.23	0.09	0.31	0.05	0.24	0.67	0.33
V06069-V06070	2268	248	8	0.002	0.39	0.05	0.23	0.09	0.31	0.06	0.25	0.67	0.34
V06070-V06071	4177	252	8	0.005	0.56	0.05	0.20	0.09	0.27	0.06	0.22	0.67	0.29
V06071-V06072	4172	271	8	0.009	0.73	0.06	0.16	0.10	0.21	0.06	0.17	0.67	0.23
V06072-V06074	4175	50	8	0.055	1.83	0.06	0.12	0.10	0.16	0.06	0.13	0.67	0.17
V06073-V06074	4176	184	6	0.006	0.28	0.00	0.11	0.00	0.13	0.00	0.11	0.50	0.14
V06074-V06075	4173	188	8	0.056	1.85	0.06	0.12	0.10	0.16	0.07	0.13	0.67	0.17
V06075-V06089	4174	175	8	0.056	1.84	0.06	0.14	0.11	0.18	0.07	0.14	0.67	0.19
V06076-V06077	2377	93	6	0.049	0.80	0.00	0.02	0.00	0.02	0.00	0.02	0.50	0.02
V06077-V06080	2380	26	6	0.061	0.90	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V06078-V06079	2379	179	8	0.035	1.46	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V06079-V06080	2381	99	8	0.008	0.69	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.05
V06080-V06081	2378	322	6	0.063	0.91	0.01	0.06	0.01	0.07	0.00	0.06	0.50	0.07
V06081-V06083	2375	231	6	0.043	0.75	0.01	0.11	0.01	0.12	0.01	0.10	0.50	0.12
V06082-V06083	2374	141	6	0.005	0.26	0.00	0.09	0.00	0.10	0.00	0.09	0.50	0.10
V06083-V06084	2372	194	8	0.004	0.50	0.01	0.11	0.02	0.12	0.01	0.09	0.67	0.12
V06084-V06086	2373	175	8	0.006	0.59	0.01	0.09	0.02	0.10	0.01	0.08	0.67	0.10
V06085-V06086	2368	91	6	0.055	0.85	0.00	0.05	0.00	0.06	0.00	0.05	0.50	0.06
V06086-V06088	2371	223	8	0.041	1.58	0.01	0.09	0.02	0.11	0.01	0.08	0.67	0.11
V06087-V06088	2370	159	6	0.070	0.96	0.00	0.10	0.00	0.11	0.00	0.08	0.50	0.10
V06088-V06089	4179	190	8	0.006	0.61	0.02	0.13	0.03	0.17	0.01	0.13	0.67	0.17
V06089-V06090	4181	74	8	0.049	1.73	0.08	0.14	0.14	0.19	0.08	0.15	0.67	0.20
V06090-V06091	4180	253	8	0.060	1.91	0.08	0.18	0.14	0.24	0.08	0.19	0.67	0.25
V06091-V06094	4182	41	8	0.008	0.70	0.08	0.26	0.14	0.34	0.09	0.26	0.67	0.35
V06092-V06093	4183	120	6	0.033	0.66	0.01	0.13	0.01	0.13	0.00	0.05	0.50	0.05
V06093-V06094	4184	120	6	0.004	0.23	0.01	0.28	0.01	0.33	0.00	0.22	0.50	0.29
V06094-V06095	591	159	8	0.004	0.52	0.09	0.34	0.15	0.44	0.09	0.33	0.67	0.45
V06095-V06096	592	251	8	0.002	0.37	0.10	0.31	0.16	0.41	0.09	0.31	0.67	0.41
V06096.A0-V06096.B0	7725	350	8	0.057	1.87	0.00	0.04	0.01	0.06	0.01	0.05	0.67	0.07
V06096.B0-V06096.C0	7724	335	8	0.022	1.16	0.00	0.04	0.01	0.07	0.01	0.06	0.67	0.08
V06096.C0-V06096.E0	7723	347	8	0.047	1.70	0.01	0.05	0.02	0.07	0.01	0.06	0.67	0.08
V06096.E0-V06096.F0	7719	156	8	0.042	1.61	0.01	0.05	0.02	0.08	0.01	0.06	0.67	0.09
V06096.F0-V06096.G0	7718	43	8	0.032	1.39	0.01	0.08	0.02	0.12	0.01	0.09	0.67	0.12
V06096.G0-V06096.H0	7727	284	8	0.039	1.54	0.04	0.13	0.08	0.18	0.04	0.13	0.67	0.18
V06096.H0-V06096	7720	224	8	0.046	1.67	0.09	0.20	0.14	0.25	0.08	0.19	0.67	0.25
V06096-V06097	4185	207	10	0.027	2.35	0.19	0.25	0.30	0.32	0.18	0.24	0.83	0.32
V06097-V06098	4186	312	10	0.004	0.94	0.19	0.31	0.31	0.41	0.18	0.31	0.83	0.42
V06098-V06099	597	311	10	0.005	0.96	0.19	0.25	0.31	0.33	0.19	0.25	0.83	0.34
V06099-V06100	598	300	10	0.032	2.53	0.19	0.22	0.32	0.29	0.19	0.22	0.83	0.30

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V06100-V06101	596	301	10	0.009	1.34	0.19	0.42	0.32	0.53	0.19	0.42	0.83	0.55
V06101-V06102.A0	7797	148	10	0.000	0.04	0.19	0.40	0.32	0.50	0.19	0.40	0.83	0.52
V06102.A0-V06102	7798	100	10	0.021	2.05	0.19	0.19	0.32	0.25	0.19	0.19	0.83	0.26
V06102-V05051	V06102-V05051	295	8	0.014	0.92	0.09	0.19	0.15	0.25	0.09	0.20	0.67	0.26
V06102-V07064	NEWPIPE-DWG-3961	53	10	0.013	1.60	0.10	0.20	0.18	0.25	0.11	0.20	0.83	0.26
V06117-V07080	V06117-V07080	329	8	0.058	1.88	0.00	0.03	0.00	0.04	0.00	0.02	0.67	0.03
V06118-V06049	2278	198	8	0.004	0.51	0.00	0.07	0.00	0.08	0.00	0.07	0.67	0.08
V07001-V07002	3015	90	8	0.036	1.47	0.00	0.01	0.00	0.01	0.00	0.03	0.67	0.03
V07002-V07003	3009	234	8	0.030	1.36	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
V07003-V07005	3010	264	8	0.040	1.57	0.01	0.05	0.01	0.05	0.01	0.05	0.67	0.06
V07004-V07005	3012	320	8	0.043	1.62	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V07006-V07007.E0	7047	129	8	0.029	1.33	0.03	0.10	0.04	0.12	0.02	0.09	0.67	0.12
V07007.A0-V07007.B0	7051	122	8	0.085	2.28	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V07007.B0-V07007.C0	7052	210	8	0.049	1.72	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V07007.C0-V07007.D0	7050	165	8	0.044	1.63	0.00	0.05	0.01	0.06	0.01	0.05	0.67	0.06
V07007.D0-V07007.E0	7662	79	8	0.010	0.77	0.01	0.08	0.01	0.10	0.01	0.07	0.67	0.10
V07007.E0-V07007	7413	72	8	0.037	1.50	0.03	0.11	0.05	0.12	0.02	0.09	0.67	0.12
V07007-V07009	3949	372	8	0.033	1.42	0.03	0.11	0.05	0.13	0.03	0.10	0.67	0.13
V07008-V07009	3950	226	8	0.032	1.39	0.00	0.07	0.00	0.08	0.00	0.07	0.67	0.09
V07009-V07011	3952	269	8	0.034	1.44	0.04	0.11	0.06	0.13	0.03	0.10	0.67	0.14
V07010-V07011	4219	226	8	0.016	0.97	0.00	0.08	0.00	0.09	0.00	0.07	0.67	0.09
V07011-V07015	4194	285	8	0.040	1.56	0.04	0.12	0.06	0.15	0.03	0.11	0.67	0.15
V07012-V07013	3944	182	8	0.083	2.26	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V07013-V07014	4191	175	8	0.044	1.64	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.05
V07014-V07015	4195	321	8	0.024	1.21	0.01	0.09	0.01	0.11	0.01	0.08	0.67	0.11
V07015-V07028	4215	155	8	0.034	1.43	0.05	0.20	0.08	0.24	0.04	0.18	0.67	0.25
V07016-V07018	4220	83	6	0.010	0.36	0.00	0.07	0.00	0.07	0.00	0.07	0.50	0.08
V07017-V07018	3951	344	6	0.032	0.65	0.00	0.06	0.00	0.06	0.00	0.05	0.50	0.05
V07018-V07019	3008	163	8	0.043	1.62	0.01	0.06	0.01	0.06	0.01	0.05	0.67	0.06
V07019-V07026.I0	3945	301	8	0.024	1.21	0.01	0.09	0.01	0.10	0.01	0.08	0.67	0.10
V07022-V07026.J0	4192	185	8	0.013	0.89	0.00	0.52	0.00	0.52	0.00	0.52	0.67	0.52
V07024-V07025	3946	264	6	0.034	0.67	0.00	0.05	0.00	0.05	0.00	0.05	0.50	0.05
V07025-V07026	3948	162	6	0.053	0.84	0.00	0.13	0.00	0.15	0.01	0.13	0.50	0.16
V07026.A0-V07026.C0	8211	233	8	0.007	0.66	0.00	0.05	0.00	0.05	0.00	0.01	0.67	0.03
V07026.B0-V07026.C0	8210	157	8	0.008	0.68	0.00	0.05	0.00	0.05	0.00	0.01	0.67	0.03
V07026.C0-V07026.E0	8212	219	8	0.007	0.66	0.01	0.09	0.01	0.10	0.00	0.01	0.67	0.06
V07026.D0-V07026.E0	8209	153	8	0.007	0.65	0.00	0.05	0.00	0.05	0.00	0.01	0.67	0.04
V07026.E0-V07026.F0	8213	121	8	0.007	0.67	0.01	0.09	0.01	0.10	0.00	0.06	0.67	0.09
V07026.F0-V07026.G0	8214	110	8	0.008	0.68	0.01	0.09	0.02	0.11	0.01	0.10	0.67	0.12
V07026.G0-V07026.H0	8215	157	8	0.008	0.68	0.01	0.09	0.02	0.11	0.02	0.11	0.67	0.12
V07026.H0-V07026.I0	8216	50	8	0.007	0.67	0.01	0.10	0.02	0.12	0.02	0.11	0.67	0.13
V07026.I0-V07026.J0	8217	161	8	0.020	1.12	0.03	0.55	0.04	0.56	0.03	0.55	0.67	0.56
V07026.J0-V07026	3947	79	8	0.012	0.85	0.03	0.58	0.04	0.59	0.03	0.58	0.67	0.60
V07026-V07027	4216	154	8	0.007	0.66	0.03	0.16	0.05	0.19	0.04	0.16	0.67	0.20
V07027-V07028	4217	219	8	0.006	0.62	0.03	0.21	0.05	0.26	0.04	0.21	0.67	0.27
V07028-V07032	4218	125	8	0.006	0.60	0.09	0.23	0.13	0.28	0.08	0.21	0.67	0.29
V07029-V07030	3942	126	8	0.011	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V07030-V07031	4196	236	8	0.054	1.81	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.05
V07031-V07032	3941	241	8	0.025	1.23	0.01	0.12	0.01	0.14	0.01	0.12	0.67	0.15
V07032-V07036	4200	287	8	0.024	1.21	0.09	0.20	0.14	0.24	0.08	0.19	0.67	0.25
V07033-V07034	4197	350	6	0.067	0.94	0.00	0.06	0.00	0.06	0.00	0.05	0.50	0.05
V07034-V07036	4201	300	6	0.017	0.47	0.01	0.17	0.01	0.21	0.00	0.16	0.50	0.21
V07035-V07036	4204	275	6	0.009	0.34	0.00	0.17	0.00	0.19	0.00	0.16	0.50	0.20
V07036-V07046	4205	252	8	0.022	1.15	0.10	0.45	0.16	0.54	0.09	0.43	0.67	0.55
V07037-V07038	4202	309	6	0.021	0.52	0.00	0.07	0.00	0.07	0.00	0.07	0.50	0.08
V07038-V07039	4206	234	6	0.007	0.30	0.01	0.10	0.01	0.11	0.01	0.11	0.50	0.11
V07039-V07040	4207	200	6	0.007	0.30	0.01	0.11	0.01	0.12	0.01	0.12	0.50	0.13
V07040-V07041	4208	95	6	0.007	0.30	0.01	0.12	0.01	0.14	0.01	0.13	0.50	0.14
V07041-V07046	4209	320	6	0.008	0.32	0.01	0.53	0.01	0.57	0.01	0.51	0.50	0.57
V07042-V07043	3943	141	8	0.008	0.68	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V07043-V07044	4198	300	6	0.062	0.90	0.00	0.06	0.00	0.06	0.01	0.06	0.50	0.07
V07044-V07045	4203	210	6	0.046	0.78	0.01	0.08	0.01	0.09	0.01	0.08	0.50	0.09
V07045-V07046	4210	295	8	0.016	0.99	0.01	0.38	0.01	0.45	0.01	0.37	0.67	0.46
V07046-V07047	4211	117	8	0.000	0.16	0.13	0.42	0.19	0.50	0.12	0.41	0.67	0.52
V07047-V07049.D0	V07047-V07049.D0	31	8	0.101	2.48	0.13	0.22	0.19	0.28	0.12	0.22	0.67	0.28
V07049.B0-V07049.C0	V07049.B0-V07049.C0	216	8	0.023	1.18	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V07049.C0-V07049.D0	V07049.C0-V07049.D0	60	8	0.022	1.16	0.00	0.17	0.00	0.20	0.01	0.16	0.67	0.21
V07049.D0-V07049	V07049.D0-V07049	19	8	0.007	0.67	0.13	0.29	0.20	0.36	0.12	0.28	0.67	0.37
V07049-V07052	4213	137	8	0.011	0.80	0.13	0.25	0.20	0.31	0.12	0.25	0.67	0.32
V07050-V07051	4193	102	8	0.005	0.57	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V07051-V07052	4214	133	8	0.005	0.55	0.00	0.14	0.00	0.16	0.00	0.14	0.67	0.17
V07052-V07053	4199	124	8	0.023	1.19	0.13	0.23	0.20	0.28	0.13	0.23	0.67	0.30
V07053-V07054	603	302	8	0.020	1.11	0.13	0.26	0.20	0.32	0.13	0.25	0.67	0.33
V07054-V07064	604	290	8	0.012	0.87	0.16	0.28	0.22	0.34	0.13	0.27	0.67	0.36
V07055.A0-V07055	1004	80	8	0.002	0.35	0.00	0.06	0.00	0.06	0.01	0.12	0.67	0.12
V07055-V07056	600	207	8	0.007	0.67	0.00	0.06	0.00	0.06	0.01	0.09	0.67	0.10
V07056-V07059	607	300	8	0.036	1.47	0.01	0.10	0.01	0.10	0.03	0.15	0.67	0.15
V07057-V07058	599	299	8	0.032	1.41	0.00	0.04	0.00	0.04	0.01	0.07	0.67	0.07
V07058-V07059	606	361	8	0.043	1.63	0.01	0.10	0.01	0.10	0.03	0.14	0.67	0.15
V07059-V07060	608	328	8	0.007	0.65	0.03	0.14	0.03	0.15	0.06	0.20	0.67	0.22
V07060-V07063	609	325	8	0.007	0.65	0.03	0.15	0.04	0.16	0.06	0.20	0.67	0.21
V07061.A0-V07061	1003	55	6	0.009	0.34	0.02	0.16	0.02	0.16	0.01	0.15	0.50	0.15
V07061-V07062	601	328	6	0.005	0.26	0.02	0.17	0.02	0.17	0.01	0.16	0.50	0.16
V07062-V07063	4188	98	6	0.004	0.23	0.02	0.19	0.02	0.19	0.01	0.20	0.50	0.22
V07063-V07064	602	325	8	0.020	1.10	0.05	0.21	0.05	0.24	0.08	0.23	0.67	0.28
V07064-V05001	4074	205	12	0.033	4.17	0.31	0.24	0.46	0.29	0.32	0.24	1.00	0.31
V07078-V07006	3011	93	8	0.099	2.46	0.01	0.08	0.02	0.09	0.01	0.07	0.67	0.09
V07078-V07006	CDT-50	154	8	0.039	1.54	0.01	0.08	0.01	0.09	0.01	0.06	0.67	0.09
V07079-V07078	V07079-V07078	244	8	0.030	1.35	0.00	0.04	0.01	0.05	0.01	0.04	0.67	0.06
V07080-V07079	V07080-V07079	42	8	0.011	0.82	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V08001-V08002	5656	182	6	0.089	1.08	0.00	0.07	0.00	0.07	0.00	0.08	0.50	0.08
V08002-V08004	5408	235	6	0.003	0.20	0.00	0.09	0.00	0.09	0.00	0.10	0.50	0.10
V08004.A0-V08004	7248	261	6	0.093	1.10	0.00	0.04	0.00	0.05	0.00	0.05	0.50	0.05
V08004-V08007	5407	214	6	0.064	0.92	0.01	0.08	0.01	0.09	0.01	0.10	0.50	0.11
V08007-V08166	V08007-V08166	116	8	0.028	1.30	0.01	0.07	0.02	0.09	0.02	0.11	0.67	0.11
V08010-V08017.C0	5369	240	6	0.001	0.13	0.00	0.05	0.00	0.05	0.00	0.13	0.50	0.13
V08011-V08017.C0	7283	25	8	0.021	1.13	0.00	0.03	0.00	0.04	0.01	0.08	0.67	0.08
V08016-V08017	5360	245	6	0.032	0.65	0.00	0.37	0.00	0.43	0.01	0.54	0.50	0.54
V08017.A0-V08017.D0	7082	170	8	0.011	0.82	0.00	0.05	0.00	0.06	0.01	0.10	0.67	0.10
V08017.B0-V08017.D0	7690	320	8	0.077	2.17	0.00	0.05	0.00	0.06	0.02	0.10	0.67	0.10
V08017.C0-V08017.D0	7284	129	8	0.006	0.62	0.00	0.05	0.00	0.06	0.01	0.12	0.67	0.12
V08017.D0-V08017.E0	7081	287	8	0.018	1.04	0.01	0.06	0.01	0.08	0.04	0.14	0.67	0.14
V08017.E0-V08017.I0	7281	93	8	0.014	0.92	0.01	0.07	0.02	0.09	0.04	0.15	0.67	0.15
V08017.F0-V08017.G0	7233	351	8	0.011	0.82	0.00	0.04	0.00	0.04	0.00	0.07	0.67	0.07
V08017.G0-V08017.I0	7285	131	8	0.017	1.02	0.01	0.06	0.01	0.08	0.02	0.12	0.67	0.12
V08017.H0-V08017.I0	7083	110	8	0.067	2.02	0.00	0.04	0.00	0.05	0.02	0.11	0.67	0.11
V08017.I0-V08017	7282	190	8	0.035	1.45	0.01	0.31	0.03	0.37	0.07	0.51	0.67	0.52

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V08017.J0-V08017	5362	46	8	0.045	1.65	0.01	0.31	0.02	0.36	0.04	0.48	0.67	0.49
V08017-V08023	1026	186	8	0.001	0.29	0.03	0.31	0.05	0.38	0.12	0.51	0.67	0.52
V08023-V08072.A0	5370	90	8	0.071	2.08	0.03	0.09	0.05	0.13	0.12	0.19	0.67	0.20
V08032-V08033	1022	397	6	0.002	0.15	0.00	0.11	0.00	0.11	0.03	0.31	0.50	0.31
V08033-V08037	1021	87	10	0.002	0.64	0.01	0.10	0.01	0.10	0.04	0.16	0.83	0.16
V08034-V08035	5357	37	6	0.410	2.32	0.04	0.57	0.04	0.57	0.01	0.55	0.50	0.55
V08035-V08036	5358	202	6	0.072	0.97	0.05	0.17	0.05	0.17	0.02	0.13	0.50	0.13
V08036-V08037	1020	39	6	0.030	0.63	0.05	0.19	0.05	0.19	0.03	0.19	0.50	0.19
V08037-V08134	1019	290	6	0.033	0.66	0.06	0.20	0.06	0.20	0.08	0.25	0.50	0.25
V08038-V08039	1120	184	6	0.057	0.86	0.00	0.05	0.00	0.05	0.03	0.11	0.50	0.11
V08039-V08040	4771	210	6	0.110	1.20	0.03	0.11	0.03	0.11	0.03	0.11	0.50	0.11
V08040-V08042	4815	221	6	0.095	1.12	0.03	0.13	0.03	0.13	0.03	0.13	0.50	0.13
V08041-V08042	4814	228	6	0.070	0.96	0.01	0.10	0.01	0.10	0.01	0.11	0.50	0.11
V08042-V08043	5655	91	6	0.066	0.93	0.04	0.12	0.04	0.12	0.04	0.12	0.50	0.12
V08043-V08044	1264	315	6	0.417	2.34	0.04	0.54	0.04	0.55	0.05	0.55	0.50	0.55
V08044-V08045	1018	54	6	1.785	4.85	0.04	0.56	0.04	0.56	0.05	0.57	0.50	0.57
V08045-V08049	1017	262	6	0.006	0.28	0.01	0.11	0.01	0.11	0.01	0.15	0.50	0.15
V08045-V08137	7358	162	8	0.065	1.99	0.03	0.18	0.03	0.19	0.04	0.24	0.67	0.24
V08046-V08047	5404	179	6	0.039	0.72	0.00	0.04	0.00	0.04	0.00	0.08	0.50	0.08
V08047-V08048	5403	202	6	0.060	0.89	0.00	0.05	0.00	0.06	0.02	0.12	0.50	0.12
V08048-V08049	1263	248	6	0.054	0.84	0.01	0.08	0.01	0.08	0.03	0.15	0.50	0.15
V08049-V08136	7796	155	8	0.046	1.68	0.02	0.15	0.02	0.16	0.05	0.22	0.67	0.22
V08060-V08061	5350	48	6	0.129	1.30	0.00	0.05	0.00	0.05	0.01	0.07	0.50	0.07
V08061-V08138	7805	144	6	0.129	1.30	0.01	0.08	0.01	0.08	0.02	0.09	0.50	0.09
V08072.A0-V08072.B0	5371	77	8	0.025	1.23	0.03	0.10	0.05	0.14	0.13	0.21	0.67	0.22
V08072.B0-V08072.C0	5372	86	8	0.030	1.34	0.03	0.10	0.05	0.14	0.13	0.21	0.67	0.21
V08072.C0-V08074.A0	7721	224	18	0.011	7.00	1.68	0.35	2.53	0.43	2.77	0.46	1.50	0.52
V08072.CA-V08072.CB	7744	99	8	0.023	1.19	0.00	0.49	0.00	0.50	0.00	0.50	0.67	0.50
V08072.CB-V08072.CD	7747	273	18	0.004	4.19	1.65	0.45	2.46	0.56	2.63	0.59	1.50	0.68
V08072.CD-V08072.CE	7749	185	18	0.003	3.70	1.65	0.40	2.47	0.51	2.64	0.53	1.50	0.62
V08072.CE-V08072.CF	7750	19	18	0.012	7.46	1.65	0.38	2.47	0.48	2.64	0.50	1.50	0.57
V08072.CF-V08072.C0	7751	149	18	0.005	4.61	1.65	0.37	2.47	0.46	2.65	0.48	1.50	0.55
V08074.A0-V08129	7730	54	24	0.006	11.30	1.68	0.30	2.53	0.37	2.77	0.39	2.00	0.44
V08077.B0-V08118.A0	7786	63	8	0.006	0.58	0.00	0.00	0.00	0.03	0.00	0.00	0.67	0.03
V08077.C0-V08077.B0	7788	111	8	0.009	0.76	0.00	0.00	0.00	0.02	0.00	0.00	0.67	0.02
V08081-V08084	4813	465	6	0.058	0.87	0.00	0.05	0.00	0.06	0.01	0.07	0.50	0.07
V08082-V08083	6261	97	6	0.067	0.94	0.00	0.05	0.00	0.05	0.01	0.06	0.50	0.06
V08083-V08084	4812	226	6	0.060	0.89	0.01	0.06	0.01	0.07	0.01	0.08	0.50	0.08
V08084-V08085	4827	47	8	0.079	2.20	0.01	0.06	0.01	0.07	0.02	0.08	0.67	0.08
V08085-V08089	5654	378	6	0.043	0.76	0.01	0.12	0.02	0.13	0.03	0.17	0.50	0.17
V08086-V08087	4810	305	6	0.073	0.98	0.01	0.06	0.01	0.06	0.01	0.08	0.50	0.08
V08087-V08088	5653	208	6	0.089	1.08	0.01	0.08	0.01	0.08	0.02	0.11	0.50	0.11
V08088-V08089	5402	339	6	0.020	0.51	0.01	0.12	0.01	0.13	0.02	0.17	0.50	0.17
V08089-V08090	1261	327	6	0.046	0.77	0.03	0.14	0.04	0.15	0.07	0.21	0.50	0.21
V08090-V08112	7695	74	8	0.037	1.50	0.03	0.10	0.04	0.11	0.08	0.16	0.67	0.16
V08091-V08092	4770	137	8	0.087	2.31	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V08092-V08093	5607	268	8	0.034	1.44	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.06
V08093-V08094	5608	147	8	0.014	0.91	0.01	0.06	0.01	0.07	0.01	0.07	0.67	0.08
V08094-V08095	4809	38	8	0.011	0.82	0.01	0.05	0.01	0.06	0.01	0.06	0.67	0.07
V08095-V08103	5652	234	8	0.095	2.40	0.01	0.06	0.01	0.07	0.01	0.07	0.67	0.08
V08096-V08103	5401	321	6	0.004	0.23	0.00	0.09	0.00	0.10	0.00	0.11	0.50	0.12
V08097-V08098	5400	154	8	0.004	0.51	0.00	0.05	0.00	0.05	0.00	0.06	0.67	0.06
V08098-V08099	5399	132	8	0.004	0.48	0.00	0.07	0.00	0.08	0.00	0.07	0.67	0.08
V08099-V08100	5398	196	8	0.004	0.50	0.01	0.09	0.01	0.10	0.01	0.08	0.67	0.09
V08100-V08102	5397	85	8	0.005	0.54	0.01	0.10	0.01	0.11	0.01	0.09	0.67	0.11
V08101-V08102	5651	103	8	0.070	2.07	0.00	0.06	0.00	0.06	0.00	0.06	0.67	0.07
V08102-V08103	5396	91	8	0.006	0.62	0.01	0.09	0.02	0.10	0.02	0.10	0.67	0.12
V08103-V08104	1260	211	8	0.050	1.75	0.02	0.08	0.03	0.10	0.03	0.10	0.67	0.11
V08104-V08105	1009	238	8	0.052	1.78	0.02	0.12	0.03	0.14	0.04	0.14	0.67	0.16
V08105-V08109	1276	321	6	0.006	0.28	0.03	0.21	0.04	0.26	0.04	0.30	0.50	0.33
V08106-V08107	5348	182	6	0.033	0.66	0.00	0.05	0.00	0.06	0.00	0.10	0.50	0.10
V08107-V08108	5346	97	6	0.006	0.28	0.00	0.05	0.00	0.06	0.01	0.14	0.50	0.14
V08108-V08109	1275	236	6	0.050	0.81	0.00	0.13	0.00	0.16	0.03	0.25	0.50	0.26
V08109-V08110	5347	140	6	0.006	0.29	0.03	0.23	0.05	0.29	0.08	0.37	0.50	0.40
V08110-V08111	5349	129	6	0.006	0.29	0.03	0.16	0.05	0.20	0.08	0.26	0.50	0.28
V08111-V08113	7554	46	8	0.284	4.17	0.03	0.10	0.05	0.12	0.10	0.16	0.67	0.17
V08112-V08113	7696	389	8	0.037	1.49	0.03	0.12	0.04	0.14	0.08	0.19	0.67	0.19
V08113-V08147	7697	87	8	0.054	1.81	0.07	0.48	0.10	0.58	0.18	0.61	0.67	0.61
V08114-V08115.A0	7886	159	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.06	0.67	0.06
V08115.A0-V08115	7887	38	8	0.014	0.94	0.00	0.03	0.00	0.04	0.03	0.13	0.67	0.13
V08115-V08116	7885	240	8	0.011	0.81	0.00	0.04	0.00	0.05	0.03	0.13	0.67	0.13
V08116-V08117	7884	136	8	0.011	0.83	0.00	0.04	0.01	0.06	0.03	0.13	0.67	0.13
V08117-V08119.A0	7883	73	8	0.010	0.78	0.00	0.04	0.01	0.06	0.03	0.13	0.67	0.13
V08118.A0-V08118	7785	100	8	0.014	0.91	0.00	0.00	0.00	0.04	0.00	0.00	0.67	0.04
V08118-V08119	7784	106	8	0.002	0.35	0.00	0.02	0.00	0.07	0.00	0.07	0.67	0.10
V08119.A0-V08119	7781	90	8	0.012	0.87	0.00	0.04	0.01	0.08	0.03	0.13	0.67	0.14
V08119-V08123	7783	105	8	0.008	0.70	0.00	0.04	0.01	0.09	0.03	0.14	0.67	0.15
V08123.A0-V08123	7780	41	8	0.008	0.69	0.00	0.02	0.00	0.05	0.00	0.08	0.67	0.08
V08123-V08124	7782	93	8	0.008	0.68	0.00	0.04	0.01	0.09	0.03	0.13	0.67	0.14
V08124-V08161	7779	96	8	0.022	1.16	0.00	0.52	0.01	0.54	0.03	0.56	0.67	0.56
V08126-V08157	7772	99	8	0.050	1.75	0.00	0.50	0.00	0.50	0.01	0.53	0.67	0.53
V08127-V08128	7731	101	8	0.011	0.84	0.00	0.00	0.00	0.01	0.00	0.01	0.67	0.01
V08128-V08129	7732	25	8	0.336	4.52	0.00	0.34	0.00	0.46	0.00	0.49	0.67	0.51
V08129-V08130	7753	319	24	0.003	7.63	1.68	0.30	2.53	0.37	2.78	0.39	2.00	0.44
V08130-V08132.B0	7754	151	24	0.005	9.96	1.68	0.31	2.54	0.39	2.78	0.41	2.00	0.46
V08132.B0-V08132	7802	97	24	0.002	5.75	1.68	0.33	2.55	0.41	2.88	0.43	2.00	0.48
V08132-V08133	7803	214	24	0.003	8.36	1.68	0.31	2.55	0.39	2.88	0.41	2.00	0.46
V08133.A0-V08133	7757	16	6	0.021	0.53	0.00	0.00	0.00	0.00	0.01	0.09	0.50	0.09
V08133-V08142	7801	270	24	0.003	7.76	1.68	0.32	2.55	0.40	2.89	0.44	2.00	0.49
V08134-V08135	8319	72	6	0.025	0.57	0.06	0.24	0.06	0.24	0.09	0.30	0.50	0.30
V08135-V08136	7357	342	8	0.007	0.65	0.06	0.21	0.06	0.22	0.09	0.28	0.67	0.28
V08136-V08137	1273	261	8	0.007	0.64	0.07	0.25	0.08	0.26	0.14	0.35	0.67	0.35
V08137-V08140	1272	213	8	0.007	0.64	0.10	0.28	0.12	0.30	0.19	0.38	0.67	0.38
V08138-V08140	7804	81	8	0.041	1.57	0.01	0.18	0.01	0.19	0.02	0.23	0.67	0.23
V08139-V08140	7808	395	8	0.010	0.80	0.00	0.16	0.00	0.17	0.00	0.22	0.67	0.22
V08140-V08141	7809	196	8	0.011	0.81	0.12	0.21	0.13	0.22	0.21	0.28	0.67	0.28
V08141-V08142	7807	27	8	0.236	3.80	0.12	0.56	0.14	0.56	0.23	0.58	0.67	0.58
V08142-V08143.A0	7795	53	24	0.003	8.00	1.80	0.34	2.69	0.42	3.12	0.46	2.00	0.51
V08143.A0-V08143.B0	7794	74	24	0.002	6.35	1.80	0.33	2.69	0.41	3.12	0.45	2.00	0.50
V08143.B0-V08143	7793	140	24	0.003	8.30	1.80	0.35	2.70	0.43	3.12	0.47	2.00	0.52
V08143-V08144	7792	103	24	0.001	4.33	1.80	0.34	2.70	0.42	3.12	0.45	2.00	0.50
V08144.A0-V08144	7756	20	8	0.840	7.16	0.00	0.45	0.00	0.50	0.00	0.50	0.67	0.50
V08144-V08146	7255	233	24	0.004	9.19	1.80	0.31	2.70	0.38	3.13	0.41	2.00	0.46
V08145-V08146	7755	98	8	0.010	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00
V08146-V08147	7254	386	24	0.003	8.58	1.80	0.30	2.71	0.37	3.15	0.40	2.00	0.44
V08147-V08153	7698	50	24	0.006	11.31	1.86	0.28	2.81	0.35	3.33	0.38	2.00	0.42
V08153-V29147	12	32	24	0.005	10.66	1.86	0.28	2.81	0.35	3.33	0.38	2.00	0.43

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V08154-V29142	7768	247	27	0.004	12.08	3.30	0.35	5.87	0.49	6.20	0.50	2.25	0.61
V08155-V08154	7769	243	27	0.004	12.03	3.30	0.36	5.87	0.49	6.17	0.51	2.25	0.62
V08156-V08155	7770	161	27	0.004	12.72	3.30	0.35	5.86	0.49	6.17	0.50	2.25	0.61
V08157-V08156	7771	82	27	0.005	14.47	3.30	0.34	5.86	0.47	6.17	0.48	2.25	0.58
V08158-V08157	7774	148	27	0.004	12.84	3.30	0.34	5.85	0.46	6.16	0.48	2.25	0.58
V08159-V08158	7776	243	27	0.004	12.25	3.30	0.35	5.85	0.48	6.16	0.49	2.25	0.60
V08160-V08159	7778	83	27	0.005	14.42	3.30	0.34	5.84	0.47	6.15	0.49	2.25	0.59
V08161-V08160	7777	35	27	0.008	18.22	3.30	0.32	5.84	0.44	6.15	0.45	2.25	0.55
V08162-V08161	7791	40	27	0.008	17.90	3.29	0.30	5.83	0.41	6.12	0.42	2.25	0.52
V08163-V08162	FM2	390	27	0.008	17.82	3.29	0.29	5.82	0.40	6.12	0.41	2.25	0.49
V08166-V08017.J0	V08166-V08017.J0	232	8	0.022	1.16	0.01	0.07	0.02	0.08	0.04	0.11	0.67	0.12
V08168-V08007	V08168-V08007	274	8	0.008	0.68	0.00	0.06	0.00	0.06	0.01	0.09	0.67	0.09
V09002-V09003.A0	632	125	6	0.008	0.32	0.00	0.18	0.01	0.19	0.01	0.24	0.50	0.24
V09003.A0-V09003	629	127	6	0.000	0.03	0.01	0.22	0.01	0.23	0.02	0.29	0.50	0.29
V09003-V09004	626	337	8	0.005	0.57	0.01	0.09	0.01	0.09	0.02	0.13	0.67	0.13
V09004-V09007	627	28	8	0.043	1.62	0.01	0.18	0.02	0.19	0.03	0.25	0.67	0.25
V09005-V09006	255	30	6	0.014	0.43	0.00	0.06	0.00	0.06	0.00	0.07	0.50	0.07
V09006-V09007	625	300	6	0.008	0.32	0.01	0.09	0.01	0.09	0.01	0.10	0.50	0.10
V09007-V09008	628	322	8	0.001	0.24	0.02	0.20	0.03	0.22	0.05	0.27	0.67	0.27
V09008-V09010	634	254	8	0.028	1.31	0.04	0.17	0.04	0.17	0.07	0.16	0.67	0.17
V09009-V09010	633	316	8	0.005	0.55	0.08	0.24	0.08	0.24	0.01	0.14	0.67	0.14
V09010-V09011	619	267	8	0.026	1.26	0.13	0.21	0.13	0.21	0.08	0.17	0.67	0.18
V09011-V09012	620	267	10	0.027	2.34	0.13	0.16	0.13	0.16	0.09	0.13	0.83	0.14
V09012-V09013	618	247	10	0.036	2.69	0.14	0.16	0.14	0.16	0.09	0.13	0.83	0.14
V09013-V09027	613	301	10	0.034	2.59	0.14	0.18	0.15	0.19	0.10	0.16	0.83	0.17
V09014-V09015	624	141	6	0.066	0.93	0.00	0.05	0.00	0.05	0.01	0.07	0.50	0.07
V09015-V09016	258	242	6	0.074	0.99	0.01	0.07	0.01	0.07	0.01	0.09	0.50	0.09
V09016.A0-V09016	818	41	8	0.002	0.35	0.00	0.05	0.00	0.05	0.01	0.08	0.67	0.08
V09016-V09017	259	121	8	0.077	2.16	0.02	0.53	0.02	0.53	0.02	0.53	0.67	0.53
V09017-V09018	256	109	8	0.020	1.11	0.02	0.57	0.02	0.57	0.03	0.59	0.67	0.59
V09018.A0-V09018	253	422	6	0.068	0.95	0.00	0.11	0.00	0.12	0.01	0.14	0.50	0.14
V09018-V09020	252	217	8	0.008	0.69	0.02	0.10	0.03	0.11	0.04	0.12	0.67	0.13
V09019-V09020	249	231	8	0.051	1.77	0.01	0.05	0.01	0.05	0.01	0.06	0.67	0.06
V09020-V09021	250	44	8	0.331	4.50	0.03	0.53	0.04	0.53	0.05	0.54	0.67	0.54
V09021-V09023	251	154	8	0.051	1.76	0.03	0.57	0.04	0.58	0.05	0.59	0.67	0.59
V09022-V09023	248	423	6	0.036	0.69	0.00	0.12	0.00	0.13	0.01	0.16	0.50	0.16
V09023-V09025	622	218	6	0.017	0.47	0.04	0.19	0.04	0.21	0.06	0.25	0.50	0.26
V09024.A0-V09024	621	184	8	0.051	1.76	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V09024-V09025	247	279	8	0.017	1.03	0.01	0.10	0.01	0.11	0.01	0.13	0.67	0.13
V09025-V09026	614	346	8	0.017	1.02	0.05	0.14	0.06	0.15	0.08	0.18	0.67	0.19
V09026-V09027	615	42	8	0.029	1.34	0.05	0.19	0.06	0.20	0.08	0.21	0.67	0.22
V09027-V09029	616	121	12	0.019	3.18	0.19	0.16	0.21	0.17	0.18	0.16	1.00	0.17
V09028.A0-V09028	5353	44	8	0.001	0.24	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V09028-V09029	611	428	6	0.051	0.82	0.00	0.18	0.00	0.19	0.00	0.18	0.50	0.19
V09029-V09032.A0	1154	100	12	0.023	3.50	0.20	0.17	0.22	0.18	0.19	0.16	1.00	0.18
V09030.A0-V09030	5354	86	8	0.001	0.21	0.00	0.06	0.00	0.06	0.00	0.04	0.67	0.04
V09030-V09031	3045	148	6	0.086	1.06	0.00	0.06	0.00	0.06	0.00	0.05	0.50	0.05
V09031-V09032	3044	280	6	0.040	0.73	0.01	0.23	0.01	0.24	0.01	0.22	0.50	0.23
V09032.A0-V09032	1156	120	12	0.017	2.96	0.20	0.18	0.22	0.19	0.19	0.18	1.00	0.19
V09032-V09035	1155	121	12	0.013	2.60	0.20	0.18	0.23	0.20	0.20	0.18	1.00	0.20
V09033.A0-V09033	7533	25	8	0.002	0.35	0.00	0.03	0.00	0.03	0.00	0.06	0.67	0.06
V09033-V09034	3046	250	8	0.011	0.82	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V09034-V09035	1157	256	8	0.033	1.42	0.00	0.15	0.01	0.16	0.01	0.16	0.67	0.17
V09035-V09046	3040	290	12	0.018	3.11	0.21	0.23	0.24	0.25	0.21	0.23	1.00	0.25
V09040-V09042	617	119	8	0.004	0.51	0.00	0.04	0.00	0.04	0.00	0.06	0.67	0.06
V09041.A0-V09041	5945	23	8	0.005	0.53	0.00	0.04	0.00	0.04	0.01	0.08	0.67	0.08
V09041-V09042	5946	223	6	0.005	0.25	0.00	0.07	0.00	0.08	0.01	0.12	0.50	0.12
V09042-V09045.A0	3041	108	8	0.006	0.61	0.00	0.06	0.01	0.07	0.01	0.09	0.67	0.10
V09043.A0-V09043	7427	43	8	0.002	0.34	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V09043-V09045	3038	232	6	0.019	0.50	0.00	0.10	0.00	0.11	0.00	0.12	0.50	0.13
V09044.A0-V09044	5957	24	8	0.004	0.46	0.00	0.02	0.00	0.02	0.01	0.08	0.67	0.08
V09044-V09045	7624	224	6	0.006	0.27	0.00	0.10	0.00	0.11	0.01	0.15	0.50	0.16
V09045.A0-V09045	3043	112	8	0.006	0.60	0.01	0.08	0.01	0.10	0.01	0.12	0.67	0.13
V09045-V09046	3042	120	8	0.005	0.53	0.01	0.27	0.02	0.29	0.02	0.29	0.67	0.32
V09046-V09049.H0	V09046-V09049.H0	151	12	0.003	1.24	0.22	0.29	0.26	0.31	0.23	0.29	1.00	0.32
V09049.B0-V09049.D0	V09049.B0-V09049.D0	48	8	0.012	0.86	0.00	0.01	0.00	0.01	0.00	0.00	0.67	0.01
V09049.C0-V09049.D0	V09049.C0-V09049.D0	69	8	0.012	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.67	0.02
V09049.D0-V09049.E0	V09049.D0-V09049.E0	178	8	0.011	0.80	0.00	0.06	0.00	0.07	0.00	0.00	0.67	0.03
V09049.E0-V09049.G0	V09049.E0-V09049.G0	178	8	0.011	0.80	0.02	0.10	0.02	0.11	0.00	0.05	0.67	0.07
V09049.F0-V09049.G0	V09049.F0-V09049.G0	219	8	0.010	0.80	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.05
V09049.G0-V09049.H0	V09049.G0-V09049.H0	115	8	0.010	0.80	0.02	0.27	0.02	0.29	0.01	0.26	0.67	0.29
V09049.H0-V09049	V09049.H0-V09049	140	12	0.004	1.38	0.24	0.28	0.28	0.30	0.24	0.28	1.00	0.31
V09049-V09050.A0	3034	224	15	0.003	2.41	0.24	0.22	0.29	0.24	0.24	0.22	1.25	0.24
V09050.A0-V09050	3030	231	15	0.003	2.40	0.24	0.19	0.29	0.21	0.25	0.19	1.25	0.21
V09050-V09054	3022	284	15	0.014	4.90	0.25	0.41	0.31	0.45	0.28	0.44	1.25	0.47
V09051-V09052	3036	460	8	0.006	0.58	0.01	0.08	0.01	0.08	0.00	0.07	0.67	0.07
V09052-V09053	3031	455	8	0.011	0.83	0.01	0.54	0.01	0.54	0.01	0.54	0.67	0.55
V09053-V09050	3029	182	8	0.006	0.58	0.02	0.65	0.02	0.66	0.02	0.65	0.67	0.67
V09054-V09061	7742	236	18	0.002	2.93	0.25	0.39	0.32	0.44	0.29	0.44	1.50	0.48
V09056-V09057	3033	318	18	0.002	3.16	1.38	0.51	2.09	0.65	2.28	0.69	1.50	0.83
V09057-V09058	3027	449	18	0.001	2.62	1.38	0.44	2.10	0.56	2.29	0.59	1.50	0.69
V09058.A0-V09058.C0	3032	389	8	0.006	0.61	0.00	0.03	0.00	0.04	0.01	0.11	0.67	0.11
V09058.B0-V09058.C0	4322	30	8	0.044	1.65	0.00	0.03	0.00	0.04	0.01	0.09	0.67	0.09
V09058.C0-V09058.E0	3026	340	8	0.006	0.61	0.00	0.04	0.00	0.05	0.02	0.09	0.67	0.09
V09058.D0-V09058.E0	3025	21	8	0.024	1.20	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V09058.E0-V09058	3024	11	8	0.300	4.27	0.01	0.39	0.01	0.48	0.02	0.51	0.67	0.53
V09058-V09059.B0	3023	120	18	0.008	6.00	1.39	0.42	2.12	0.52	2.32	0.55	1.50	0.62
V09059.B0-V09059	3020	330	18	0.001	2.36	1.39	0.36	2.12	0.45	2.32	0.47	1.50	0.54
V09059-V09061	7743	132	18	0.036	12.92	1.40	0.22	2.14	0.28	2.33	0.29	1.50	0.32
V09061-V09062	7745	65	18	0.047	14.71	1.65	0.26	2.46	0.32	2.62	0.33	1.50	0.37
V09062-V08072.CB	7746	87	18	0.018	9.12	1.65	0.36	2.46	0.45	2.62	0.47	1.50	0.54
V09067-V09002	V09067-V09002	157	8	0.011	0.83	0.00	0.05	0.00	0.05	0.01	0.07	0.67	0.07
V1	V1	470	36	0.004	28.73	7.51	0.32	14.02	0.45	13.05	0.43	3.00	0.54
V10001.A0-V10001	4323	48	8	0.002	0.35	0.00	0.06	0.00	0.06	0.01	0.11	0.67	0.11
V10001.B0-V10001	4324	42	8	0.002	0.35	0.01	0.10	0.01	0.10	0.01	0.13	0.67	0.13
V10001-V10002	915	140	8	0.005	0.54	0.01	0.11	0.01	0.11	0.02	0.13	0.67	0.13
V10002-V10003	914	351	8	0.004	0.49	0.02	0.15	0.02	0.15	0.02	0.15	0.67	0.16
V10003-V10006	4395	345	8	0.004	0.50	0.03	0.14	0.03	0.14	0.03	0.14	0.67	0.15
V10004-V10006	4093	110	8	0.183	3.34	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V10005-V10006	4394	196	8	0.003	0.45	0.00	0.06	0.00	0.06	0.00	0.08	0.67	0.08
V10006-V10007	4393	250	8	0.048	1.71	0.03	0.09	0.03	0.10	0.03	0.09	0.67	0.11
V10007-V10008	4392	268	8	0.061	1.93	0.03	0.09	0.04	0.10	0.03	0.09	0.67	0.11
V10008-V10017	4391	224	8	0.063	1.97	0.03	0.10	0.04	0.12	0.04	0.11	0.67	0.13
V10009-V10010	4099	217	8	0.027	1.29	0.00	0.03	0.00	0.03	0.02	0.08	0.67	0.08
V10010-V10011	4098	268	8	0.071	2.09	0.00	0.04	0.00	0.05	0.02	0.08	0.67	0.08
V10011-V10012	4096	247	8	0.033	1.41	0.01	0.05	0.01	0.06	0.02	0.09	0.67	0.09
V10012-V10014	4095	350	8	0.036	1.48	0.01	0.06	0.01	0.08	0.03	0.10	0.67	0.11

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V10014-V10015	4390	348	8	0.016	1.00	0.01	0.08	0.02	0.10	0.03	0.12	0.67	0.13
V10015-V10016	4389	350	8	0.016	1.00	0.01	0.07	0.02	0.10	0.03	0.11	0.67	0.12
V10016-V10017	4094	137	8	0.037	1.49	0.01	0.09	0.03	0.11	0.03	0.11	0.67	0.13
V10017-V10018	376	187	8	0.055	1.84	0.05	0.11	0.07	0.14	0.06	0.13	0.67	0.16
V10018-V10019	375	185	8	0.051	1.76	0.05	0.12	0.07	0.14	0.06	0.14	0.67	0.17
V10019-V10079	912	275	8	0.039	1.54	0.05	0.19	0.08	0.25	0.07	0.25	0.67	0.30
V10020.A0-V10020	4233	128	8	0.051	1.76	0.00	0.02	0.00	0.02	0.00	0.08	0.67	0.08
V10020-V10021	4425	176	8	0.040	1.57	0.00	0.03	0.00	0.03	0.08	0.16	0.67	0.16
V10021-V10023	639	318	8	0.046	1.68	0.00	0.05	0.00	0.06	0.12	0.20	0.67	0.20
V10022-V10023	4424	171	8	0.059	1.89	0.00	0.04	0.00	0.05	0.00	0.13	0.67	0.13
V10023-V10025	4421	254	8	0.020	1.10	0.01	0.07	0.01	0.09	0.12	0.25	0.67	0.25
V10024-V10025	4387	181	8	0.061	1.93	0.00	0.05	0.00	0.06	0.00	0.15	0.67	0.15
V10025-V10026	4388	145	8	0.014	0.92	0.01	0.06	0.02	0.08	0.12	0.20	0.67	0.20
V10026-V10027	4131	38	8	0.159	3.12	0.01	0.05	0.02	0.07	0.13	0.16	0.67	0.16
V10027-V10029	4396	127	8	0.055	1.84	0.01	0.08	0.02	0.11	0.13	0.24	0.67	0.24
V10028-V10029	4397	89	8	0.108	2.56	0.00	0.06	0.00	0.08	0.00	0.16	0.67	0.16
V10029-V10031	4129	89	8	0.007	0.64	0.01	0.10	0.02	0.13	0.13	0.28	0.67	0.28
V10030-V10031	4130	195	8	0.004	0.49	0.00	0.07	0.00	0.08	0.00	0.15	0.67	0.15
V10031-V10038	4128	213	8	0.017	1.01	0.02	0.10	0.03	0.13	0.13	0.24	0.67	0.24
V10032-V10033	1080	242	8	0.045	1.65	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V10033-V10035	1079	204	8	0.014	0.92	0.00	0.06	0.01	0.07	0.01	0.07	0.67	0.08
V10034-V10035	1076	216	8	0.020	1.09	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V10035-V10036	1078	164	8	0.010	0.78	0.01	0.06	0.01	0.08	0.01	0.07	0.67	0.08
V10036-V10037	4399	30	8	0.030	1.35	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.07
V10037-V10038	4400	121	8	0.030	1.35	0.01	0.08	0.01	0.11	0.01	0.15	0.67	0.16
V10038-V10049	1074	104	8	0.021	1.12	0.03	0.14	0.05	0.18	0.14	0.28	0.67	0.29
V10039-V10041	4423	351	8	0.009	0.76	0.00	0.05	0.00	0.06	0.01	0.09	0.67	0.09
V10040-V10041	4422	349	8	0.047	1.70	0.00	0.03	0.00	0.04	0.00	0.06	0.67	0.07
V10041-V10044	4386	264	8	0.011	0.81	0.00	0.06	0.01	0.08	0.02	0.09	0.67	0.10
V10042-V10043	1082	301	8	0.090	2.34	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V10043-V10044	1081	101	8	0.063	1.96	0.01	0.05	0.01	0.06	0.01	0.06	0.67	0.07
V10044-V10047	1083	300	8	0.049	1.72	0.01	0.07	0.02	0.09	0.02	0.10	0.67	0.11
V10045-V10046	1085	64	8	0.128	2.80	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V10046-V10047	1084	308	8	0.081	2.22	0.00	0.06	0.00	0.07	0.00	0.07	0.67	0.08
V10047-V10048	1075	173	8	0.022	1.15	0.02	0.09	0.03	0.12	0.03	0.12	0.67	0.13
V10048-V10049	817	190	8	0.019	1.08	0.02	0.13	0.03	0.17	0.03	0.22	0.67	0.24
V10049-V10051	4127	248	8	0.013	0.88	0.05	0.14	0.08	0.19	0.18	0.27	0.67	0.28
V10050-V10051	4126	167	8	0.033	1.42	0.00	0.07	0.00	0.09	0.00	0.12	0.67	0.13
V10051-V10053	4125	180	8	0.047	1.70	0.05	0.12	0.09	0.16	0.18	0.23	0.67	0.24
V10052-V10053	4124	316	8	0.032	1.39	0.00	0.08	0.00	0.10	0.00	0.13	0.67	0.14
V10053-V10054	4123	167	8	0.040	1.56	0.05	0.16	0.10	0.21	0.18	0.29	0.67	0.31
V10054-V10056	4122	84	8	0.009	0.75	0.06	0.17	0.10	0.23	0.19	0.31	0.67	0.33
V10055-V10056	4115	307	8	0.044	1.64	0.00	0.09	0.00	0.11	0.00	0.15	0.67	0.16
V10056-V10058	4121	270	8	0.024	1.20	0.06	0.15	0.11	0.20	0.19	0.27	0.67	0.28
V10057-V10058	4116	255	8	0.202	3.51	0.01	0.58	0.01	0.60	0.03	0.63	0.67	0.64
V10058-V10060	4120	60	8	0.028	1.30	0.06	0.17	0.11	0.22	0.19	0.29	0.67	0.31
V10059-V10060	4119	131	8	0.042	1.60	0.00	0.10	0.00	0.13	0.00	0.17	0.67	0.18
V10060-V10061	4118	273	8	0.014	0.91	0.07	0.19	0.12	0.25	0.20	0.33	0.67	0.35
V10061-V10078	4114	206	8	0.011	0.81	0.07	0.20	0.12	0.27	0.20	0.33	0.67	0.36
V10062-V10063	4101	188	8	0.037	1.51	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V10063-V10065	4100	336	8	0.045	1.65	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V10064.A0-V10064.B0	4107	172	8	0.076	2.15	0.00	0.10	0.00	0.10	0.00	0.10	0.67	0.10
V10064.B0-V10064	4106	165	8	0.000	0.02	0.00	0.11	0.01	0.12	0.00	0.11	0.67	0.12
V10064-V10065	4105	234	8	0.019	1.08	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.07
V10065-V10066	4104	164	8	0.022	1.16	0.01	0.09	0.02	0.11	0.01	0.09	0.67	0.11
V10066-V10068	4108	231	8	0.004	0.51	0.01	0.11	0.02	0.14	0.01	0.11	0.67	0.14
V10067-V10068	4111	141	8	0.063	1.97	0.00	0.07	0.00	0.08	0.00	0.07	0.67	0.08
V10068-V10069	4110	107	8	0.006	0.58	0.01	0.10	0.03	0.13	0.02	0.11	0.67	0.13
V10069-V10070	4109	277	8	0.015	0.97	0.02	0.09	0.03	0.11	0.02	0.09	0.67	0.11
V10070-V10075	4112	127	8	0.034	1.44	0.02	0.08	0.03	0.10	0.02	0.09	0.67	0.11
V10071-V10072	919	166	8	0.052	1.78	0.00	0.03	0.00	0.03	0.01	0.04	0.67	0.04
V10072-V10073	918	229	8	0.054	1.81	0.00	0.03	0.00	0.03	0.01	0.04	0.67	0.04
V10073.A0-V10073	1006	56	8	0.002	0.35	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V10073-V10074	917	61	8	0.190	3.40	0.00	0.10	0.01	0.12	0.01	0.12	0.67	0.13
V10074-V10075	1008	135	8	0.000	0.02	0.01	0.12	0.01	0.15	0.01	0.15	0.67	0.17
V10075-V10077	1007	61	8	0.056	1.85	0.02	0.08	0.04	0.10	0.03	0.09	0.67	0.11
V10076-V10077	4113	227	6	0.019	0.49	0.00	0.07	0.00	0.08	0.00	0.08	0.50	0.09
V10077-V10078	916	137	8	0.082	2.24	0.03	0.14	0.05	0.19	0.03	0.21	0.67	0.23
V10078-V10079	4381	322	8	0.017	1.00	0.10	0.24	0.17	0.31	0.23	0.35	0.67	0.39
V10079-V10082	911	253	10	0.012	1.54	0.15	0.21	0.25	0.28	0.29	0.30	0.83	0.34
V10081-V10082	373	197	6	0.048	0.80	0.00	0.20	0.00	0.25	0.00	0.27	0.50	0.30
V10082-V10097.A0	374	135	10	0.012	1.53	0.15	0.24	0.26	0.31	0.30	0.33	0.83	0.39
V10083-V10084	4403	216	8	0.004	0.49	0.00	0.05	0.00	0.05	0.00	0.06	0.67	0.06
V10084-V10086	4402	300	8	0.008	0.72	0.00	0.05	0.01	0.06	0.01	0.05	0.67	0.06
V10085-V10086	4401	160	8	0.050	1.75	0.00	0.52	0.01	0.52	0.00	0.52	0.67	0.52
V10086-V10087	1096	323	8	0.031	1.37	0.00	0.07	0.01	0.09	0.00	0.08	0.67	0.09
V10087-V10090.B0	1089	254	8	0.002	0.35	0.01	0.10	0.01	0.12	0.01	0.11	0.67	0.13
V10090.A0-V10090.B0	4383	238	8	0.014	0.93	0.01	0.08	0.01	0.08	0.01	0.10	0.67	0.10
V10090.B0-V10090	1090	74	8	0.013	0.90	0.01	0.09	0.02	0.11	0.03	0.12	0.67	0.13
V10090-V10091	1091	196	8	0.011	0.82	0.02	0.09	0.02	0.11	0.03	0.11	0.67	0.12
V10091-V10092	1092	172	8	0.030	1.36	0.02	0.08	0.03	0.10	0.03	0.11	0.67	0.11
V10092-V10097.B0	1095	124	8	0.025	1.24	0.02	0.22	0.03	0.28	0.03	0.29	0.67	0.33
V10093-V10094	4408	295	8	0.031	1.36	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
V10094-V10095	4407	158	8	0.047	1.69	0.00	0.04	0.00	0.04	0.01	0.04	0.67	0.05
V10095-V10096	4406	241	8	0.081	2.22	0.01	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V10096-V10097	4413	135	8	0.063	1.96	0.01	0.15	0.01	0.19	0.01	0.20	0.67	0.22
V10097.A0-V10097.B0	1093	160	10	0.005	1.01	0.16	0.27	0.26	0.35	0.30	0.38	0.83	0.43
V10097.B0-V10097	1088	70	10	0.006	1.07	0.18	0.24	0.29	0.31	0.33	0.32	0.83	0.37
V10097-V10100	1087	194	12	0.018	3.13	0.18	0.18	0.31	0.23	0.34	0.25	1.00	0.28
V10098-V10099	4405	115	8	0.017	1.00	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V10099-V10100	4404	89	8	0.057	1.86	0.00	0.16	0.00	0.21	0.00	0.22	0.67	0.25
V10100-V10101	1086	299	12	0.009	2.22	0.19	0.20	0.31	0.25	0.35	0.27	1.00	0.30
V10101-V10104.A0	4385	176	12	0.010	2.35	0.19	0.21	0.32	0.26	0.35	0.27	1.00	0.30
V10102.B0-V10102	333	114	8	0.021	1.13	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V10102-V10103	332	186	8	0.024	1.22	0.00	0.04	0.00	0.05	0.01	0.10	0.67	0.10
V10103-V10104	330	53	8	0.014	0.93	0.00	0.19	0.01	0.23	0.05	0.29	0.67	0.31
V10104.A0-V10104.B0	4384	71	12	0.010	2.28	0.23	0.22	0.35	0.27	0.36	0.28	1.00	0.32
V10104.B0-V10104	326	105	12	0.008	2.10	0.24	0.22	0.36	0.27	0.37	0.28	1.00	0.32
V10104-V10105	329	251	12	0.010	2.32	0.24	0.22	0.37	0.27	0.41	0.29	1.00	0.33
V10105-V10106	328	174	12	0.009	2.21	0.25	0.22	0.37	0.28	0.43	0.30	1.00	0.33
V10106-V10108	327	133	12	0.010	2.33	0.25	0.23	0.38	0.28	0.44	0.30	1.00	0.34
V10107-V10108	4453	252	8	0.006	0.60	0.01	0.23	0.01	0.26	0.01	0.28	0.67	0.30
V10108-V10109	4452	240	12	0.009	2.18	0.26	0.22	0.39	0.27	0.45	0.28	1.00	0.32
V10109-V10110	4445	230	12	0.020	3.25	0.26	0.19	0.39	0.23	0.45	0.25	1.00	0.28
V10110-V10132	4446	85	12	0.024	3.57	0.26	0.19	0.40	0.23	0.46	0.25	1.00	0.28
V10111-V10113.A0	4232	200	8	0.135	2.87	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V10112-V10113	4230	333	8	0.015	0.95	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V10113.A0-V10113	4231	86	8	0.069	2.05	0.00	0.03	0.00	0.04	0.01	0.05	0.67	0.05
V10113-V10115	4228	65	8	0.069	2.04	0.01	0.04	0.01	0.05	0.01	0.06	0.67	0.07
V10114-V10115	4227	225	6	0.012	0.39	0.00	0.07	0.00	0.07	0.00	0.08	0.50	0.08
V10115-V10116	4226	197	8	0.069	2.05	0.01	0.06	0.01	0.08	0.02	0.08	0.67	0.09
V10116.A0-V10116	4418	256	8	0.020	1.12	0.00	0.06	0.00	0.06	0.00	0.07	0.67	0.07
V10116-V10118	4417	260	8	0.032	1.39	0.02	0.08	0.02	0.10	0.03	0.10	0.67	0.11
V10117-V10118	4420	322	8	0.041	1.59	0.00	0.06	0.00	0.07	0.01	0.08	0.67	0.08
V10118-V10119	4416	141	8	0.031	1.38	0.02	0.10	0.03	0.12	0.04	0.12	0.67	0.14
V10119-V10121	4437	61	8	0.014	0.91	0.02	0.11	0.03	0.13	0.04	0.14	0.67	0.16
V10120-V10121	4438	248	8	0.010	0.80	0.00	0.08	0.00	0.09	0.00	0.09	0.67	0.10
V10121-V10123	4439	103	8	0.015	0.97	0.03	0.12	0.04	0.14	0.04	0.16	0.67	0.17
V10122-V10123	4436	223	8	0.055	1.84	0.00	0.07	0.00	0.09	0.01	0.12	0.67	0.12
V10123-V10124	4432	237	8	0.013	0.90	0.03	0.15	0.04	0.19	0.06	0.22	0.67	0.23
V10124-V10125	4433	117	8	0.004	0.50	0.04	0.17	0.05	0.21	0.07	0.25	0.67	0.27
V10125-V10126	4434	76	8	0.006	0.63	0.04	0.16	0.05	0.19	0.08	0.23	0.67	0.24
V10126-V10127	4427	203	8	0.009	0.76	0.04	0.16	0.05	0.19	0.08	0.23	0.67	0.25
V10127-V10130	4426	215	8	0.007	0.65	0.04	0.16	0.06	0.20	0.09	0.25	0.67	0.26
V10128-V10129	4430	1	6	327.195	65.60	0.00	0.55	0.00	0.55	0.01	0.56	0.50	0.56
V10129-V10130	4431	257	6	0.008	0.32	0.01	0.16	0.01	0.18	0.01	0.23	0.50	0.23
V10130-V10131	4429	362	8	0.011	0.82	0.04	0.16	0.07	0.19	0.10	0.25	0.67	0.26
V10131-V10132	4448	71	8	0.011	0.82	0.05	0.23	0.07	0.28	0.11	0.33	0.67	0.35
V10132-V10141.D0	4447	43	12	0.024	3.59	0.31	0.30	0.47	0.38	0.57	0.41	1.00	0.46
V10133-V10139	4454	60	8	0.036	1.49	0.00	0.06	0.00	0.08	0.00	0.07	0.67	0.08
V10135-V10136	4455	58	8	0.011	0.83	0.00	0.03	0.00	0.03	0.00	0.07	0.67	0.07
V10136-V10137	4456	178	8	0.009	0.74	0.01	0.07	0.01	0.07	0.01	0.08	0.67	0.08
V10137-V10138	4325	94	6	0.060	0.89	0.02	0.13	0.02	0.13	0.02	0.13	0.50	0.13
V10138-V10139	4457	240	8	0.012	0.86	0.02	0.12	0.02	0.12	0.03	0.13	0.67	0.13
V10139-V10140	4458	100	8	0.010	0.80	0.02	0.11	0.03	0.12	0.03	0.12	0.67	0.12
V10140-V10141	4261	43	8	0.024	1.21	0.02	0.48	0.03	0.55	0.03	0.55	0.67	0.56
V10141.A0-V10141.B0	4440	403	15	0.004	2.63	0.69	0.34	1.06	0.43	1.23	0.46	1.25	0.52
V10141.B0-V10141.CA	4441	403	15	0.005	3.08	0.69	0.60	1.07	0.70	1.23	0.72	1.25	0.75
V10141.C0-V10141.D0	4444	213	15	0.008	3.62	0.73	0.31	1.13	0.39	1.30	0.43	1.25	0.48
V10141.CA-V10141.C0	4442	69	15	0.009	3.96	0.69	0.60	1.07	0.69	1.23	0.71	1.25	0.73
V10141.D0-V10141.E0	4449	132	15	0.012	4.59	1.04	0.42	1.60	0.53	1.87	0.57	1.25	0.65
V10141.E0-V10141	4460	409	18	0.003	2.12	1.24	0.41	1.88	0.51	2.10	0.55	1.50	0.63
V10141-V10142.A0	4260	311	18	0.003	3.94	1.26	0.42	1.92	0.53	2.13	0.56	1.50	0.64
V10142.A0-V10142	4262	123	18	0.002	2.70	1.28	0.40	1.95	0.51	2.16	0.54	1.50	0.61
V10142-V10143.A0	4265	35	18	0.006	5.08	1.28	0.36	1.95	0.45	2.16	0.48	1.50	0.55
V10143.A0-V10143	4266	416	18	0.004	4.55	1.31	0.44	1.99	0.56	2.21	0.60	1.50	0.70
V10143-V09056	4267	132	18	0.001	2.21	1.31	0.49	1.99	0.63	2.21	0.67	1.50	0.80
V10148-V10133	4451	346	8	0.006	0.63	0.00	0.00	0.00	0.02	0.00	0.00	0.67	0.02
V11001-V11002	3787	219	6	0.052	0.83	0.00	0.05	0.00	0.05	0.00	0.05	0.50	0.05
V11002-V11004	3786	302	6	0.014	0.43	0.00	0.08	0.00	0.09	0.00	0.09	0.50	0.10
V11004-V11005	3788	304	8	0.006	0.59	0.01	0.08	0.01	0.09	0.01	0.09	0.67	0.10
V11005-V11010	4615	333	8	0.005	0.53	0.01	0.08	0.01	0.10	0.01	0.10	0.67	0.11
V11006-V11007	4614	325	6	0.080	1.03	0.00	0.15	0.00	0.16	0.00	0.15	0.50	0.16
V11007-V11011	4618	254	6	0.000	0.01	0.01	0.20	0.01	0.22	0.01	0.21	0.50	0.23
V11008-V11009	4619	225	8	0.006	0.63	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.06
V11009-V11010	1398	107	8	0.003	0.45	0.00	0.07	0.00	0.10	0.00	0.09	0.67	0.11
V11010-V11011	4616	36	8	0.006	0.58	0.01	0.09	0.02	0.12	0.02	0.11	0.67	0.13
V11011-V11013	4613	406	8	0.015	0.94	0.02	0.09	0.03	0.12	0.02	0.11	0.67	0.13
V11012-V11013	7531	138	6	0.063	0.91	0.00	0.07	0.00	0.09	0.00	0.09	0.50	0.10
V11013-V11014	4601	401	8	0.022	1.17	0.02	0.09	0.03	0.12	0.03	0.10	0.67	0.13
V11014-V11015	4588	290	8	0.037	1.49	0.02	0.10	0.04	0.13	0.03	0.12	0.67	0.14
V11015-V11048	4587	181	8	0.012	0.85	0.02	0.23	0.04	0.28	0.03	0.25	0.67	0.29
V11016-V11017	4704	294	8	0.032	1.39	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V11017-V11018	3784	237	8	0.010	0.78	0.00	0.05	0.01	0.06	0.00	0.05	0.67	0.06
V11018-V11019	4701	280	8	0.022	1.16	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.07
V11019-V11023	4692	353	8	0.026	1.25	0.01	0.08	0.01	0.11	0.01	0.08	0.67	0.11
V11020-V11022	4702	122	8	0.031	1.37	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V11021-V11022	4703	145	8	0.010	0.79	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.05
V11022-V11023	4693	144	8	0.005	0.55	0.00	0.08	0.00	0.10	0.00	0.09	0.67	0.11
V11023-V11024	4695	258	8	0.005	0.55	0.01	0.11	0.02	0.15	0.01	0.12	0.67	0.15
V11024-V11029	4696	254	8	0.005	0.55	0.02	0.11	0.03	0.14	0.02	0.11	0.67	0.14
V11025-V11026	4699	173	8	0.021	1.13	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V11026-V11028	4691	352	8	0.042	1.60	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V11027-V11028	4697	127	8	0.019	1.08	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V11028-V11029	4698	247	8	0.048	1.70	0.01	0.07	0.01	0.09	0.01	0.07	0.67	0.09
V11029-V11031	4611	164	8	0.036	1.48	0.02	0.09	0.04	0.12	0.02	0.09	0.67	0.12
V11030-V11031	4612	140	8	0.012	0.85	0.00	0.06	0.00	0.07	0.00	0.06	0.67	0.07
V11031-V11033	4689	148	8	0.040	1.57	0.03	0.09	0.05	0.12	0.03	0.09	0.67	0.12
V11032-V11033	4690	165	8	0.014	0.92	0.00	0.06	0.00	0.08	0.00	0.07	0.67	0.08
V11033-V11034	4681	309	8	0.040	1.57	0.03	0.11	0.05	0.15	0.03	0.11	0.67	0.15
V11034-V11036	4683	261	8	0.014	0.92	0.03	0.12	0.06	0.16	0.03	0.12	0.67	0.16
V11035-V11036	4684	184	8	0.012	0.86	0.00	0.08	0.00	0.09	0.00	0.08	0.67	0.09
V11036-V11037	4620	368	8	0.026	1.26	0.04	0.13	0.06	0.17	0.04	0.13	0.67	0.17
V11037-V11038	4621	266	8	0.012	0.85	0.04	0.15	0.07	0.19	0.04	0.14	0.67	0.18
V11038-V11045	4626	348	8	0.022	1.16	0.06	0.19	0.09	0.22	0.04	0.17	0.67	0.21
V11039-V11040	4623	161	8	0.008	0.70	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V11040-V11043	4685	325	8	0.014	0.92	0.00	0.09	0.00	0.09	0.00	0.09	0.67	0.09
V11041-V11043	4686	199	8	0.040	1.56	0.00	0.08	0.00	0.08	0.00	0.08	0.67	0.08
V11043-V11044	4688	301	8	0.025	1.23	0.04	0.14	0.04	0.14	0.05	0.15	0.67	0.15
V11044-V11045	4625	320	8	0.025	1.24	0.06	0.19	0.06	0.20	0.07	0.19	0.67	0.20
V11045-V11046	8172	242	8	0.020	1.10	0.12	0.49	0.16	0.54	0.11	0.47	0.67	0.52
V11046-V11047	8173	187	8	0.000	0.02	0.14	0.46	0.17	0.51	0.13	0.45	0.67	0.49
V11047-V11048.A0	4589	47	8	0.080	2.21	0.14	0.15	0.17	0.17	0.14	0.15	0.67	0.17
V11048.A0-V11048	4591	22	8	0.255	3.95	0.14	0.24	0.17	0.27	0.14	0.24	0.67	0.28
V11048-V11051	4590	262	8	0.008	0.69	0.16	0.29	0.22	0.34	0.18	0.31	0.67	0.35
V11051-V11052	4593	44	6	0.045	0.77	0.16	0.39	0.22	0.46	0.20	0.44	0.50	0.50
V11052-V11054	4592	168	6	0.012	0.39	0.16	0.41	0.22	0.48	0.21	0.47	0.50	0.52
V11053.A0-V11054	4596	449	6	0.009	0.34	0.00	0.21	0.00	0.23	0.02	0.28	0.50	0.29
V11054-V11055	4604	167	8	0.023	1.20	0.17	0.31	0.23	0.36	0.24	0.38	0.67	0.42
V11055-V11089	2328	229	8	0.006	0.58	0.17	0.38	0.23	0.46	0.25	0.48	0.67	0.53
V11056-V11057	4609	322	8	0.027	1.29	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V11057-V11059	4605	350	8	0.032	1.39	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.06
V11058-V11059	4606	56	8	0.007	0.66	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.05
V11059-V11060	4602	190	8	0.057	1.87	0.01	0.07	0.01	0.08	0.01	0.07	0.67	0.08
V11060-V11062	4579	239	8	0.010	0.76	0.01	0.08	0.02	0.09	0.01	0.08	0.67	0.09
V11061-V11062	2232	65	8	0.058	1.88	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V11062-V11063	2231	145	8	0.032	1.39	0.01	0.08	0.02	0.10	0.01	0.08	0.67	0.10
V11063-V11064	2230	200	8	0.011	0.80	0.01	0.11	0.02	0.14	0.02	0.11	0.67	0.14
V11064-V11065	4599	315	8	0.004	0.49	0.02	0.13	0.03	0.16	0.02	0.13	0.67	0.16
V11065-V11075.A0	4600	156	8	0.004	0.50	0.02	0.13	0.03	0.17	0.02	0.15	0.67	0.18
V11066-V11067	4608	150	8	0.007	0.64	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V11067-V11068	4607	350	8	0.010	0.78	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.05
V11068-V11069	4586	350	8	0.056	1.84	0.01	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V11069-V11070	4583	128	8	0.050	1.75	0.01	0.06	0.01	0.08	0.01	0.08	0.67	0.09

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V11070-V11072	4582	145	8	0.010	0.78	0.01	0.07	0.01	0.09	0.02	0.10	0.67	0.11
V11071-V11072	4584	125	8	0.013	0.88	0.00	0.04	0.00	0.05	0.00	0.06	0.67	0.06
V11072-V11073	4581	151	8	0.018	1.04	0.01	0.07	0.02	0.09	0.02	0.09	0.67	0.10
V11073-V11074	4580	347	8	0.029	1.34	0.01	0.08	0.02	0.10	0.02	0.09	0.67	0.11
V11074-V11075	4492	173	8	0.016	0.98	0.01	0.13	0.03	0.18	0.02	0.17	0.67	0.20
V11075.A0-V11075	2330	133	8	0.004	0.50	0.02	0.16	0.03	0.21	0.03	0.20	0.67	0.23
V11075-V11089	2329	205	8	0.004	0.49	0.04	0.29	0.06	0.36	0.06	0.36	0.67	0.41
V11076-V11078	4499	198	8	0.010	0.77	0.00	0.05	0.00	0.06	0.00	0.04	0.67	0.05
V11077-V11078	4500	141	8	0.005	0.55	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.05
V11078-V11079	4501	158	8	0.007	0.64	0.00	0.07	0.01	0.08	0.00	0.06	0.67	0.07
V11079-V11081	4497	161	8	0.007	0.64	0.01	0.08	0.01	0.09	0.00	0.10	0.67	0.11
V11080-V11081	4496	239	8	0.018	1.05	0.00	0.06	0.00	0.07	0.02	0.13	0.67	0.13
V11081-V11082	4495	171	8	0.007	0.65	0.01	0.14	0.01	0.15	0.03	0.17	0.67	0.17
V11082-V11083	2326	241	8	0.005	0.53	0.04	0.14	0.04	0.14	0.03	0.13	0.67	0.13
V11083-V11084	2321	78	8	0.173	3.25	0.04	0.09	0.04	0.09	0.03	0.08	0.67	0.09
V11084.A0-V11084	2322	318	8	0.021	1.12	0.00	0.06	0.00	0.06	0.00	0.06	0.67	0.06
V11084-V11085	2320	300	8	0.060	1.92	0.04	0.09	0.04	0.10	0.03	0.09	0.67	0.10
V11085-V11087	2319	301	8	0.077	2.17	0.04	0.26	0.05	0.28	0.03	0.25	0.67	0.27
V11086-V11087	4494	151	6	0.005	0.27	0.00	0.28	0.00	0.31	0.00	0.28	0.50	0.31
V11087-V11088.A0	4493	49	8	0.003	0.40	0.04	0.26	0.05	0.29	0.03	0.26	0.67	0.28
V11088.A0-V11088	2327	301	8	0.050	1.75	0.04	0.11	0.05	0.13	0.04	0.12	0.67	0.13
V11088-V11089	4274	349	8	0.029	1.32	0.04	0.26	0.05	0.31	0.05	0.31	0.67	0.35
V11089-V11090	4275	348	8	0.009	0.74	0.25	0.41	0.35	0.50	0.36	0.51	0.67	0.58
V11090-V11091	4276	299	8	0.008	0.68	0.25	0.45	0.35	0.56	0.38	0.59	0.67	0.68
V11091-V11092	939	310	8	0.005	0.57	0.25	0.41	0.36	0.51	0.41	0.56	0.67	0.63
V11092-V11121	940	368	10	0.011	1.52	0.25	0.27	0.36	0.33	0.43	0.37	0.83	0.40
V11093-V11095	2323	99	8	0.010	0.79	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V11094-V11095	2318	330	8	0.082	2.23	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V11095-V11098	2315	325	8	0.022	1.16	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.07
V11096-V11097	2313	189	8	0.045	1.65	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V11097-V11098	2316	343	8	0.027	1.29	0.01	0.05	0.01	0.06	0.01	0.06	0.67	0.06
V11098-V11099	2314	157	8	0.079	2.20	0.01	0.07	0.02	0.08	0.02	0.07	0.67	0.08
V11099-V11100	2312	91	8	0.047	1.69	0.02	0.07	0.03	0.09	0.02	0.07	0.67	0.09
V11100-V11101	2311	91	8	0.058	1.87	0.02	0.08	0.03	0.09	0.02	0.08	0.67	0.10
V11101-V11105	961	237	8	0.035	1.45	0.02	0.09	0.03	0.11	0.02	0.10	0.67	0.12
V11102-V11103	2310	291	8	0.025	1.24	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V11103-V11104	2309	324	8	0.043	1.62	0.01	0.06	0.01	0.06	0.01	0.06	0.67	0.06
V11104-V11105	960	351	8	0.021	1.14	0.01	0.09	0.01	0.10	0.01	0.09	0.67	0.10
V11105-V11109	955	350	8	0.038	1.52	0.03	0.11	0.05	0.14	0.04	0.12	0.67	0.15
V11106-V11107	4272	376	8	0.003	0.46	0.00	0.53	0.00	0.53	0.00	0.53	0.67	0.53
V11107-V11108	4271	346	8	0.004	0.47	0.01	0.52	0.01	0.53	0.01	0.53	0.67	0.53
V11108-V11109	957	349	8	0.089	2.33	0.01	0.09	0.01	0.10	0.02	0.10	0.67	0.12
V11109-V11111	952	243	8	0.030	1.36	0.05	0.13	0.07	0.16	0.06	0.14	0.67	0.17
V11110.A0-V11110	7561	35	8	0.002	0.35	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V11110-V11111	951	471	8	0.036	1.49	0.00	0.08	0.00	0.10	0.00	0.09	0.67	0.10
V11111-V11116	948	106	8	0.030	1.36	0.05	0.15	0.08	0.18	0.06	0.16	0.67	0.19
V11112-V11113	954	356	8	0.015	0.95	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.05
V11113-V11114	947	368	8	0.014	0.92	0.01	0.07	0.01	0.08	0.01	0.07	0.67	0.08
V11114-V11115	946	130	8	0.007	0.65	0.01	0.09	0.01	0.11	0.01	0.10	0.67	0.11
V11115-V11116	945	359	8	0.005	0.55	0.01	0.13	0.02	0.16	0.01	0.14	0.67	0.16
V11116-V11119	950	121	8	0.024	1.21	0.06	0.16	0.10	0.20	0.08	0.18	0.67	0.22
V11117-V11118	958	227	8	0.018	1.04	0.00	0.04	0.00	0.04	0.01	0.07	0.67	0.07
V11118-V11119	949	347	8	0.034	1.45	0.01	0.11	0.01	0.13	0.02	0.14	0.67	0.16
V11119-V11120	941	230	8	0.024	1.21	0.07	0.16	0.12	0.20	0.10	0.19	0.67	0.23
V11120-V11121.A0	942	136	8	0.032	1.40	0.08	0.18	0.12	0.23	0.11	0.23	0.67	0.26
V11121.A0-V11121	943	80	8	0.010	0.79	0.08	0.33	0.12	0.41	0.13	0.45	0.67	0.50
V11121.B0-V11121	5172	75	8	0.033	1.41	0.02	0.73	0.02	0.78	0.03	0.81	0.67	0.85
V11121-V11122	4270	387	10	0.007	1.15	0.33	0.36	0.48	0.45	0.57	0.50	0.83	0.55
V11122-V11123	4268	345	12	0.006	1.72	0.34	0.26	0.51	0.32	0.66	0.37	1.00	0.40
V11123-V10141.A0	3790	308	15	0.021	6.01	0.35	0.26	0.52	0.32	0.67	0.36	1.25	0.40
V12001-V12003	6605	195	8	0.006	0.61	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.03
V12002-V12003	6606	72	8	0.188	3.38	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V12003-V12004	218	158	8	0.046	1.68	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.06
V12004-V12005	6607	295	8	0.007	0.66	0.00	0.05	0.01	0.06	0.00	0.05	0.67	0.06
V12005-V12007	7153	135	8	0.085	2.27	0.01	0.04	0.01	0.05	0.01	0.04	0.67	0.05
V12006-V12007	6608	167	6	0.171	1.50	0.00	0.04	0.00	0.05	0.00	0.04	0.50	0.05
V12007-V12008	7154	127	8	0.103	2.50	0.01	0.05	0.02	0.06	0.01	0.05	0.67	0.06
V12008-V12013	6280	266	8	0.098	2.45	0.01	0.06	0.02	0.07	0.01	0.06	0.67	0.07
V12009-V12011	7155	125	6	0.159	1.45	0.00	0.06	0.00	0.06	0.00	0.04	0.50	0.04
V12010-V12011	6756	85	6	0.003	0.20	0.00	0.07	0.00	0.07	0.00	0.04	0.50	0.04
V12011-V12012	2019	298	6	0.022	0.54	0.01	0.07	0.01	0.07	0.00	0.05	0.50	0.05
V12012-V12013	6279	179	6	0.137	1.34	0.01	0.07	0.01	0.09	0.00	0.06	0.50	0.08
V12013-V12015	6684	235	8	0.076	2.16	0.02	0.07	0.03	0.09	0.02	0.07	0.67	0.08
V12014-V12015	7157	148	6	0.196	1.61	0.00	0.06	0.00	0.07	0.00	0.06	0.50	0.07
V12015-V12018	3973	181	8	0.074	2.13	0.02	0.08	0.04	0.10	0.02	0.07	0.67	0.09
V12016-V12017	7158	163	8	0.117	2.68	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V12017-V12018	3971	161	8	0.053	1.80	0.00	0.06	0.00	0.07	0.00	0.05	0.67	0.06
V12018-V12020	1565	96	8	0.075	2.14	0.03	0.08	0.04	0.10	0.02	0.07	0.67	0.10
V12019-V12020	3970	246	8	0.171	3.23	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V12020-V12021	5263	182	8	0.076	2.15	0.03	0.09	0.05	0.11	0.03	0.08	0.67	0.11
V12021-V12022	1119	420	8	0.043	1.62	0.03	0.12	0.05	0.16	0.03	0.11	0.67	0.15
V12022.B0-V12022	5894	399	8	0.011	0.83	0.01	0.10	0.01	0.12	0.00	0.09	0.67	0.11
V12022-V12023	4768	254	8	0.011	0.81	0.04	0.15	0.06	0.19	0.03	0.13	0.67	0.18
V12023-V12038	6258	295	8	0.012	0.84	0.04	0.14	0.07	0.19	0.03	0.13	0.67	0.18
V12024-V12025	7160	321	6	0.058	0.87	0.00	0.03	0.00	0.03	0.00	0.04	0.50	0.04
V12025-V12026	7161	274	8	0.097	2.43	0.00	0.03	0.00	0.03	0.01	0.04	0.67	0.04
V12026-V12027	6683	33	8	0.106	2.54	0.00	0.03	0.01	0.04	0.01	0.04	0.67	0.04
V12027-V12028	6681	175	8	0.122	2.73	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V12028-V12029	3969	78	8	0.033	1.42	0.01	0.04	0.01	0.06	0.01	0.05	0.67	0.06
V12029-V12034	6189	139	8	0.079	2.20	0.01	0.05	0.01	0.06	0.01	0.06	0.67	0.07
V12030-V12031	7159	149	6	0.217	1.69	0.00	0.02	0.00	0.03	0.00	0.03	0.50	0.03
V12031-V12032	6278	120	6	0.199	1.62	0.00	0.03	0.00	0.04	0.00	0.04	0.50	0.04
V12032-V12034	4970	255	6	0.088	1.08	0.00	0.06	0.00	0.07	0.00	0.07	0.50	0.08
V12033-V12034	7162	218	8	0.092	2.36	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.05
V12034-V12037	1118	265	8	0.076	2.16	0.01	0.07	0.02	0.09	0.02	0.08	0.67	0.09
V12035-V12037	1117	371	8	0.032	1.40	0.00	0.06	0.00	0.07	0.00	0.06	0.67	0.07
V12036-V12037	7163	161	8	0.049	1.72	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
V12037-V12038	4767	373	8	0.051	1.76	0.02	0.11	0.03	0.14	0.03	0.11	0.67	0.14
V12038-V21195	7166	35	8	0.039	1.55	0.06	0.38	0.11	0.50	0.06	0.43	0.67	0.55
V12039-V12040	7167	433	8	0.007	0.65	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.06
V12040.A0-V12040	7165	230	8	0.003	0.43	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V12040-V12041	6257	96	8	0.014	0.92	0.00	0.05	0.01	0.08	0.01	0.06	0.67	0.08
V12041-V12057	7168	298	8	0.006	0.62	0.00	0.11	0.01	0.15	0.01	0.12	0.67	0.15
V12042-V12043	7309	227	8	0.167	3.19	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V12043-V12044	4969	172	8	0.053	1.80	0.00	0.04	0.01	0.04	0.00	0.03	0.67	0.04
V12044-V12045.B0	5262	78	8	0.094	2.40	0.01	0.05	0.01	0.05	0.00	0.05	0.67	0.05
V12045.A0-V12045.B0	6137	219	8	0.063	1.96	0.01	0.06	0.01	0.06	0.01	0.06	0.67	0.06

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V12045.B0-V12045	1116	258	8	0.096	2.42	0.02	0.07	0.02	0.07	0.02	0.07	0.67	0.08
V12045-V12048	4489	247	8	0.050	1.74	0.02	0.08	0.02	0.10	0.02	0.09	0.67	0.10
V12046-V12047	7310	365	8	0.018	1.04	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V12047-V12048	7311	310	8	0.043	1.62	0.00	0.07	0.01	0.08	0.01	0.07	0.67	0.08
V12048-V12055	4766	205	8	0.031	1.37	0.02	0.09	0.04	0.11	0.03	0.10	0.67	0.12
V12049-V12050	7312	180	8	0.102	2.50	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V12050-V12051	6136	61	8	0.098	2.45	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V12051-V12053	6172	251	8	0.041	1.58	0.01	0.04	0.01	0.05	0.01	0.05	0.67	0.05
V12052-V12053	7313	111	6	0.161	1.45	0.00	0.05	0.00	0.05	0.00	0.05	0.50	0.05
V12053-V12054	1115	49	6	0.127	1.29	0.01	0.06	0.01	0.07	0.01	0.07	0.50	0.07
V12054-V12055	4765	141	6	0.109	1.20	0.01	0.09	0.01	0.11	0.01	0.10	0.50	0.12
V12055-V12057	7169	222	8	0.053	1.80	0.03	0.13	0.05	0.16	0.04	0.14	0.67	0.17
V12057-V12059	7170	143	10	0.007	1.17	0.04	0.13	0.07	0.16	0.05	0.14	0.83	0.17
V12058-V12059	7316	133	8	0.122	2.73	0.00	0.09	0.00	0.11	0.00	0.09	0.67	0.11
V12059-V12060	7171	196	10	0.009	1.31	0.04	0.13	0.07	0.16	0.05	0.13	0.83	0.17
V12060-V12066	7172	159	10	0.008	1.28	0.05	0.14	0.08	0.17	0.05	0.15	0.83	0.18
V12061-V12062	7174	205	6	0.030	0.63	0.01	0.07	0.01	0.07	0.01	0.08	0.50	0.08
V12062-V12063	4968	179	6	0.091	1.09	0.01	0.11	0.01	0.11	0.01	0.11	0.50	0.11
V12063-V12064	6187	162	6	0.006	0.28	0.01	0.12	0.01	0.12	0.01	0.12	0.50	0.12
V12064-V12065	6135	147	6	0.113	1.22	0.02	0.09	0.02	0.09	0.02	0.09	0.50	0.10
V12065-V12066	1114	351	6	0.116	1.24	0.03	0.18	0.03	0.20	0.03	0.18	0.50	0.21
V12066-V12067	4808	304	10	0.014	1.68	0.08	0.13	0.11	0.16	0.08	0.13	0.83	0.16
V12067-V12068	5650	396	10	0.044	2.98	0.08	0.13	0.11	0.16	0.08	0.14	0.83	0.17
V12068-V12112.D0	7688	142	10	0.010	1.41	0.08	0.16	0.12	0.19	0.09	0.17	0.83	0.20
V12069.A0-V12069.B0	4967	81	6	0.009	0.35	0.00	0.08	0.00	0.08	0.00	0.07	0.50	0.07
V12069.B0-V12070	V12069.B0-V12070	259	6	0.030	0.63	0.01	0.06	0.01	0.06	0.01	0.06	0.50	0.06
V12070-V12071	1113	358	6	0.100	1.15	0.01	0.05	0.01	0.05	0.01	0.05	0.50	0.05
V12071-V12072.A0	7317	18	8	0.459	5.29	0.01	0.05	0.01	0.05	0.01	0.05	0.67	0.05
V12072.A0-V12072	7318	241	8	0.031	1.37	0.01	0.09	0.01	0.10	0.01	0.08	0.67	0.09
V12072-V12073	6256	36	8	0.006	0.58	0.01	0.09	0.02	0.10	0.01	0.08	0.67	0.09
V12073-V12074	4807	174	6	0.075	1.00	0.02	0.11	0.02	0.12	0.01	0.09	0.50	0.11
V12074-V12081	4826	42	6	0.041	0.73	0.02	0.12	0.03	0.13	0.02	0.11	0.50	0.12
V12075-V12076	6878	63	8	0.028	1.31	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V12076-V12078	4488	150	8	0.084	2.27	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
V12077-V12078	7319	241	6	0.106	1.18	0.01	0.06	0.01	0.06	0.00	0.05	0.50	0.05
V12078-V12080	4764	199	8	0.086	2.29	0.01	0.06	0.01	0.06	0.01	0.05	0.67	0.06
V12079-V12080	6850	118	8	0.047	1.69	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V12080-V12081	4806	116	8	0.040	1.57	0.01	0.08	0.02	0.09	0.01	0.07	0.67	0.08
V12081-V12112.A0	7286	25	8	0.054	1.82	0.04	0.11	0.04	0.12	0.03	0.10	0.67	0.11
V12087-V12088	7323	116	6	0.026	0.58	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V12088-V12089	7324	308	6	0.057	0.87	0.00	0.06	0.00	0.06	0.00	0.05	0.50	0.06
V12089-V12090	7325	194	6	0.039	0.71	0.01	0.08	0.01	0.09	0.01	0.08	0.50	0.09
V12090-V12091	7326	180	6	0.014	0.43	0.01	0.10	0.01	0.11	0.01	0.09	0.50	0.10
V12091-V12097	4487	214	6	0.031	0.63	0.01	0.10	0.01	0.11	0.01	0.09	0.50	0.10
V12092-V12093	6888	129	6	0.058	0.87	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V12093-V12095	7320	21	6	0.026	0.59	0.00	0.05	0.00	0.05	0.00	0.05	0.50	0.05
V12094-V12095	7322	85	6	0.089	1.08	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V12095-V12096	7321	132	6	0.076	1.00	0.00	0.05	0.01	0.06	0.00	0.05	0.50	0.05
V12096-V12097	1112	182	6	0.111	1.21	0.01	0.08	0.01	0.09	0.01	0.08	0.50	0.08
V12097-V12098	5770	237	6	0.057	0.87	0.02	0.11	0.03	0.12	0.02	0.10	0.50	0.11
V12098-V12112.K0	7236	180	8	0.075	2.14	0.03	0.09	0.03	0.10	0.02	0.09	0.67	0.10
V12099-V12100	6883	126	8	0.005	0.57	0.00	0.06	0.00	0.06	0.00	0.03	0.67	0.03
V12100-V12101	6884	90	8	0.008	0.70	0.01	0.10	0.01	0.11	0.00	0.08	0.67	0.09
V12101.A0-V12101.B0	5958	119	6	0.110	1.20	0.01	0.05	0.01	0.05	0.00	0.05	0.50	0.05
V12101.B0-V12101.C0	6881	91	8	0.094	2.39	0.01	0.04	0.01	0.04	0.01	0.05	0.67	0.05
V12101.C0-V12101	6882	152	8	0.058	1.87	0.01	0.08	0.01	0.09	0.01	0.10	0.67	0.10
V12101-V12112.O0	6885	185	8	0.008	0.69	0.02	0.09	0.02	0.10	0.02	0.10	0.67	0.10
V12105-V12106	6887	166	6	0.030	0.63	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V12106-V12108	4824	302	6	0.031	0.64	0.00	0.06	0.01	0.06	0.00	0.05	0.50	0.05
V12108-V12112.U0	7708	28	8	0.014	0.93	0.01	0.07	0.01	0.08	0.01	0.05	0.67	0.06
V12112.A0-V12112.B0	7287	23	8	0.025	1.24	0.04	0.11	0.04	0.12	0.03	0.10	0.67	0.11
V12112.B0-V12112.C0	7292	300	8	0.064	1.98	0.04	0.11	0.05	0.12	0.03	0.10	0.67	0.12
V12112.C0-V12112.F0	7235	135	8	0.021	1.14	0.04	0.22	0.05	0.26	0.04	0.22	0.67	0.27
V12112.D0-V12112.E0	7280	30	8	0.016	0.98	0.08	0.19	0.12	0.24	0.09	0.21	0.67	0.25
V12112.E0-V12112.F0	7288	195	8	0.015	0.95	0.08	0.25	0.12	0.31	0.09	0.27	0.67	0.32
V12112.F0-V12112.G0	7289	350	8	0.005	0.56	0.12	0.31	0.17	0.38	0.13	0.34	0.67	0.40
V12112.G0-V12112.H0	7290	298	8	0.005	0.57	0.12	0.31	0.17	0.38	0.15	0.35	0.67	0.41
V12112.H0-V12112.I0	V12112.H0-V12112.I0	99	8	0.006	0.60	0.12	0.30	0.18	0.37	0.16	0.35	0.67	0.41
V12112.I0-V12112.J0	V12112.I0-V12112.J0	55	8	0.007	0.63	0.12	0.30	0.18	0.38	0.16	0.36	0.67	0.42
V12112.J0-V12112.R0	V12112.J0-V12112.R0	212	8	0.005	0.56	0.12	0.32	0.18	0.40	0.16	0.38	0.67	0.44
V12112.K0-V12112.L0	7237	73	8	0.041	1.58	0.03	0.09	0.04	0.10	0.03	0.09	0.67	0.10
V12112.L0-V12112.M0	7238	67	8	0.075	2.13	0.03	0.09	0.04	0.10	0.03	0.10	0.67	0.11
V12112.M0-V12112.N0	7239	125	8	0.040	1.56	0.03	0.09	0.04	0.10	0.04	0.10	0.67	0.11
V12112.N0-V12112.P0	7240	86	8	0.105	2.53	0.03	0.09	0.04	0.10	0.04	0.10	0.67	0.11
V12112.O0-V12112.P0	7241	158	8	0.159	3.11	0.02	0.08	0.02	0.09	0.03	0.09	0.67	0.09
V12112.P0-V12112.Q0	7706	90	8	0.102	2.49	0.05	0.15	0.07	0.17	0.07	0.17	0.67	0.18
V12112.Q0-V12112.R0	7242	161	8	0.006	0.58	0.05	0.28	0.07	0.34	0.07	0.34	0.67	0.38
V12112.R0-V12112.S0	V12112.R0-V12112.S0	157	8	0.005	0.53	0.12	0.35	0.18	0.43	0.17	0.41	0.67	0.48
V12112.S0-V12112.X0	7243	182	8	0.006	0.61	0.17	0.35	0.25	0.43	0.24	0.41	0.67	0.48
V12112.T0-V12112.U0	7249	336	8	0.021	1.12	0.00	0.06	0.00	0.06	0.00	0.04	0.67	0.04
V12112.U0-V12112.V0	7244	293	8	0.044	1.63	0.02	0.08	0.02	0.09	0.01	0.07	0.67	0.08
V12112.V0-V12112.W0	7245	346	8	0.031	1.37	0.02	0.07	0.02	0.08	0.02	0.07	0.67	0.08
V12112.W0-V12112.X0	7692	14	8	0.205	3.54	0.02	0.19	0.03	0.23	0.02	0.22	0.67	0.25
V12112.X0-V12112	7246	169	8	0.011	0.82	0.19	0.32	0.28	0.39	0.26	0.38	0.67	0.44
V12112-V12113	968	530	8	0.013	0.90	0.19	0.37	0.28	0.47	0.27	0.46	0.67	0.53
V12113-V12115	967	209	8	0.004	0.51	0.19	0.40	0.28	0.50	0.28	0.51	0.67	0.59
V12114-V12115	966	174	6	0.033	0.66	0.00	0.26	0.00	0.32	0.02	0.37	0.50	0.41
V12115-V12119	965	215	8	0.009	0.74	0.19	0.31	0.29	0.38	0.30	0.39	0.67	0.45
V12116-V12117	7146	257	18	0.015	8.24	0.00	0.51	0.00	0.52	0.01	0.52	1.50	0.52
V12117-V12118	964	297	18	0.003	3.82	0.00	0.02	0.01	0.04	0.01	0.04	1.50	0.04
V12118-V12119	963	182	18	0.003	3.90	0.00	0.07	0.01	0.09	0.01	0.09	1.50	0.10
V12119-V12120	5620	294	18	0.017	8.84	0.20	0.09	0.30	0.11	0.31	0.11	1.50	0.12
V12125-V12057	7315	220	8	0.140	2.92	0.00	0.09	0.00	0.11	0.00	0.10	0.67	0.12
V12127-V24112	V12127-V24112	15	18	0.183	29.06	0.20	0.23	0.31	0.31	0.32	0.29	1.50	0.36
V13001-V13002	4709	3	8	0.448	5.23	0.00	0.01	0.00	0.01	0.00	0.01	0.67	0.01
V13002.A0-V13002	7530	27	8	0.103	2.50	0.00	0.01	0.00	0.01	0.00	0.01	0.67	0.01
V13002-V13005	4710	192	8	0.195	3.45	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V13003-V13004	3806	110	8	0.169	3.21	0.00	0.14	0.00	0.15	0.00	0.15	0.67	0.15
V13004-V13005	4711	106	8	0.002	0.30	0.00	0.15	0.00	0.16	0.00	0.16	0.67	0.16
V13005-V13006	3809	168	8	0.178	3.29	0.00	0.03	0.01	0.04	0.01	0.03	0.67	0.04
V13006-V13007	3807	195	8	0.089	2.32	0.00	0.05	0.01	0.07	0.01	0.06	0.67	0.08
V13007-V13009	3813	117	8	0.005	0.53	0.01	0.08	0.01	0.12	0.01	0.11	0.67	0.13
V13008-V13009	3810	254	8	0.118	2.69	0.00	0.06	0.00	0.08	0.00	0.07	0.67	0.08
V13009-V13010	3812	162	8	0.003	0.43	0.01	0.09	0.02	0.13	0.01	0.11	0.67	0.14
V13010-V13014	3811	160	8	0.006	0.61	0.01	0.10	0.02	0.14	0.01	0.12	0.67	0.15
V13011-V13013	3815	204	6	0.006	0.27	0.00	0.05	0.00	0.05	0.00	0.04	0.50	0.04
V13012-V13013	3814	131	8	0.051	1.76	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V13013-V13014	3803	281	8	0.174	3.26	0.00	0.07	0.01	0.10	0.00	0.08	0.67	0.10
V13014-V13015	4708	179	8	0.005	0.56	0.01	0.09	0.03	0.12	0.02	0.10	0.67	0.13
V13015-V13030	3819	357	8	0.087	2.30	0.02	0.09	0.03	0.12	0.02	0.10	0.67	0.13
V13016-V13017	4136	126	8	0.008	0.70	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V13017-V13018	4250	180	8	0.009	0.76	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V13018-V13021	4255	130	8	0.011	0.83	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V13019-V13020	4135	196	8	0.107	2.56	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V13020-V13021	4256	160	8	0.164	3.16	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V13021-V13022	4257	141	8	0.020	1.10	0.01	0.09	0.01	0.11	0.01	0.09	0.67	0.10
V13022-V13023	3820	272	8	0.003	0.40	0.01	0.12	0.02	0.15	0.01	0.12	0.67	0.14
V13023-V13028	3822	22	8	0.003	0.40	0.01	0.11	0.02	0.14	0.01	0.11	0.67	0.13
V13024-V13025	3817	137	8	0.150	3.03	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V13025-V13026	3805	110	8	0.060	1.92	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V13026-V13027	4707	109	8	0.146	2.99	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V13027-V13028	3821	328	8	0.054	1.82	0.00	0.06	0.01	0.08	0.00	0.06	0.67	0.08
V13028-V13029	3823	75	8	0.016	1.00	0.02	0.09	0.03	0.12	0.02	0.09	0.67	0.12
V13029-V13030	4705	188	8	0.020	1.09	0.02	0.10	0.03	0.14	0.02	0.11	0.67	0.14
V13030-V13033	4706	260	8	0.021	1.14	0.04	0.16	0.07	0.22	0.04	0.18	0.67	0.23
V13031-V13032	7528	92	8	0.107	2.55	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V13032-V13033	7529	214	8	0.089	2.33	0.00	0.12	0.00	0.15	0.01	0.13	0.67	0.16
V13033-V13034	4251	198	8	0.004	0.50	0.04	0.20	0.08	0.27	0.05	0.22	0.67	0.28
V13034-V13035	4868	163	8	0.005	0.56	0.05	0.17	0.08	0.22	0.05	0.18	0.67	0.23
V13035-V13036	5142	100	8	0.025	1.24	0.05	0.13	0.08	0.17	0.05	0.14	0.67	0.18
V13036-V13037	4994	158	8	0.031	1.37	0.05	0.13	0.08	0.17	0.06	0.14	0.67	0.17
V13037-V13038	5006	299	8	0.035	1.47	0.05	0.16	0.09	0.21	0.06	0.17	0.67	0.21
V13038-V13056	5022	301	8	0.008	0.68	0.05	0.19	0.09	0.24	0.06	0.20	0.67	0.25
V13039.A0-V13039.B0	4999	69	6	0.009	0.35	0.00	0.04	0.00	0.04	0.02	0.13	0.50	0.13
V13039.B0-V13039	5001	36	8	0.137	2.89	0.00	0.02	0.00	0.03	0.02	0.06	0.67	0.06
V13039-V13040	4996	319	8	0.108	2.56	0.00	0.04	0.00	0.05	0.02	0.09	0.67	0.09
V13040-V13041	4998	332	8	0.014	0.92	0.01	0.06	0.01	0.07	0.02	0.11	0.67	0.11
V13041-V13045	4627	331	8	0.024	1.20	0.01	0.12	0.01	0.13	0.03	0.14	0.67	0.15
V13042-V13043	4995	141	6	0.041	0.73	0.00	0.10	0.00	0.10	0.00	0.07	0.50	0.07
V13043-V13044	4997	302	6	0.023	0.56	0.02	0.13	0.02	0.13	0.01	0.08	0.50	0.08
V13044-V13045	4633	241	6	0.071	0.97	0.03	0.18	0.03	0.18	0.01	0.16	0.50	0.16
V13045-V13052	4634	192	8	0.009	0.75	0.04	0.15	0.05	0.16	0.05	0.15	0.67	0.16
V13046-V13047	4628	162	6	0.127	1.29	0.00	0.04	0.00	0.04	0.00	0.05	0.50	0.05
V13047-V13049	4637	80	6	0.008	0.32	0.00	0.05	0.00	0.06	0.00	0.06	0.50	0.06
V13048-V13049	4636	110	8	0.074	2.12	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V13049-V13051	4632	181	8	0.131	2.82	0.01	0.05	0.01	0.05	0.01	0.05	0.67	0.06
V13050-V13051	4629	308	6	0.007	0.29	0.00	0.08	0.00	0.08	0.00	0.08	0.50	0.08
V13051-V13052	4635	164	8	0.028	1.31	0.01	0.09	0.01	0.10	0.01	0.10	0.67	0.11
V13052-V13055	4631	297	8	0.049	1.74	0.06	0.13	0.07	0.14	0.06	0.13	0.67	0.15
V13053-V13054	4641	164	6	0.023	0.56	0.00	0.05	0.00	0.05	0.00	0.05	0.50	0.05
V13054-V13055	4644	250	6	0.038	0.71	0.01	0.12	0.01	0.13	0.01	0.13	0.50	0.13
V13055-V13056	5023	121	8	0.043	1.62	0.06	0.17	0.08	0.19	0.07	0.17	0.67	0.20
V13056-V13057	5024	115	8	0.034	1.45	0.12	0.19	0.18	0.24	0.13	0.21	0.67	0.24
V13057.A0-V13057	5002	381	6	0.006	0.28	0.00	0.17	0.00	0.19	0.01	0.19	0.50	0.21
V13057-V13058	5010	83	8	0.038	1.51	0.13	0.21	0.18	0.25	0.14	0.22	0.67	0.26
V13058-V13065	5012	135	8	0.026	1.25	0.13	0.22	0.19	0.27	0.14	0.23	0.67	0.27
V13059-V13060	4134	131	6	0.072	0.97	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V13060-V13061	4133	331	6	0.040	0.73	0.00	0.07	0.00	0.07	0.00	0.07	0.50	0.07
V13061-V13063	4862	223	6	0.018	0.48	0.01	0.09	0.01	0.10	0.01	0.09	0.50	0.10
V13062-V13063	4863	145	8	0.031	1.38	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V13063-V13064	4864	126	6	0.018	0.49	0.01	0.12	0.01	0.13	0.01	0.12	0.50	0.14
V13064-V13065	5011	219	6	0.007	0.30	0.01	0.22	0.02	0.26	0.01	0.23	0.50	0.27
V13065-V13082	5013	215	8	0.026	1.27	0.14	0.28	0.21	0.34	0.16	0.29	0.67	0.35
V13066-V13067	4243	20	6	0.002	0.16	0.01	0.20	0.01	0.20	0.01	0.18	0.50	0.18
V13067-V13068	4245	58	6	0.002	0.16	0.01	0.21	0.01	0.21	0.01	0.18	0.50	0.18
V13068-V13074	4247	146	8	0.002	0.35	0.01	0.13	0.01	0.13	0.01	0.12	0.67	0.12
V13069-V13070	4252	153	6	0.084	1.05	0.00	0.03	0.00	0.03	0.00	0.04	0.50	0.04
V13070-V13072	4254	144	8	0.030	1.35	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V13071-V13072	4137	145	8	0.107	2.55	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V13072-V13073	4246	179	8	0.066	2.01	0.00	0.05	0.01	0.06	0.01	0.05	0.67	0.06
V13073-V13074	4248	151	8	0.011	0.83	0.01	0.08	0.01	0.09	0.01	0.08	0.67	0.09
V13074-V13079	4249	251	8	0.028	1.30	0.02	0.11	0.03	0.12	0.02	0.10	0.67	0.11
V13075-V13076	4258	22	8	0.127	2.78	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V13076-V13077	4138	293	8	0.103	2.51	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V13077-V13078	4865	90	8	0.062	1.94	0.01	0.05	0.01	0.05	0.00	0.04	0.67	0.05
V13078-V13079	4866	150	8	0.025	1.23	0.01	0.09	0.01	0.10	0.01	0.08	0.67	0.09
V13079-V13080	4867	183	8	0.017	1.03	0.03	0.12	0.04	0.13	0.03	0.11	0.67	0.13
V13080-V13081	4861	225	8	0.020	1.09	0.03	0.12	0.04	0.14	0.03	0.11	0.67	0.13
V13081-V13082	5014	216	8	0.018	1.05	0.03	0.22	0.04	0.27	0.03	0.23	0.67	0.27
V13082-V13085	5015	180	8	0.009	0.76	0.18	0.32	0.25	0.39	0.19	0.34	0.67	0.40
V13083-V13084	5016	126	8	0.006	0.61	0.00	0.06	0.00	0.06	0.00	0.06	0.67	0.06
V13084-V13085	5017	125	8	0.008	0.68	0.01	0.19	0.01	0.22	0.01	0.20	0.67	0.23
V13085-V13086	5019	52	10	0.009	1.35	0.19	0.23	0.27	0.27	0.20	0.24	0.83	0.28
V13086-V13087.A0	5020	143	10	0.023	2.15	0.19	0.21	0.27	0.25	0.20	0.22	0.83	0.26
V13087.A0-V13087	5021	208	10	0.016	1.78	0.20	0.23	0.28	0.27	0.21	0.24	0.83	0.28
V13087-V13099	5007	236	10	0.020	2.02	0.20	0.19	0.28	0.22	0.23	0.20	0.83	0.23
V13089-V13090	3791	138	8	0.042	1.61	0.01	0.06	0.01	0.06	0.00	0.04	0.67	0.04
V13090-V13091	3800	262	8	0.034	1.44	0.01	0.08	0.01	0.08	0.01	0.06	0.67	0.07
V13091.A0-V13091.B0	3802	275	8	0.008	0.71	0.01	0.07	0.01	0.07	0.01	0.07	0.67	0.07
V13091.B0-V13091.C0	3795	268	8	0.027	1.29	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.06
V13091.C0-V13091	3801	288	8	0.062	1.94	0.02	0.08	0.02	0.08	0.01	0.07	0.67	0.07
V13091-V13092	3798	291	8	0.064	1.97	0.03	0.12	0.04	0.14	0.02	0.12	0.67	0.13
V13092-V13094	3799	316	8	0.005	0.57	0.03	0.18	0.04	0.20	0.03	0.19	0.67	0.21
V13094-V13097	3796	350	8	0.003	0.46	0.03	0.14	0.04	0.15	0.04	0.15	0.67	0.17
V13096-V13097	3797	278	8	0.029	1.33	0.01	0.06	0.01	0.06	0.02	0.08	0.67	0.08
V13097-V10141.C0	3792	11	8	0.382	4.82	0.04	0.32	0.05	0.40	0.06	0.43	0.67	0.48
V13099-V10141.E0	5003	58	10	0.097	4.41	0.20	0.45	0.28	0.57	0.23	0.58	0.83	0.59
V13100.A0-V13100	5008	272	8	0.009	0.74	0.00	0.03	0.00	0.03	0.01	0.09	0.67	0.09
V13100-V13104	5009	238	8	0.009	0.74	0.00	0.09	0.01	0.10	0.02	0.12	0.67	0.13
V13101-V13102	4651	250	6	0.064	0.92	0.00	0.06	0.00	0.06	0.00	0.06	0.50	0.06
V13102-V13103	4646	245	6	0.073	0.98	0.01	0.10	0.01	0.10	0.01	0.09	0.50	0.10
V13103-V13104	4648	178	8	0.013	0.88	0.02	0.10	0.02	0.11	0.02	0.12	0.67	0.12
V13104-V13140	4649	185	8	0.009	0.74	0.02	0.50	0.03	0.56	0.03	0.57	0.67	0.57
V13105-V13106	4640	111	6	0.036	0.69	0.00	0.03	0.00	0.03	0.00	0.02	0.50	0.02
V13106-V13108	4653	100	6	0.078	1.01	0.00	0.07	0.00	0.07	0.00	0.06	0.50	0.06
V13107-V13108	4638	215	6	0.022	0.54	0.01	0.10	0.01	0.10	0.01	0.09	0.50	0.09
V13108-V13109	4645	328	6	0.047	0.79	0.02	0.11	0.02	0.11	0.02	0.12	0.50	0.12
V13109-V13110.A0	4652	248	6	0.057	0.86	0.02	0.11	0.02	0.12	0.03	0.13	0.50	0.13
V13110.A0-V13110	4647	252	8	0.064	1.98	0.03	0.31	0.03	0.42	0.03	0.46	0.67	0.53
V13110-V10143.A0	5948	14	8	0.014	0.92	0.03	0.68	0.03	0.88	0.05	0.91	0.67	0.99
V13111-V13112	4659	222	6	0.027	0.60	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V13112-V13115	4657	199	6	0.093	1.11	0.00	0.06	0.01	0.07	0.01	0.07	0.50	0.07
V13113-V13115	4658	255	6	0.050	0.81	0.00	0.05	0.00	0.06	0.00	0.06	0.50	0.06
V13114-V13115	4656	204	8	0.004	0.52	0.00	0.04	0.00	0.05	0.00	0.06	0.67	0.06

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V13115-V13116	4655	163	8	0.047	1.69	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.07
V13116-V13118	4654	144	8	0.052	1.78	0.01	0.07	0.02	0.08	0.01	0.07	0.67	0.08
V13117-V13118	4660	139	6	0.097	1.13	0.01	0.08	0.01	0.08	0.00	0.06	0.50	0.07
V13118-V13121	5025	222	8	0.039	1.54	0.02	0.10	0.02	0.11	0.02	0.09	0.67	0.10
V13119-V13120	5034	240	6	0.002	0.16	0.00	0.11	0.00	0.11	0.00	0.11	0.50	0.11
V13120-V13121	5030	222	6	0.002	0.16	0.01	0.14	0.01	0.16	0.01	0.14	0.50	0.15
V13121-V13123	5026	195	6	0.026	0.59	0.03	0.16	0.04	0.18	0.03	0.16	0.50	0.18
V13122-V13123	5027	385	6	0.012	0.40	0.01	0.14	0.01	0.14	0.01	0.13	0.50	0.14
V13123-V13135	5028	170	6	0.025	0.58	0.04	0.20	0.05	0.23	0.04	0.19	0.50	0.22
V13124-V13125	5043	161	6	0.030	0.63	0.00	0.03	0.00	0.03	0.00	0.03	0.50	0.03
V13125-V13126	4149	249	6	0.084	1.05	0.00	0.06	0.00	0.07	0.00	0.05	0.50	0.06
V13126-V13134.H0	8218	99	6	0.010	0.36	0.01	0.11	0.01	0.13	0.00	0.09	0.50	0.11
V13134.A0-V13134.B0	8219	19	8	0.060	1.91	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V13134.B0-V13134.C0	8220	109	8	0.047	1.69	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V13134.C0-V13134.E0	8223	71	8	0.032	1.39	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V13134.D0-V13134.E0	8227	70	8	0.084	2.26	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V13134.E0-V13134.G0	8224	91	8	0.045	1.66	0.00	0.05	0.01	0.05	0.00	0.04	0.67	0.05
V13134.F0-V13134.G0	8226	44	8	0.036	1.48	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V13134.G0-V13134.H0	8225	157	8	0.026	1.26	0.01	0.08	0.01	0.09	0.01	0.07	0.67	0.08
V13134.H0-V13134	5033	185	6	0.010	0.36	0.01	0.14	0.02	0.16	0.01	0.11	0.50	0.14
V13134-V13135	5029	458	6	0.010	0.36	0.02	0.19	0.02	0.21	0.01	0.16	0.50	0.19
V13135-V13138	4666	210	6	0.028	0.61	0.07	0.20	0.08	0.23	0.05	0.19	0.50	0.22
V13136-V13137	5031	250	6	0.008	0.32	0.00	0.08	0.00	0.08	0.00	0.08	0.50	0.08
V13137-V13138	4667	461	6	0.005	0.26	0.01	0.14	0.01	0.15	0.01	0.14	0.50	0.15
V13138-V13139	4665	171	8	0.068	2.04	0.07	0.12	0.10	0.14	0.07	0.12	0.67	0.14
V13139.A0-V13110	4642	216	8	0.020	1.10	0.00	0.28	0.00	0.39	0.01	0.44	0.67	0.51
V13139-V09056	4663	34	8	0.109	2.58	0.07	0.56	0.10	0.57	0.07	0.56	0.67	0.57
V13139-V13139.A0	4662	299	8	0.009	0.76	0.00	0.06	0.00	0.08	0.00	0.08	0.67	0.09
V13140-V10142.A0	4264	12	8	0.008	0.71	0.02	0.94	0.04	1.00	0.06	1.00	0.67	1.00
V14001-V14002	4869	110	8	0.010	0.79	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V14002-V14003	5075	70	8	0.611	6.11	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V14003-V14006	4716	142	8	0.005	0.56	0.00	0.06	0.00	0.07	0.00	0.07	0.67	0.08
V14004-V14005	4873	53	8	0.297	4.26	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V14005-V14006	4872	119	8	0.022	1.17	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
V14006-V14007	4871	85	8	0.004	0.52	0.01	0.08	0.01	0.10	0.01	0.09	0.67	0.10
V14007-V14009	4870	312	8	0.004	0.49	0.01	0.09	0.01	0.11	0.01	0.10	0.67	0.12
V14008-V14009	4874	48	8	0.010	0.80	0.00	0.06	0.00	0.08	0.00	0.07	0.67	0.08
V14009-V14010	3219	215	8	0.004	0.49	0.01	0.10	0.02	0.13	0.01	0.12	0.67	0.14
V14010-V14019	4876	276	8	0.004	0.50	0.01	0.14	0.02	0.17	0.02	0.16	0.67	0.19
V14011-V14012	4882	133	8	0.118	2.68	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V14012-V14019	4886	254	8	0.013	0.89	0.00	0.10	0.00	0.13	0.01	0.12	0.67	0.14
V14013-V14014	4881	168	8	0.004	0.51	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
V14014-V14015	4880	246	8	0.006	0.61	0.00	0.05	0.00	0.07	0.00	0.07	0.67	0.08
V14015-V14016	4879	147	8	0.006	0.60	0.00	0.05	0.01	0.06	0.01	0.06	0.67	0.07
V14016-V14018	4878	188	8	0.089	2.33	0.01	0.06	0.01	0.07	0.01	0.07	0.67	0.08
V14017-V14018	3220	390	8	0.010	0.79	0.00	0.06	0.00	0.07	0.01	0.08	0.67	0.08
V14018-V14019	4877	223	8	0.012	0.87	0.01	0.12	0.02	0.16	0.02	0.14	0.67	0.17
V14019-V14020	4885	231	8	0.004	0.49	0.03	0.16	0.05	0.21	0.04	0.19	0.67	0.23
V14020-V14021	4884	353	8	0.004	0.49	0.03	0.17	0.05	0.22	0.04	0.20	0.67	0.24
V14021-V14022	3221	336	8	0.004	0.50	0.03	0.17	0.05	0.23	0.04	0.20	0.67	0.24
V14022-V14023	3222	266	8	0.004	0.50	0.03	0.17	0.06	0.24	0.04	0.20	0.67	0.25
V14023-V14024	3223	162	8	0.004	0.49	0.03	0.17	0.06	0.24	0.04	0.20	0.67	0.26
V14024-V14051	3094	14	8	0.004	0.50	0.03	0.18	0.06	0.25	0.04	0.21	0.67	0.27
V14025-V14027	4714	229	6	0.110	1.20	0.00	0.04	0.00	0.04	0.00	0.05	0.50	0.05
V14026-V14027	4713	68	6	0.009	0.34	0.00	0.04	0.00	0.04	0.00	0.06	0.50	0.06
V14027-V14028	4712	332	8	0.066	2.01	0.00	0.06	0.01	0.07	0.01	0.08	0.67	0.08
V14028-V14030	4157	355	8	0.004	0.49	0.01	0.10	0.01	0.12	0.01	0.13	0.67	0.14
V14029-V14030	V14029-V14030	275	6	0.179	1.53	0.00	0.09	0.00	0.11	0.00	0.12	0.50	0.13
V14030-V14031	4155	350	8	0.004	0.49	0.01	0.09	0.02	0.11	0.02	0.12	0.67	0.13
V14031-V14033	4154	165	8	0.048	1.72	0.02	0.07	0.02	0.09	0.02	0.09	0.67	0.10
V14032.A0-V14032	7560	31	8	0.002	0.35	0.00	0.01	0.00	0.01	0.00	0.04	0.67	0.04
V14032-V14033	3207	221	8	0.035	1.46	0.00	0.04	0.00	0.05	0.00	0.06	0.67	0.07
V14033-V14034	2067	291	8	0.053	1.80	0.02	0.08	0.03	0.10	0.03	0.09	0.67	0.11
V14034-V14039	4888	295	8	0.039	1.54	0.02	0.12	0.03	0.16	0.03	0.15	0.67	0.17
V14035-V14036	2072	167	6	0.050	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V14036-V14038	3208	275	8	0.056	1.85	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V14037-V14038	2068	233	6	0.030	0.63	0.00	0.06	0.00	0.06	0.00	0.06	0.50	0.06
V14038-V14039	3975	262	8	0.040	1.57	0.01	0.11	0.01	0.14	0.01	0.12	0.67	0.15
V14039-V14041	4887	268	8	0.005	0.56	0.03	0.15	0.05	0.19	0.04	0.17	0.67	0.20
V14040-V14041	3976	226	8	0.041	1.57	0.00	0.07	0.00	0.09	0.00	0.08	0.67	0.10
V14041-V14043	3977	257	8	0.016	0.99	0.03	0.13	0.06	0.17	0.04	0.16	0.67	0.19
V14042-V14043	3979	162	6	0.041	0.73	0.00	0.09	0.00	0.12	0.03	0.18	0.50	0.21
V14043-V14044	3978	96	8	0.017	1.00	0.04	0.16	0.06	0.21	0.07	0.22	0.67	0.27
V14044-V14048	1819	154	8	0.004	0.49	0.04	0.17	0.06	0.22	0.07	0.22	0.67	0.27
V14045-V14046	3213	169	6	0.040	0.73	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V14046-V14047	3224	201	6	0.040	0.72	0.00	0.06	0.00	0.06	0.00	0.06	0.50	0.06
V14047-V14048	3225	192	6	0.040	0.73	0.01	0.13	0.01	0.16	0.01	0.15	0.50	0.19
V14048-V14050	4503	259	8	0.016	0.98	0.04	0.39	0.07	0.45	0.07	0.43	0.67	0.50
V14049-V14050	4504	42	6	0.228	1.73	0.00	0.43	0.00	0.48	0.00	0.46	0.50	0.51
V14050-V14051	3095	36	8	0.007	0.67	0.04	0.41	0.08	0.48	0.07	0.45	0.67	0.53
V14051.A0-V14051	2484	40	8	0.268	4.05	0.02	0.12	0.02	0.15	0.00	0.12	0.67	0.14
V14051-V14052	3104	298	8	0.020	1.10	0.09	0.24	0.15	0.31	0.11	0.26	0.67	0.34
V14052-V14053	3105	301	8	0.005	0.58	0.10	0.29	0.16	0.37	0.12	0.32	0.67	0.41
V14053-V14087	3106	229	8	0.005	0.53	0.10	0.34	0.16	0.46	0.12	0.39	0.67	0.51
V14054-V14059	2069	174	8	0.025	1.24	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V14055-V14056	2401	149	8	0.005	0.53	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V14056-V14057	2400	116	8	0.005	0.56	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V14057-V14058	2399	186	8	0.100	2.46	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.03
V14058-V14059	2071	149	8	0.158	3.11	0.01	0.04	0.01	0.05	0.01	0.04	0.67	0.05
V14059-V14072	3209	192	8	0.063	1.95	0.01	0.07	0.01	0.10	0.01	0.08	0.67	0.10
V14060.A0-V14060	1605	180	6	0.125	1.28	0.00	0.03	0.00	0.03	0.00	0.04	0.50	0.04
V14060-V14063	1598	138	8	0.082	2.23	0.00	0.05	0.00	0.06	0.01	0.05	0.67	0.07
V14061.A0-V14061.B0	358	165	8	0.035	1.46	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V14061.B0-V14061.D0	4506	215	8	0.011	0.83	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.06
V14061.C0-V14061.D0	4507	187	8	0.010	0.77	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V14061.D0-V14061.E0	2074	324	8	0.021	1.12	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.07
V14061.E0-V14061.F0	354	149	8	0.030	1.36	0.01	0.06	0.01	0.07	0.01	0.05	0.67	0.07
V14061.F0-V14061.G0	352	352	8	0.037	1.50	0.01	0.06	0.02	0.07	0.01	0.06	0.67	0.07
V14061.G0-V14061.H0	1599	326	8	0.069	2.05	0.01	0.08	0.02	0.10	0.01	0.08	0.67	0.10
V14061.H0-V14061.L0	2412	54	8	0.007	0.66	0.01	0.11	0.03	0.15	0.01	0.11	0.67	0.14
V14061.I0-V14061.J0	1771	155	8	0.109	2.58	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V14061.J0-V14061.K0	353	144	8	0.042	1.59	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V14061.K0-V14061.L0	2411	221	8	0.103	2.50	0.00	0.07	0.00	0.10	0.00	0.07	0.67	0.09
V14061.L0-V14061	2410	161	8	0.006	0.59	0.02	0.13	0.03	0.17	0.02	0.12	0.67	0.17
V14061-V14062	1603	349	8	0.003	0.46	0.02	0.15	0.04	0.21	0.02	0.14	0.67	0.20
V14062-V14063	1604	351	8	0.003	0.45	0.02	0.12	0.04	0.16	0.02	0.11	0.67	0.16
V14063-V14064	2409	22	8	0.106	2.54	0.02	0.07	0.05	0.10	0.03	0.07	0.67	0.10

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V14064-V14067	2407	142	8	0.106	2.54	0.03	0.32	0.05	0.39	0.03	0.33	0.67	0.39
V14065-V14066	2406	156	6	0.007	0.30	0.00	0.04	0.00	0.04	0.00	0.05	0.50	0.05
V14066-V14067	2405	69	6	0.022	0.53	0.00	0.40	0.00	0.47	0.00	0.41	0.50	0.47
V14067-V14068	2404	69	6	0.004	0.22	0.03	0.50	0.05	0.61	0.03	0.50	0.50	0.61
V14068-V14070	2403	273	6	0.007	0.31	0.03	0.16	0.05	0.23	0.03	0.17	0.50	0.23
V14069-V14070	2402	183	6	0.063	0.91	0.00	0.06	0.00	0.08	0.00	0.07	0.50	0.08
V14070-V14071	4150	317	8	0.101	2.49	0.03	0.09	0.06	0.12	0.03	0.09	0.67	0.12
V14071-V14072	3210	135	8	0.037	1.50	0.03	0.10	0.06	0.14	0.03	0.11	0.67	0.14
V14072-V14079	2397	280	8	0.042	1.59	0.04	0.12	0.08	0.17	0.04	0.13	0.67	0.18
V14073-V14074	1601	188	8	0.068	2.04	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V14074-V14075	4151	284	8	0.057	1.86	0.00	0.03	0.00	0.04	0.01	0.05	0.67	0.05
V14075-V14076	2394	151	8	0.029	1.32	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V14076.A0-V14076	4153	126	8	0.022	1.16	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
V14076-V14077	2392	190	8	0.049	1.73	0.01	0.05	0.01	0.07	0.01	0.06	0.67	0.08
V14077.A0-V14077.B0	2390	213	8	0.034	1.44	0.00	0.04	0.00	0.04	0.00	0.06	0.67	0.06
V14077.B0-V14077.C0	2389	319	8	0.005	0.57	0.00	0.05	0.00	0.07	0.01	0.07	0.67	0.08
V14077.C0-V14077.D0	2490	83	8	0.011	0.82	0.00	0.06	0.01	0.07	0.01	0.08	0.67	0.09
V14077.D0-V14077	2489	179	8	0.011	0.81	0.01	0.06	0.01	0.08	0.01	0.08	0.67	0.10
V14077-V14078	2391	324	8	0.069	2.05	0.01	0.07	0.02	0.10	0.02	0.10	0.67	0.12
V14078-V14079	2398	297	8	0.010	0.78	0.01	0.11	0.03	0.16	0.03	0.14	0.67	0.18
V14079-V14080	2396	106	8	0.033	1.42	0.05	0.13	0.11	0.19	0.07	0.15	0.67	0.20
V14080-V14084	2395	335	8	0.039	1.55	0.05	0.14	0.11	0.19	0.07	0.15	0.67	0.21
V14081-V14083	4505	230	6	0.018	0.49	0.00	0.06	0.00	0.06	0.00	0.07	0.50	0.07
V14082-V14083	3214	278	6	0.087	1.07	0.00	0.06	0.00	0.06	0.00	0.07	0.50	0.07
V14083-V14084	1200	347	8	0.018	1.04	0.01	0.10	0.01	0.13	0.01	0.12	0.67	0.14
V14084-V14085	3096	340	8	0.031	1.38	0.06	0.15	0.13	0.21	0.08	0.18	0.67	0.23
V14085-V14086	3107	301	8	0.023	1.19	0.06	0.20	0.13	0.29	0.09	0.24	0.67	0.31
V14086-V14087	3199	166	10	0.003	0.77	0.06	0.25	0.13	0.36	0.09	0.30	0.83	0.39
V14087-V14088	3201	226	10	0.003	0.78	0.16	0.33	0.30	0.44	0.21	0.36	0.83	0.48
V14088-V14089.B0	3098	378	10	0.003	0.78	0.20	0.36	0.33	0.47	0.23	0.42	0.83	0.53
V14089.A0-V14089.B0	3099	78	8	0.027	1.28	0.02	0.28	0.02	0.35	0.09	0.38	0.67	0.44
V14089.AA-V14089.AB	2487	382	8	0.006	0.63	0.02	0.20	0.02	0.20	0.05	0.36	0.67	0.36
V14089.AB-V14089.AC	2486	211	8	0.000	0.15	0.02	0.18	0.02	0.19	0.07	0.35	0.67	0.35
V14089.AC-V14089.A0	2485	73	8	0.026	1.26	0.02	0.08	0.02	0.09	0.09	0.18	0.67	0.18
V14089.B0-V14089.C0	3100	197	10	0.003	0.78	0.22	0.34	0.35	0.44	0.31	0.41	0.83	0.50
V14089.C0-V14089	3203	67	12	0.005	1.66	0.22	0.28	0.36	0.36	0.31	0.34	1.00	0.42
V14089-V14090	3202	125	8	0.004	0.52	0.22	0.44	0.36	0.58	0.32	0.54	0.67	0.67
V14090-V14091	3204	343	12	0.003	1.33	0.22	0.30	0.36	0.39	0.32	0.36	1.00	0.45
V14091-V14109	3205	228	8	0.005	0.53	0.23	0.40	0.37	0.54	0.32	0.49	0.67	0.62
V14092-V14093	5158	190	8	0.024	1.21	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
V14093-V14095	5157	185	8	0.032	1.39	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V14094-V14095	5163	125	8	0.056	1.85	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V14095-V14097	5159	270	8	0.060	1.91	0.01	0.07	0.01	0.08	0.01	0.07	0.67	0.09
V14096-V14097	5164	35	8	0.004	0.48	0.00	0.06	0.00	0.07	0.00	0.07	0.67	0.07
V14097-V14098	5156	321	8	0.004	0.50	0.01	0.10	0.01	0.13	0.01	0.11	0.67	0.13
V14098-V14108	5155	319	8	0.004	0.50	0.01	0.11	0.02	0.14	0.01	0.12	0.67	0.14
V14099-V14100	5161	202	8	0.070	2.07	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V14100-V14108	5160	155	8	0.071	2.08	0.00	0.07	0.00	0.09	0.00	0.07	0.67	0.09
V14101-V14102	678	188	8	0.018	1.05	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V14102-V14105	3215	66	8	0.025	1.23	0.00	0.06	0.00	0.08	0.00	0.06	0.67	0.08
V14103.A0-V14103.C0	1772	184	8	0.046	1.67	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
V14103.B0-V14103.C0	355	312	8	0.020	1.10	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V14103.C0-V14103.D0	356	320	8	0.011	0.81	0.01	0.07	0.01	0.08	0.01	0.07	0.67	0.08
V14103.D0-V14103	357	342	8	0.018	1.04	0.01	0.06	0.01	0.08	0.01	0.06	0.67	0.08
V14103-V14104.A0	1600	298	8	0.101	2.48	0.01	0.05	0.02	0.06	0.01	0.05	0.67	0.06
V14104.A0-V14104	4152	302	8	0.159	3.11	0.02	0.06	0.02	0.07	0.02	0.06	0.67	0.07
V14104-V14105	3211	274	8	0.096	2.42	0.02	0.07	0.03	0.09	0.02	0.08	0.67	0.09
V14105-V14106	1201	296	8	0.027	1.28	0.02	0.10	0.03	0.12	0.02	0.10	0.67	0.13
V14106.A0-V14106.B0	3212	165	8	0.092	2.37	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V14106.B0-V14106	3217	270	8	0.094	2.39	0.00	0.07	0.00	0.08	0.00	0.07	0.67	0.08
V14106-V14107	1202	249	8	0.025	1.23	0.03	0.09	0.05	0.12	0.03	0.10	0.67	0.12
V14107-V14108	5153	102	8	0.060	1.91	0.03	0.10	0.05	0.13	0.03	0.10	0.67	0.13
V14108-V14109	5154	258	8	0.056	1.84	0.05	0.22	0.08	0.29	0.05	0.25	0.67	0.32
V14109-V14116	3101	231	8	0.021	1.13	0.27	0.41	0.45	0.54	0.37	0.49	0.67	0.61
V14110.A0-V14110.D0	7416	102	8	0.024	1.21	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V14110.B0-V14110.C0	3014	111	8	0.008	0.70	0.00	0.06	0.00	0.06	0.00	0.03	0.67	0.03
V14110.C0-V14110.D0	3013	109	8	0.008	0.70	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V14110.D0-V14110.E0	7417	269	8	0.054	1.82	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V14110.E0-V14110.F0	7418	94	8	0.030	1.35	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.06
V14110.F0-V14110.H0	7419	114	8	0.037	1.51	0.00	0.07	0.01	0.09	0.00	0.05	0.67	0.07
V14110.G0-V14110.H0	7424	195	8	0.044	1.64	0.01	0.08	0.01	0.08	0.00	0.03	0.67	0.05
V14110.H0-V14110.I0	7420	52	8	0.010	0.78	0.01	0.07	0.02	0.09	0.00	0.05	0.67	0.07
V14110.I0-V14110.J0	7421	98	8	0.165	3.17	0.01	0.06	0.02	0.07	0.01	0.05	0.67	0.07
V14110.J0-V14110	7422	97	8	0.023	1.18	0.01	0.08	0.02	0.10	0.01	0.08	0.67	0.10
V14110-V14113	7423	120	8	0.010	0.78	0.01	0.11	0.02	0.13	0.01	0.09	0.67	0.11
V14111-V14112	2065	97	8	0.082	2.23	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V14112-V14113	3097	222	8	0.040	1.55	0.00	0.08	0.00	0.09	0.00	0.07	0.67	0.08
V14113-V14114	3206	343	8	0.016	0.98	0.03	0.13	0.04	0.15	0.02	0.10	0.67	0.12
V14114-V14115	5167	216	8	0.014	0.92	0.04	0.14	0.05	0.15	0.02	0.11	0.67	0.13
V14115-V14116	5166	204	8	0.017	1.02	0.04	0.31	0.05	0.39	0.02	0.34	0.67	0.43
V14116-V14117	5526	73	8	0.008	0.70	0.32	0.44	0.51	0.58	0.44	0.54	0.67	0.66
V14117-V14118	5165	430	10	0.009	1.37	0.32	0.32	0.51	0.42	0.45	0.39	0.83	0.47
V14119-V14118	3102	296	10	0.010	1.44	0.32	0.32	0.51	0.41	0.47	0.40	0.83	0.47
V14120-V10141.A0	4508	195	10	0.010	1.43	0.34	0.43	0.54	0.55	0.55	0.58	0.83	0.66
V14120-V14119	3103	275	10	0.011	1.45	0.32	0.33	0.52	0.42	0.48	0.41	0.83	0.49
V14121-V14122.B0	1657	370	8	0.004	0.49	0.00	0.06	0.00	0.07	0.02	0.16	0.67	0.16
V14122.A0-V11122	5169	20	8	0.034	1.44	0.02	0.28	0.02	0.34	0.05	0.40	0.67	0.43
V14122.B0-V14122.A0	5168	325	8	0.004	0.48	0.00	0.07	0.01	0.08	0.03	0.15	0.67	0.15
V15013-V15014	5204	115	8	0.029	1.32	0.00	0.01	0.00	0.01	0.00	0.00	0.67	0.01
V15014-V15015	4277	133	8	0.050	1.75	0.00	0.12	0.00	0.13	0.00	0.13	0.67	0.14
V15015.B0-V15015.C0	5211	210	8	0.018	1.05	0.03	0.10	0.03	0.10	0.03	0.11	0.67	0.11
V15015.C0-V15015.D0	5210	68	8	0.092	2.37	0.03	0.10	0.03	0.10	0.03	0.12	0.67	0.12
V15015.D0-V15015.F0	5209	82	8	0.014	0.91	0.03	0.11	0.03	0.11	0.05	0.14	0.67	0.14
V15015.E0-V15015.F0	4897	78	8	0.023	1.20	0.00	0.05	0.00	0.05	0.00	0.07	0.67	0.07
V15015.F0-V15015.H0	5214	179	8	0.023	1.19	0.03	0.10	0.03	0.11	0.05	0.15	0.67	0.15
V15015.G0-V15015.H0	4893	80	8	0.009	0.75	0.00	0.06	0.00	0.06	0.01	0.12	0.67	0.12
V15015.H0-V15015.I0	4895	141	8	0.027	1.29	0.03	0.13	0.03	0.13	0.08	0.21	0.67	0.21
V15015.I0-V15015.P0	4282	113	8	0.005	0.55	0.03	0.18	0.03	0.19	0.08	0.25	0.67	0.25
V15015.J0-V15015.K0	4898	149	8	0.047	1.70	0.00	0.00	0.00	0.01	0.00	0.01	0.67	0.01
V15015.K0-V15015.L0	5215	210	8	0.030	1.35	0.00	0.08	0.00	0.09	0.00	0.01	0.67	0.04
V15015.L0-V15015.O0	4896	64	8	0.005	0.55	0.03	0.14	0.03	0.14	0.00	0.02	0.67	0.06
V15015.M0-V15015.N0	4899	35	8	0.032	1.41	0.00	0.00	0.00	0.01	0.00	0.01	0.67	0.01
V15015.N0-V15015.O0	5216	238	8	0.045	1.66	0.00	0.06	0.00	0.07	0.00	0.03	0.67	0.04
V15015.O0-V15015.P0	4283	207	8	0.012	0.84	0.03	0.16	0.03	0.17	0.00	0.14	0.67	0.16
V15015.P0-V15015	4285	82	8	0.006	0.58	0.05	0.21	0.06	0.22	0.08	0.25	0.67	0.26
V15015-V15017	4281	259	8	0.005	0.57	0.06	0.24	0.07	0.26	0.08	0.27	0.67	0.28
V15016-V15017	4286	122	8	0.000	0.02	0.01	0.27	0.01	0.29	0.00	0.29	0.67	0.30

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V15017-V15020	4287	210	8	0.003	0.44	0.07	0.27	0.08	0.29	0.08	0.31	0.67	0.32
V15018-V15019	5205	114	8	0.010	0.78	0.00	0.00	0.00	0.01	0.00	0.03	0.67	0.03
V15019-V15020	4278	136	8	0.097	2.43	0.00	0.14	0.00	0.16	0.01	0.19	0.67	0.19
V15020-V15021	4288	92	8	0.003	0.45	0.07	0.24	0.08	0.26	0.10	0.28	0.67	0.29
V15021-V15028	4289	27	8	0.010	0.80	0.07	0.24	0.08	0.26	0.10	0.27	0.67	0.28
V15022-V15023	5206	350	8	0.047	1.69	0.03	0.12	0.03	0.12	0.02	0.10	0.67	0.10
V15023-V15024	4279	158	8	0.007	0.65	0.03	0.15	0.03	0.15	0.02	0.12	0.67	0.13
V15024-V15028	4290	188	8	0.018	1.04	0.03	0.20	0.03	0.21	0.04	0.22	0.67	0.23
V15025-V15026	5192	360	8	0.060	1.91	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V15026-V15027	5194	224	8	0.040	1.57	0.00	0.07	0.01	0.08	0.00	0.06	0.67	0.08
V15027-V15028	5195	347	8	0.002	0.32	0.01	0.18	0.01	0.21	0.01	0.20	0.67	0.22
V15028-V15029	5196	244	8	0.008	0.69	0.11	0.30	0.13	0.33	0.14	0.34	0.67	0.36
V15029-V15030	5197	299	8	0.004	0.49	0.11	0.33	0.14	0.37	0.14	0.37	0.67	0.40
V15030-V15050	2226	330	8	0.004	0.49	0.12	0.51	0.14	0.57	0.15	0.58	0.67	0.62
V15031-V15032	5189	169	8	0.021	1.14	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V15032-V15033	5188	299	8	0.030	1.36	0.00	0.04	0.00	0.05	0.01	0.05	0.67	0.06
V15033-V15036	5187	260	8	0.029	1.32	0.01	0.06	0.01	0.07	0.01	0.07	0.67	0.08
V15034.A0-V15034	5208	305	8	0.042	1.60	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V15034-V15035	5193	297	8	0.059	1.89	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V15035-V15036	5207	60	8	0.026	1.27	0.01	0.06	0.01	0.08	0.00	0.06	0.67	0.07
V15036-V15037	5184	74	8	0.034	1.43	0.02	0.08	0.02	0.09	0.02	0.08	0.67	0.09
V15037-V15040	2225	284	8	0.023	1.17	0.02	0.10	0.02	0.12	0.02	0.10	0.67	0.12
V15038-V15039	4280	236	8	0.010	0.78	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.05
V15039-V15040	5182	349	8	0.011	0.82	0.01	0.09	0.01	0.11	0.01	0.09	0.67	0.11
V15040-V15043	5183	239	8	0.016	0.99	0.03	0.14	0.04	0.17	0.03	0.14	0.67	0.17
V15041-V15042	5198	224	6	0.007	0.31	0.00	0.09	0.00	0.09	0.00	0.08	0.50	0.08
V15042-V15043	2227	300	8	0.009	0.74	0.01	0.12	0.01	0.14	0.01	0.12	0.67	0.13
V15043-V15049	2228	231	8	0.008	0.70	0.04	0.16	0.06	0.19	0.04	0.16	0.67	0.19
V15044-V15045	5202	351	6	0.020	0.51	0.00	0.08	0.00	0.08	0.00	0.09	0.50	0.09
V15045-V15047	5199	119	8	0.005	0.58	0.01	0.09	0.01	0.10	0.01	0.10	0.67	0.10
V15046-V15047	5200	161	6	0.012	0.39	0.00	0.10	0.00	0.11	0.00	0.10	0.50	0.10
V15047-V15048	5201	330	8	0.004	0.51	0.01	0.12	0.01	0.13	0.01	0.12	0.67	0.13
V15048-V15049	2229	299	8	0.004	0.51	0.02	0.14	0.02	0.16	0.02	0.14	0.67	0.16
V15049-V15050	5181	234	8	0.024	1.22	0.06	0.42	0.09	0.48	0.06	0.47	0.67	0.51
V15050-V15076	3081	114	12	0.001	0.57	0.18	0.38	0.24	0.43	0.23	0.44	1.00	0.48
V15051-V15053	4521	111	6	0.007	0.30	0.00	0.05	0.00	0.05	0.00	0.06	0.50	0.06
V15052-V15053	4520	117	6	0.021	0.52	0.00	0.03	0.00	0.04	0.01	0.10	0.50	0.10
V15053-V15054	4519	97	8	0.060	1.91	0.00	0.04	0.00	0.05	0.02	0.08	0.67	0.08
V15054-V15055	4518	24	8	0.008	0.69	0.00	0.05	0.00	0.06	0.02	0.10	0.67	0.10
V15055-V15057	4517	81	8	0.007	0.66	0.00	0.06	0.01	0.07	0.02	0.11	0.67	0.11
V15056-V15057	4515	52	8	0.004	0.49	0.00	0.06	0.00	0.06	0.00	0.07	0.67	0.07
V15057-V15058	4516	159	8	0.007	0.67	0.01	0.06	0.01	0.07	0.02	0.10	0.67	0.10
V15058-V15059	4514	221	8	0.028	1.30	0.01	0.06	0.01	0.07	0.02	0.08	0.67	0.09
V15059-V15060	3093	159	8	0.060	1.92	0.01	0.06	0.02	0.07	0.03	0.09	0.67	0.10
V15060-V15065	2220	352	8	0.027	1.29	0.01	0.10	0.02	0.13	0.03	0.14	0.67	0.16
V15061-V15062	4513	339	8	0.018	1.05	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V15062-V15064	4512	188	8	0.043	1.62	0.00	0.03	0.00	0.04	0.00	0.02	0.67	0.04
V15063-V15064	4511	177	8	0.056	1.85	0.00	0.02	0.00	0.03	0.00	0.01	0.67	0.02
V15064-V15065	4510	61	8	0.111	2.60	0.00	0.08	0.01	0.11	0.00	0.10	0.67	0.12
V15065-V15066	2221	393	8	0.004	0.52	0.02	0.12	0.03	0.16	0.03	0.16	0.67	0.19
V15066-V15069	4528	173	8	0.010	0.79	0.02	0.15	0.03	0.18	0.03	0.16	0.67	0.19
V15067-V15068	4527	245	8	0.037	1.50	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.04
V15068-V15069	4526	301	8	0.005	0.55	0.00	0.13	0.01	0.15	0.00	0.11	0.67	0.14
V15069-V15072	4525	260	8	0.005	0.56	0.04	0.20	0.06	0.24	0.04	0.18	0.67	0.22
V15070-V15071	2222	184	8	0.010	0.79	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V15071-V15072	4524	344	8	0.032	1.39	0.00	0.12	0.01	0.15	0.00	0.11	0.67	0.14
V15072-V15073	4523	71	8	0.005	0.56	0.05	0.19	0.07	0.23	0.04	0.17	0.67	0.21
V15073-V15074	4532	371	8	0.012	0.85	0.05	0.16	0.07	0.19	0.04	0.15	0.67	0.18
V15074-V15075	4531	328	8	0.030	1.36	0.05	0.19	0.08	0.24	0.07	0.23	0.67	0.26
V15075-V15076	4530	287	8	0.003	0.40	0.06	0.34	0.08	0.41	0.08	0.42	0.67	0.46
V15076-V15077	4535	249	12	0.004	1.38	0.24	0.26	0.32	0.31	0.37	0.33	1.00	0.35
V15077-V15078	4534	246	12	0.008	2.00	0.25	0.25	0.33	0.29	0.37	0.31	1.00	0.33
V15078-V15079	4533	332	12	0.006	1.73	0.25	0.26	0.34	0.30	0.38	0.31	1.00	0.34
V15079-V15080	3091	330	12	0.007	1.98	0.31	0.27	0.39	0.30	0.39	0.30	1.00	0.33
V15080-V15081	3092	329	12	0.007	1.99	0.32	0.27	0.41	0.31	0.40	0.30	1.00	0.33
V15081-V15105	4902	331	12	0.007	1.98	0.32	0.26	0.41	0.30	0.40	0.29	1.00	0.32
V15082-V15084	5221	142	8	0.004	0.49	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V15083-V15084	5220	210	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V15084-V15085	5219	206	8	0.033	1.43	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V15086-V15087	5217	180	8	0.024	1.21	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.05
V15087-V15085	5218	397	8	0.063	1.97	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.06
V15087-V15088	4992	39	8	0.051	1.76	0.01	0.06	0.02	0.07	0.01	0.06	0.67	0.07
V15088-V15089	4991	139	8	0.040	1.57	0.01	0.08	0.02	0.10	0.01	0.08	0.67	0.10
V15089-V15092.A0	4911	415	8	0.007	0.68	0.02	0.09	0.02	0.11	0.01	0.08	0.67	0.11
V15090-V15091	4910	309	8	0.043	1.62	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V15091-V15092.A0	4909	59	8	0.066	2.01	0.00	0.05	0.01	0.07	0.01	0.05	0.67	0.07
V15092.A0-V15092	4908	251	8	0.058	1.88	0.02	0.08	0.03	0.10	0.02	0.07	0.67	0.09
V15092-V15093	4987	94	8	0.049	1.73	0.02	0.08	0.04	0.10	0.02	0.08	0.67	0.10
V15093-V15094	4986	326	8	0.048	1.71	0.02	0.08	0.04	0.11	0.02	0.08	0.67	0.11
V15094-V15104	4903	60	8	0.035	1.46	0.02	0.13	0.04	0.16	0.02	0.14	0.67	0.16
V15095-V15096	3086	21	8	0.219	3.65	0.00	0.01	0.00	0.01	0.00	0.01	0.67	0.01
V15096-V15097	3085	330	8	0.021	1.14	0.00	0.04	0.00	0.05	0.00	0.03	0.67	0.04
V15097-V15098	3083	262	8	0.005	0.56	0.00	0.06	0.01	0.07	0.00	0.04	0.67	0.06
V15098-V15102	3082	231	8	0.044	1.63	0.01	0.07	0.01	0.08	0.01	0.07	0.67	0.08
V15099-V15100	3089	175	8	0.007	0.67	0.00	0.06	0.00	0.06	0.00	0.04	0.67	0.04
V15100-V15101	3088	308	8	0.007	0.65	0.01	0.06	0.01	0.06	0.00	0.04	0.67	0.04
V15101-V15102	3087	238	8	0.093	2.38	0.01	0.07	0.01	0.08	0.00	0.06	0.67	0.07
V15102-V15103	2218	273	8	0.036	1.48	0.03	0.11	0.03	0.12	0.02	0.11	0.67	0.12
V15103-V15104	4904	271	8	0.039	1.55	0.06	0.16	0.07	0.17	0.07	0.16	0.67	0.17
V15104-V15105	4901	341	8	0.027	1.29	0.09	0.28	0.11	0.32	0.10	0.30	0.67	0.33
V15105-V15106	4900	294	12	0.016	2.89	0.41	0.26	0.53	0.29	0.49	0.28	1.00	0.31
V15106-V15109	4989	288	12	0.015	2.84	0.42	0.29	0.54	0.33	0.50	0.31	1.00	0.35
V15107-V15108	5223	205	8	0.160	3.13	0.01	0.04	0.01	0.04	0.01	0.05	0.67	0.05
V15108-V15109	5528	67	8	0.097	2.43	0.01	0.26	0.01	0.30	0.02	0.29	0.67	0.32
V15109-V15110	5226	327	12	0.007	1.98	0.43	0.32	0.55	0.37	0.51	0.36	1.00	0.39
V15111-V15112	4331	413	12	0.023	3.50	0.46	0.26	0.58	0.30	0.55	0.29	1.00	0.32
V15112-V16050	4330	464	12	0.013	2.65	0.46	0.28	0.59	0.32	0.56	0.31	1.00	0.34
V15113.A0-V15113	7559	2	8	0.050	1.75	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V15113-V15114	4906	298	8	0.010	0.80	0.01	0.12	0.01	0.12	0.01	0.08	0.67	0.09
V15114-V15115	4907	286	8	0.010	0.78	0.03	0.12	0.03	0.12	0.01	0.07	0.67	0.08
V15115-V15116	5527	142	8	0.042	1.60	0.03	0.11	0.03	0.12	0.01	0.08	0.67	0.09
V15116-V15117	4990	398	8	0.012	0.87	0.03	0.14	0.03	0.14	0.02	0.11	0.67	0.12
V15117-V15118	5227	361	8	0.010	0.78	0.03	0.14	0.04	0.15	0.02	0.12	0.67	0.14
V15118-V15119	5229	329	8	0.010	0.78	0.03	0.16	0.04	0.17	0.03	0.13	0.67	0.15
V15119-V15120	4334	305	8	0.010	0.78	0.05	0.16	0.06	0.17	0.03	0.13	0.67	0.15
V15120-V15121	4332	95	8	0.018	1.06	0.05	0.17	0.06	0.18	0.03	0.13	0.67	0.15
V15121-V16048	4329	397	8	0.007	0.66	0.05	0.19	0.06	0.21	0.03	0.15	0.67	0.17

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V15134-V15111	5224	345	12	0.008	2.02	0.43	0.28	0.56	0.33	0.55	0.32	1.00	0.35
V16001-V16002	4342	63	6	0.061	0.90	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V16002-V16003	4341	73	6	0.048	0.79	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.05
V16003-V16004	4340	54	6	0.052	0.82	0.00	0.05	0.00	0.05	0.00	0.06	0.50	0.06
V16004-V16005	4338	95	6	0.025	0.57	0.00	0.06	0.00	0.06	0.01	0.07	0.50	0.08
V16005-V16006	4347	379	8	0.023	1.19	0.01	0.07	0.01	0.08	0.01	0.08	0.67	0.09
V16006-V16007	4349	268	8	0.006	0.62	0.01	0.07	0.01	0.08	0.01	0.08	0.67	0.09
V16007-V16015	4345	278	8	0.082	2.23	0.01	0.07	0.02	0.08	0.01	0.07	0.67	0.08
V16008-V16009	4344	289	8	0.006	0.62	0.00	0.51	0.00	0.51	0.00	0.52	0.67	0.52
V16009-V16011	4350	128	8	0.243	3.85	0.00	0.03	0.01	0.04	0.01	0.04	0.67	0.04
V16010-V16011	4351	84	8	0.101	2.48	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V16011-V16012	4348	252	8	0.070	2.06	0.01	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V16012-V16014	4346	162	8	0.070	2.06	0.01	0.05	0.01	0.06	0.01	0.06	0.67	0.07
V16013-V16014	4354	292	8	0.129	2.80	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V16014-V16015	868	61	8	0.072	2.09	0.01	0.06	0.02	0.08	0.01	0.07	0.67	0.09
V16015-V16016	610	310	8	0.065	1.99	0.02	0.08	0.04	0.10	0.03	0.09	0.67	0.10
V16016-V16019	4355	179	8	0.065	1.99	0.03	0.08	0.04	0.11	0.03	0.09	0.67	0.11
V16017-V16018	210	89	8	0.012	0.85	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V16018-V16019	4352	163	8	0.101	2.48	0.00	0.06	0.00	0.07	0.00	0.06	0.67	0.07
V16019-V16020	866	24	8	0.063	1.96	0.03	0.09	0.05	0.11	0.04	0.10	0.67	0.12
V16020-V16021	861	309	8	0.070	2.06	0.04	0.11	0.06	0.14	0.04	0.12	0.67	0.14
V16021-V16022	863	303	8	0.019	1.07	0.04	0.13	0.06	0.16	0.04	0.14	0.67	0.17
V16022-V16023	4364	189	8	0.018	1.05	0.04	0.14	0.06	0.17	0.04	0.14	0.67	0.17
V16023-V16035	4370	55	8	0.016	0.99	0.04	0.19	0.07	0.23	0.04	0.20	0.67	0.23
V16024.A0-V16024.B0	211	54	8	0.017	1.01	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V16024.B0-V16024.C0	213	85	8	0.014	0.92	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V16024.C0-V16024.D0	214	204	8	0.014	0.91	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.06
V16024.D0-V16024.E0	215	309	8	0.010	0.79	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.07
V16024.E0-V16024	4356	216	8	0.027	1.29	0.01	0.09	0.01	0.09	0.01	0.06	0.67	0.07
V16024-V16025	216	283	8	0.017	1.02	0.03	0.13	0.03	0.14	0.01	0.10	0.67	0.11
V16025-V16026	4358	356	8	0.011	0.81	0.03	0.13	0.04	0.13	0.03	0.12	0.67	0.13
V16026-V16027	4359	304	8	0.115	2.65	0.06	0.15	0.07	0.15	0.06	0.14	0.67	0.14
V16027-V16034.A0	4360	135	8	0.013	0.88	0.07	0.19	0.07	0.20	0.06	0.19	0.67	0.19
V16028-V16029	4367	131	6	0.308	2.01	0.00	0.08	0.00	0.09	0.02	0.23	0.50	0.23
V16029-V16031	208	150	6	0.001	0.12	0.00	0.10	0.00	0.10	0.02	0.25	0.50	0.25
V16030-V16031	209	130	8	0.062	1.95	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
V16031-V16032	869	118	8	0.050	1.75	0.00	0.05	0.01	0.05	0.02	0.09	0.67	0.09
V16032-V16033	4366	231	8	0.022	1.15	0.01	0.05	0.01	0.06	0.03	0.09	0.67	0.09
V16033-V16034	4361	250	8	0.086	2.28	0.01	0.11	0.01	0.12	0.03	0.13	0.67	0.13
V16034.A0-V16034	4362	135	8	0.011	0.80	0.07	0.19	0.07	0.20	0.06	0.19	0.67	0.19
V16034-V16035	4365	273	8	0.026	1.25	0.08	0.21	0.09	0.23	0.09	0.22	0.67	0.24
V16035-V16039	4369	326	8	0.017	1.01	0.12	0.21	0.16	0.24	0.14	0.23	0.67	0.26
V16036-V16037	4377	121	8	0.011	0.80	0.00	0.02	0.00	0.02	0.00	0.08	0.67	0.08
V16037-V16038	4376	349	8	0.010	0.78	0.00	0.04	0.00	0.06	0.02	0.12	0.67	0.13
V16038-V16039	4373	357	8	0.007	0.64	0.00	0.11	0.01	0.14	0.02	0.16	0.67	0.18
V16039-V16050	4372	53	15	0.027	6.84	0.12	0.22	0.17	0.26	0.16	0.26	1.25	0.30
V16041.A0-V16041	4337	61	15	0.055	9.82	0.74	0.21	1.19	0.27	1.20	0.27	1.25	0.33
V16041-V16042	4336	220	15	0.019	5.77	0.74	0.24	1.19	0.30	1.20	0.30	1.25	0.37
V16042-V16043	FM10	422	15	0.022	6.17	0.74	0.25	1.20	0.32	1.20	0.32	1.25	0.39
V16043-V16044	862	254	15	0.013	4.73	0.74	0.27	1.20	0.34	1.20	0.34	1.25	0.42
V16044-V16045	864	357	15	0.014	4.87	0.74	0.26	1.21	0.33	1.20	0.33	1.25	0.40
V16045-V16046	865	217	15	0.017	5.42	0.74	0.25	1.21	0.32	1.20	0.32	1.25	0.39
V16046-V16047	857	501	15	0.019	5.75	0.74	0.24	1.22	0.31	1.20	0.30	1.25	0.37
V16047-V16048	4368	342	15	0.024	6.41	0.74	0.24	1.22	0.32	1.20	0.31	1.25	0.38
V16048-V16049	4374	27	15	0.016	5.34	0.79	0.26	1.29	0.33	1.21	0.32	1.25	0.40
V16049-V16050	4375	66	15	0.017	5.47	0.79	0.30	1.29	0.38	1.21	0.36	1.25	0.44
V16050-V21192	3255	585	18	0.013	7.74	1.37	0.33	2.04	0.42	1.92	0.39	1.50	0.49
V17001-V17002	3400	162	6	0.009	0.34	0.00	0.08	0.00	0.12	0.01	0.16	0.50	0.19
V17002.A0-V17002.B0	4751	203	8	0.011	0.80	0.00	0.03	0.00	0.03	0.01	0.07	0.67	0.07
V17002.B0-V17002.C0	3408	121	8	0.042	1.59	0.00	0.03	0.00	0.03	0.01	0.05	0.67	0.05
V17002.C0-V17002.D0	4749	149	8	0.064	1.97	0.00	0.03	0.00	0.04	0.01	0.06	0.67	0.06
V17002.D0-V17002.F0	4746	302	8	0.046	1.67	0.00	0.04	0.01	0.06	0.01	0.07	0.67	0.08
V17002.E0-V17002.F0	3954	186	8	0.012	0.87	0.00	0.04	0.01	0.07	0.01	0.07	0.67	0.09
V17002.EA-V17002.EB	3399	96	8	0.052	1.79	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
V17002.EB-V17002.EE	3398	196	8	0.038	1.51	0.00	0.03	0.00	0.04	0.01	0.05	0.67	0.06
V17002.EC-V17002.ED	8277	10	8	0.037	1.51	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.01
V17002.ED-V17002.EE	8332	357	8	0.038	1.51	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V17002.EE-V17002.E0	8366	14	8	0.031	1.37	0.00	0.04	0.01	0.06	0.01	0.06	0.67	0.07
V17002.F0-V17002.G0	4748	178	8	0.043	1.61	0.01	0.06	0.02	0.09	0.02	0.10	0.67	0.12
V17002.G0-V17002.M0	651	293	8	0.010	0.79	0.01	0.08	0.02	0.13	0.02	0.13	0.67	0.16
V17002.H0-V17002.I0	4752	115	8	0.046	1.68	0.00	0.03	0.00	0.03	0.01	0.08	0.67	0.08
V17002.I0-V17002.K0	3953	211	8	0.006	0.61	0.00	0.03	0.00	0.04	0.01	0.08	0.67	0.08
V17002.K0-V17002.L0	654	260	8	0.095	2.40	0.00	0.03	0.00	0.04	0.02	0.06	0.67	0.06
V17002.L0-V17002.M0	652	300	8	0.099	2.46	0.00	0.06	0.01	0.09	0.02	0.11	0.67	0.12
V17002.M0-V17002	650	254	8	0.010	0.78	0.01	0.10	0.03	0.16	0.04	0.17	0.67	0.21
V17002-V17004	4739	374	8	0.006	0.60	0.01	0.09	0.04	0.16	0.04	0.17	0.67	0.21
V17004-V17010	4740	271	10	0.012	1.55	0.01	0.07	0.04	0.11	0.05	0.11	0.83	0.14
V17005-V17006	1297	347	8	0.004	0.49	0.00	0.02	0.00	0.03	0.00	0.06	0.67	0.06
V17006-V17007	1298	156	8	0.004	0.49	0.00	0.04	0.00	0.07	0.00	0.08	0.67	0.09
V17007-V17008	4741	109	8	0.004	0.50	0.00	0.08	0.00	0.09	0.01	0.13	0.67	0.13
V17008-V17009	4742	254	8	0.004	0.52	0.01	0.10	0.01	0.10	0.02	0.12	0.67	0.12
V17009-V17010	4743	56	8	0.045	1.65	0.01	0.08	0.02	0.10	0.02	0.11	0.67	0.12
V17010-V17011	1304	241	10	0.043	2.93	0.03	0.08	0.06	0.12	0.07	0.13	0.83	0.15
V17011.A0-V17011.B0	7592	217	8	0.011	0.82	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V17011.B0-V17011.C0	7593	122	8	0.017	1.02	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.04
V17011.C0-V17011.D0	7595	175	8	0.016	1.00	0.00	0.02	0.00	0.05	0.00	0.05	0.67	0.06
V17011.D0-V17011	7594	313	8	0.016	1.00	0.00	0.07	0.00	0.11	0.01	0.13	0.67	0.15
V17011-V17012	5048	310	10	0.015	1.71	0.03	0.11	0.07	0.17	0.08	0.18	0.83	0.22
V17012-V17013	5049	299	10	0.004	0.90	0.03	0.14	0.07	0.22	0.08	0.23	0.83	0.28
V17013-V17014.I0	5050	35	10	0.002	0.63	0.03	0.16	0.08	0.24	0.09	0.25	0.83	0.31
V17014.A0-V17014.C0	4744	298	8	0.020	1.10	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
V17014.B0-V17014.C0	5530	4	8	0.002	0.35	0.00	0.03	0.00	0.03	0.01	0.07	0.67	0.07
V17014.C0-V17014.F0	4745	198	8	0.032	1.41	0.00	0.04	0.00	0.06	0.01	0.08	0.67	0.09
V17014.D0-V17014.F0	5531	4	8	0.002	0.35	0.00	0.05	0.00	0.08	0.00	0.10	0.67	0.11
V17014.E0-V17014.F0	5532	3	8	0.002	0.35	0.00	0.05	0.00	0.08	0.00	0.10	0.67	0.11
V17014.F0-V17014.G0	1305	289	8	0.029	1.34	0.01	0.09	0.02	0.10	0.03	0.12	0.67	0.14
V17014.FA-V17014.FB	7505	146	8	0.011	0.83	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
V17014.FB-V17014.FC	7501	251	8	0.009	0.72	0.00	0.04	0.00	0.05	0.00	0.06	0.67	0.07
V17014.FC-V17014.FE	7500	241	8	0.008	0.72	0.00	0.05	0.01	0.06	0.01	0.08	0.67	0.08
V17014.FD-V17014.FE	7499	231	8	0.035	1.46	0.00	0.04	0.00	0.04	0.01	0.07	0.67	0.08
V17014.FE-V17014.FG	7598	121	8	0.030	1.36	0.01	0.04	0.01	0.06	0.02	0.07	0.67	0.08
V17014.FG-V17014.F0	7597	118	8	0.124	2.75	0.01	0.04	0.01	0.06	0.02	0.08	0.67	0.09
V17014.G0-V17014.H0	5051	278	8	0.014	0.92	0.03	0.12	0.03	0.13	0.04	0.14	0.67	0.16
V17014.H0-V17014.I0	5052	115	8	0.013	0.88	0.03	0.17	0.03	0.22	0.04	0.23	0.67	0.28
V17014.I0-V17014	5053	263	10	0.004	0.93	0.06	0.18	0.11	0.25	0.13	0.27	0.83	0.32
V17014-V17015	649	383	10	0.004	0.89	0.06	0.15	0.12	0.20	0.13	0.22	0.83	0.26
V17015-V17016	648	269	10	0.036	2.67	0.06	0.11	0.12	0.15	0.14	0.15	0.83	0.19

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V17016-V17018	1294	127	10	0.039	2.79	0.06	0.10	0.13	0.15	0.14	0.15	0.83	0.19
V17017-V17018	1295	300	8	0.032	1.39	0.00	0.07	0.00	0.10	0.01	0.12	0.67	0.14
V17018-V17019	1287	346	10	0.039	2.78	0.06	0.11	0.13	0.15	0.15	0.16	0.83	0.20
V17019-V17036	3956	476	10	0.030	2.43	0.07	0.16	0.13	0.23	0.15	0.25	0.83	0.31
V17020.A0-V17020	5533	3	8	0.002	0.35	0.00	0.01	0.00	0.01	0.00	0.03	0.67	0.03
V17020.B0-V17020	5534	17	8	0.002	0.35	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
V17020-V17021	1299	287	8	0.043	1.62	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
V17021-V17022	1300	217	8	0.006	0.60	0.00	0.06	0.00	0.07	0.00	0.06	0.67	0.08
V17022-V17025	1301	104	8	0.006	0.59	0.00	0.07	0.01	0.09	0.01	0.08	0.67	0.11
V17023-V17024	4750	193	8	0.020	1.09	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V17024-V17025	1302	349	8	0.054	1.82	0.00	0.06	0.00	0.07	0.00	0.07	0.67	0.08
V17025-V17026	646	305	8	0.005	0.56	0.01	0.08	0.01	0.12	0.01	0.11	0.67	0.14
V17026.A0-V17026.B0	7510	218	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V17026.B0-V17026.E0	7509	230	8	0.018	1.04	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V17026.CA-V17026.CB	7508	144	8	0.022	1.15	0.00	0.02	0.00	0.02	0.00	0.05	0.67	0.05
V17026.CB-V17026.D0	V17026.CB-V17026.D0	237	8	0.021	1.12	0.00	0.03	0.00	0.04	0.01	0.05	0.67	0.05
V17026.D0-V17026.E0	7504	205	8	0.042	1.60	0.00	0.04	0.00	0.05	0.01	0.05	0.67	0.06
V17026.E0-V17026	7511	286	8	0.035	1.46	0.01	0.06	0.01	0.09	0.01	0.09	0.67	0.11
V17026.F0-V17026.H0	6863	24	8	0.031	1.38	0.00	0.01	0.00	0.02	0.01	0.07	0.67	0.07
V17026.H0-V17026.J0	7492	271	8	0.029	1.33	0.00	0.02	0.00	0.04	0.03	0.10	0.67	0.10
V17026.I0-V17026.J0	7494	150	8	0.031	1.37	0.00	0.02	0.00	0.03	0.00	0.06	0.67	0.06
V17026.J0-V17026.K0	7493	85	8	0.030	1.36	0.00	0.03	0.01	0.05	0.03	0.10	0.67	0.10
V17026.K0-V17026	7495	285	8	0.041	1.58	0.00	0.05	0.01	0.09	0.03	0.11	0.67	0.13
V17026-V17027.A0	7496	55	8	0.029	1.32	0.02	0.08	0.04	0.12	0.05	0.13	0.67	0.16
V17027.A0-V17027	7497	115	8	0.029	1.33	0.02	0.08	0.04	0.13	0.05	0.14	0.67	0.17
V17027-V17028	1306	320	8	0.021	1.14	0.02	0.08	0.04	0.13	0.06	0.15	0.67	0.17
V17028-V17030	5054	172	8	0.048	1.72	0.02	0.07	0.05	0.12	0.07	0.14	0.67	0.16
V17029-V17030	1307	283	8	0.054	1.82	0.00	0.04	0.00	0.06	0.00	0.08	0.67	0.10
V17030-V17031	5055	161	8	0.048	1.70	0.02	0.08	0.05	0.12	0.07	0.14	0.67	0.17
V17031-V17032	3409	294	8	0.044	1.64	0.02	0.09	0.05	0.15	0.07	0.17	0.67	0.20
V17032-V17034	643	312	8	0.014	0.93	0.02	0.10	0.06	0.16	0.08	0.18	0.67	0.21
V17033-V17034	645	111	8	0.031	1.36	0.00	0.06	0.00	0.08	0.01	0.10	0.67	0.12
V17034-V17035	644	245	8	0.039	1.53	0.02	0.09	0.06	0.14	0.08	0.15	0.67	0.19
V17035-V17036	3957	288	8	0.044	1.64	0.03	0.17	0.07	0.26	0.08	0.28	0.67	0.35
V17036-V17037	819	336	10	0.005	1.00	0.09	0.33	0.21	0.45	0.23	0.47	0.83	0.58
V17037-V17049	641	118	10	0.000	0.18	0.12	0.36	0.22	0.46	0.23	0.47	0.83	0.57
V17038.A0-V17038.B0	1308	393	8	0.045	1.66	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
V17038.AA-V17038.A0	5047	35	8	0.001	0.20	0.00	0.01	0.00	0.01	0.00	0.07	0.67	0.07
V17038.B0-V17038	3955	167	8	0.024	1.20	0.00	0.05	0.00	0.06	0.01	0.07	0.67	0.08
V17038.C0-V17038.D0	5046	14	6	0.004	0.22	0.01	0.11	0.01	0.11	0.00	0.04	0.50	0.04
V17038.D0-V17038.E0	5045	34	6	0.023	0.55	0.01	0.10	0.01	0.10	0.00	0.06	0.50	0.06
V17038.E0-V17038.F0	5044	304	6	0.010	0.36	0.01	0.12	0.01	0.12	0.01	0.11	0.50	0.11
V17038.F0-V17038	5233	137	8	0.005	0.55	0.01	0.09	0.01	0.09	0.01	0.09	0.67	0.09
V17038-V17039	1296	363	8	0.035	1.47	0.02	0.09	0.02	0.10	0.02	0.10	0.67	0.11
V17039-V17040	5231	350	8	0.020	1.11	0.03	0.10	0.03	0.10	0.03	0.10	0.67	0.11
V17040-V17041	5230	76	8	0.075	2.14	0.03	0.10	0.03	0.11	0.03	0.11	0.67	0.12
V17041-V17042	1290	13	8	0.013	0.88	0.03	0.12	0.03	0.13	0.04	0.14	0.67	0.15
V17042-V17043	1291	325	8	0.018	1.05	0.03	0.14	0.03	0.14	0.05	0.16	0.67	0.17
V17043-V17048	3958	320	8	0.011	0.82	0.04	0.15	0.05	0.15	0.05	0.16	0.67	0.17
V17044-V17045	1288	416	8	0.032	1.40	0.01	0.08	0.01	0.08	0.00	0.05	0.67	0.05
V17045-V17046	4380	353	8	0.022	1.15	0.02	0.10	0.02	0.10	0.01	0.07	0.67	0.08
V17046-V17047	4379	318	8	0.010	0.79	0.02	0.10	0.02	0.10	0.01	0.09	0.67	0.10
V17047-V17048	3968	87	8	0.021	1.12	0.02	0.12	0.02	0.12	0.02	0.12	0.67	0.13
V17048-V17049	655	164	8	0.050	1.75	0.08	0.24	0.08	0.28	0.07	0.28	0.67	0.33
V17049-V17054	657	202	10	0.008	1.29	0.20	0.29	0.30	0.35	0.31	0.36	0.83	0.44
V17050-V17051	7512	325	8	0.030	1.36	0.00	0.05	0.00	0.05	0.03	0.12	0.67	0.12
V17051-V17052	1292	328	8	0.030	1.36	0.03	0.11	0.03	0.11	0.06	0.15	0.67	0.15
V17052-V17053	3959	327	8	0.031	1.37	0.04	0.12	0.04	0.12	0.07	0.16	0.67	0.16
V17053-V17054	658	328	8	0.022	1.15	0.05	0.27	0.05	0.30	0.07	0.33	0.67	0.37
V17054-V17055	659	345	10	0.007	1.16	0.26	0.32	0.35	0.38	0.38	0.39	0.83	0.46
V17055-V17056	660	300	10	0.007	1.18	0.26	0.33	0.36	0.38	0.38	0.39	0.83	0.47
V17056-V17057	661	213	10	0.007	1.19	0.26	0.29	0.36	0.35	0.38	0.36	0.83	0.43
V17057-V17058	3962	389	10	0.016	1.79	0.26	0.27	0.36	0.32	0.38	0.33	0.83	0.40
V17058-V17068	3964	41	10	0.011	1.49	0.26	0.33	0.37	0.38	0.38	0.40	0.83	0.48
V17059.A0-V17059	5529	32	8	0.002	0.35	0.06	0.26	0.06	0.26	0.03	0.18	0.67	0.18
V17059-V17060	1293	101	8	0.006	0.58	0.06	0.18	0.06	0.18	0.03	0.14	0.67	0.14
V17060-V17062	3960	284	8	0.046	1.68	0.06	0.20	0.06	0.20	0.05	0.19	0.67	0.19
V17061.A0-V17061	821	5	8	0.002	0.35	0.01	0.07	0.01	0.07	0.01	0.08	0.67	0.08
V17061-V17062	3961	190	8	0.041	1.59	0.01	0.17	0.01	0.17	0.01	0.16	0.67	0.16
V17062.A0-V17062.B0	V17062.A0-V17062.B0	120	8	0.012	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.67	0.01
V17062.B0-V17062.C0	V17062.B0-V17062.C0	33	8	0.016	0.99	0.00	0.00	0.00	0.03	0.00	0.00	0.67	0.03
V17062.C0-V17062.D0	V17062.C0-V17062.D0	120	8	0.015	0.96	0.00	0.05	0.00	0.06	0.00	0.00	0.67	0.04
V17062.D0-V17062.E0	V17062.D0-V17062.E0	179	8	0.009	0.73	0.01	0.10	0.01	0.10	0.00	0.00	0.67	0.05
V17062.E0-V17062.H0	V17062.E0-V17062.H0	180	8	0.006	0.61	0.01	0.10	0.01	0.10	0.00	0.05	0.67	0.09
V17062.F0-V17062.G0	V17062.F0-V17062.G0	124	8	0.030	1.36	0.00	0.00	0.00	0.01	0.00	0.05	0.67	0.05
V17062.G0-V17062.H0	V17062.G0-V17062.H0	200	8	0.011	0.81	0.00	0.05	0.00	0.07	0.02	0.10	0.67	0.10
V17062.H0-V17062	V17062.H0-V17062	91	8	0.007	0.66	0.01	0.19	0.02	0.19	0.02	0.18	0.67	0.19
V17062-V17063	662	271	8	0.005	0.55	0.09	0.25	0.09	0.25	0.08	0.24	0.67	0.24
V17063-V17064	1284	284	8	0.010	0.78	0.09	0.21	0.09	0.21	0.08	0.19	0.67	0.20
V17064-V17065	1285	83	8	0.027	1.27	0.11	0.22	0.11	0.22	0.08	0.20	0.67	0.21
V17065-V17066	1286	183	8	0.017	1.02	0.14	0.24	0.14	0.24	0.13	0.25	0.67	0.25
V17066-V17067	3963	273	8	0.021	1.14	0.14	0.25	0.14	0.25	0.17	0.28	0.67	0.28
V17067-V17068	3965	348	8	0.014	0.94	0.14	0.37	0.14	0.38	0.18	0.44	0.67	0.48
V17068-V17069	3966	239	10	0.008	1.29	0.40	0.38	0.48	0.42	0.56	0.46	0.83	0.53
V17069-V17070	3967	299	10	0.009	1.33	0.42	0.40	0.49	0.44	0.56	0.47	0.83	0.55
V17070-V17071	4754	318	10	0.009	1.33	0.42	0.32	0.50	0.35	0.56	0.37	0.83	0.43
V17071-V16041.A0	4335	35	15	0.051	9.42	0.42	0.16	0.50	0.20	0.56	0.20	1.25	0.23
V17076-V17002.EA	956	90	8	0.010	0.78	0.00	0.02	0.00	0.02	0.00	0.04	0.67	0.04
V17077-V17014.FA	7506	19	8	0.015	0.97	0.00	0.01	0.00	0.01	0.00	0.04	0.67	0.04
V17079-V17080	V17079-V17080	100	8	0.161	3.14	0.00	0.00	0.00	0.01	0.02	0.06	0.67	0.06
V17079-V17080	V17080-V17026.H0	171	8	0.125	2.76	0.00	0.01	0.00	0.02	0.02	0.08	0.67	0.08
V18001-V18002	5291	13	8	0.064	1.97	0.00	0.02	0.00	0.02	0.01	0.08	0.67	0.08
V18002-V18003	4757	154	8	0.008	0.72	0.00	0.02	0.00	0.03	0.01	0.09	0.67	0.09
V18003-V18004	4758	53	8	0.011	0.82	0.00	0.02	0.00	0.03	0.01	0.08	0.67	0.08
V18004-V18005	4759	156	8	0.027	1.28	0.00	0.02	0.00	0.04	0.01	0.08	0.67	0.08
V18005-V18009	380	55	8	0.014	0.94	0.00	0.04	0.00	0.06	0.02	0.11	0.67	0.12
V18006.A0-V18006	5290	89	8	0.008	0.70	0.00	0.03	0.00	0.03	0.02	0.10	0.67	0.10
V18006-V18007	5289	184	8	0.050	1.75	0.00	0.02	0.00	0.02	0.02	0.07	0.67	0.07
V18007-V18008	5057	111	8	0.139	2.92	0.00	0.02	0.00	0.03	0.02	0.05	0.67	0.05
V18008-V18009	5234	70	8	0.326	4.46	0.00	0.03	0.00	0.05	0.02	0.09	0.67	0.09
V18009-V18010	381	102	8	0.011	0.83	0.00	0.05	0.01	0.08	0.03	0.15	0.67	0.15
V18010-V18011	5056	92	8	0.011	0.83	0.00	0.04	0.01	0.06	0.04	0.11	0.67	0.12
V18011-V18012	4756	142	8	0.185	3.36	0.00	0.04	0.01	0.07	0.04	0.11	0.67	0.12
V18012-V18013	391	40	8	0.008	0.70	0.00	0.06	0.01	0.09	0.04	0.15	0.67	0.16
V18013-V18014	397	83	8	0.010	0.77	0.00	0.06	0.01	0.10	0.04	0.15	0.67	0.16
V18014-V18015	398	102	8	0.009	0.76	0.00	0.05	0.01	0.09	0.04	0.14	0.67	0.14
V18015-V18016	399	137	8	0.032	1.41	0.01	0.04	0.02	0.08	0.04	0.11	0.67	0.12

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V18016-V18017	400	164	8	0.032	1.39	0.01	0.05	0.02	0.08	0.04	0.12	0.67	0.12
V18017.A0-V18017	7660	70	8	0.060	1.91	0.00	0.03	0.00	0.04	0.00	0.07	0.67	0.07
V18017-V18019	392	96	8	0.032	1.40	0.01	0.05	0.02	0.09	0.04	0.13	0.67	0.14
V18018-V18019	377	158	8	0.008	0.70	0.00	0.04	0.00	0.06	0.01	0.09	0.67	0.11
V18019-V18020	394	345	8	0.019	1.06	0.01	0.05	0.02	0.10	0.04	0.14	0.67	0.16
V18020-V18021	382	325	8	0.025	1.22	0.01	0.05	0.02	0.10	0.05	0.13	0.67	0.15
V18021-V18022	390	330	8	0.040	1.56	0.01	0.06	0.03	0.11	0.05	0.16	0.67	0.18
V18022-V18023.F0	1687	181	8	0.012	0.87	0.01	0.09	0.03	0.16	0.08	0.23	0.67	0.25
V18023.A0-V18023.B0	7603	202	8	0.005	0.55	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V18023.B0-V18023.D0	7604	277	8	0.013	0.87	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
V18023.C0-V18023.D0	1681	61	8	0.162	3.14	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
V18023.D0-V18023.E0	7601	350	8	0.010	0.78	0.01	0.05	0.01	0.07	0.01	0.06	0.67	0.07
V18023.E0-V18023.F0	7602	183	8	0.045	1.66	0.01	0.08	0.01	0.12	0.01	0.15	0.67	0.17
V18023.F0-V18023	1688	149	8	0.006	0.61	0.02	0.12	0.05	0.18	0.09	0.24	0.67	0.27
V18023-V18024.F0	1689	141	8	0.013	0.89	0.04	0.15	0.06	0.20	0.11	0.26	0.67	0.29
V18024.A0-V18024.B0	1682	128	8	0.015	0.95	0.00	0.03	0.00	0.03	0.01	0.06	0.67	0.06
V18024.B0-V18024.D0	1683	169	8	0.016	0.98	0.00	0.04	0.00	0.04	0.01	0.06	0.67	0.06
V18024.C0-V18024.D0	1684	83	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V18024.D0-V18024.E0	1685	350	8	0.033	1.43	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V18024.E0-V18024.F0	1686	184	8	0.078	2.18	0.01	0.11	0.01	0.14	0.01	0.17	0.67	0.19
V18024.F0-V18024	1690	186	8	0.007	0.65	0.04	0.17	0.07	0.22	0.12	0.28	0.67	0.31
V18024-V18025	386	332	8	0.009	0.76	0.05	0.21	0.08	0.25	0.13	0.32	0.67	0.34
V18025-V18026	387	325	10	0.004	0.86	0.06	0.17	0.09	0.20	0.14	0.25	0.83	0.27
V18026.A0-V18026.C0	395	64	8	0.080	2.21	0.00	0.02	0.00	0.02	0.00	0.04	0.67	0.04
V18026.B0-V18026.C0	383	96	8	0.011	0.84	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V18026.C0-V18026.D0	396	227	8	0.010	0.80	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.05
V18026.D0-V18026.E0	384	330	8	0.028	1.30	0.00	0.04	0.00	0.05	0.01	0.05	0.67	0.06
V18026.E0-V18026	385	331	8	0.046	1.68	0.01	0.12	0.01	0.14	0.01	0.16	0.67	0.18
V18026-V18027	389	304	10	0.011	1.47	0.07	0.17	0.10	0.20	0.15	0.24	0.83	0.26
V18027-V18028	5292	360	10	0.007	1.21	0.10	0.21	0.12	0.24	0.18	0.28	0.83	0.31
V18028-V18029	5293	311	10	0.004	0.91	0.10	0.22	0.13	0.24	0.18	0.29	0.83	0.32
V18029-V18030	5295	208	10	0.007	1.15	0.10	0.28	0.13	0.39	0.18	0.39	0.83	0.48
V18030-V18031	5296	485	12	0.006	1.81	0.31	0.24	0.67	0.35	0.60	0.33	1.00	0.43
V18031-V18034.A0	V18031-V18034.A0	235	12	0.047	5.00	0.31	0.17	0.68	0.25	0.61	0.24	1.00	0.30
V18034.A0-V18034	V18034.A0-V18034	16	12	0.047	4.97	0.31	0.18	0.69	0.26	0.61	0.25	1.00	0.32
V18034-V18035	5300	330	12	0.031	4.06	0.31	0.21	0.69	0.31	0.61	0.29	1.00	0.37
V18035-V18036	5299	330	12	0.015	2.82	0.31	0.22	0.69	0.34	0.61	0.32	1.00	0.41
V18036-V16041.A0	7526	120	12	0.016	2.90	0.31	0.23	0.69	0.32	0.61	0.30	1.00	0.38
V19001-V19002	5327	57	8	0.070	2.07	0.00	0.01	0.00	0.01	0.02	0.06	0.67	0.06
V19002-V19003	5326	121	8	0.167	3.20	0.00	0.01	0.00	0.02	0.02	0.05	0.67	0.05
V19003-V19004	5321	208	8	0.163	3.16	0.00	0.01	0.00	0.02	0.02	0.06	0.67	0.06
V19004-V19006	5324	258	8	0.114	2.64	0.00	0.02	0.00	0.04	0.02	0.07	0.67	0.07
V19005-V19006	5325	288	8	0.147	3.00	0.00	0.02	0.00	0.03	0.01	0.06	0.67	0.06
V19006-V19007	5322	247	8	0.072	2.10	0.00	0.02	0.01	0.05	0.03	0.07	0.67	0.08
V19007-V19008	5323	268	8	0.147	2.99	0.00	0.02	0.01	0.05	0.03	0.07	0.67	0.07
V19008-V19009	4674	291	8	0.169	3.21	0.00	0.03	0.01	0.05	0.03	0.07	0.67	0.08
V19009-V19013	5319	209	8	0.106	2.54	0.00	0.03	0.02	0.06	0.03	0.07	0.67	0.09
V19010-V19011	4670	128	8	0.297	4.26	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.01
V19011-V19012	4669	170	8	0.046	1.68	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.02
V19012-V19013	4668	250	8	0.220	3.66	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.06
V19013-V19014	5320	148	8	0.101	2.49	0.01	0.04	0.03	0.07	0.03	0.07	0.67	0.09
V19014-V19018	5308	347	8	0.103	2.51	0.01	0.05	0.03	0.08	0.03	0.08	0.67	0.10
V19015-V19016	5309	343	8	0.119	2.70	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V19016-V19017	5316	293	8	0.042	1.61	0.00	0.05	0.01	0.06	0.00	0.04	0.67	0.05
V19017-V19018	5318	351	8	0.010	0.78	0.01	0.06	0.01	0.08	0.00	0.07	0.67	0.09
V19018-V19019	5311	217	8	0.090	2.34	0.01	0.06	0.04	0.10	0.03	0.09	0.67	0.12
V19019-V19020	5304	197	8	0.053	1.80	0.01	0.08	0.04	0.14	0.03	0.12	0.67	0.16
V19020-V19021	5303	304	8	0.008	0.71	0.02	0.10	0.05	0.18	0.03	0.15	0.67	0.20
V19021-V19025	5315	305	8	0.009	0.75	0.02	0.10	0.05	0.17	0.04	0.14	0.67	0.19
V19022-V19023	5317	198	8	0.070	2.07	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V19023-V19024	5313	343	8	0.065	1.99	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
V19024-V19025	5314	402	8	0.048	1.71	0.01	0.07	0.01	0.10	0.00	0.08	0.67	0.11
V19025-V19026	5536	205	8	0.026	1.25	0.02	0.09	0.06	0.14	0.04	0.12	0.67	0.16
V19026-V19027	4675	307	8	0.069	2.04	0.02	0.09	0.07	0.14	0.04	0.12	0.67	0.16
V19027-V19028	4678	177	8	0.023	1.17	0.03	0.11	0.07	0.18	0.04	0.14	0.67	0.20
V19028-V19029	4679	258	8	0.011	0.83	0.03	0.13	0.07	0.20	0.04	0.16	0.67	0.22
V19029-V19030	4680	258	8	0.011	0.84	0.03	0.13	0.08	0.21	0.05	0.17	0.67	0.24
V19030-V19035	5306	63	8	0.008	0.70	0.03	0.14	0.08	0.22	0.05	0.17	0.67	0.25
V19031-V19032	5332	185	8	0.132	2.84	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V19032-V19033	4676	102	8	0.005	0.55	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.05
V19033-V19034	4677	229	8	0.013	0.89	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V19034-V19035	5307	203	8	0.064	1.97	0.00	0.09	0.01	0.13	0.00	0.10	0.67	0.14
V19035-V19036	5341	329	8	0.012	0.85	0.03	0.13	0.09	0.20	0.05	0.16	0.67	0.22
V19036-V19037	5335	301	8	0.023	1.19	0.03	0.12	0.09	0.19	0.05	0.14	0.67	0.21
V19037.B0-V19037	5337	293	8	0.027	1.29	0.00	0.07	0.00	0.11	0.00	0.09	0.67	0.13
V19037.BA-V19037.B0	V19037.BA-V19037.B0	328	8	0.041	1.59	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.04
V19037-V19038	5338	345	8	0.025	1.24	0.04	0.14	0.10	0.22	0.06	0.17	0.67	0.24
V19038-V19040	5339	256	8	0.010	0.77	0.04	0.14	0.10	0.23	0.06	0.17	0.67	0.25
V19039.A0-V19039	7558	5	8	0.002	0.35	0.00	0.01	0.00	0.01	0.00	0.04	0.67	0.04
V19039-V19040	5439	343	8	0.021	1.14	0.00	0.07	0.00	0.11	0.00	0.09	0.67	0.12
V19040-V19041	5440	112	8	0.026	1.27	0.04	0.14	0.11	0.23	0.06	0.17	0.67	0.25
V19041-V19098	5436	382	8	0.009	0.74	0.04	0.21	0.11	0.34	0.06	0.31	0.67	0.41
V19042-V19043	4892	84	8	0.219	3.65	0.00	0.01	0.00	0.01	0.00	0.03	0.67	0.03
V19043-V19045	5344	389	8	0.068	2.04	0.00	0.03	0.00	0.05	0.00	0.11	0.67	0.11
V19044.A0-V19044.B0	4761	199	8	0.088	2.32	0.00	0.03	0.00	0.04	0.02	0.11	0.67	0.11
V19044.AA-V19044.AB	1219	191	8	0.096	2.42	0.00	0.01	0.00	0.02	0.02	0.07	0.67	0.07
V19044.AB-V19044.A0	1220	24	8	0.032	1.39	0.00	0.02	0.00	0.03	0.02	0.07	0.67	0.07
V19044.B0-V19044	4762	105	8	0.101	2.48	0.01	0.04	0.02	0.07	0.12	0.16	0.67	0.16
V19044.BA-V19044.BB	1691	40	8	0.072	2.10	0.00	0.02	0.00	0.02	0.09	0.14	0.67	0.14
V19044.BB-V19044.BC	1692	178	8	0.100	2.48	0.00	0.02	0.00	0.02	0.09	0.13	0.67	0.13
V19044.BC-V19044.BD	1693	125	8	0.113	2.62	0.00	0.02	0.00	0.03	0.09	0.13	0.67	0.13
V19044.BD-V19044.BE	1694	124	8	0.142	2.94	0.00	0.02	0.00	0.03	0.09	0.13	0.67	0.13
V19044.BE-V19044.BF	1695	176	8	0.111	2.60	0.00	0.03	0.01	0.04	0.09	0.14	0.67	0.14
V19044.BF-V19044.BG	1696	94	8	0.084	2.27	0.00	0.03	0.01	0.04	0.10	0.14	0.67	0.14
V19044.BG-V19044.BH	1697	111	8	0.068	2.04	0.00	0.03	0.01	0.05	0.10	0.16	0.67	0.16
V19044.BH-V19044.BI	1701	147	8	0.039	1.55	0.00	0.03	0.01	0.05	0.10	0.15	0.67	0.15
V19044.BI-V19044.BJ	1702	225	8	0.117	2.67	0.00	0.04	0.01	0.06	0.10	0.18	0.67	0.18
V19044.BJ-V19044.B0	1703	94	8	0.017	1.02	0.00	0.04	0.01	0.07	0.10	0.18	0.67	0.18
V19044-V19045	5345	115	8	0.051	1.76	0.01	0.04	0.02	0.08	0.12	0.18	0.67	0.18
V19045-V19046	4889	152	8	0.050	1.75	0.01	0.05	0.02	0.08	0.12	0.18	0.67	0.18
V19046-V19051	3981	351	8	0.052	1.77	0.01	0.05	0.03	0.09	0.12	0.18	0.67	0.18
V19047-V19048	4891	52	8	0.097	2.43	0.00	0.01	0.00	0.01	0.00	0.03	0.67	0.03
V19048-V19049	3980	195	8	0.069	2.06	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.04
V19049-V19050	4890	181	8	0.055	1.84	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
V19050-V19051	3982	224	8	0.061	1.93	0.00	0.04	0.00	0.07	0.00	0.11	0.67	0.11
V19051-V19053	3986	325	8	0.057	1.87	0.01	0.06	0.04	0.10	0.13	0.18	0.67	0.18
V19052.A0-V19052.B0	4763	29	8	0.036	1.48	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V19052.B0-V19052.C0	1698	265	8	0.069	2.05	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
V19052.C0-V19052.D0	1699	151	8	0.053	1.81	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
V19052.D0-V19052	1700	61	8	0.005	0.55	0.00	0.05	0.01	0.06	0.01	0.06	0.67	0.07
V19052-V19053	5329	320	8	0.056	1.85	0.00	0.05	0.01	0.08	0.01	0.11	0.67	0.12
V19053-V19054	3984	240	8	0.070	2.07	0.02	0.10	0.05	0.16	0.14	0.27	0.67	0.28
V19054-V19055	5078	390	8	0.004	0.50	0.02	0.16	0.05	0.26	0.14	0.41	0.67	0.43
V19055-V19062	5105	40	8	0.001	0.28	0.02	0.16	0.06	0.26	0.14	0.39	0.67	0.41
V19056-V19057	5092	86	6	0.019	0.50	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V19057-V19059	5104	201	6	0.064	0.91	0.00	0.04	0.00	0.04	0.00	0.05	0.50	0.05
V19058-V19059	5107	3	6	0.018	0.48	0.00	0.11	0.00	0.11	0.00	0.13	0.50	0.13
V19059-V19060	5108	128	6	0.032	0.65	0.00	0.07	0.00	0.08	0.01	0.09	0.50	0.10
V19060-V19061	5095	196	6	0.007	0.30	0.00	0.07	0.01	0.08	0.01	0.09	0.50	0.10
V19061-V19062	5094	303	6	0.075	0.99	0.01	0.12	0.01	0.17	0.01	0.25	0.50	0.26
V19062-V19063	5106	83	8	0.009	0.73	0.03	0.12	0.07	0.18	0.15	0.27	0.67	0.29
V19063-V19078	5097	341	8	0.036	1.48	0.03	0.10	0.07	0.15	0.15	0.21	0.67	0.23
V19064-V19065	5083	112	8	0.128	2.79	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V19065-V19068	5080	161	8	0.025	1.24	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.05
V19066-V19067	5082	333	8	0.068	2.03	0.00	0.03	0.00	0.03	0.02	0.06	0.67	0.06
V19067-V19068	5081	39	8	0.086	2.29	0.00	0.03	0.00	0.04	0.02	0.07	0.67	0.07
V19068-V19069	5079	203	8	0.058	1.88	0.00	0.06	0.01	0.08	0.02	0.11	0.67	0.11
V19069-V19070	5087	334	8	0.004	0.52	0.01	0.07	0.01	0.09	0.02	0.12	0.67	0.13
V19070-V19077	5100	223	8	0.019	1.09	0.01	0.07	0.01	0.10	0.02	0.12	0.67	0.13
V19071-V19072	5090	19	8	0.237	3.80	0.00	0.02	0.00	0.02	0.00	0.04	0.67	0.04
V19072-V19073	5091	150	8	0.017	1.03	0.00	0.03	0.00	0.03	0.01	0.05	0.67	0.05
V19073-V19075	5089	331	8	0.073	2.11	0.00	0.03	0.00	0.04	0.01	0.05	0.67	0.05
V19074-V19075	5085	184	8	0.008	0.71	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V19075-V19076	5088	264	8	0.060	1.92	0.01	0.04	0.01	0.06	0.01	0.06	0.67	0.07
V19076-V19077	5101	185	8	0.042	1.60	0.01	0.07	0.01	0.09	0.01	0.10	0.67	0.12
V19077-V19078	5102	295	8	0.014	0.93	0.02	0.10	0.03	0.14	0.04	0.17	0.67	0.19
V19078-V19088	5103	155	8	0.062	1.95	0.04	0.15	0.10	0.22	0.19	0.28	0.67	0.32
V19079-V19080	5310	289	6	0.132	1.32	0.00	0.03	0.00	0.03	0.00	0.03	0.50	0.03
V19080-V19081	3983	259	8	0.093	2.38	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.05
V19081-V19082	3985	303	8	0.013	0.90	0.00	0.03	0.01	0.05	0.00	0.04	0.67	0.05
V19082-V19085	5333	303	8	0.081	2.22	0.00	0.05	0.01	0.07	0.00	0.05	0.67	0.08
V19084.B0-V19084.C0	V19084.B0-V19084.C0	239	8	0.080	2.21	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V19084.C0-V19084	V19084.C0-V19084	149	8	0.052	1.78	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
V19084-V19085	5334	344	8	0.065	1.99	0.00	0.05	0.01	0.07	0.00	0.05	0.67	0.07
V19085-V19086	5343	381	8	0.013	0.90	0.01	0.08	0.02	0.13	0.01	0.09	0.67	0.13
V19086-V19087	5340	210	8	0.004	0.50	0.01	0.09	0.02	0.15	0.01	0.10	0.67	0.16
V19087-V19088	5077	352	8	0.005	0.57	0.01	0.14	0.03	0.22	0.01	0.23	0.67	0.28
V19088-V19089	5099	300	12	0.006	1.77	0.06	0.11	0.14	0.17	0.20	0.21	1.00	0.24
V19089-V19092	5441	256	12	0.017	2.99	0.06	0.09	0.14	0.14	0.21	0.16	1.00	0.19
V19090-V19091	5443	127	8	0.004	0.49	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V19091-V19092	5444	143	8	0.008	0.72	0.00	0.08	0.00	0.11	0.00	0.14	0.67	0.15
V19092-V19097	5427	103	12	0.042	4.72	0.06	0.08	0.15	0.13	0.21	0.15	1.00	0.17
V19094-V19095	5433	227	8	0.004	0.49	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V19095-V19096	5432	136	8	0.004	0.49	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V19096-V19097	5431	120	8	0.026	1.26	0.00	0.08	0.00	0.12	0.00	0.13	0.67	0.15
V19097-V19098.A0	5429	180	12	0.037	4.44	0.06	0.08	0.15	0.12	0.21	0.14	1.00	0.17
V19098.A0-V19098	5428	225	12	0.052	5.26	0.06	0.08	0.16	0.12	0.21	0.14	1.00	0.16
V19098-V19101	5437	236	12	0.005	1.57	0.10	0.18	0.27	0.29	0.28	0.29	1.00	0.36
V19101-V19105	5438	321	12	0.005	1.57	0.11	0.15	0.28	0.25	0.28	0.25	1.00	0.31
V19102.A0-V19102	5538	5	8	1.102	8.20	0.00	0.51	0.00	0.51	0.00	0.51	0.67	0.51
V19102-V19103	5522	240	8	0.024	1.20	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V19103-V19104	5445	306	8	0.068	2.03	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
V19104-V19105	5519	121	8	0.084	2.27	0.00	0.10	0.01	0.17	0.00	0.16	0.67	0.20
V19105-V19106	5520	222	12	0.023	3.47	0.11	0.13	0.29	0.21	0.28	0.21	1.00	0.26
V19106-V19107	5523	296	12	0.013	2.59	0.11	0.14	0.29	0.22	0.28	0.21	1.00	0.27
V19107-V19109	3411	404	12	0.050	5.14	0.20	0.19	0.51	0.30	0.39	0.26	1.00	0.35
V19108-V19109	5235	350	6	0.013	0.42	0.00	0.26	0.00	0.40	0.00	0.37	0.50	0.48
V19109-V19110	3412	255	12	0.005	1.64	0.20	0.23	0.52	0.38	0.40	0.33	1.00	0.45
V19110-V19111	3413	393	12	0.006	1.76	0.20	0.22	0.52	0.37	0.40	0.32	1.00	0.43
V19111-V18030	3417	287	12	0.007	1.92	0.20	0.22	0.53	0.36	0.41	0.31	1.00	0.42
V19113-V19116	3419	324	8	0.004	0.52	0.00	0.04	0.00	0.04	0.00	0.06	0.67	0.06
V19114-V19115	3414	237	6	0.125	1.28	0.00	0.03	0.00	0.03	0.01	0.05	0.50	0.05
V19115-V19116	3418	300	6	0.086	1.07	0.00	0.05	0.00	0.05	0.01	0.07	0.50	0.07
V19116-V18030	3416	164	8	0.067	2.03	0.01	0.25	0.01	0.37	0.01	0.35	0.67	0.45
V20001-V20002	5606	211	8	0.004	0.50	0.00	0.03	0.00	0.03	0.01	0.06	0.67	0.06
V20002-V20004	5585	127	8	0.065	1.99	0.00	0.03	0.00	0.04	0.01	0.05	0.67	0.05
V20003-V20004	5584	247	6	0.061	0.90	0.00	0.04	0.00	0.05	0.00	0.06	0.50	0.06
V20004-V20005	5605	141	8	0.032	1.40	0.00	0.04	0.01	0.05	0.01	0.06	0.67	0.07
V20005-V20007	5603	318	8	0.043	1.61	0.01	0.04	0.01	0.05	0.01	0.06	0.67	0.07
V20006-V20007	5524	57	8	0.002	0.35	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.05
V20007-V20013	5553	344	8	0.066	2.00	0.01	0.08	0.01	0.12	0.01	0.11	0.67	0.14
V20008.A0-V20008	5604	138	8	0.011	0.84	0.00	0.06	0.00	0.09	0.00	0.08	0.67	0.10
V20008.B0-V20008.D0	7521	189	8	0.071	2.08	0.01	0.04	0.01	0.06	0.02	0.07	0.67	0.08
V20008.BB-V20008.BC	V20008.BB-V20008.BC	200	8	0.028	1.31	0.00	0.02	0.00	0.02	0.00	0.04	0.67	0.04
V20008.BC-V20008.BD	V20008.BC-V20008.BD	150	8	0.030	1.35	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.05
V20008.BD-V20008.BE	V20008.BD-V20008.BE	170	8	0.030	1.35	0.00	0.03	0.00	0.04	0.01	0.06	0.67	0.07
V20008.BE-V20008.BG	V20008.BE-V20008.BG	216	8	0.048	1.70	0.00	0.05	0.01	0.06	0.02	0.09	0.67	0.10
V20008.BG-V20008.BH	V20008.BG-V20008.BH	87	8	0.008	0.68	0.00	0.11	0.01	0.14	0.02	0.18	0.67	0.19
V20008.BH-V20008.B0	V20008.BH-V20008.B0	15	8	0.004	0.50	0.01	0.10	0.01	0.13	0.02	0.16	0.67	0.17
V20008.C0-V20008.D0	7522	256	8	0.047	1.69	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.05
V20008.D0-V20008.F0	7524	346	8	0.060	1.91	0.01	0.06	0.02	0.08	0.02	0.09	0.67	0.10
V20008.E0-V20008.F0	7523	336	8	0.008	0.72	0.00	0.05	0.00	0.06	0.00	0.07	0.67	0.08
V20008.F0-V20008.G0	4102	152	8	0.020	1.09	0.01	0.22	0.02	0.27	0.02	0.27	0.67	0.30
V20008.G0-V20008	4103	49	8	0.003	0.46	0.01	0.24	0.02	0.30	0.02	0.30	0.67	0.33
V20008-V20009.A0	7425	17	8	0.003	0.46	0.01	0.08	0.03	0.12	0.03	0.12	0.67	0.14
V20009.A0-V20009	7426	260	8	0.045	1.66	0.01	0.06	0.03	0.09	0.03	0.09	0.67	0.11
V20009-V20010	5588	300	8	0.042	1.59	0.01	0.09	0.03	0.14	0.03	0.13	0.67	0.17
V20010-V20012	5602	385	8	0.004	0.49	0.01	0.10	0.03	0.15	0.03	0.14	0.67	0.18
V20011-V20012	5590	350	8	0.051	1.77	0.00	0.05	0.00	0.07	0.00	0.06	0.67	0.08
V20012-V20013	5552	65	8	0.034	1.44	0.02	0.10	0.04	0.15	0.03	0.13	0.67	0.17
V20013-V20014	5551	164	8	0.013	0.90	0.02	0.10	0.06	0.15	0.04	0.13	0.67	0.17
V20014-V20015	5593	248	8	0.053	1.80	0.02	0.12	0.06	0.18	0.04	0.16	0.67	0.21
V20015-V20016	5587	109	8	0.004	0.50	0.03	0.14	0.06	0.21	0.05	0.18	0.67	0.23
V20016-V20022	5586	154	8	0.018	1.05	0.03	0.14	0.06	0.21	0.05	0.18	0.67	0.24
V20017-V20018	5543	56	8	0.063	1.96	0.00	0.51	0.00	0.51	0.00	0.51	0.67	0.51
V20018-V20019	5544	292	8	0.012	0.86	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V20019-V20021	5260	195	8	0.023	1.18	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.07
V20020-V20021	5875	12	8	0.002	0.35	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.07
V20021-V20022	5599	327	8	0.004	0.51	0.00	0.12	0.01	0.17	0.00	0.14	0.67	0.19
V20022-V20025	5598	232	8	0.005	0.56	0.03	0.14	0.07	0.21	0.05	0.17	0.67	0.23
V20023-V20024	5592	379	8	0.029	1.34	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V20024-V20025	5595	157	8	0.057	1.86	0.00	0.07	0.01	0.10	0.00	0.08	0.67	0.10
V20025-V20026	5597	33	8	0.046	1.68	0.04	0.10	0.08	0.15	0.05	0.12	0.67	0.17
V20026-V20037	5550	157	8	0.044	1.64	0.04	0.14	0.08	0.22	0.06	0.17	0.67	0.24

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V20027-V20028	5247	154	8	0.034	1.45	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V20028-V20031	5248	250	8	0.038	1.52	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.06
V20029-V20031	5541	49	8	0.002	0.35	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V20030-V20031	5249	239	8	0.005	0.56	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.06
V20031-V20032	5250	203	8	0.010	0.78	0.00	0.04	0.01	0.07	0.00	0.05	0.67	0.07
V20032-V20033	5258	306	8	0.026	1.25	0.00	0.04	0.01	0.06	0.01	0.05	0.67	0.07
V20033-V20035	5259	75	8	0.045	1.66	0.00	0.04	0.01	0.07	0.01	0.05	0.67	0.07
V20034-V20035	5596	307	8	0.008	0.70	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.05
V20035-V20036	5549	70	8	0.041	1.58	0.00	0.05	0.02	0.09	0.01	0.06	0.67	0.09
V20036-V20037	5583	126	8	0.010	0.78	0.01	0.12	0.02	0.19	0.01	0.15	0.67	0.21
V20037-V20040	5582	243	8	0.007	0.67	0.04	0.15	0.10	0.23	0.06	0.18	0.67	0.26
V20038-V20039	5253	109	8	0.009	0.73	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
V20039-V20040	5581	231	8	0.004	0.49	0.00	0.09	0.00	0.12	0.00	0.10	0.67	0.13
V20040-V20041	5251	220	8	0.036	1.47	0.05	0.12	0.11	0.19	0.07	0.15	0.67	0.21
V20041-V20053	5243	262	8	0.030	1.35	0.05	0.18	0.11	0.28	0.07	0.21	0.67	0.30
V20042-V20043	5254	44	8	0.044	1.64	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V20043-V20044	7775	359	8	0.008	0.69	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.06
V20044-V20052	5580	166	8	0.005	0.57	0.00	0.06	0.01	0.08	0.00	0.06	0.67	0.08
V20045-V20046	5601	117	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.02	0.67	0.02
V20046-V20047	5591	241	8	0.040	1.57	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V20047-V20049	5594	114	8	0.110	2.59	0.00	0.03	0.00	0.04	0.00	0.02	0.67	0.04
V20048-V20049	5548	133	8	0.006	0.63	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V20049-V20051	5547	211	8	0.022	1.17	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.06
V20050-V20051	5244	84	8	0.017	1.03	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
V20051-V20052	5579	182	8	0.029	1.33	0.01	0.05	0.01	0.08	0.00	0.05	0.67	0.08
V20052-V20053	5568	195	8	0.027	1.27	0.01	0.15	0.02	0.22	0.01	0.16	0.67	0.24
V20053-V20056	5574	96	8	0.004	0.51	0.06	0.27	0.14	0.42	0.08	0.31	0.67	0.45
V20054-V20055	5578	265	8	0.041	1.59	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V20054-V20071	5567	269	8	0.074	2.13	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V20055-V20056	5566	184	8	0.023	1.19	0.00	0.17	0.00	0.26	0.00	0.19	0.67	0.28
V20056-V20059	5572	67	8	0.001	0.30	0.06	0.27	0.14	0.41	0.08	0.30	0.67	0.44
V20057-V20058	5255	150	8	0.067	2.02	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V20058-V20059	5565	295	8	0.015	0.95	0.00	0.12	0.00	0.19	0.00	0.14	0.67	0.20
V20059-V20060	5571	81	8	0.007	0.64	0.06	0.19	0.15	0.29	0.08	0.21	0.67	0.31
V20060-V20061	5245	198	8	0.023	1.19	0.06	0.21	0.15	0.32	0.08	0.24	0.67	0.35
V20061-V20068	3422	287	8	0.004	0.50	0.06	0.20	0.15	0.31	0.08	0.23	0.67	0.34
V20062-V20064	5545	274	8	0.086	2.29	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V20063-V20064	5577	104	8	0.002	0.31	0.00	0.03	0.00	0.03	0.00	0.06	0.67	0.06
V20064-V20065	5576	191	8	0.044	1.65	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V20065-V20066	5575	189	8	0.021	1.12	0.00	0.05	0.01	0.06	0.01	0.05	0.67	0.06
V20066-V20068	5564	161	8	0.049	1.72	0.01	0.09	0.01	0.14	0.01	0.10	0.67	0.15
V20067-V20068	5540	52	8	0.002	0.35	0.00	0.09	0.00	0.14	0.00	0.09	0.67	0.15
V20068-V20069	5569	214	8	0.044	1.63	0.07	0.16	0.17	0.24	0.09	0.18	0.67	0.26
V20069-V20070	5570	321	8	0.022	1.16	0.07	0.18	0.17	0.28	0.09	0.21	0.67	0.30
V20070-V20072	5557	132	8	0.012	0.86	0.07	0.20	0.17	0.32	0.09	0.23	0.67	0.34
V20071-V20072.A0	5237	297	8	0.014	0.92	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V20072.A0-V20072.B0	5238	53	8	0.295	4.24	0.00	0.04	0.01	0.05	0.00	0.03	0.67	0.05
V20072.B0-V20072	5562	103	8	0.006	0.61	0.00	0.13	0.01	0.20	0.00	0.14	0.67	0.21
V20072-V20073	5563	202	8	0.012	0.85	0.08	0.19	0.18	0.29	0.10	0.21	0.67	0.31
V20073-V20077	5561	205	8	0.030	1.35	0.08	0.16	0.19	0.25	0.10	0.18	0.67	0.27
V20074.A0-V20074	5239	55	8	0.011	0.83	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V20074-V20075	5241	253	8	0.156	3.08	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V20075-V20076	5556	331	8	0.079	2.19	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V20076-V20077	5560	50	8	0.005	0.57	0.00	0.11	0.01	0.17	0.00	0.12	0.67	0.18
V20077-V20078	5559	309	8	0.032	1.39	0.08	0.18	0.20	0.27	0.11	0.20	0.67	0.29
V20078-V20079	5554	322	8	0.018	1.04	0.08	0.23	0.20	0.37	0.11	0.27	0.67	0.40
V20079-V20080	5555	250	8	0.004	0.52	0.08	0.27	0.20	0.43	0.11	0.30	0.67	0.46
V20080-V19107	3421	419	8	0.006	0.60	0.09	0.23	0.20	0.37	0.11	0.29	0.67	0.41
V21001-V21002	3253	13	8	0.012	0.87	0.00	0.02	0.00	0.02	0.00	0.04	0.67	0.04
V21002-V21003	3252	347	8	0.087	2.30	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V21003-V21004	3245	350	8	0.065	2.00	0.00	0.04	0.01	0.05	0.01	0.04	0.67	0.05
V21004-V21009	3247	346	8	0.060	1.92	0.01	0.04	0.01	0.06	0.01	0.05	0.67	0.07
V21005-V21006	6602	332	8	0.089	2.33	0.00	0.03	0.00	0.03	0.01	0.04	0.67	0.04
V21006-V21008	3246	376	8	0.070	2.07	0.00	0.04	0.01	0.06	0.01	0.07	0.67	0.07
V21007.A0-V21008	6603	117	8	0.006	0.59	0.00	0.04	0.00	0.05	0.00	0.07	0.67	0.08
V21008-V21009	3251	229	8	0.012	0.84	0.01	0.05	0.01	0.08	0.01	0.08	0.67	0.09
V21009-V21012	3250	74	8	0.129	2.81	0.01	0.07	0.03	0.11	0.02	0.09	0.67	0.12
V21010.A0-V21010.B0	V21010.A0-V21010.B0	33	8	0.083	2.26	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.05
V21010.AB-V21010.AC	V21010.AB-V21010.AC	102	8	0.239	3.82	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V21010.AC-V21010.A0	V21010.AC-V21010.A0	108	8	0.155	3.07	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V21010.B0-V21010.D0	V21010.B0-V21010.D0	168	8	0.082	2.24	0.01	0.04	0.02	0.07	0.01	0.05	0.67	0.07
V21010.BA-V21010.BB	V21010.BA-V21010.BB	18	8	0.031	1.38	0.00	0.00	0.00	0.00	0.00	0.01	0.67	0.01
V21010.BB-V21010.BC	V21010.BB-V21010.BC	298	8	0.106	2.54	0.00	0.00	0.00	0.01	0.00	0.01	0.67	0.02
V21010.BC-V21010.BD	V21010.BC-V21010.BD	132	8	0.141	2.93	0.00	0.00	0.00	0.03	0.00	0.02	0.67	0.03
V21010.BD-V21010.BE	V21010.BD-V21010.BE	132	8	0.166	3.18	0.00	0.01	0.00	0.03	0.00	0.02	0.67	0.03
V21010.BE-V21010.BF	V21010.BE-V21010.BF	132	8	0.181	3.33	0.00	0.01	0.01	0.03	0.00	0.02	0.67	0.04
V21010.BF-V21010.BG	V21010.BF-V21010.BG	107	8	0.111	2.61	0.00	0.02	0.01	0.04	0.00	0.03	0.67	0.04
V21010.BG-V21010.BH	V21010.BG-V21010.BH	73	8	0.230	3.75	0.00	0.02	0.01	0.04	0.00	0.03	0.67	0.04
V21010.BH-V21010.BI	V21010.BH-V21010.BI	109	8	0.178	3.29	0.00	0.03	0.01	0.05	0.00	0.04	0.67	0.06
V21010.BI-V21010.B0	V21010.BI-V21010.B0	158	8	0.024	1.21	0.00	0.03	0.01	0.06	0.01	0.04	0.67	0.07
V21010.C0-V21010.D0	V21010.C0-V21010.D0	270	8	0.011	0.81	0.00	0.04	0.00	0.06	0.00	0.04	0.67	0.06
V21010.D0-V21010.E0	V21010.D0-V21010.E0	208	8	0.046	1.67	0.01	0.06	0.02	0.09	0.01	0.07	0.67	0.10
V21010.E0-V21010.F0	V21010.E0-V21010.F0	72	8	0.018	1.04	0.01	0.07	0.02	0.11	0.01	0.08	0.67	0.12
V21010.F0-V21010	V21010.F0-V21010	169	8	0.018	1.04	0.01	0.54	0.03	0.56	0.02	0.55	0.67	0.56
V21010.FA-V21010.FB	V21010.FA-V21010.FB	36	8	0.278	4.12	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V21010.FB-V21010.FC	V21010.FB-V21010.FC	255	8	0.101	2.48	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V21010.FC-V21010.FD	V21010.FC-V21010.FD	145	8	0.105	2.53	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V21010.FD-V21010.F0	V21010.FD-V21010.F0	105	8	0.015	0.96	0.00	0.06	0.01	0.09	0.00	0.07	0.67	0.09
V21010-V21011	6601	29	8	0.086	2.29	0.01	0.55	0.03	0.58	0.02	0.56	0.67	0.58
V21011-V21012	6600	283	8	0.006	0.62	0.01	0.09	0.03	0.15	0.02	0.12	0.67	0.16
V21012-V21013	3249	219	8	0.037	1.50	0.02	0.09	0.06	0.14	0.04	0.11	0.67	0.15
V21013-V21014	6523	198	8	0.059	1.89	0.03	0.08	0.07	0.13	0.04	0.10	0.67	0.14
V21014-V21017	2304	380	8	0.070	2.06	0.03	0.10	0.07	0.15	0.04	0.12	0.67	0.17
V21016.A0-V21016.B0	V21016.A0-V21016.B0	245	8	0.228	3.73	0.00	0.01	0.00	0.01	0.00	0.03	0.67	0.03
V21016.B0-V21016.C0	V21016.B0-V21016.C0	200	8	0.165	3.17	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
V21016.C0-V21016.D0	V21016.C0-V21016.D0	170	8	0.094	2.40	0.00	0.51	0.00	0.52	0.01	0.52	0.67	0.52
V21016.D0-V21016	V21016.D0-V21016	89	8	0.012	0.87	0.01	0.52	0.01	0.53	0.01	0.53	0.67	0.54
V21016-V21017	2307	282	8	0.021	1.12	0.00	0.07	0.01	0.12	0.01	0.10	0.67	0.14
V21017-V21018.J0	2306	173	8	0.020	1.12	0.03	0.12	0.08	0.20	0.05	0.16	0.67	0.22
V21018.A0-V21018.B0	6876	50	8	0.005	0.55	0.00	0.05	0.01	0.08	0.01	0.11	0.67	0.11
V21018.AA-V21018.AB	7616	168	8	0.033	1.43	0.00	0.02	0.00	0.02	0.01	0.07	0.67	0.07
V21018.AB-V21018.AC	7617	40	8	0.017	1.03	0.00	0.03	0.00	0.04	0.01	0.08	0.67	0.08
V21018.AC-V21018.A0	7618	301	8	0.008	0.68	0.00	0.04	0.00	0.06	0.01	0.10	0.67	0.10
V21018.B0-V21018.C0	6877	306	8	0.005	0.55	0.00	0.05	0.01	0.07	0.01	0.10	0.67	0.10
V21018.C0-V21018.DB	7612	35	8	0.022	1.16	0.00	0.04	0.01	0.07	0.01	0.09	0.67	0.10
V21018.D0-V21018.E0	7613	241	8	0.020	1.12	0.00	0.05	0.01	0.08	0.02	0.10	0.67	0.11
V21018.DA-V21018.DB	7615	238	8	0.028	1.30	0.00	0.02	0.00	0.04	0.01	0.07	0.67	0.08

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V21018.DB-V21018.D0	7090	29	8	0.018	1.05	0.00	0.05	0.01	0.08	0.02	0.10	0.67	0.11
V21018.E0-V21018.G0	6875	297	8	0.018	1.03	0.01	0.06	0.02	0.09	0.02	0.10	0.67	0.12
V21018.F0-V21018.G0	7614	263	8	0.074	2.12	0.00	0.04	0.00	0.06	0.00	0.06	0.67	0.07
V21018.G0-V21018.H0	6874	88	8	0.024	1.21	0.01	0.06	0.02	0.09	0.02	0.09	0.67	0.11
V21018.H0-V21018.I0	6873	220	8	0.052	1.78	0.01	0.06	0.02	0.10	0.03	0.10	0.67	0.11
V21018.I0-V21018.J0	6872	87	8	0.019	1.09	0.01	0.10	0.03	0.16	0.03	0.14	0.67	0.18
V21018.J0-V21018	8324	110	8	0.021	1.14	0.04	0.15	0.11	0.25	0.08	0.21	0.67	0.28
V21018-V21019	2305	301	8	0.008	0.69	0.04	0.14	0.11	0.24	0.08	0.20	0.67	0.27
V21019-V21020	2022	107	8	0.040	1.57	0.04	0.11	0.12	0.19	0.08	0.15	0.67	0.21
V21020-V21021	2303	188	8	0.040	1.56	0.04	0.12	0.12	0.20	0.08	0.16	0.67	0.22
V21021-V21022	2026	268	8	0.033	1.41	0.04	0.11	0.12	0.18	0.08	0.15	0.67	0.20
V21022-V21024.C0	V21022-V21024.C0	88	8	0.077	2.17	0.04	0.11	0.12	0.18	0.08	0.15	0.67	0.20
V21023.A0-V21023.B0	7177	122	8	0.042	1.61	0.00	0.02	0.00	0.03	0.01	0.05	0.67	0.05
V21023.B0-V21023.C0	7178	64	8	0.017	1.02	0.00	0.03	0.00	0.04	0.01	0.06	0.67	0.06
V21023.C0-V21023.D0	7179	129	8	0.011	0.82	0.00	0.03	0.00	0.04	0.01	0.07	0.67	0.07
V21023.D0-V21023.E0	7180	207	8	0.016	0.98	0.00	0.03	0.00	0.05	0.01	0.07	0.67	0.07
V21023.E0-V21023.F0	7181	32	8	0.020	1.10	0.00	0.03	0.01	0.06	0.01	0.07	0.67	0.08
V21023.F0-V21023.G0	7182	231	8	0.013	0.90	0.00	0.04	0.01	0.07	0.01	0.08	0.67	0.09
V21023.G0-V21023	7183	163	8	0.010	0.80	0.00	0.11	0.01	0.18	0.01	0.18	0.67	0.21
V21023-V21024	7184	180	8	0.000	0.12	0.00	0.15	0.01	0.23	0.01	0.22	0.67	0.27
V21024.A0-V21024.B0	V21024.A0-V21024.B0	219	8	0.013	0.90	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.05
V21024.B0-V21024.C0	V21024.B0-V21024.C0	215	8	0.013	0.89	0.00	0.08	0.00	0.12	0.00	0.11	0.67	0.14
V21024.C0-V21024	V21024.C0-V21024	344	8	0.036	1.49	0.04	0.11	0.13	0.19	0.09	0.16	0.67	0.22
V21024-V21025	584	67	10	0.042	2.89	0.05	0.10	0.14	0.17	0.10	0.14	0.83	0.19
V21025-V21026	6599	222	10	0.021	2.06	0.05	0.10	0.14	0.17	0.10	0.14	0.83	0.19
V21026-V21036.B0	7185	94	10	0.050	3.16	0.05	0.09	0.15	0.16	0.10	0.13	0.83	0.18
V21027-V21030	2338	4	8	0.002	0.35	0.00	0.00	0.00	0.01	0.00	0.05	0.67	0.05
V21028-V21030	5525	5	8	0.002	0.35	0.00	0.00	0.00	0.01	0.00	0.06	0.67	0.06
V21029-V21030	2335	4	8	0.002	0.35	0.00	0.00	0.00	0.01	0.00	0.05	0.67	0.05
V21030-V21031	5150	230	8	0.006	0.59	0.00	0.01	0.00	0.02	0.00	0.05	0.67	0.05
V21031-V21032	583	223	8	0.016	0.97	0.00	0.02	0.00	0.04	0.00	0.06	0.67	0.06
V21032-V21037.A0	8255	29	8	0.012	0.85	0.00	0.02	0.00	0.06	0.01	0.10	0.67	0.11
V21036.A0-V21036.B0	7189	290	8	0.045	1.66	0.00	0.07	0.00	0.12	0.00	0.10	0.67	0.13
V21036.AA-V21036.A0	7188	5	8	0.000	0.11	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
V21036.B0-V21036	7186	111	10	0.027	2.33	0.05	0.10	0.15	0.18	0.10	0.15	0.83	0.20
V21036-V21037	1121	210	10	0.022	2.10	0.05	0.21	0.15	0.35	0.10	0.29	0.83	0.39
V21037.A0-V21037.B0	8256	281	8	0.006	0.62	0.00	0.05	0.00	0.08	0.03	0.14	0.67	0.15
V21037.B0-V21037.C0	8254	118	8	0.007	0.66	0.01	0.08	0.01	0.10	0.03	0.14	0.67	0.15
V21037.C0-V21037.D0	8253	55	8	0.009	0.74	0.01	0.08	0.02	0.10	0.03	0.14	0.67	0.15
V21037.D0-V21037.E0	8252	122	8	0.007	0.66	0.01	0.09	0.02	0.11	0.03	0.14	0.67	0.16
V21037.E0-V21037.F0	8251	78	8	0.008	0.69	0.01	0.08	0.02	0.11	0.03	0.14	0.67	0.16
V21037.F0-V21037.G0	8250	86	8	0.008	0.69	0.01	0.09	0.02	0.11	0.03	0.14	0.67	0.16
V21037.G0-V21037.H0	8249	120	8	0.007	0.66	0.01	0.09	0.02	0.12	0.03	0.14	0.67	0.16
V21037.H0-V21037.I0	8234	146	8	0.007	0.65	0.01	0.09	0.02	0.12	0.03	0.14	0.67	0.17
V21037.I0-V21037	8233	252	8	0.006	0.59	0.01	0.24	0.02	0.38	0.03	0.33	0.67	0.45
V21037-V21038	343	240	10	0.001	0.44	0.06	0.22	0.18	0.37	0.12	0.31	0.83	0.43
V21038-V21039	342	362	10	0.010	1.45	0.06	0.14	0.18	0.24	0.12	0.20	0.83	0.28
V21039-V21040	341	189	10	0.011	1.47	0.06	0.14	0.18	0.24	0.13	0.20	0.83	0.27
V21040-V21041	340	199	10	0.015	1.73	0.06	0.11	0.19	0.20	0.13	0.16	0.83	0.23
V21041-V21042	2471	362	10	0.053	3.25	0.06	0.11	0.19	0.19	0.13	0.15	0.83	0.22
V21042-V21043	754	371	10	0.025	2.23	0.06	0.10	0.19	0.17	0.13	0.14	0.83	0.20
V21043-V21044.D0	752	21	10	0.157	5.60	0.06	0.10	0.20	0.17	0.13	0.14	0.83	0.20
V21044.A0-V21044.B0	339	19	8	0.033	1.41	0.00	0.01	0.00	0.01	0.00	0.02	0.67	0.02
V21044.B0-V21044.C0	2470	247	8	0.152	3.05	0.00	0.01	0.00	0.02	0.00	0.04	0.67	0.04
V21044.C0-V21044.D0	751	64	8	0.014	0.92	0.00	0.08	0.00	0.16	0.01	0.15	0.67	0.19
V21044.D0-V21044	405	248	10	0.019	1.97	0.06	0.11	0.20	0.20	0.13	0.17	0.83	0.24
V21044-V21045	6541	298	10	0.038	2.75	0.06	0.10	0.20	0.18	0.14	0.14	0.83	0.20
V21045-V21058	5122	350	10	0.064	3.57	0.06	0.09	0.21	0.17	0.14	0.14	0.83	0.19
V21046-V21047	586	319	8	0.091	2.35	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V21047-V21052	2029	72	8	0.089	2.33	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.04
V21048-V21049	2339	7	8	0.002	0.35	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V21049-V21050	585	234	8	0.060	1.92	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.02
V21050-V21051	2024	119	8	0.114	2.63	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V21051-V21052	2028	31	8	0.020	1.10	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.04
V21052-V21053	6597	67	8	0.092	2.37	0.00	0.02	0.01	0.04	0.00	0.03	0.67	0.05
V21053-V21054	6598	389	8	0.091	2.36	0.00	0.03	0.01	0.07	0.00	0.05	0.67	0.07
V21054-V21055	2469	267	8	0.011	0.81	0.00	0.05	0.01	0.09	0.01	0.07	0.67	0.10
V21055-V21056	758	110	8	0.013	0.89	0.00	0.04	0.02	0.08	0.01	0.06	0.67	0.08
V21056-V21057	6540	359	8	0.126	2.77	0.00	0.03	0.02	0.07	0.01	0.05	0.67	0.08
V21057-V21058	5121	314	8	0.030	1.36	0.00	0.08	0.02	0.15	0.01	0.12	0.67	0.17
V21058-V21060	4562	220	10	0.067	3.67	0.07	0.12	0.23	0.21	0.15	0.17	0.83	0.24
V21059-V21060	5145	25	8	0.002	0.35	0.00	0.13	0.00	0.28	0.00	0.21	0.67	0.33
V21060-V21062	5114	251	10	0.014	1.68	0.07	0.17	0.24	0.29	0.15	0.24	0.83	0.33
V21061-V21062	5144	24	8	0.008	0.71	0.00	0.12	0.00	0.27	0.00	0.19	0.67	0.32
V21062-V21066	6827	17	10	0.001	0.34	0.07	0.15	0.24	0.27	0.15	0.22	0.83	0.31
V21063-V21064	404	61	8	0.277	4.11	0.00	0.01	0.00	0.01	0.00	0.01	0.67	0.01
V21064-V21065	6539	193	8	0.198	3.47	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V21065-V21066	6145	122	8	0.014	0.92	0.00	0.08	0.00	0.15	0.00	0.12	0.67	0.17
V21066-V21067	6822	304	10	0.032	2.55	0.07	0.11	0.24	0.21	0.15	0.16	0.83	0.24
V21067-V21078	1671	228	10	0.033	2.59	0.07	0.11	0.25	0.21	0.15	0.16	0.83	0.24
V21068-V21069	2023	137	8	0.115	2.65	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V21069-V21070	2027	166	8	0.050	1.75	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
V21070-V21071	5149	234	8	0.038	1.53	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V21071-V21072	335	134	8	0.097	2.44	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.04
V21072-V21073	2468	127	8	0.132	2.83	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.04
V21073-V21074	2479	89	8	0.138	2.90	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.04
V21074-V21075	6537	152	8	0.252	3.92	0.01	0.03	0.01	0.04	0.00	0.03	0.67	0.04
V21075-V21076	4561	106	8	0.231	3.76	0.01	0.03	0.01	0.05	0.01	0.03	0.67	0.05
V21076-V21077	6821	124	8	0.141	2.94	0.01	0.04	0.01	0.05	0.01	0.04	0.67	0.05
V21077-V21078	1670	43	8	0.077	2.17	0.01	0.09	0.02	0.16	0.01	0.12	0.67	0.18
V21078-V21081	6144	293	10	0.034	2.62	0.08	0.12	0.27	0.22	0.16	0.17	0.83	0.24
V21079-V21080	5881	196	8	0.052	1.77	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V21080-V21081	6143	209	8	0.079	2.19	0.00	0.08	0.00	0.15	0.00	0.12	0.67	0.17
V21081-V21082	6803	220	10	0.034	2.61	0.08	0.12	0.27	0.22	0.16	0.17	0.83	0.25
V21082-V21083	2018	213	10	0.035	2.65	0.08	0.12	0.28	0.22	0.16	0.16	0.83	0.24
V21083-V21108	6755	243	10	0.038	2.76	0.08	0.14	0.28	0.26	0.16	0.19	0.83	0.29
V21084-V21085	7619	327	8	0.035	1.46	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V21085-V21087	6536	316	8	0.115	2.65	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.04
V21086-V21087	6535	269	8	0.028	1.31	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V21088-V21087	5120	240	8	0.076	2.16	0.01	0.04	0.01	0.06	0.00	0.04	0.67	0.05
V21088-V21091	4560	227	8	0.086	2.29	0.01	0.04	0.02	0.07	0.01	0.04	0.67	0.06
V21089-V21090	4559	169	8	0.013	0.91	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V21090-V21091	6826	288	8	0.035	1.47	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V21091-V21093	6820	128	8	0.078	2.18	0.01	0.05	0.02	0.08	0.01	0.05	0.67	0.08
V21092-V21093	6819	340	8	0.020	1.09	0.00	0.04	0.00	0.05	0.00	0.03	0.67	0.05
V21093-V21094	5877	135	8	0.039	1.55	0.01	0.06	0.03	0.10	0.01	0.06	0.67	0.10
V21094-V21095	5878	224	8	0.025	1.24	0.01	0.07	0.03	0.10	0.01	0.06	0.67	0.10

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V21095-V21097	5879	341	8	0.038	1.53	0.01	0.07	0.03	0.11	0.01	0.06	0.67	0.10
V21096-V21097	6801	109	8	0.002	0.35	0.00	0.06	0.00	0.08	0.00	0.05	0.67	0.07
V21097-V21105	2017	228	8	0.028	1.31	0.01	0.09	0.04	0.15	0.01	0.08	0.67	0.15
V21098-V21099	5148	113	8	0.012	0.84	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V21099-V21100	5147	180	8	0.039	1.54	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.03
V21100-V21101	5119	194	8	0.036	1.48	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.03
V21101-V21102	4558	79	8	0.249	3.89	0.00	0.02	0.01	0.04	0.00	0.02	0.67	0.04
V21102-V21103	6824	106	8	0.078	2.18	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.04
V21103-V21104	6142	285	8	0.077	2.16	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.05
V21104-V21105	2016	251	8	0.068	2.04	0.00	0.07	0.01	0.12	0.00	0.06	0.67	0.12
V21105-V21106	6754	186	8	0.010	0.79	0.02	0.09	0.05	0.15	0.01	0.08	0.67	0.14
V21106-V21107	6753	64	8	0.078	2.19	0.02	0.09	0.05	0.15	0.01	0.08	0.67	0.15
V21107-V21108	6752	72	8	0.006	0.62	0.02	0.16	0.05	0.29	0.01	0.19	0.67	0.30
V21108-V21109	6750	349	12	0.011	2.44	0.10	0.13	0.34	0.25	0.17	0.18	1.00	0.27
V21109-V21110	6277	343	12	0.013	2.60	0.10	0.13	0.34	0.25	0.17	0.18	1.00	0.27
V21110-V21118	1632	344	12	0.012	2.49	0.10	0.15	0.35	0.28	0.17	0.20	1.00	0.31
V21111-V21112	239	133	8	0.114	2.64	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.02
V21112-V21117	6141	240	8	0.175	3.26	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V21113-V21114	6140	75	8	0.011	0.81	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V21114-V21115	6465	349	8	0.008	0.70	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V21115-V21116	6466	286	8	0.033	1.42	0.00	0.05	0.01	0.07	0.00	0.05	0.67	0.07
V21116-V21117	6467	58	8	0.004	0.49	0.00	0.05	0.01	0.07	0.00	0.05	0.67	0.07
V21117-V21118	6276	212	8	0.139	2.91	0.01	0.14	0.01	0.26	0.01	0.18	0.67	0.28
V21118-V21119	1631	401	12	0.008	2.08	0.10	0.13	0.37	0.24	0.18	0.17	1.00	0.26
V21119-V21163	2008	214	12	0.057	5.51	0.10	0.12	0.37	0.22	0.18	0.15	1.00	0.24
V21120-V21121	4557	319	8	0.037	1.51	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.02
V21121-V21125	238	84	8	0.131	2.83	0.00	0.03	0.00	0.05	0.00	0.03	0.67	0.05
V21122-V21123	5134	4	8	0.790	6.94	0.00	0.01	0.00	0.01	0.00	0.01	0.67	0.01
V21123-V21124	4556	270	8	0.082	2.24	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V21124-V21125	6818	257	8	0.004	0.49	0.00	0.04	0.00	0.06	0.00	0.04	0.67	0.06
V21125-V21126	6817	148	8	0.020	1.11	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.07
V21126-V21127	1669	114	8	0.040	1.56	0.00	0.04	0.01	0.06	0.00	0.03	0.67	0.06
V21127-V21128	6139	210	8	0.064	1.97	0.00	0.04	0.01	0.06	0.00	0.03	0.67	0.06
V21128-V21131	2015	212	8	0.072	2.10	0.01	0.05	0.02	0.08	0.00	0.04	0.67	0.07
V21129-V21130	6800	94	8	0.028	1.30	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V21130-V21131	2014	245	8	0.026	1.26	0.00	0.04	0.00	0.06	0.00	0.03	0.67	0.05
V21131-V21132	6749	208	8	0.038	1.52	0.01	0.06	0.02	0.09	0.01	0.05	0.67	0.09
V21132-V21134	6275	358	8	0.028	1.32	0.01	0.09	0.03	0.13	0.01	0.08	0.67	0.12
V21133-V21134	6294	100	8	0.052	1.78	0.00	0.07	0.00	0.09	0.00	0.06	0.67	0.09
V21134-V21135	2007	262	8	0.006	0.60	0.02	0.11	0.03	0.16	0.01	0.10	0.67	0.16
V21135-V21136	2006	162	8	0.006	0.61	0.02	0.12	0.04	0.17	0.01	0.10	0.67	0.16
V21136-V21137	2005	166	8	0.007	0.63	0.02	0.11	0.04	0.16	0.01	0.10	0.67	0.15
V21137-V21142	4147	27	8	0.014	0.91	0.02	0.12	0.04	0.18	0.01	0.10	0.67	0.17
V21138-V21140	6799	59	8	0.028	1.32	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V21139-V21140	5884	119	8	0.082	2.23	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.02
V21140-V21141	2013	176	8	0.029	1.34	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V21141-V21142	6680	390	8	0.059	1.89	0.00	0.09	0.01	0.12	0.00	0.08	0.67	0.12
V21142-V21143	6679	165	8	0.006	0.61	0.02	0.13	0.05	0.18	0.02	0.11	0.67	0.17
V21143-V21144	5882	268	8	0.017	1.00	0.03	0.13	0.06	0.18	0.02	0.11	0.67	0.17
V21144-V21145	5883	337	8	0.006	0.60	0.03	0.14	0.06	0.21	0.02	0.12	0.67	0.20
V21145-V21146	4146	352	8	0.006	0.60	0.03	0.15	0.06	0.22	0.02	0.13	0.67	0.21
V21146-V21149	4145	104	8	0.006	0.60	0.03	0.13	0.06	0.19	0.02	0.11	0.67	0.18
V21147-V21148	6678	51	8	0.694	6.51	0.00	0.00	0.00	0.01	0.00	0.00	0.67	0.01
V21148-V21149	4144	219	8	0.046	1.68	0.00	0.05	0.00	0.08	0.00	0.04	0.67	0.08
V21149-V21150	4860	100	8	0.028	1.30	0.03	0.12	0.07	0.19	0.02	0.10	0.67	0.18
V21150-V21163	4859	312	8	0.005	0.58	0.03	0.18	0.07	0.32	0.02	0.20	0.67	0.32
V21151-V21152	5133	169	8	0.060	1.91	0.00	0.01	0.00	0.01	0.00	0.01	0.67	0.02
V21152-V21153	4555	56	8	0.201	3.50	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.02
V21153-V21154	237	57	8	0.064	1.97	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.03
V21154-V21159	6816	49	8	0.287	4.18	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V21155-V21156	236	159	8	0.030	1.36	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V21156-V21157	235	80	8	0.092	2.37	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V21157-V21158	3055	80	8	0.037	1.50	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V21158-V21159	1668	23	8	0.230	3.75	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V21159-V21160	5288	187	8	0.222	3.68	0.00	0.03	0.01	0.04	0.01	0.03	0.67	0.04
V21160-V21161	6748	41	8	0.107	2.56	0.00	0.02	0.01	0.04	0.01	0.03	0.67	0.04
V21161-V21163	V21161-V21163	74	8	0.296	4.25	0.00	0.12	0.01	0.22	0.01	0.15	0.67	0.23
V21164-V21163	4858	372	12	0.019	3.20	0.13	0.13	0.46	0.23	0.20	0.16	1.00	0.25
V21165-V21166	6271	35	8	0.027	1.29	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V21166-V21167	6273	29	8	0.211	3.59	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V21167-V21168	2012	252	8	0.089	2.33	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V21168-V21171	6270	210	8	0.135	2.87	0.00	0.03	0.01	0.04	0.01	0.04	0.67	0.04
V21169-V21170	6267	43	8	0.142	2.94	0.00	0.01	0.00	0.01	0.00	0.01	0.67	0.01
V21170-V21171	6268	298	8	0.126	2.77	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V21171-V21172	6269	31	8	0.147	2.99	0.01	0.03	0.01	0.05	0.01	0.04	0.67	0.05
V21172-V21173	4965	260	8	0.089	2.33	0.01	0.11	0.01	0.20	0.01	0.14	0.67	0.21
V21173-V21164	4966	384	12	0.054	5.34	0.13	0.12	0.46	0.22	0.20	0.15	1.00	0.23
V21173-V21179	6134	47	12	0.035	4.28	0.14	0.12	0.48	0.21	0.22	0.15	1.00	0.23
V21174-V21175	4964	189	8	0.071	2.09	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V21175-V21176	6522	98	8	0.027	1.29	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V21176-V21177	6521	144	8	0.045	1.66	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V21177-V21178	6133	153	8	0.043	1.62	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.06
V21178-V21179	1563	141	8	0.005	0.55	0.00	0.11	0.01	0.19	0.00	0.13	0.67	0.20
V21179-V21180	1562	176	12	0.063	5.77	0.14	0.14	0.49	0.26	0.23	0.17	1.00	0.27
V21180-V21181	1561	323	12	0.010	2.35	0.15	0.17	0.50	0.30	0.23	0.20	1.00	0.32
V21182-V21189	6482	327	12	0.019	3.13	0.16	0.24	0.51	0.41	0.23	0.28	1.00	0.44
V21183-V21184	6132	265	8	0.040	1.56	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.04
V21184-V21185	1560	270	8	0.010	0.78	0.01	0.07	0.01	0.08	0.01	0.07	0.67	0.08
V21185-V21186	1559	305	8	0.004	0.51	0.01	0.09	0.01	0.11	0.01	0.09	0.67	0.10
V21186-V21187	1558	121	8	0.006	0.60	0.01	0.08	0.01	0.10	0.01	0.08	0.67	0.09
V21187.A0-V21187.B0	4148	40	8	0.051	1.76	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V21187.B0-V21187.C0	6262	57	8	0.048	1.71	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V21187.C0-V21187.D0	6263	233	8	0.107	2.55	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.03
V21187.D0-V21187	6264	128	8	0.067	2.02	0.01	0.05	0.01	0.06	0.00	0.05	0.67	0.06
V21187-V21188	6265	319	8	0.056	1.86	0.02	0.12	0.02	0.15	0.01	0.11	0.67	0.14
V21188.A0-V21188.B0	3259	191	8	0.010	0.79	0.00	0.06	0.00	0.06	0.00	0.05	0.67	0.05
V21188.B0-V21188.C0	3261	207	8	0.010	0.79	0.01	0.07	0.01	0.07	0.00	0.06	0.67	0.07
V21188.C0-V21188.D0	3262	77	8	0.011	0.81	0.01	0.08	0.01	0.08	0.01	0.06	0.67	0.07
V21188.D0-V21188.E0	3263	54	8	0.011	0.83	0.01	0.07	0.01	0.08	0.01	0.06	0.67	0.07
V21188.E0-V21188.F0	3264	102	8	0.035	1.46	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.05
V21188.F0-V21188.G0	3265	60	8	0.307	4.33	0.01	0.06	0.02	0.07	0.01	0.05	0.67	0.06
V21188.G0-V21188.H0	3266	122	8	0.011	0.80	0.01	0.09	0.02	0.10	0.01	0.07	0.67	0.09
V21188.H0-V21188.I0	3267	108	8	0.011	0.80	0.01	0.09	0.02	0.10	0.01	0.08	0.67	0.09
V21188.I0-V21188.J0	3268	158	8	0.010	0.77	0.01	0.09	0.02	0.11	0.01	0.08	0.67	0.10
V21188.J0-V21188.K0	2696	185	8	0.010	0.79	0.01	0.09	0.02	0.11	0.01	0.08	0.67	0.10
V21188.K0-V21188	2697	62	8	0.014	0.94	0.01	0.13	0.02	0.16	0.01	0.12	0.67	0.15
V21188-V21189	6266	332	8	0.004	0.49	0.03	0.33	0.05	0.52	0.02	0.36	0.67	0.54

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V21189-V21190	6480	231	12	0.002	0.97	0.19	0.24	0.57	0.42	0.26	0.28	1.00	0.44
V21190-V21191	5893	397	12	0.022	3.38	0.19	0.19	0.58	0.33	0.26	0.22	1.00	0.35
V21191-V21192	5895	350	15	0.005	2.93	0.21	0.31	0.59	0.45	0.26	0.37	1.25	0.50
V21192-V21193	3256	260	18	0.006	5.36	1.58	0.37	2.64	0.48	2.19	0.44	1.50	0.55
V21193-V21194	3257	200	18	0.008	6.05	1.58	0.32	2.64	0.42	2.19	0.38	1.50	0.47
V21194-V21195	6255	126	18	0.019	9.45	1.58	0.28	2.65	0.36	2.19	0.33	1.50	0.41
V21195-V21196	6254	237	18	0.020	9.71	1.64	0.36	2.76	0.48	2.25	0.42	1.50	0.55
V21196-V22147	7152	299	18	0.004	4.23	1.64	0.42	2.76	0.57	2.25	0.50	1.50	0.66
V21201-V21182	1111	326	12	0.016	2.93	0.16	0.16	0.51	0.28	0.23	0.19	1.00	0.30
V22001-V22002	5885	94	8	0.029	1.34	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V22002-V22003	403	162	8	0.004	0.50	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.06
V22003-V22004	402	286	8	0.004	0.49	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.06
V22004-V22006	5886	298	8	0.068	2.03	0.00	0.04	0.01	0.07	0.01	0.07	0.67	0.08
V22005-V22006	6629	105	8	0.018	1.05	0.00	0.04	0.00	0.06	0.00	0.06	0.67	0.07
V22006-V22007	5887	130	8	0.009	0.73	0.00	0.05	0.01	0.08	0.01	0.07	0.67	0.09
V22007-V22008	6534	202	8	0.044	1.64	0.01	0.04	0.01	0.06	0.01	0.06	0.67	0.07
V22008-V22009	4554	373	8	0.106	2.55	0.01	0.05	0.02	0.07	0.01	0.06	0.67	0.07
V22009-V22010	4578	310	8	0.063	1.97	0.01	0.07	0.02	0.10	0.02	0.09	0.67	0.11
V22010-V22012	5287	196	8	0.011	0.83	0.01	0.07	0.03	0.10	0.02	0.09	0.67	0.11
V22011-V22012	6630	179	8	0.149	3.01	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.05
V22012-V22013	6677	329	8	0.101	2.48	0.01	0.06	0.03	0.09	0.02	0.07	0.67	0.09
V22013-V22025	6631	300	8	0.059	1.89	0.02	0.12	0.03	0.18	0.02	0.15	0.67	0.19
V22015-V22016	5286	208	6	0.050	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V22016-V22017	6676	294	6	0.125	1.28	0.00	0.05	0.00	0.06	0.00	0.06	0.50	0.07
V22017-V22018	6634	110	6	0.034	0.67	0.01	0.05	0.01	0.06	0.01	0.07	0.50	0.07
V22018-V22022	6295	21	6	0.351	2.15	0.01	0.08	0.01	0.10	0.01	0.10	0.50	0.11
V22019-V22020.A0	V22019-V22020.A0	10	8	0.060	1.91	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V22020.A0-V22020	V22020.A0-V22020	171	8	0.190	3.41	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V22020-V22021	6299	169	8	0.131	2.83	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V22021-V22022	6300	348	8	0.105	2.53	0.00	0.06	0.01	0.08	0.01	0.07	0.67	0.09
V22022-V22023	6643	67	8	0.006	0.58	0.01	0.10	0.02	0.13	0.02	0.12	0.67	0.14
V22023-V22025	6297	268	8	0.004	0.48	0.01	0.14	0.02	0.20	0.02	0.17	0.67	0.22
V22024-V22025	6298	197	8	0.178	3.30	0.00	0.10	0.00	0.14	0.00	0.12	0.67	0.15
V22025-V22027	6633	375	8	0.004	0.49	0.03	0.13	0.06	0.19	0.04	0.16	0.67	0.21
V22026-V22027	6632	194	8	0.136	2.88	0.00	0.05	0.00	0.07	0.00	0.06	0.67	0.07
V22027-V22028	4963	179	8	0.081	2.22	0.03	0.08	0.07	0.12	0.05	0.10	0.67	0.13
V22028-V22033	6520	200	8	0.110	2.59	0.03	0.09	0.07	0.13	0.05	0.11	0.67	0.14
V22029-V22031	6301	174	8	0.112	2.62	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V22030-V22031	6302	209	8	0.064	1.97	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.03
V22031-V22032	6304	271	8	0.053	1.79	0.01	0.05	0.01	0.06	0.00	0.04	0.67	0.05
V22032-V22033	6519	27	8	0.022	1.15	0.01	0.08	0.01	0.11	0.01	0.08	0.67	0.11
V22033-V22034	6305	196	8	0.054	1.82	0.04	0.11	0.08	0.15	0.05	0.12	0.67	0.16
V22034-V22037	6306	359	8	0.041	1.58	0.04	0.12	0.09	0.17	0.06	0.14	0.67	0.17
V22035-V22036	6308	330	8	0.145	2.97	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V22036-V22037	6307	274	8	0.076	2.15	0.00	0.08	0.01	0.11	0.00	0.09	0.67	0.11
V22037-V22039	6309	225	8	0.041	1.58	0.05	0.16	0.10	0.21	0.07	0.18	0.67	0.23
V22039-V22038	5892	264	8	0.035	1.46	0.01	0.12	0.01	0.15	0.01	0.14	0.67	0.16
V22039-V22040	6720	126	8	0.011	0.81	0.06	0.20	0.12	0.26	0.09	0.23	0.67	0.28
V22040-V22041	6721	103	8	0.009	0.75	0.07	0.20	0.12	0.27	0.09	0.24	0.67	0.29
V22041-V22048	6722	169	8	0.010	0.78	0.07	0.29	0.12	0.39	0.10	0.32	0.67	0.40
V22042-V22043	6362	71	8	0.010	0.77	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V22043-V22044	4962	81	8	0.130	2.82	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V22044-V22045	6131	126	8	0.126	2.78	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V22045-V22046	1110	264	8	0.135	2.87	0.01	0.04	0.01	0.05	0.01	0.06	0.67	0.06
V22046-V22047.A0	V22046-V22047.A0	85	8	0.028	1.32	0.01	0.06	0.01	0.07	0.01	0.08	0.67	0.09
V22047.A0-V22047	V22047.A0-V22047	90	8	0.018	1.05	0.01	0.19	0.01	0.26	0.02	0.22	0.67	0.28
V22047-V22048	5890	23	12	0.022	3.38	0.35	0.23	0.66	0.32	0.40	0.25	1.00	0.33
V22048-V22049	6723	146	12	0.019	3.21	0.42	0.26	0.78	0.36	0.49	0.28	1.00	0.37
V22049-V22056	6724	340	12	0.013	2.59	0.43	0.29	0.79	0.40	0.50	0.32	1.00	0.42
V22050-V22052	6361	221	8	0.193	3.43	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V22051-V22052	6359	184	8	0.011	0.81	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V22052-V22054	1109	153	8	0.211	3.59	0.01	0.04	0.01	0.04	0.01	0.04	0.67	0.05
V22053-V22054	6358	189	8	0.005	0.55	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V22054-V22055	6357	279	8	0.106	2.54	0.01	0.08	0.01	0.09	0.01	0.09	0.67	0.10
V22055-V22056	6356	246	8	0.005	0.54	0.01	0.29	0.02	0.38	0.02	0.32	0.67	0.40
V22056-V22075	4823	39	12	0.008	2.09	0.44	0.29	0.82	0.39	0.53	0.32	1.00	0.41
V22057-V22058	6368	259	6	0.006	0.28	0.00	0.04	0.00	0.04	0.00	0.05	0.50	0.05
V22058-V22059	6369	119	6	0.070	0.96	0.00	0.06	0.00	0.07	0.00	0.06	0.50	0.07
V22059-V22060	6130	71	6	0.006	0.28	0.00	0.08	0.01	0.10	0.00	0.09	0.50	0.10
V22060-V22061	6129	34	6	0.006	0.28	0.00	0.09	0.01	0.11	0.01	0.11	0.50	0.12
V22061-V22062	6128	267	6	0.006	0.28	0.01	0.09	0.01	0.10	0.01	0.10	0.50	0.11
V22062-V22068	6127	346	6	0.035	0.68	0.01	0.09	0.01	0.10	0.01	0.11	0.50	0.12
V22063-V22065	6364	127	6	0.005	0.27	0.00	0.08	0.00	0.08	0.01	0.15	0.50	0.15
V22064-V22065	6365	61	6	0.003	0.21	0.00	0.07	0.00	0.07	0.00	0.13	0.50	0.13
V22065-V22067	6366	180	6	0.006	0.28	0.00	0.08	0.01	0.09	0.02	0.14	0.50	0.14
V22066-V22067	6363	94	6	0.123	1.27	0.00	0.04	0.00	0.05	0.00	0.07	0.50	0.07
V22067-V22068	6171	106	6	0.035	0.68	0.01	0.08	0.01	0.10	0.02	0.12	0.50	0.13
V22068-V22072	1108	173	6	0.050	0.81	0.02	0.11	0.02	0.13	0.03	0.14	0.50	0.15
V22069-V22070	6370	358	6	0.028	0.61	0.00	0.05	0.00	0.05	0.00	0.06	0.50	0.06
V22070-V22071	4961	181	6	0.066	0.93	0.01	0.05	0.01	0.06	0.01	0.07	0.50	0.07
V22071-V22072	1106	274	6	0.119	1.25	0.01	0.09	0.01	0.10	0.01	0.11	0.50	0.11
V22072-V22074	4803	305	6	0.072	0.97	0.03	0.16	0.04	0.18	0.05	0.20	0.50	0.21
V22073-V22074	4822	398	6	0.006	0.28	0.01	0.16	0.01	0.17	0.01	0.18	0.50	0.19
V22074-V22075	4821	223	6	0.020	0.51	0.04	0.37	0.06	0.47	0.07	0.42	0.50	0.51
V22075-V22076	4820	301	12	0.018	3.12	0.49	0.29	0.87	0.39	0.59	0.32	1.00	0.40
V22076-V22077.B0	V22076-V22077.B0	264	12	0.011	2.46	0.50	0.32	0.89	0.43	0.60	0.35	1.00	0.45
V22077.B0-V22077	V22077.B0-V22077	35	12	0.008	2.10	0.50	0.31	0.89	0.42	0.60	0.34	1.00	0.44
V22077-V22078	5646	262	12	0.013	2.63	0.50	0.34	0.89	0.47	0.60	0.37	1.00	0.49
V22078-V22095	6372	193	12	0.005	1.65	0.51	0.35	0.90	0.50	0.61	0.40	1.00	0.53
V22079-V22080	4486	131	8	0.056	1.84	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V22080-V22081	6377	349	8	0.052	1.78	0.00	0.02	0.00	0.03	0.00	0.05	0.67	0.05
V22081-V22092	6375	145	8	0.046	1.68	0.00	0.05	0.01	0.07	0.01	0.11	0.67	0.11
V22082-V22083	6380	102	8	0.030	1.34	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V22083-V22084	6379	225	8	0.006	0.62	0.00	0.04	0.00	0.05	0.01	0.06	0.67	0.06
V22084-V22087	6378	145	6	0.090	1.09	0.00	0.06	0.01	0.07	0.01	0.09	0.50	0.09
V22085.A0-V22085	6697	114	6	0.011	0.37	0.00	0.06	0.00	0.07	0.00	0.07	0.50	0.08
V22085-V22086	6698	248	6	0.010	0.37	0.00	0.06	0.00	0.07	0.00	0.07	0.50	0.08
V22086-V22087	4960	344	6	0.061	0.90	0.01	0.06	0.01	0.08	0.01	0.08	0.50	0.09
V22087-V22088	6170	142	6	0.081	1.03	0.01	0.10	0.02	0.13	0.02	0.15	0.50	0.16
V22088-V22089	6169	305	6	0.010	0.36	0.01	0.12	0.02	0.15	0.03	0.19	0.50	0.20
V22089-V22091	1105	224	6	0.030	0.63	0.01	0.09	0.02	0.12	0.04	0.16	0.50	0.17
V22090-V22091	6374	169	6	0.019	0.50	0.00	0.54	0.00	0.55	0.01	0.57	0.50	0.57
V22091-V22092	4802	235	6	0.166	1.48	0.02	0.09	0.03	0.12	0.06	0.17	0.50	0.18
V22092-V22093	4818	216	8	0.046	1.68	0.02	0.10	0.04	0.13	0.09	0.20	0.67	0.21
V22093-V22094	5645	255	8	0.009	0.72	0.02	0.12	0.04	0.22	0.09	0.23	0.67	0.29
V22094-V22095	6644	19	8	0.016	0.98	0.02	0.30	0.09	0.47	0.10	0.39	0.67	0.53
V22095-V22096	6371	213	10	0.013	1.64	0.53	0.45	0.98	0.64	0.70	0.53	0.83	0.70

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V22096-V22097	5387	397	12	0.004	0.86	0.53	0.44	0.96	0.64	0.70	0.52	1.00	0.70
V22097-V22098	5386	292	12	0.003	0.75	0.53	0.47	0.96	0.68	0.70	0.56	1.00	0.74
V22098-V22099	3063	288	12	0.003	0.73	0.53	0.34	0.96	0.47	0.70	0.40	1.00	0.51
V22099-V22145	3064	253	12	0.083	4.07	0.53	0.27	0.96	0.37	0.70	0.34	1.00	0.41
V22100-V22101	5285	203	8	0.151	3.03	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.02
V22101-V22102	6675	243	8	0.160	3.13	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
V22102-V22109	4857	402	8	0.042	1.59	0.00	0.05	0.01	0.07	0.00	0.06	0.67	0.07
V22103-V22104	7150	181	8	0.004	0.52	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V22104-V22105	5284	330	8	0.061	1.93	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
V22105-V22108	6674	393	8	0.125	2.76	0.00	0.04	0.01	0.06	0.01	0.05	0.67	0.07
V22106-V22107	7151	108	8	1.714	10.22	0.00	0.50	0.00	0.50	0.00	0.50	0.67	0.50
V22107-V22108	6673	305	8	0.081	2.23	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.05
V22108-V22109	4856	253	8	0.014	0.93	0.01	0.06	0.01	0.09	0.01	0.07	0.67	0.10
V22109-V22112	4959	196	8	0.034	1.45	0.01	0.06	0.03	0.10	0.02	0.07	0.67	0.10
V22110-V22111	6671	218	8	0.037	1.50	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V22111-V22112	4958	257	8	0.123	2.74	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.07
V22112-V22114	1564	291	8	0.066	2.01	0.02	0.07	0.04	0.10	0.02	0.08	0.67	0.11
V22113-V22114	6186	220	8	0.010	0.78	0.01	0.08	0.01	0.09	0.00	0.06	0.67	0.07
V22114-V22116	6292	61	6	0.071	0.97	0.02	0.11	0.05	0.16	0.02	0.12	0.50	0.16
V22115-V22116	7610	250	6	0.104	1.17	0.00	0.07	0.00	0.09	0.00	0.08	0.50	0.10
V22116-V22117	1104	367	8	0.054	1.81	0.03	0.08	0.05	0.11	0.03	0.08	0.67	0.11
V22117-V22119	4485	62	8	0.133	2.85	0.03	0.10	0.06	0.13	0.03	0.10	0.67	0.13
V22118-V22119	1103	280	6	0.091	1.09	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V22119-V22123	5769	303	8	0.029	1.34	0.04	0.13	0.07	0.16	0.04	0.12	0.67	0.15
V22120-V22121	7149	103	6	0.010	0.36	0.02	0.14	0.02	0.14	0.00	0.04	0.50	0.04
V22121-V22122	6168	122	6	0.049	0.80	0.02	0.10	0.02	0.10	0.00	0.04	0.50	0.04
V22122-V22123	1102	236	6	0.126	1.29	0.02	0.09	0.02	0.09	0.00	0.04	0.50	0.04
V22123-V22124	4801	364	8	0.037	1.49	0.07	0.15	0.10	0.17	0.04	0.12	0.67	0.16
V22124-V22125	5644	334	8	0.039	1.55	0.07	0.20	0.10	0.25	0.05	0.18	0.67	0.23
V22125-V22131	5851	386	8	0.004	0.51	0.07	0.24	0.10	0.30	0.06	0.29	0.67	0.33
V22126-V22127	589	146	8	0.075	2.14	0.00	0.01	0.00	0.02	0.01	0.14	0.67	0.14
V22127-V22128	1123	127	8	0.012	0.85	0.00	0.02	0.00	0.03	0.09	0.20	0.67	0.20
V22128-V22129	5850	203	8	0.037	1.50	0.00	0.04	0.00	0.06	0.10	0.25	0.67	0.25
V22129-V22130	5849	174	8	0.004	0.51	0.00	0.07	0.01	0.09	0.11	0.33	0.67	0.33
V22130-V22131	5848	39	8	0.003	0.43	0.00	0.15	0.01	0.19	0.11	0.34	0.67	0.35
V22131-V22132	5847	403	8	0.009	0.76	0.08	0.20	0.12	0.25	0.18	0.30	0.67	0.32
V22132-V22133	5846	140	8	0.021	1.13	0.08	0.20	0.12	0.24	0.18	0.29	0.67	0.32
V22133.A0-V22133	5998	176	6	0.002	0.16	0.01	0.22	0.01	0.25	0.00	0.21	0.50	0.23
V22133-V22134	5845	96	6	0.017	0.47	0.09	0.33	0.13	0.42	0.18	0.50	0.50	0.55
V22134-V22136	1258	55	6	0.006	0.28	0.09	0.38	0.13	0.48	0.18	0.56	0.50	0.62
V22135.A0-V22135.B0	587	103	6	0.002	0.16	0.00	0.00	0.00	0.02	0.00	0.00	0.50	0.02
V22135.B0-V22135	7620	178	6	0.002	0.16	0.00	0.00	0.00	0.06	0.00	0.03	0.50	0.08
V22135-V22136	2434	124	6	0.002	0.16	0.00	0.19	0.00	0.28	0.00	0.30	0.50	0.37
V22136-V22144	1124	388	6	0.008	0.32	0.09	0.30	0.13	0.38	0.18	0.48	0.50	0.52
V22137.AA-V22137	V22137.AA-V22137	52	8	0.071	2.08	0.00	0.00	0.00	0.01	0.00	0.04	0.67	0.04
V22137-V22138	6382	589	6	0.015	0.44	0.00	0.00	0.00	0.05	0.00	0.07	0.50	0.09
V22138-V22139	5843	112	6	0.010	0.36	0.00	0.00	0.00	0.09	0.00	0.32	0.50	0.32
V22139-V22140	6381	181	6	0.005	0.26	0.00	0.00	0.00	0.08	0.14	0.41	0.50	0.41
V22140-V22144	1129	54	8	0.068	2.04	0.00	0.08	0.01	0.12	0.14	0.24	0.67	0.24
V22141-V22142	1127	300	6	0.020	0.51	0.00	0.00	0.00	0.02	0.00	0.00	0.50	0.02
V22142-V22143	1125	151	6	0.020	0.51	0.00	0.00	0.00	0.06	0.00	0.00	0.50	0.06
V22143-V22144	1126	176	6	0.009	0.34	0.00	0.11	0.00	0.17	0.00	0.20	0.50	0.24
V22144-V22145	1130	307	10	0.029	2.41	0.09	0.27	0.14	0.37	0.32	0.39	0.83	0.46
V22145-V24090	7144	148	12	0.011	1.49	0.61	0.51	1.11	0.71	1.02	0.65	1.00	0.78
V22146-V22147	6253	228	6	0.011	0.38	0.01	0.54	0.01	0.54	0.03	0.60	0.50	0.60
V22147-V22148	6635	357	18	0.005	5.01	1.65	0.36	2.78	0.49	2.28	0.44	1.50	0.56
V22148-V22149	4800	487	18	0.013	7.87	1.65	0.28	2.78	0.37	2.28	0.33	1.50	0.42
V22149-V22155	4817	407	18	0.041	13.78	1.65	0.26	2.79	0.34	2.28	0.30	1.50	0.38
V22150-V22151	6837	197	8	0.012	0.85	0.00	0.02	0.00	0.02	0.00	0.04	0.67	0.04
V22151-V22152	4799	214	8	0.014	0.91	0.00	0.02	0.00	0.04	0.00	0.04	0.67	0.05
V22155.A0-V22152	V22155.A0-V22152	59	8	0.018	1.03	0.00	0.02	0.00	0.05	0.00	0.04	0.67	0.06
V22155.A0-V22155.B0	V22155.A0-V22155.B0	300	8	0.018	1.05	0.00	0.03	0.00	0.06	0.00	0.05	0.67	0.07
V22155.B0-V22155	V22155.B0-V22155	200	8	0.009	0.76	0.00	0.33	0.01	0.46	0.00	0.39	0.67	0.51
V22155-V22156	5640	352	18	0.019	9.46	1.65	0.35	2.81	0.47	2.28	0.41	1.50	0.53
V22156-V22157.C0	7691	200	18	0.005	4.68	1.65	0.43	2.82	0.59	2.28	0.52	1.50	0.69
V22157.C0-V22157	7279	230	18	0.003	3.93	1.65	0.44	2.82	0.61	2.28	0.54	1.50	0.72
V22157-V22158	5842	427	18	0.004	4.27	1.65	0.45	2.82	0.62	2.32	0.55	1.50	0.72
V22158-V22159	5841	429	18	0.003	3.92	1.65	0.35	2.83	0.47	2.32	0.42	1.50	0.55
V22159-V22161	2433	162	18	0.044	14.22	1.65	0.23	2.84	0.30	2.33	0.27	1.50	0.34
V22161-V22162	5619	168	18	0.045	14.45	1.65	0.34	2.84	0.46	2.33	0.41	1.50	0.53
V22162-V24090	7148	13	18	0.004	4.26	1.65	0.45	2.85	0.62	2.33	0.56	1.50	0.72
V23001-V23002	6202	85	8	0.085	2.28	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V23002-V23003	6203	72	8	0.102	2.49	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V23003-V23004	6204	249	8	0.046	1.68	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V23004-V23005	6205	183	8	0.059	1.90	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V23005-V23007	6206	316	8	0.032	1.40	0.00	0.06	0.01	0.08	0.00	0.06	0.67	0.08
V23006-V23007	6207	93	8	0.003	0.44	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V23007-V23008	1667	256	8	0.008	0.72	0.01	0.06	0.01	0.08	0.01	0.06	0.67	0.08
V23008-V23009	5283	341	8	0.098	2.45	0.01	0.04	0.02	0.06	0.01	0.04	0.67	0.06
V23009-V23025	6670	119	8	0.068	2.03	0.01	0.07	0.02	0.11	0.01	0.07	0.67	0.11
V23010-V23011	4576	72	8	0.299	4.27	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V23011-V23012	1666	163	8	0.067	2.02	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V23012-V23013	5280	154	8	0.068	2.04	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V23013-V23014	6798	132	8	0.044	1.64	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.06
V23014-V23015.C0	6210	244	8	0.011	0.84	0.00	0.05	0.01	0.07	0.00	0.05	0.67	0.07
V23015.A0-V23015.B0	6208	229	8	0.135	2.87	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V23015.B0-V23015.C0	6209	61	8	0.050	1.74	0.00	0.04	0.00	0.06	0.00	0.04	0.67	0.06
V23015.C0-V23015	6212	49	8	0.017	1.02	0.01	0.06	0.01	0.09	0.01	0.06	0.67	0.09
V23015-V23016	6797	147	8	0.010	0.79	0.01	0.05	0.01	0.08	0.01	0.06	0.67	0.08
V23016-V23021	2011	139	8	0.072	2.10	0.01	0.05	0.02	0.07	0.01	0.05	0.67	0.07
V23017-V23018	6796	91	8	0.022	1.15	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V23018-V23019	6795	104	8	0.058	1.88	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V23019-V23020	2010	197	8	0.066	2.01	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.05
V23020-V23021	6747	249	8	0.008	0.70	0.01	0.06	0.01	0.07	0.00	0.05	0.67	0.07
V23021-V23025	6293	124	8	0.083	2.24	0.01	0.08	0.03	0.11	0.01	0.08	0.67	0.11
V23022-V23023	6213	61	8	0.064	1.98	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V23023-V23024	6746	109	8	0.034	1.44	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V23024-V23025	6669	164	8	0.034	1.44	0.00	0.06	0.00	0.09	0.00	0.06	0.67	0.09
V23025-V23027	4143	281	8	0.020	1.10	0.02	0.10	0.05	0.15	0.02	0.10	0.67	0.15
V23026-V23027	6197	115	6	0.007	0.31	0.00	0.09	0.00	0.12	0.00	0.09	0.50	0.12
V23027-V23028	4855	270	8	0.021	1.13	0.02	0.10	0.06	0.15	0.02	0.10	0.67	0.15
V23028-V23039	6193	255	8	0.026	1.26	0.03	0.11	0.06	0.17	0.03	0.11	0.67	0.16
V23029-V23030	6839	123	8	0.078	2.19	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V23030-V23031	6840	201	8	0.060	1.92	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V23031-V23033	6559	144	8	0.098	2.44	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V23032-V23033	6558	145	8	0.068	2.03	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.03
V23033-V23034	6560	199	8	0.060	1.91	0.01	0.04	0.01	0.05	0.01	0.04	0.67	0.05

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V23034.A0-V23034.B0	6562	182	8	0.027	1.28	0.00	0.51	0.00	0.51	0.00	0.51	0.67	0.51
V23034.B0-V23034	6645	46	8	0.096	2.42	0.00	0.52	0.00	0.52	0.00	0.52	0.67	0.52
V23034-V23036	6564	35	8	0.198	3.47	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.06
V23035-V23036	6561	370	8	0.051	1.77	0.00	0.05	0.00	0.06	0.00	0.04	0.67	0.05
V23036-V23037	6565	226	8	0.039	1.54	0.01	0.06	0.02	0.08	0.01	0.06	0.67	0.08
V23037-V23038	6191	97	8	0.072	2.10	0.01	0.06	0.02	0.08	0.01	0.06	0.67	0.07
V23038-V23039	6192	115	8	0.081	2.22	0.01	0.09	0.03	0.13	0.01	0.09	0.67	0.13
V23039-V23040	6194	167	8	0.026	1.26	0.04	0.13	0.09	0.18	0.04	0.12	0.67	0.18
V23040-V23067	6195	309	8	0.024	1.22	0.04	0.13	0.09	0.19	0.04	0.13	0.67	0.19
V23041-V23042	2478	217	8	0.093	2.38	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V23042-V23043	401	174	8	0.061	1.94	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V23043-V23044	6533	249	8	0.119	2.69	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V23044.A0-V23044.B0	338	3	8	0.155	3.07	0.00	0.01	0.00	0.01	0.01	0.03	0.67	0.03
V23044.B0-V23044.C0	6214	312	8	0.165	3.17	0.00	0.02	0.00	0.02	0.01	0.03	0.67	0.03
V23044.C0-V23044	6215	77	8	0.145	2.97	0.00	0.03	0.00	0.04	0.01	0.05	0.67	0.05
V23044-V23045	5132	219	8	0.050	1.75	0.01	0.04	0.01	0.06	0.01	0.06	0.67	0.07
V23045-V23048	4240	245	8	0.090	2.35	0.01	0.04	0.02	0.07	0.01	0.06	0.67	0.07
V23046-V23047	234	7	8	2.751	12.95	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.01
V23047-V23048	4575	305	8	0.043	1.62	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V23048-V23051	1665	176	8	0.074	2.13	0.01	0.06	0.02	0.09	0.01	0.07	0.67	0.09
V23049-V23050	6216	280	8	0.088	2.32	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V23050-V23051	6217	136	8	0.339	4.55	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.06
V23051-V23052	5279	231	8	0.032	1.39	0.01	0.07	0.03	0.10	0.02	0.08	0.67	0.11
V23052-V23053	6794	129	8	0.033	1.42	0.01	0.07	0.03	0.11	0.02	0.08	0.67	0.11
V23053-V23059	6793	120	8	0.035	1.46	0.01	0.07	0.03	0.11	0.02	0.08	0.67	0.11
V23054-V23055	6224	106	8	0.003	0.43	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V23055-V23056	1664	264	8	0.040	1.57	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V23056-V23057	5278	262	8	0.042	1.60	0.00	0.04	0.01	0.05	0.00	0.03	0.67	0.05
V23057-V23059	6792	65	8	0.060	1.91	0.00	0.06	0.01	0.08	0.00	0.06	0.67	0.08
V23058-V23059	6791	19	8	0.028	1.32	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V23059-V23060	6219	252	8	0.050	1.74	0.02	0.07	0.05	0.11	0.02	0.08	0.67	0.11
V23060-V23061	6220	112	8	0.075	2.13	0.02	0.08	0.05	0.12	0.02	0.08	0.67	0.12
V23061-V23062	6221	267	8	0.031	1.38	0.02	0.09	0.05	0.13	0.03	0.09	0.67	0.13
V23062-V23063	6222	128	8	0.038	1.52	0.02	0.12	0.05	0.17	0.03	0.12	0.67	0.17
V23063-V23065	6223	161	8	0.006	0.62	0.03	0.12	0.06	0.18	0.03	0.13	0.67	0.18
V23064-V23065	6198	146	8	0.008	0.69	0.00	0.06	0.00	0.08	0.00	0.06	0.67	0.08
V23065-V23066	6199	352	8	0.032	1.40	0.03	0.10	0.06	0.15	0.03	0.11	0.67	0.15
V23066-V23067	6200	247	8	0.023	1.17	0.03	0.12	0.07	0.17	0.03	0.12	0.67	0.17
V23067-V23068	6225	74	8	0.075	2.14	0.07	0.14	0.16	0.20	0.07	0.13	0.67	0.20
V23068-V23086	6227	155	8	0.045	1.65	0.08	0.20	0.17	0.30	0.07	0.20	0.67	0.30
V23069-V23070	6647	63	8	0.002	0.35	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V23070-V23071	6228	181	8	0.002	0.37	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V23071-V23072	6230	113	8	0.006	0.63	0.00	0.06	0.00	0.07	0.00	0.06	0.67	0.07
V23072-V23073	6231	147	8	0.003	0.46	0.00	0.07	0.01	0.09	0.00	0.07	0.67	0.09
V23073-V23074	6232	170	8	0.004	0.48	0.01	0.08	0.01	0.10	0.01	0.08	0.67	0.09
V23074-V23075	6233	169	8	0.004	0.50	0.01	0.08	0.01	0.10	0.01	0.07	0.67	0.10
V23075-V23076.C0	6234	75	8	0.007	0.64	0.01	0.07	0.01	0.10	0.01	0.07	0.67	0.10
V23076.A0-V23076.B0	6311	152	8	0.135	2.87	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V23076.B0-V23076.C0	6312	65	8	0.078	2.18	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V23076.C0-V23076	6313	74	8	0.010	0.76	0.01	0.09	0.02	0.12	0.01	0.09	0.67	0.12
V23076-V23077	6317	159	8	0.004	0.52	0.01	0.08	0.02	0.11	0.01	0.08	0.67	0.11
V23077-V23079	6316	194	8	0.021	1.13	0.01	0.09	0.02	0.12	0.01	0.09	0.67	0.12
V23078-V23079	6315	287	6	0.143	1.37	0.00	0.09	0.00	0.12	0.00	0.10	0.50	0.12
V23079-V23084	6318	178	8	0.005	0.55	0.01	0.10	0.03	0.13	0.01	0.10	0.67	0.13
V23080-V23081	6236	120	8	0.036	1.48	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V23081-V23082	6235	69	8	0.087	2.31	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V23082-V23083	6649	293	8	0.147	2.99	0.00	0.51	0.00	0.51	0.00	0.51	0.67	0.52
V23083-V23084	6648	209	8	0.019	1.06	0.01	0.54	0.01	0.55	0.01	0.54	0.67	0.55
V23084-V23085	6650	216	8	0.050	1.74	0.02	0.07	0.04	0.09	0.02	0.07	0.67	0.09
V23085-V23086	6646	41	8	0.158	3.11	0.02	0.16	0.04	0.23	0.02	0.16	0.67	0.23
V23086-V23093	6571	160	8	0.007	0.65	0.10	0.27	0.21	0.40	0.09	0.27	0.67	0.40
V23087-V23088	6577	290	6	0.054	0.84	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V23088-V23089	6576	223	6	0.051	0.82	0.00	0.07	0.01	0.07	0.00	0.07	0.50	0.07
V23089-V23091	6651	147	8	0.014	0.93	0.01	0.06	0.01	0.06	0.01	0.05	0.67	0.06
V23090-V23091	6573	312	8	0.145	2.97	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
V23091-V23092	6575	230	8	0.064	1.98	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.06
V23092-V23093	6574	49	8	0.148	3.00	0.01	0.17	0.02	0.24	0.01	0.16	0.67	0.24
V23093.A0-V23093.B0	6240	65	8	0.005	0.56	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V23093.B0-V23093.D0	6241	123	8	0.006	0.60	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V23093.C0-V23093.D0	6242	64	8	0.037	1.49	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V23093.D0-V23093.E0	6566	85	8	0.005	0.55	0.00	0.05	0.00	0.07	0.00	0.05	0.67	0.07
V23093.E0-V23093.F0	6567	54	8	0.005	0.56	0.00	0.06	0.01	0.07	0.00	0.06	0.67	0.07
V23093.F0-V23093.G0	6568	158	8	0.005	0.55	0.00	0.06	0.01	0.08	0.00	0.06	0.67	0.08
V23093.G0-V23093.H0	6569	39	8	0.005	0.56	0.00	0.06	0.01	0.08	0.00	0.06	0.67	0.08
V23093.H0-V23093.J0	6570	55	8	0.007	0.65	0.00	0.05	0.01	0.07	0.00	0.06	0.67	0.07
V23093.I0-V23093.J0	6238	165	6	0.006	0.28	0.00	0.05	0.00	0.06	0.00	0.05	0.50	0.05
V23093.J0-V23093	6239	135	6	0.052	0.82	0.01	0.22	0.01	0.32	0.01	0.22	0.50	0.32
V23093-V23094	6579	147	8	0.008	0.69	0.11	0.24	0.24	0.36	0.11	0.24	0.67	0.35
V23094-V23100	6580	149	8	0.028	1.30	0.11	0.27	0.24	0.39	0.11	0.26	0.67	0.39
V23095-V23096	6845	194	6	0.011	0.38	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V23096-V23097	6745	80	6	0.115	1.23	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V23097-V23099	6846	203	6	0.243	1.79	0.00	0.04	0.01	0.05	0.00	0.04	0.50	0.04
V23098-V23099	6847	143	6	0.045	0.77	0.00	0.03	0.00	0.04	0.00	0.03	0.50	0.03
V23099-V23100	6848	74	8	0.146	2.98	0.01	0.18	0.01	0.26	0.00	0.18	0.67	0.26
V23100-V23101	6849	90	8	0.004	0.52	0.12	0.27	0.25	0.40	0.12	0.27	0.67	0.39
V23101-V23102	6941	254	8	0.027	1.28	0.12	0.21	0.25	0.30	0.12	0.21	0.67	0.30
V23102-V23103	6942	257	8	0.028	1.31	0.12	0.21	0.26	0.30	0.12	0.20	0.67	0.29
V23103-V23105	6583	260	8	0.031	1.37	0.13	0.35	0.26	0.53	0.12	0.34	0.67	0.52
V23104-V23105	6582	164	8	0.024	1.22	0.00	0.26	0.00	0.39	0.00	0.25	0.67	0.38
V23105-V23132	6585	271	8	0.002	0.35	0.13	0.37	0.27	0.56	0.12	0.36	0.67	0.55
V23106.A0-V23106	756	3	4	0.030	0.21	0.00	0.05	0.00	0.05	0.00	0.04	0.33	0.04
V23106-V23107	757	123	8	0.081	2.23	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V23107-V23108	2477	167	8	0.122	2.73	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V23108-V23109	6532	391	8	0.138	2.90	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.04
V23109-V23112	1663	64	8	0.120	2.71	0.01	0.04	0.01	0.05	0.01	0.04	0.67	0.05
V23110-V23111	4574	260	8	0.048	1.70	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V23111-V23112	1661	155	8	0.043	1.62	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V23112.A0-V23112	1660	155	6	0.079	1.02	0.00	0.04	0.00	0.05	0.00	0.04	0.50	0.05
V23112-V23113	6061	204	8	0.082	2.24	0.01	0.05	0.02	0.07	0.01	0.05	0.67	0.07
V23113-V23114	6062	247	8	0.070	2.07	0.01	0.06	0.02	0.08	0.01	0.06	0.67	0.08
V23114-V23116	6064	123	8	0.037	1.51	0.01	0.06	0.02	0.09	0.01	0.07	0.67	0.09
V23115-V23116	6844	200	8	0.060	1.92	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.06
V23116-V23119	4836	125	8	0.040	1.56	0.01	0.08	0.03	0.11	0.02	0.08	0.67	0.11
V23117-V23119	6592	291	8	0.008	0.69	0.00	0.07	0.00	0.08	0.00	0.07	0.67	0.08
V23118-V23119	4835	196	6	0.077	1.01	0.00	0.07	0.00	0.09	0.00	0.07	0.50	0.09
V23119-V23120	4837	159	8	0.021	1.14	0.02	0.08	0.04	0.12	0.02	0.09	0.67	0.12
V23120-V23121	6591	217	8	0.045	1.65	0.02	0.07	0.04	0.10	0.02	0.07	0.67	0.10

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V23121-V23124	6593	349	8	0.084	2.27	0.02	0.12	0.04	0.17	0.02	0.12	0.67	0.17
V23122-V23123	6842	200	8	0.006	0.58	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V23123-V23124	6595	195	8	0.003	0.41	0.00	0.12	0.00	0.15	0.00	0.12	0.67	0.16
V23124-V23126	6594	222	8	0.003	0.44	0.02	0.14	0.05	0.19	0.03	0.13	0.67	0.19
V23125-V23126	6343	120	8	0.028	1.31	0.01	0.07	0.01	0.09	0.00	0.07	0.67	0.09
V23126-V23127	6344	370	8	0.041	1.58	0.03	0.11	0.06	0.14	0.03	0.10	0.67	0.15
V23127-V23128	6345	242	8	0.024	1.20	0.03	0.11	0.06	0.16	0.03	0.11	0.67	0.16
V23128-V23129	6346	80	8	0.025	1.24	0.03	0.12	0.07	0.16	0.03	0.11	0.67	0.16
V23129.A0-V23129	6060	261	6	0.033	0.66	0.00	0.10	0.00	0.13	0.00	0.10	0.50	0.13
V23129-V23130	6347	176	8	0.024	1.22	0.04	0.12	0.07	0.17	0.03	0.12	0.67	0.17
V23130-V23131	6348	138	8	0.023	1.18	0.04	0.16	0.07	0.22	0.04	0.15	0.67	0.22
V23131-V23132	6349	122	8	0.004	0.47	0.04	0.22	0.07	0.31	0.04	0.22	0.67	0.31
V23132-V23211	6586	177	8	0.026	1.25	0.17	0.25	0.34	0.35	0.16	0.25	0.67	0.35
V23133-V23134	6867	219	8	0.003	0.45	0.00	0.04	0.00	0.05	0.00	0.06	0.67	0.06
V23134-V23135	579	307	8	0.004	0.50	0.00	0.07	0.00	0.08	0.00	0.08	0.67	0.09
V23135-V23136	578	221	8	0.003	0.41	0.01	0.08	0.01	0.10	0.01	0.09	0.67	0.11
V23136-V23137	577	198	8	0.004	0.48	0.01	0.08	0.01	0.11	0.01	0.09	0.67	0.11
V23137-V23138	1122	266	8	0.005	0.55	0.01	0.07	0.01	0.09	0.01	0.07	0.67	0.10
V23138-V23139	334	269	8	0.047	1.70	0.01	0.05	0.02	0.07	0.01	0.05	0.67	0.07
V23139-V23140	337	105	8	0.080	2.21	0.01	0.06	0.02	0.09	0.01	0.07	0.67	0.09
V23140-V23141	2467	273	8	0.013	0.89	0.01	0.08	0.02	0.11	0.01	0.09	0.67	0.12
V23141-V23142	1039	282	8	0.013	0.89	0.01	0.08	0.03	0.10	0.01	0.08	0.67	0.11
V23142-V23143	1037	295	8	0.062	1.95	0.02	0.07	0.03	0.10	0.02	0.07	0.67	0.10
V23143-V23145	6835	73	8	0.037	1.50	0.02	0.08	0.03	0.11	0.02	0.08	0.67	0.11
V23144-V23145	1036	286	8	0.004	0.51	0.00	0.07	0.00	0.08	0.00	0.06	0.67	0.07
V23145-V23147	6531	248	8	0.038	1.51	0.02	0.08	0.04	0.11	0.02	0.08	0.67	0.11
V23146-V23147	5146	159	8	0.032	1.39	0.00	0.54	0.00	0.56	0.00	0.54	0.67	0.55
V23147-V23153	5118	382	8	0.048	1.71	0.03	0.09	0.05	0.13	0.02	0.09	0.67	0.13
V23148-V23149	1034	223	6	0.050	0.81	0.00	0.05	0.00	0.06	0.00	0.07	0.50	0.07
V23149-V23150	5131	264	8	0.005	0.52	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.06
V23150-V23152	5130	153	8	0.025	1.25	0.00	0.06	0.01	0.07	0.01	0.07	0.67	0.08
V23151-V23152	1033	173	6	0.074	0.99	0.00	0.06	0.00	0.08	0.00	0.08	0.50	0.09
V23152-V23153	5129	310	8	0.004	0.49	0.01	0.09	0.01	0.12	0.01	0.10	0.67	0.13
V23153-V23154	4239	254	8	0.041	1.57	0.03	0.09	0.06	0.12	0.03	0.09	0.67	0.12
V23154-V23156	233	110	8	0.173	3.25	0.03	0.09	0.07	0.12	0.03	0.09	0.67	0.12
V23155-V23156	232	264	6	0.018	0.49	0.00	0.09	0.00	0.11	0.00	0.09	0.50	0.11
V23156-V23162	4573	219	8	0.040	1.57	0.04	0.10	0.07	0.15	0.04	0.10	0.67	0.14
V23157-V23158	1032	191	6	0.007	0.29	0.00	0.05	0.00	0.05	0.00	0.04	0.50	0.04
V23158-V23159	6530	95	6	0.149	1.40	0.00	0.03	0.00	0.04	0.00	0.03	0.50	0.04
V23159-V23162	4238	287	6	0.187	1.57	0.00	0.09	0.00	0.12	0.00	0.08	0.50	0.11
V23160-V23161	231	201	8	0.159	3.12	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.02
V23161-V23162	4572	197	8	0.084	2.26	0.00	0.06	0.00	0.09	0.00	0.06	0.67	0.08
V23162-V23163	5277	289	8	0.055	1.84	0.04	0.11	0.08	0.15	0.04	0.11	0.67	0.15
V23163-V23165	2009	214	8	0.044	1.64	0.04	0.11	0.09	0.16	0.04	0.11	0.67	0.16
V23164-V23165	1031	312	8	0.111	2.60	0.00	0.07	0.00	0.09	0.00	0.07	0.67	0.09
V23165-V23169	6744	129	8	0.045	1.65	0.05	0.12	0.09	0.18	0.04	0.12	0.67	0.18
V23166-V23167	1659	309	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V23167-V23168	5276	106	8	0.316	4.39	0.00	0.03	0.01	0.03	0.00	0.03	0.67	0.03
V23168-V23169	1656	83	8	0.080	2.21	0.00	0.08	0.01	0.12	0.00	0.08	0.67	0.12
V23169-V23170	6743	80	8	0.030	1.35	0.05	0.12	0.10	0.17	0.05	0.12	0.67	0.17
V23170-V23172	6668	336	8	0.066	2.01	0.05	0.13	0.10	0.19	0.05	0.14	0.67	0.19
V23171-V23172	1029	231	8	0.165	3.18	0.00	0.09	0.00	0.12	0.00	0.09	0.67	0.12
V23172-V23173	4142	120	8	0.015	0.96	0.05	0.16	0.11	0.23	0.05	0.16	0.67	0.23
V23173-V23179	4854	180	8	0.016	0.99	0.06	0.15	0.11	0.22	0.06	0.15	0.67	0.22
V23174-V23176	6074	101	6	0.006	0.28	0.00	0.03	0.00	0.03	0.00	0.04	0.50	0.04
V23175-V23176	1028	111	6	0.008	0.32	0.00	0.04	0.00	0.04	0.00	0.05	0.50	0.05
V23176-V23177	2331	101	6	0.048	0.79	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.05
V23177-V23178	6617	206	6	0.134	1.33	0.00	0.04	0.00	0.05	0.00	0.05	0.50	0.05
V23178-V23179	6667	307	6	0.090	1.09	0.00	0.12	0.01	0.16	0.01	0.12	0.50	0.16
V23179-V23188	6713	104	8	0.036	1.48	0.06	0.14	0.12	0.20	0.06	0.15	0.67	0.21
V23180-V23181	6072	161	8	0.020	1.10	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V23181-V23182	6815	122	8	0.090	2.35	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V23182-V23185	6071	185	8	0.062	1.94	0.00	0.04	0.01	0.04	0.00	0.05	0.67	0.05
V23183.00-V23184.00	6068	310	8	0.047	1.69	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.05
V23185-V23186	6073	241	8	0.142	2.94	0.01	0.04	0.01	0.05	0.03	0.07	0.67	0.07
V23186-V23187	1655	85	8	0.131	2.83	0.01	0.04	0.02	0.06	0.03	0.07	0.67	0.08
V23187-V23188	6666	334	8	0.097	2.43	0.01	0.10	0.02	0.13	0.03	0.12	0.67	0.15
V23188-V23191	6712	148	8	0.042	1.61	0.07	0.14	0.15	0.20	0.09	0.16	0.67	0.20
V23189-V23190	6742	163	8	0.021	1.13	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V23190-V23191.A0	6664	226	8	0.669	6.39	0.00	0.51	0.00	0.51	0.00	0.51	0.67	0.51
V23191.A0-V23191	6710	49	8	1.981	10.99	0.01	0.56	0.01	0.59	0.02	0.57	0.67	0.60
V23191-V23192	6711	19	8	0.073	2.11	0.08	0.15	0.15	0.21	0.10	0.16	0.67	0.21
V23192-V23193	4956	417	8	0.030	1.35	0.08	0.20	0.15	0.29	0.10	0.23	0.67	0.30
V23193-V23199	6518	272	12	0.004	1.46	0.08	0.15	0.16	0.22	0.10	0.17	1.00	0.23
V23194-V23196	6341	157	8	0.082	2.23	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V23195-V23196	6340	85	8	0.026	1.25	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V23196-V23197	1654	45	8	0.059	1.90	0.00	0.03	0.00	0.03	0.01	0.04	0.67	0.04
V23197-V23198	6663	299	8	0.127	2.78	0.00	0.03	0.01	0.04	0.01	0.04	0.67	0.04
V23198-V23199	4955	255	8	0.094	2.40	0.01	0.13	0.01	0.18	0.01	0.14	0.67	0.18
V23199-V23201	6336	153	12	0.007	1.97	0.09	0.14	0.18	0.20	0.11	0.15	1.00	0.20
V23200-V23201	6339	217	8	0.068	2.03	0.00	0.10	0.00	0.14	0.00	0.12	0.67	0.15
V23201-V23202	6337	13	12	0.010	2.29	0.09	0.12	0.18	0.17	0.11	0.14	1.00	0.18
V23202-V23205	6338	300	12	0.022	3.43	0.09	0.10	0.18	0.15	0.11	0.12	1.00	0.15
V23203-V23205	6334	141	6	0.087	1.07	0.00	0.11	0.00	0.15	0.00	0.12	0.50	0.15
V23204-V23205	6333	215	6	0.015	0.44	0.00	0.12	0.00	0.16	0.00	0.12	0.50	0.16
V23205-V23206	6126	180	12	0.044	4.81	0.09	0.10	0.19	0.14	0.11	0.11	1.00	0.14
V23206-V23208	1557	170	12	0.038	4.47	0.09	0.10	0.19	0.14	0.11	0.11	1.00	0.15
V23207-V23208	6590	211	6	0.083	1.04	0.00	0.12	0.00	0.16	0.00	0.13	0.50	0.16
V23208-V23209	6588	247	12	0.036	4.39	0.10	0.10	0.20	0.14	0.12	0.11	1.00	0.15
V23209-V23211	6589	67	12	0.040	4.59	0.10	0.13	0.20	0.19	0.12	0.14	1.00	0.19
V23210-V23211	6587	395	6	0.116	1.23	0.01	0.19	0.01	0.25	0.00	0.19	0.50	0.25
V23211-V23224	6946	236	12	0.044	4.81	0.27	0.18	0.56	0.26	0.29	0.19	1.00	0.26
V23212-V23213	6517	103	8	0.084	2.26	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V23213-V23214	6125	69	8	0.089	2.33	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V23214-V23215	1556	128	8	0.038	1.53	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.04
V23215-V23216	1555	198	8	0.040	1.57	0.01	0.06	0.01	0.06	0.01	0.05	0.67	0.06
V23216-V23222	6945	296	8	0.032	1.39	0.01	0.10	0.01	0.10	0.01	0.10	0.67	0.11
V23217-V23218	6516	139	8	0.025	1.24	0.00	0.04	0.00	0.04	0.02	0.09	0.67	0.09
V23218-V23219	6515	211	8	0.027	1.28	0.01	0.05	0.01	0.05	0.02	0.09	0.67	0.09
V23219-V23220	6124	178	8	0.076	2.15	0.01	0.06	0.01	0.06	0.03	0.09	0.67	0.09
V23220.A0-V23220	7621	165	8	0.019	1.07	0.00	0.05	0.00	0.06	0.00	0.07	0.67	0.07
V23220-V23221	1101	149	8	0.059	1.90	0.02	0.07	0.02	0.08	0.04	0.11	0.67	0.11
V23221-V23222	6943	126	8	0.040	1.55	0.02	0.10	0.02	0.11	0.04	0.13	0.67	0.13
V23222-V23223	6947	130	8	0.026	1.26	0.04	0.11	0.05	0.12	0.05	0.13	0.67	0.13
V23223-V23224	6948	129	8	0.096	2.42	0.04	0.20	0.05	0.26	0.06	0.21	0.67	0.27
V23224-V23230	6949	193	12	0.021	3.37	0.31	0.21	0.61	0.29	0.34	0.22	1.00	0.30
V23225-V23226	6952	151	8	0.007	0.65	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V23226-V23229	6954	328	8	0.084	2.26	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.06
V23227-V23228	6065	118	8	0.073	2.11	0.01	0.04	0.01	0.04	0.01	0.05	0.67	0.05
V23228-V23229	6066	146	8	0.060	1.92	0.01	0.06	0.01	0.06	0.01	0.07	0.67	0.07
V23229-V23230	6067	302	8	0.066	2.01	0.02	0.20	0.03	0.26	0.02	0.21	0.67	0.26
V23230-V23231	6950	200	12	0.021	3.36	0.34	0.22	0.64	0.30	0.37	0.23	1.00	0.31
V23231-V22047	6951	210	12	0.018	3.09	0.34	0.22	0.64	0.31	0.38	0.23	1.00	0.31
V24001-V24004	7136	80	6	0.010	0.36	0.00	0.05	0.00	0.06	0.00	0.07	0.50	0.07
V24002.A0-V24002.C0	7139	101	6	0.135	1.33	0.00	0.03	0.00	0.03	0.00	0.03	0.50	0.03
V24002.B0-V24002.C0	7138	17	6	0.024	0.56	0.00	0.44	0.00	0.44	0.00	0.44	0.50	0.44
V24002.C0-V24002.D0	6123	79	6	0.069	0.95	0.00	0.03	0.00	0.04	0.00	0.04	0.50	0.04
V24002.D0-V24002	1100	117	6	0.164	1.47	0.00	0.03	0.00	0.04	0.00	0.03	0.50	0.04
V24002-V24003	7544	184	6	0.205	1.64	0.00	0.05	0.01	0.05	0.00	0.04	0.50	0.05
V24003-V24004	7135	90	6	0.066	0.93	0.01	0.07	0.01	0.08	0.01	0.07	0.50	0.08
V24004-V24005	7137	179	6	0.027	0.59	0.01	0.08	0.01	0.09	0.01	0.10	0.50	0.11
V24005-V24013	7133	414	6	0.034	0.67	0.01	0.11	0.01	0.13	0.02	0.14	0.50	0.15
V24006-V24007	6167	121	8	0.010	0.78	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V24007-V24008	6166	83	8	0.103	2.51	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V24008-V24009	1099	234	8	0.177	3.29	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
V24009-V24010.A0	5669	82	8	0.038	1.52	0.00	0.06	0.01	0.07	0.01	0.07	0.67	0.07
V24010.A0-V24010.B0	5668	116	8	0.014	0.91	0.02	0.10	0.02	0.11	0.01	0.09	0.67	0.10
V24010.B0-V24010	4798	51	8	0.010	0.77	0.02	0.08	0.02	0.09	0.01	0.07	0.67	0.08
V24010-V24012	4736	62	8	0.187	3.38	0.02	0.06	0.02	0.07	0.01	0.05	0.67	0.06
V24011-V24012	5138	100	6	0.250	1.81	0.00	0.06	0.00	0.06	0.00	0.05	0.50	0.06
V24012-V24013	5639	152	6	0.075	2.15	0.02	0.12	0.02	0.13	0.02	0.13	0.50	0.14
V24013-V24016	7131	133	6	0.034	1.44	0.03	0.17	0.04	0.20	0.04	0.22	0.50	0.24
V24014-V24015	3067	246	6	0.010	0.79	0.00	0.05	0.00	0.05	0.01	0.12	0.50	0.12
V24015-V24016	7132	716	6	0.010	0.78	0.00	0.12	0.00	0.15	0.01	0.20	0.50	0.21
V24016-V24017	7130	348	6	0.010	0.78	0.03	0.20	0.05	0.24	0.06	0.28	0.50	0.30
V24017-V24018	5618	40	6	0.010	0.78	0.03	0.23	0.05	0.29	0.06	0.33	0.50	0.36
V24018-V24031	5617	108	6	0.005	0.55	0.03	0.16	0.05	0.21	0.06	0.24	0.50	0.26
V24019-V24020	7017	107	6	0.169	1.49	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V24020-V24021.A0	7018	126	6	0.102	1.16	0.00	0.14	0.00	0.15	0.00	0.14	0.50	0.15
V24021.A0-V24021	7021	145	6	0.000	0.01	0.00	0.15	0.00	0.16	0.00	0.15	0.50	0.16
V24021-V24025	7121	121	6	0.126	1.29	0.01	0.06	0.01	0.07	0.01	0.06	0.50	0.07
V24022-V24023	7122	258	6	1.166	3.92	0.01	0.50	0.01	0.51	0.00	0.51	0.50	0.51
V24023-V24024	6696	137	6	0.313	2.03	0.00	0.02	0.00	0.03	0.00	0.02	0.50	0.03
V24024-V24025	7020	179	6	0.044	0.76	0.00	0.05	0.00	0.06	0.00	0.05	0.50	0.06
V24025-V24026	7123	248	6	0.061	0.90	0.01	0.07	0.01	0.08	0.01	0.07	0.50	0.08
V24026-V24027	7129	113	6	0.094	1.11	0.01	0.08	0.01	0.09	0.01	0.08	0.50	0.09
V24027-V24029	7125	262	6	0.089	1.08	0.01	0.06	0.02	0.07	0.02	0.07	0.50	0.07
V24028-V24029	7126	91	6	0.058	0.87	0.00	0.03	0.00	0.03	0.00	0.04	0.50	0.04
V24029-V24030	7127	29	6	8.527	10.59	0.01	0.51	0.02	0.52	0.02	0.52	0.50	0.52
V24030-V24031	7128	182	6	1.197	3.97	0.03	0.53	0.05	0.54	0.06	0.54	0.50	0.55
V24031-V24036	5815	200	6	0.009	0.74	0.00	0.04	0.00	0.06	0.00	0.07	0.50	0.07
V24032-V24033	5997	172	6	0.057	0.87	0.00	0.03	0.00	0.03	0.00	0.03	0.50	0.03
V24033-V24034	1098	235	6	0.054	0.84	0.00	0.03	0.00	0.04	0.00	0.04	0.50	0.05
V24034-V24035	4797	472	6	0.070	0.96	0.00	0.04	0.00	0.06	0.00	0.05	0.50	0.07
V24035-V24115	2432	463	6	0.066	0.93	0.00	0.04	0.01	0.06	0.01	0.07	0.50	0.08
V24037-V24038.A0	5812	271	6	0.005	0.26	0.00	0.04	0.00	0.05	0.00	0.12	0.50	0.12
V24038.A0-V24038	5810	255	6	0.005	0.26	0.00	0.09	0.00	0.17	0.01	0.29	0.50	0.29
V24038-V24039.A0	5811	312	6	0.000	0.01	0.00	0.10	0.00	0.17	0.01	0.27	0.50	0.28
V24039.A0-V24039	5808	312	6	0.045	0.77	0.00	0.11	0.01	0.17	0.02	0.27	0.50	0.28
V24040-V24041	2466	219	6	0.025	0.57	0.00	0.04	0.00	0.04	0.02	0.16	0.50	0.16
V24041-V24042	7142	104	6	0.010	0.37	0.00	0.04	0.00	0.05	0.03	0.15	0.50	0.15
V24042-V24043	3056	226	6	0.080	1.03	0.00	0.11	0.00	0.15	0.03	0.33	0.50	0.33
V24043-V24044.A0	3057	112	6	0.000	0.01	0.00	0.12	0.01	0.16	0.03	0.33	0.50	0.33
V24044.A0-V24044	3058	116	6	0.096	1.12	0.00	0.05	0.01	0.07	0.04	0.14	0.50	0.14
V24044-V24045	2464	187	6	0.052	0.83	0.01	0.06	0.01	0.08	0.05	0.17	0.50	0.17
V24045-V24046	2431	282	6	0.049	0.81	0.01	0.07	0.01	0.10	0.05	0.19	0.50	0.19
V24046.D0-V24046.E0	3062	332	6	0.002	0.16	0.00	0.02	0.00	0.04	0.00	0.04	0.50	0.05
V24046.E0-V24046	3065	484	6	0.004	0.24	0.00	0.05	0.00	0.09	0.00	0.14	0.50	0.15
V24046-V24047	5807	200	6	0.032	0.65	0.01	0.10	0.02	0.15	0.06	0.27	0.50	0.28
V24047-V24049	5806	249	6	0.008	0.32	0.01	0.10	0.02	0.15	0.07	0.27	0.50	0.27
V24048-V24049	2463	134	6	0.077	1.01	0.00	0.06	0.00	0.07	0.03	0.16	0.50	0.16
V24049-V24123	V24049-V24123	201	8	0.070	2.07	0.01	0.06	0.03	0.08	0.10	0.15	0.67	0.15
V24052.A0-V24052.B0	2447	352	15	0.009	3.96	0.50	0.24	0.90	0.32	1.49	0.42	1.25	0.47
V24052.B0-V24052.C0	2446	362	15	0.010	4.12	0.51	0.24	0.92	0.32	1.53	0.43	1.25	0.47
V24052.C0-V24052.D0	7141	360	15	0.009	6.50	0.51	0.24	0.92	0.33	1.54	0.43	1.25	0.48
V24052.D0-V24052.E0	5840	374	15	0.009	6.45	0.51	0.24	0.93	0.33	1.54	0.43	1.25	0.48
V24052.E0-V24052.F0	2430	372	15	0.009	3.95	0.51	0.24	0.94	0.33	1.54	0.43	1.25	0.48
V24052.F0-V24052	5801	328	15	0.009	6.45	0.51	0.25	0.94	0.34	1.54	0.43	1.25	0.48
V24052-V24053	5802	504	15	0.008	6.09	0.54	0.26	0.97	0.36	1.47	0.44	1.25	0.49
V24053-V24059	2456	181	15	0.008	6.25	0.54	0.21	0.98	0.28	1.47	0.35	1.25	0.39
V24054.A0-V24054.B0	7557	268	8	0.002	0.35	0.00	0.09	0.00	0.09	0.00	0.14	0.67	0.14
V24054.B0-V24054.G0	1221	160	6	0.000	0.01	0.00	0.17	0.00	0.17	0.01	0.21	0.50	0.22
V24054.C0-V24054.E0	2449	83	6	0.019	0.51	0.01	0.09	0.01	0.09	0.01	0.13	0.50	0.13
V24054.D0-V24054.E0	2450	162	6	0.019	0.50	0.00	0.07	0.00	0.08	0.02	0.16	0.50	0.16
V24054.DA-V24054.D0	7049	81	8	0.014	0.92	0.00	0.03	0.00	0.03	0.00	0.07	0.67	0.07
V24054.DB-V24054.DC	7881	180	8	0.061	1.93	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V24054.DC-V24054.D0	7882	108	8	0.032	1.39	0.00	0.03	0.00	0.04	0.00	0.07	0.67	0.07
V24054.E0-V24052.B0	7941	217	8	0.032	1.39	0.01	0.26	0.01	0.33	0.05	0.46	0.67	0.50
V24054.G0-V24054.K0	5963	130	6	0.013	0.41	0.00	0.05	0.01	0.06	0.01	0.08	0.50	0.08
V24054.H0-V24054.I0	1747	79	6	3.005	6.29	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50
V24054.I0-V24054.J0	5139	43	6	5.528	8.53	0.00	0.50	0.00	0.50	0.00	0.50	0.50	0.50
V24054.J0-V24054.K0	5140	22	8	11.001	25.91	0.00	0.50	0.01	0.51	0.01	0.51	0.67	0.51
V24054.K0-V24054.L0	5839	126	6	0.014	0.43	0.00	0.01	0.00	0.03	0.00	0.02	0.50	0.03
V24054.L0-V24054.M0	5838	228	8	0.009	0.75	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.05
V24054.M0-V24054.N0	2453	227	8	0.010	0.78	0.00	0.03	0.00	0.06	0.00	0.06	0.67	0.08
V24054.N0-V24054.O0	2454	141	8	0.009	0.72	0.00	0.04	0.01	0.07	0.01	0.09	0.67	0.10
V24054.O0-V24054.P0	2452	346	8	0.009	0.76	0.00	0.04	0.01	0.08	0.01	0.11	0.67	0.12
V24054.P0-V24054.Q0	2455	362	8	0.009	0.74	0.00	0.05	0.01	0.09	0.02	0.13	0.67	0.14
V24054.Q0-V24054	5799	144	8	0.011	0.81	0.00	0.06	0.01	0.11	0.03	0.16	0.67	0.18
V24055-V24056	5798	27	8	0.014	0.93	0.15	0.47	0.27	0.61	0.49	0.81	0.67	0.96
V24056-V24057	2459	146	12	0.000	0.50	0.24	0.36	0.40	0.46	0.69	0.61	1.00	0.69
V24057-V24058	2460	151	12	0.005	1.58	0.24	0.22	0.41	0.28	0.70	0.37	1.00	0.42
V24058-V24059	2458	40	12	0.034	4.26	0.24	0.17	0.41	0.23	0.71	0.29	1.00	0.33
V24059-V24129	V24059-V24129	17	18	0.116	23.14	0.78	0.30	1.39	0.39	2.18	0.50	1.50	0.56
V24060-V24061	5797	191	18	0.006	5.22	0.78	0.25	1.39	0.33	2.19	0.42	1.50	0.47
V24061-V24062	5795	137	18	0.010	2.32	0.78	0.23	1.40	0.30	2.19	0.39	1.50	0.43
V24062-V24127	V24062-V24127	15	18	0.010	6.79	0.78	0.21	1.40	0.29	2.20	0.37	1.50	0.42
V24063-V24064.A0	1133	272	6	0.019	0.50	0.00	0.53	0.00	0.54	0.00	0.56	0.50	0.56
V24064.A0-V24064	5792	266	6	0.005	0.26	0.00	0.07	0.00	0.10	0.01	0.13	0.50	0.14
V24064-V24066	5793	258	6	0.005	0.26	0.00	0.08	0.01	0.10	0.01	0.14	0.50	0.15
V24065-V24066	2462	146	6	0.002	0.16	0.00	0.06	0.00	0.07	0.00	0.12	0.50	0.12
V24066-V24069	5791	385	6	0.029	0.62	0.01	0.12	0.01	0.18	0.02	0.28	0.50	0.29
V24072-V24089	5786	309	18	0.010	6.88	0.78	0.19	1.40	0.26	2.20	0.32	1.50	0.36
V24075-V24078	4796	277	6	0.034	0.67	0.01	0.09	0.01	0.09	0.01	0.09	0.50	0.09

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V24076-V24077	3076	255	6	0.005	0.26	0.00	0.07	0.00	0.07	0.00	0.08	0.50	0.09
V24077-V24078	4735	75	6	0.006	0.27	0.00	0.09	0.00	0.09	0.01	0.10	0.50	0.10
V24078-V24081	4734	206	6	0.051	0.82	0.02	0.10	0.02	0.10	0.02	0.11	0.50	0.11
V24079-V24080	3079	145	6	0.062	0.90	0.00	0.04	0.00	0.04	0.00	0.03	0.50	0.03
V24080-V24081	3080	28	6	0.380	2.24	0.00	0.07	0.00	0.07	0.00	0.07	0.50	0.07
V24081-V24082	5701	316	6	0.070	0.96	0.02	0.15	0.02	0.15	0.02	0.16	0.50	0.17
V24082-V24083	5785	211	6	0.006	0.28	0.03	0.21	0.03	0.21	0.03	0.22	0.50	0.24
V24083-V24084	5784	227	6	0.006	0.28	0.03	0.21	0.03	0.21	0.03	0.23	0.50	0.25
V24084-V24085	5783	224	6	0.006	0.28	0.03	0.22	0.03	0.23	0.04	0.26	0.50	0.28
V24085-V24086	3074	223	6	0.006	0.28	0.03	0.19	0.03	0.20	0.04	0.23	0.50	0.25
V24086-V24088	3075	51	6	0.030	0.63	0.03	0.19	0.03	0.20	0.04	0.25	0.50	0.26
V24087-V24088	3073	179	6	0.002	0.16	0.00	0.12	0.00	0.12	0.01	0.25	0.50	0.25
V24088-V24089	5782	129	6	0.006	0.28	0.03	0.22	0.03	0.23	0.06	0.30	0.50	0.32
V24089-V08163	7229	42	18	0.088	20.17	0.81	0.29	1.44	0.39	2.26	0.42	1.50	0.49
V24090-V24091	7147	305	21	0.005	4.68	2.26	0.39	3.96	0.53	3.35	0.48	1.75	0.62
V24091-V24092	5780	328	21	0.005	4.70	2.26	0.39	3.96	0.53	3.35	0.48	1.75	0.62
V24092-V24093	5779	194	21	0.005	4.75	2.26	0.38	3.97	0.52	3.35	0.47	1.75	0.60
V24093-V24094	5778	259	21	0.006	5.11	2.26	0.36	3.97	0.49	3.35	0.45	1.75	0.56
V24100-V24101	FM3	118	27	0.009	18.97	2.49	0.25	4.37	0.33	3.86	0.31	2.25	0.38
V24101-V08163	7232	205	27	0.008	18.44	2.49	0.27	4.38	0.36	3.86	0.36	2.25	0.43
V24107-V24075	1097	162	6	0.262	1.86	0.00	0.05	0.00	0.05	0.00	0.05	0.50	0.05
V24108-V24075	3078	104	6	0.017	0.48	0.01	0.08	0.01	0.08	0.00	0.06	0.50	0.06
V24112-V24113	V24112-V24113	53	21	0.009	9.93	2.45	0.35	4.28	0.48	3.67	0.44	1.75	0.56
V24113-V24100	V24113-V24100	315	21	0.007	8.84	2.45	0.34	4.29	0.46	3.67	0.42	1.75	0.53
V24115-V24118	V24115-V24118	78	8	0.147	3.00	0.01	0.05	0.01	0.08	0.02	0.10	0.67	0.11
V24116-V24117	V24116-V24117	24	8	0.184	3.35	0.00	0.03	0.00	0.04	0.01	0.06	0.67	0.06
V24117-V24118	V24117-V24118	119	8	0.010	0.76	0.00	0.06	0.00	0.08	0.01	0.11	0.67	0.12
V24118-V24119	V24118-V24119	65	8	0.010	0.79	0.01	0.08	0.02	0.11	0.03	0.14	0.67	0.16
V24119-V24120	V24119-V24120	146	8	0.009	0.74	0.01	0.08	0.02	0.11	0.03	0.14	0.67	0.16
V24120-V24121	V24120-V24121	100	8	0.012	0.87	0.01	0.07	0.02	0.11	0.03	0.13	0.67	0.14
V24121-V24122	V24121-V24122	33	8	0.019	1.08	0.01	0.07	0.02	0.10	0.03	0.13	0.67	0.14
V24122-V24124	V24122-V24124	76	8	0.014	0.93	0.01	0.09	0.02	0.13	0.03	0.19	0.67	0.20
V24123-V24124	V24123-V24124	61	8	0.067	2.03	0.01	0.08	0.03	0.12	0.10	0.20	0.67	0.20
V24124-V24125	V24124-V24125	146	8	0.018	1.05	0.02	0.12	0.05	0.18	0.14	0.29	0.67	0.30
V24125-V24126	V24125-V24126	52	8	0.009	0.73	0.03	0.13	0.07	0.20	0.16	0.32	0.67	0.33
V24126-V24100	V24126-V24100	138	10	0.009	1.34	0.03	0.38	0.08	0.52	0.19	0.54	0.83	0.63
V24127-V24072	V24127-V24072	10	18	0.015	10.68	0.78	0.22	1.40	0.31	2.20	0.39	1.50	0.44
V24129-V24060	V24129-V24060	277	18	0.001	1.73	0.78	0.37	1.39	0.49	2.18	0.62	1.50	0.70
V25001-V25003	6455	191	8	0.062	1.95	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V25002-V25003	6456	129	8	0.016	1.00	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V25003-V25004	6662	270	8	0.130	2.81	0.00	0.04	0.01	0.04	0.00	0.03	0.67	0.04
V25004-V25006	4954	272	8	0.075	2.13	0.01	0.06	0.01	0.08	0.01	0.06	0.67	0.08
V25005-V25006	6454	115	8	0.002	0.34	0.00	0.06	0.00	0.07	0.00	0.06	0.67	0.07
V25006-V25026	6514	255	8	0.005	0.53	0.01	0.11	0.01	0.14	0.01	0.12	0.67	0.16
V25007-V25008	6451	221	8	0.016	0.97	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V25008-V25009	230	152	8	0.034	1.43	0.00	0.03	0.00	0.05	0.00	0.05	0.67	0.06
V25009-V25010	229	92	8	0.004	0.52	0.00	0.05	0.00	0.07	0.01	0.08	0.67	0.09
V25010-V25011	228	222	8	0.006	0.61	0.00	0.05	0.01	0.06	0.01	0.07	0.67	0.08
V25011-V25014	4571	297	8	0.077	2.17	0.00	0.05	0.01	0.07	0.01	0.06	0.67	0.08
V25012-V25013	226	164	8	0.005	0.56	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V25013-V25014	225	244	8	0.052	1.78	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.07
V25014-V25015	224	207	8	0.025	1.24	0.01	0.06	0.02	0.08	0.01	0.07	0.67	0.09
V25015-V25016	6616	163	8	0.092	2.37	0.01	0.05	0.02	0.07	0.02	0.06	0.67	0.08
V25016-V25018	1653	158	8	0.061	1.93	0.01	0.06	0.02	0.08	0.02	0.07	0.67	0.09
V25017-V25018	6452	154	8	0.127	2.79	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.05
V25018-V25019	6741	51	8	0.057	1.86	0.01	0.06	0.02	0.08	0.02	0.07	0.67	0.09
V25019-V25020	6740	139	8	0.061	1.92	0.01	0.53	0.03	0.54	0.02	0.54	0.67	0.55
V25020-V25022	6739	13	6	0.083	1.05	0.01	0.54	0.03	0.55	0.02	0.55	0.50	0.56
V25021-V25022	6453	210	6	0.006	0.28	0.00	0.07	0.00	0.08	0.00	0.07	0.50	0.08
V25022-V25023	6738	53	8	0.104	2.52	0.02	0.06	0.03	0.08	0.02	0.07	0.67	0.09
V25023-V25024	6661	180	8	0.095	2.41	0.02	0.07	0.03	0.09	0.02	0.08	0.67	0.11
V25024-V25025	4853	244	8	0.033	1.41	0.02	0.08	0.03	0.10	0.03	0.09	0.67	0.11
V25025-V25026	4953	194	8	0.079	2.20	0.02	0.10	0.04	0.14	0.03	0.11	0.67	0.15
V25026-V25030	6513	217	8	0.010	0.78	0.03	0.13	0.05	0.17	0.04	0.14	0.67	0.18
V25027-V25028	6458	77	6	0.014	0.42	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V25028-V25029	4952	334	6	0.074	0.99	0.00	0.05	0.00	0.05	0.00	0.04	0.50	0.05
V25029-V25030	6512	80	6	0.063	0.91	0.00	0.10	0.01	0.13	0.00	0.11	0.50	0.14
V25030-V25031	6121	319	8	0.026	1.25	0.03	0.12	0.06	0.16	0.04	0.13	0.67	0.17
V25031-V25033	6182	162	8	0.017	1.02	0.04	0.16	0.07	0.21	0.04	0.17	0.67	0.23
V25032-V25033	4951	356	6	0.101	1.15	0.00	0.15	0.00	0.18	0.00	0.15	0.50	0.19
V25033-V25034	6181	165	8	0.006	0.61	0.04	0.15	0.07	0.19	0.05	0.15	0.67	0.20
V25034-V25040	5739	302	8	0.067	2.02	0.04	0.11	0.07	0.14	0.05	0.12	0.67	0.15
V25035-V25036	6459	119	8	0.076	2.16	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V25036-V25037	4852	94	8	0.041	1.57	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V25037-V25040	4950	362	8	0.145	2.97	0.00	0.07	0.00	0.09	0.00	0.08	0.67	0.10
V25038-V25039	6120	162	8	0.071	2.08	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V25039-V25040	5738	139	8	0.112	2.61	0.00	0.07	0.00	0.09	0.00	0.08	0.67	0.10
V25040-V25042.A0	5768	301	8	0.054	1.81	0.05	0.11	0.09	0.14	0.06	0.12	0.67	0.15
V25041-V25042	6460	322	8	0.106	2.54	0.00	0.09	0.00	0.11	0.00	0.10	0.67	0.12
V25042.A0-V25042	4794	5	8	0.112	2.61	0.05	0.13	0.09	0.17	0.06	0.14	0.67	0.18
V25042-V25047	4795	174	8	0.018	1.04	0.06	0.16	0.10	0.20	0.06	0.17	0.67	0.23
V25043-V25045	5996	49	8	0.040	1.56	0.00	0.02	0.00	0.02	0.00	0.04	0.67	0.04
V25044-V25045	6866	264	8	0.010	0.79	0.00	0.03	0.00	0.03	0.01	0.07	0.67	0.07
V25045-V25046	5737	162	8	0.102	2.49	0.00	0.03	0.00	0.04	0.01	0.06	0.67	0.06
V25046-V25047	5767	261	8	0.076	2.16	0.00	0.10	0.01	0.12	0.02	0.12	0.67	0.15
V25047-V25048	5667	131	8	0.022	1.16	0.06	0.17	0.11	0.22	0.08	0.20	0.67	0.25
V25048.A0-V25048.B0	7683	109	8	0.031	1.38	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V25048.B0-V25048.C0	7684	148	8	0.032	1.41	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V25048.C0-V25048.D0	7685	209	8	0.064	1.98	0.01	0.04	0.01	0.04	0.01	0.04	0.67	0.04
V25048.D0-V25048.H0	7686	99	8	0.103	2.50	0.01	0.05	0.01	0.05	0.01	0.05	0.67	0.05
V25048.E0-V25048.F0	7681	130	8	0.039	1.55	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V25048.E0-V25070.FA	7679	328	8	0.011	0.81	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V25048.F0-V25048.H0	7682	201	8	0.036	1.48	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V25048.G0-V25048.H0	7677	150	8	0.043	1.62	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V25048.H0-V25048.I0	7687	107	8	0.095	2.41	0.01	0.05	0.02	0.06	0.01	0.05	0.67	0.06
V25048.I0-V25048.J0	7048	322	8	0.091	2.35	0.01	0.07	0.02	0.08	0.01	0.08	0.67	0.10
V25048.J0-V25048	7880	29	8	0.013	0.89	0.01	0.14	0.02	0.17	0.02	0.17	0.67	0.20
V25048-V25055	4793	215	8	0.018	1.04	0.08	0.18	0.13	0.24	0.11	0.25	0.67	0.29
V25049-V25051	5736	311	8	0.007	0.64	0.00	0.04	0.00	0.04	0.02	0.11	0.67	0.11
V25050-V25051	6462	271	8	0.011	0.83	0.00	0.03	0.00	0.03	0.01	0.09	0.67	0.09
V25051-V25052	5766	320	8	0.043	1.63	0.00	0.04	0.01	0.06	0.04	0.12	0.67	0.12
V25052-V25054	5666	278	8	0.034	1.45	0.01	0.05	0.01	0.07	0.05	0.14	0.67	0.14
V25053-V25054	6461	379	8	0.005	0.57	0.00	0.05	0.00	0.06	0.00	0.10	0.67	0.10
V25054-V25055	4792	283	8	0.048	1.72	0.01	0.12	0.02	0.16	0.08	0.21	0.67	0.23
V25055-V25056	4733	76	8	0.024	1.21	0.09	0.23	0.15	0.30	0.20	0.34	0.67	0.39
V25056-V25057	4732	375	8	0.006	0.62	0.09	0.23	0.15	0.30	0.20	0.35	0.67	0.40
V25057-V25078	5638	306	8	0.026	1.25	0.09	0.17	0.16	0.22	0.22	0.28	0.67	0.31

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V25058-V25059	5913	221	8	0.199	3.49	0.00	0.02	0.00	0.02	0.01	0.03	0.67	0.03
V25059-V25060	4851	136	8	0.150	3.02	0.00	0.03	0.00	0.03	0.01	0.04	0.67	0.04
V25060-V25061	5683	197	8	0.182	3.34	0.00	0.05	0.01	0.06	0.01	0.08	0.67	0.09
V25061-V25063	6119	110	8	0.010	0.78	0.01	0.05	0.01	0.06	0.02	0.09	0.67	0.09
V25062-V25063	5914	123	6	0.317	2.04	0.00	0.03	0.00	0.03	0.00	0.05	0.50	0.05
V25063-V25064	5735	26	6	0.427	2.37	0.01	0.06	0.01	0.06	0.02	0.11	0.50	0.11
V25064-V25065	6479	170	6	0.072	0.97	0.01	0.07	0.01	0.08	0.05	0.15	0.50	0.15
V25065-V25066	4237	129	8	0.040	1.56	0.01	0.06	0.01	0.07	0.05	0.14	0.67	0.14
V25066-V25067	V25066-V25067	344	8	0.014	0.94	0.01	0.07	0.01	0.08	0.05	0.15	0.67	0.15
V25067-V25068	5889	345	8	0.030	1.36	0.01	0.08	0.02	0.09	0.07	0.16	0.67	0.16
V25068-V25071	4791	189	8	0.019	1.09	0.01	0.10	0.02	0.12	0.07	0.19	0.67	0.20
V25070.A0-V25070.B0	6660	303	8	0.160	3.12	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V25070.AA-V25070.A0	5909	54	8	0.008	0.72	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V25070.B0-V25070.C0	5682	102	8	0.095	2.41	0.00	0.05	0.01	0.06	0.00	0.05	0.67	0.06
V25070.C0-V25070.D0	5908	147	8	0.008	0.71	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.06
V25070.D0-V25070.E0	5907	211	8	0.214	3.62	0.01	0.04	0.01	0.05	0.01	0.06	0.67	0.07
V25070.E0-V25070.F0	5906	202	8	0.068	2.04	0.01	0.05	0.01	0.07	0.03	0.10	0.67	0.11
V25070.F0-V25070	4790	52	8	0.043	1.61	0.01	0.09	0.02	0.11	0.04	0.14	0.67	0.15
V25070.FA-V25070.FB	7680	175	8	0.218	3.65	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
V25070.FB-V25070.F0	7678	217	8	0.039	1.55	0.00	0.05	0.01	0.06	0.00	0.07	0.67	0.08
V25070-V25071	5410	175	8	0.007	0.65	0.02	0.12	0.02	0.14	0.04	0.20	0.67	0.21
V25071-V25072	4828	156	8	0.019	1.06	0.03	0.12	0.05	0.15	0.11	0.23	0.67	0.24
V25072-V25077	4731	376	8	0.016	0.99	0.03	0.13	0.05	0.17	0.12	0.27	0.67	0.28
V25073-V25074	6955	86	8	0.018	1.04	0.00	0.04	0.00	0.04	0.02	0.11	0.67	0.11
V25074-V25076	5904	370	8	0.012	0.86	0.00	0.05	0.00	0.05	0.02	0.13	0.67	0.13
V25075-V25076	4730	71	8	0.025	1.24	0.00	0.04	0.00	0.04	0.03	0.13	0.67	0.13
V25076-V25077	5982	240	8	0.030	1.35	0.01	0.10	0.01	0.12	0.06	0.22	0.67	0.22
V25077-V25078	5637	375	8	0.016	0.99	0.04	0.14	0.07	0.19	0.19	0.28	0.67	0.30
V25078-V24052.A0	6956	32	8	0.126	2.77	0.13	0.30	0.23	0.40	0.42	0.53	0.67	0.58
V25084-V22085.A0	V25084-V22085.A0	167	8	0.010	0.78	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V26001-V26002	6659	330	8	0.019	1.09	0.01	0.08	0.04	0.14	0.10	0.21	0.67	0.23
V26002-V26003	4141	171	8	0.019	1.07	0.01	0.08	0.05	0.14	0.10	0.21	0.67	0.23
V26003-V26009	1049	187	8	0.021	1.12	0.01	0.08	0.05	0.16	0.10	0.22	0.67	0.24
V26004-V26007	6615	277	8	0.130	2.82	0.00	0.01	0.00	0.02	0.00	0.03	0.67	0.04
V26005-V26006	1048	60	8	0.151	3.04	0.00	0.00	0.00	0.01	0.00	0.02	0.67	0.02
V26006-V26007	1046	308	8	0.211	3.58	0.00	0.01	0.00	0.02	0.00	0.03	0.67	0.03
V26007-V26008	8203	287	8	0.120	2.71	0.00	0.02	0.01	0.05	0.01	0.05	0.67	0.06
V26008-V26009	1050	182	8	0.015	0.96	0.00	0.06	0.01	0.12	0.01	0.15	0.67	0.17
V26009-V26010	1051	321	8	0.014	0.93	0.02	0.09	0.06	0.17	0.11	0.23	0.67	0.26
V26010-V26017.B0	4850	232	8	0.015	0.95	0.02	0.09	0.06	0.18	0.11	0.23	0.67	0.27
V26011.A0-V26011.B0	6075	208	8	0.050	1.74	0.00	0.02	0.00	0.02	0.01	0.04	0.67	0.04
V26011.B0-V26011	4140	166	8	0.069	2.06	0.00	0.02	0.00	0.03	0.01	0.05	0.67	0.05
V26011-V26013	4849	246	8	0.033	1.42	0.00	0.04	0.00	0.06	0.01	0.07	0.67	0.08
V26012-V26013	6709	80	8	0.051	1.77	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.06
V26013-V26014	6708	55	8	0.007	0.67	0.00	0.04	0.01	0.07	0.01	0.08	0.67	0.09
V26014-V26016	6707	160	8	0.027	1.29	0.00	0.05	0.01	0.08	0.01	0.08	0.67	0.09
V26016.A0-V26016	1421	150	8	0.008	0.70	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.06
V26016-V26017	6706	172	8	0.007	0.63	0.00	0.08	0.01	0.15	0.01	0.18	0.67	0.21
V26017.A0-V26017.B0	4848	181	8	0.090	2.34	0.00	0.06	0.00	0.10	0.00	0.13	0.67	0.14
V26017.B0-V26017	6704	232	8	0.015	0.95	0.02	0.10	0.07	0.20	0.11	0.25	0.67	0.29
V26017-V26018	6705	174	8	0.011	0.83	0.02	0.11	0.08	0.21	0.12	0.26	0.67	0.30
V26018-V26026	5681	271	8	0.013	0.88	0.02	0.12	0.09	0.22	0.12	0.26	0.67	0.30
V26019-V26020	6077	169	8	0.009	0.76	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V26020-V26021	6703	183	8	0.076	2.15	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V26021-V26022	5680	155	8	0.047	1.69	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.06
V26022-V26026	6511	250	8	0.004	0.49	0.00	0.09	0.01	0.15	0.00	0.16	0.67	0.20
V26024-V26023	6076	147	8	0.071	2.08	0.00	0.03	0.00	0.03	0.01	0.05	0.67	0.05
V26024-V26247	4847	363	8	0.042	1.61	0.00	0.03	0.00	0.03	0.01	0.05	0.67	0.05
V26025-V26026	5679	85	8	0.123	2.74	0.00	0.08	0.01	0.13	0.01	0.15	0.67	0.18
V26026-V26029	5678	370	8	0.016	0.98	0.03	0.12	0.10	0.22	0.14	0.25	0.67	0.30
V26027-V26028	5074	237	8	0.119	2.70	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V26028-V26029	5073	236	8	0.020	1.10	0.00	0.07	0.00	0.12	0.00	0.13	0.67	0.16
V26029-V26030	5677	42	8	0.023	1.18	0.03	0.12	0.11	0.21	0.14	0.24	0.67	0.28
V26030-V26070	6118	250	8	0.004	0.49	0.03	0.23	0.11	0.40	0.14	0.42	0.67	0.54
V26031-V26032	6814	156	8	0.032	1.40	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V26032-V26033	227	301	8	0.027	1.28	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V26033-V26034	6614	454	8	0.072	2.09	0.00	0.04	0.01	0.05	0.01	0.04	0.67	0.06
V26034-V26035	6790	140	8	0.044	1.64	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.07
V26035-V26042	1651	320	8	0.044	1.64	0.01	0.16	0.01	0.20	0.01	0.16	0.67	0.21
V26036-V26037	5128	373	6	0.007	0.31	0.00	0.05	0.00	0.05	0.00	0.05	0.50	0.05
V26037-V26038	6813	169	8	0.074	2.12	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V26038-V26040	4569	201	8	0.086	2.29	0.00	0.04	0.01	0.04	0.00	0.04	0.67	0.05
V26039-V26040	223	148	8	0.002	0.35	0.00	0.06	0.00	0.06	0.00	0.05	0.67	0.05
V26040-V26041	6613	172	8	0.088	2.31	0.01	0.04	0.01	0.05	0.01	0.04	0.67	0.05
V26041-V26042	1650	159	8	0.090	2.34	0.01	0.16	0.01	0.19	0.01	0.16	0.67	0.20
V26042-V26043	6737	84	8	0.000	0.03	0.02	0.18	0.03	0.22	0.02	0.18	0.67	0.23
V26043-V26044	6736	194	8	0.027	1.27	0.02	0.12	0.03	0.15	0.02	0.12	0.67	0.16
V26044-V26048	6735	214	8	0.004	0.49	0.02	0.13	0.04	0.17	0.02	0.13	0.67	0.18
V26045-V26046	6612	270	8	0.037	1.50	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V26046-V26047	1649	210	8	0.079	2.19	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.03
V26047-V26048	6733	120	8	0.113	2.62	0.01	0.07	0.01	0.09	0.00	0.07	0.67	0.09
V26048-V26049	6658	289	8	0.016	1.00	0.03	0.12	0.05	0.16	0.02	0.12	0.67	0.16
V26049-V26057	5072	267	8	0.013	0.91	0.03	0.11	0.05	0.14	0.03	0.11	0.67	0.15
V26050-V26051	6051	167	8	0.003	0.45	0.00	0.02	0.00	0.03	0.00	0.05	0.67	0.05
V26051-V26052	6812	250	8	0.004	0.49	0.00	0.03	0.00	0.05	0.00	0.05	0.67	0.07
V26052-V26053	5127	280	8	0.005	0.53	0.00	0.02	0.00	0.06	0.00	0.04	0.67	0.06
V26053-V26054	6811	125	8	0.054	1.82	0.00	0.02	0.01	0.04	0.00	0.03	0.67	0.05
V26054-V26055	4568	183	8	0.114	2.64	0.00	0.02	0.01	0.04	0.01	0.03	0.67	0.05
V26055-V26056	6611	329	8	0.111	2.60	0.00	0.03	0.01	0.05	0.01	0.04	0.67	0.06
V26056-V26057	6657	80	8	0.070	2.07	0.00	0.06	0.01	0.09	0.01	0.07	0.67	0.10
V26057-V26058	4846	188	8	0.075	2.13	0.03	0.09	0.07	0.12	0.04	0.09	0.67	0.13
V26058-V26059	6702	230	8	0.072	2.09	0.04	0.10	0.07	0.13	0.04	0.10	0.67	0.14
V26059-V26060	6079	233	8	0.047	1.70	0.04	0.15	0.07	0.21	0.04	0.16	0.67	0.22
V26060-V26069	6080	139	8	0.004	0.49	0.04	0.15	0.07	0.21	0.04	0.16	0.67	0.22
V26061-V26062	6081	150	6	0.127	1.29	0.00	0.04	0.00	0.04	0.00	0.03	0.50	0.04
V26062-V26064	6082	274	6	0.013	0.41	0.00	0.04	0.00	0.04	0.00	0.05	0.50	0.05
V26063-V26064	6610	36	8	0.055	1.84	0.00	0.02	0.00	0.02	0.01	0.04	0.67	0.04
V26064-V26065	6789	146	8	0.137	2.89	0.00	0.02	0.00	0.03	0.01	0.04	0.67	0.04
V26065-V26066	1648	85	8	0.171	3.23	0.00	0.03	0.01	0.04	0.01	0.05	0.67	0.05
V26066-V26067	6655	226	8	0.095	2.40	0.00	0.03	0.01	0.04	0.01	0.06	0.67	0.06
V26067-V26068	6083	224	8	0.093	2.38	0.00	0.04	0.01	0.06	0.02	0.07	0.67	0.08
V26068-V26069.C0	6046	167	8	0.021	1.12	0.00	0.05	0.01	0.08	0.02	0.09	0.67	0.10
V26069.A0-V26069.B0	6047	155	8	0.125	2.76	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V26069.B0-V26069.C0	6048	80	8	0.032	1.40	0.00	0.04	0.00	0.06	0.00	0.06	0.67	0.07
V26069.C0-V26069	6049	142	8	0.021	1.14	0.01	0.08	0.02	0.11	0.02	0.10	0.67	0.13
V26069-V26070	6117	73	8	0.073	2.11	0.05	0.19	0.09	0.31	0.06	0.29	0.67	0.39
V26070-V26071	6153	230	8	0.004	0.50	0.08	0.26	0.21	0.42	0.20	0.42	0.67	0.54

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V26071-V26255	6152	56	10	0.006	1.10	0.08	0.18	0.21	0.29	0.21	0.28	0.83	0.36
V26074-V26075	1680	73	8	0.098	2.45	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V26075-V26076	6609	222	8	0.159	3.11	0.00	0.03	0.00	0.03	0.01	0.04	0.67	0.04
V26076-V26078	6788	71	8	0.028	1.31	0.00	0.04	0.00	0.04	0.01	0.05	0.67	0.05
V26077-V26078	6353	30	8	0.028	1.32	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V26078.A0-V26078.B0	6787	155	8	0.018	1.05	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V26078.B0-V26078.C0	6786	27	8	0.040	1.56	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V26078.C0-V26078	6784	43	8	0.025	1.24	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.05
V26078-V26081	6654	362	8	0.097	2.43	0.01	0.04	0.01	0.05	0.01	0.06	0.67	0.06
V26079-V26080	6350	127	8	0.004	0.47	0.00	0.03	0.00	0.03	0.01	0.08	0.67	0.08
V26080-V26081	6352	306	8	0.035	1.47	0.00	0.03	0.00	0.04	0.02	0.07	0.67	0.07
V26081-V26082	4844	84	8	0.257	3.96	0.01	0.05	0.02	0.07	0.03	0.11	0.67	0.12
V26082-V26084	5676	189	8	0.017	1.00	0.01	0.07	0.02	0.09	0.05	0.15	0.67	0.15
V26083-V26084	6084	77	8	0.002	0.35	0.00	0.03	0.00	0.04	0.00	0.07	0.67	0.07
V26084-V26085	6510	375	8	0.032	1.39	0.01	0.06	0.02	0.09	0.05	0.14	0.67	0.15
V26085-V26086	6507	190	8	0.032	1.39	0.01	0.07	0.02	0.10	0.07	0.16	0.67	0.17
V26086.A0-V26086	6506	307	8	0.020	1.11	0.00	0.05	0.00	0.07	0.02	0.13	0.67	0.13
V26086-V26256	6177	185	8	0.027	1.29	0.01	0.15	0.03	0.23	0.09	0.28	0.67	0.32
V26088-V26089	5136	3	6	0.376	2.22	0.00	0.02	0.00	0.02	0.00	0.04	0.50	0.04
V26089-V26090	6036	146	6	0.086	1.06	0.00	0.03	0.00	0.03	0.00	0.04	0.50	0.04
V26090-V26091	6035	85	6	0.164	1.47	0.00	0.04	0.00	0.04	0.01	0.05	0.50	0.05
V26091-V26095	1679	81	8	0.084	2.27	0.00	0.04	0.00	0.04	0.01	0.06	0.67	0.06
V26092-V26093	6037	188	8	0.011	0.81	0.00	0.03	0.00	0.03	0.02	0.09	0.67	0.09
V26093-V26094	6038	195	8	0.148	3.01	0.00	0.03	0.00	0.03	0.02	0.06	0.67	0.06
V26094.A0-V26094	1218	3	8	0.717	6.61	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V26094-V26095	1677	22	8	0.112	2.61	0.00	0.04	0.01	0.04	0.02	0.07	0.67	0.07
V26095-V26097	4567	243	8	0.066	2.01	0.01	0.04	0.01	0.05	0.03	0.08	0.67	0.08
V26096-V26097	222	49	8	0.005	0.55	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
V26097-V26101	6557	130	8	0.108	2.57	0.01	0.05	0.01	0.06	0.03	0.08	0.67	0.09
V26098-V26099	5117	140	8	0.067	2.02	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V26099-V26100	6810	225	8	0.133	2.85	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
V26100-V26101	6556	154	8	0.096	2.42	0.00	0.04	0.00	0.05	0.01	0.07	0.67	0.07
V26101-V26105	1647	219	8	0.077	2.17	0.01	0.06	0.02	0.08	0.04	0.11	0.67	0.12
V26102-V26103	6034	158	8	0.212	3.59	0.00	0.01	0.00	0.01	0.00	0.03	0.67	0.03
V26103-V26104	6032	84	8	0.182	3.33	0.00	0.02	0.00	0.02	0.01	0.04	0.67	0.04
V26104-V26105	6031	345	8	0.046	1.68	0.00	0.05	0.00	0.07	0.01	0.09	0.67	0.10
V26105-V26106	6732	284	8	0.028	1.32	0.01	0.07	0.03	0.10	0.04	0.12	0.67	0.14
V26106-V26107	6653	302	8	0.041	1.59	0.02	0.07	0.03	0.10	0.04	0.12	0.67	0.13
V26107-V26108	4843	373	8	0.053	1.80	0.02	0.09	0.03	0.13	0.06	0.15	0.67	0.17
V26108-V26160	6701	63	8	0.010	0.77	0.02	0.14	0.04	0.19	0.06	0.22	0.67	0.25
V26109.A0-V26109.B0	6833	34	8	0.014	0.91	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
V26109.B0-V26109.C0	6832	194	8	0.008	0.72	0.00	0.04	0.00	0.04	0.00	0.06	0.67	0.06
V26109.C0-V26109	6831	199	8	0.008	0.71	0.00	0.05	0.00	0.06	0.01	0.07	0.67	0.08
V26109-V26110	6834	112	8	0.007	0.64	0.00	0.05	0.01	0.07	0.01	0.08	0.67	0.09
V26110-V26113	6830	80	8	0.004	0.50	0.00	0.07	0.01	0.09	0.01	0.10	0.67	0.12
V26111-V26112	5152	114	8	0.162	3.15	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V26112-V26113	2476	185	8	0.065	2.00	0.00	0.05	0.00	0.07	0.00	0.07	0.67	0.08
V26113-V26114	6829	252	8	0.004	0.49	0.01	0.08	0.01	0.11	0.01	0.13	0.67	0.14
V26114-V26115	6828	179	8	0.005	0.54	0.01	0.07	0.01	0.10	0.02	0.11	0.67	0.12
V26115-V26116	6043	269	8	0.036	1.49	0.01	0.05	0.02	0.07	0.02	0.08	0.67	0.09
V26116-V26117	6044	312	8	0.068	2.04	0.01	0.07	0.02	0.09	0.02	0.09	0.67	0.11
V26117-V26122	6045	78	8	0.014	0.94	0.01	0.08	0.02	0.11	0.02	0.11	0.67	0.13
V26118-V26119	755	2	8	0.077	2.17	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V26119-V26121	2475	160	8	0.007	0.66	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V26120-V26121	2474	216	8	0.030	1.36	0.00	0.52	0.00	0.52	0.00	0.52	0.67	0.52
V26121-V26122	6529	333	8	0.148	3.00	0.01	0.06	0.01	0.07	0.01	0.07	0.67	0.08
V26122-V26123	6554	187	8	0.035	1.46	0.02	0.08	0.03	0.11	0.03	0.10	0.67	0.12
V26123-V26125	6553	142	8	0.032	1.39	0.02	0.13	0.04	0.16	0.03	0.15	0.67	0.19
V26124.A0-V26124.B0	6528	310	8	0.104	2.52	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V26124.B0-V26124	6809	311	8	0.090	2.34	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
V26124-V26125	1676	68	8	0.003	0.45	0.00	0.12	0.01	0.15	0.01	0.14	0.67	0.17
V26125-V26130	1675	164	8	0.004	0.51	0.03	0.13	0.05	0.18	0.04	0.16	0.67	0.20
V26126-V26128	6042	66	8	0.101	2.48	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V26127-V26128	6041	61	8	0.002	0.32	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V26128.A0-V26128	6039	93	8	0.038	1.53	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V26128-V26129	5116	155	8	0.056	1.84	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V26129-V26130	6808	79	8	0.226	3.72	0.00	0.07	0.01	0.08	0.00	0.07	0.67	0.09
V26130-V26133	1674	116	8	0.030	1.36	0.03	0.10	0.05	0.13	0.04	0.12	0.67	0.15
V26131-V26132	2473	216	8	0.125	2.76	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V26132-V26133	6527	345	8	0.142	2.95	0.01	0.07	0.01	0.08	0.00	0.07	0.67	0.08
V26133-V26134	4566	251	8	0.057	1.87	0.04	0.10	0.06	0.13	0.05	0.11	0.67	0.14
V26134-V26146	6552	190	8	0.061	1.92	0.04	0.10	0.07	0.13	0.05	0.11	0.67	0.15
V26135-V26136	6053	153	8	0.014	0.94	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V26136-V26138	2482	69	8	0.115	2.65	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V26137-V26138	2480	261	8	0.014	0.91	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V26138-V26143	6526	399	8	0.063	1.95	0.01	0.04	0.01	0.04	0.01	0.04	0.67	0.05
V26139-V26140	6056	75	8	0.137	2.89	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V26140-V26142	6055	189	8	0.004	0.50	0.00	0.05	0.00	0.05	0.00	0.06	0.67	0.07
V26141-V26142	6054	45	8	0.004	0.48	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V26142-V26143	5125	190	8	0.004	0.49	0.00	0.09	0.00	0.11	0.01	0.10	0.67	0.12
V26143-V26144	5124	127	8	0.003	0.44	0.01	0.09	0.02	0.11	0.01	0.09	0.67	0.12
V26144-V26145	6807	216	8	0.105	2.52	0.01	0.05	0.02	0.06	0.01	0.05	0.67	0.07
V26145-V26146	6551	192	8	0.100	2.47	0.01	0.08	0.02	0.10	0.02	0.09	0.67	0.11
V26146-V26147.F0	6783	43	8	0.074	2.13	0.05	0.11	0.09	0.15	0.06	0.12	0.67	0.16
V26147.A0-V26147.B0	6806	350	8	0.111	2.60	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V26147.B0-V26147.C0	4565	284	8	0.010	0.78	0.01	0.06	0.01	0.07	0.00	0.06	0.67	0.07
V26147.C0-V26147.D0	221	297	8	0.010	0.78	0.01	0.06	0.01	0.07	0.01	0.05	0.67	0.07
V26147.D0-V26147.E0	6550	286	8	0.053	1.80	0.01	0.07	0.01	0.08	0.01	0.06	0.67	0.08
V26147.E0-V26147.F0	6781	155	8	0.008	0.70	0.01	0.10	0.02	0.13	0.01	0.10	0.67	0.14
V26147.F0-V26147	6780	71	8	0.068	2.03	0.06	0.12	0.11	0.16	0.07	0.13	0.67	0.17
V26147-V26148	6782	115	8	0.070	2.07	0.06	0.12	0.11	0.15	0.07	0.13	0.67	0.17
V26148-V26149	1646	279	8	0.080	2.21	0.06	0.13	0.11	0.17	0.07	0.14	0.67	0.18
V26149-V26150	6652	204	8	0.038	1.53	0.06	0.15	0.11	0.20	0.07	0.16	0.67	0.22
V26150-V26159	5071	260	8	0.019	1.07	0.06	0.16	0.11	0.22	0.07	0.20	0.67	0.25
V26151-V26152	6027	114	8	0.063	1.96	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V26152-V26153	6028	261	8	0.141	2.93	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V26153-V26156	6549	87	8	0.114	2.64	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
V26154-V26155	220	93	8	0.088	2.31	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V26155-V26156	6548	219	8	0.043	1.62	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V26156-V26157	1645	82	8	0.207	3.55	0.00	0.03	0.01	0.04	0.01	0.03	0.67	0.04
V26157-V26158	6029	18	8	0.195	3.45	0.00	0.03	0.01	0.04	0.01	0.03	0.67	0.04
V26158-V26159	6030	140	8	0.156	3.08	0.00	0.09	0.01	0.12	0.01	0.12	0.67	0.15
V26159-V26160	4842	216	8	0.031	1.38	0.07	0.16	0.13	0.22	0.14	0.23	0.67	0.27
V26160-V26161	5675	216	8	0.034	1.44	0.09	0.17	0.17	0.23	0.20	0.25	0.67	0.29
V26161-V26162	6509	299	8	0.036	1.49	0.09	0.18	0.17	0.25	0.20	0.26	0.67	0.31
V26162-V26163	6505	286	8	0.023	1.18	0.09	0.19	0.18	0.27	0.21	0.29	0.67	0.34
V26163-V26173	6026	263	8	0.021	1.12	0.09	0.20	0.18	0.28	0.22	0.31	0.67	0.36

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V26164-V26165	6547	109	8	0.136	2.88	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V26165-V26166	1644	123	8	0.092	2.37	0.00	0.08	0.00	0.08	0.00	0.08	0.67	0.09
V26166-V26168	6626	106	8	0.000	0.02	0.00	0.08	0.00	0.09	0.00	0.08	0.67	0.10
V26167-V26168	5070	130	8	0.010	0.78	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V26168-V26169	4841	134	8	0.120	2.71	0.00	0.14	0.01	0.17	0.00	0.15	0.67	0.19
V26169.A0-V26169.B0	6450	300	8	0.134	2.86	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V26169.B0-V26169	6625	315	8	0.061	1.93	0.00	0.14	0.00	0.17	0.01	0.16	0.67	0.19
V26169-V26170	4840	221	8	0.000	0.02	0.01	0.15	0.02	0.19	0.01	0.18	0.67	0.21
V26170.A0-V26170.B0	4839	170	8	0.068	2.03	0.00	0.04	0.00	0.04	0.00	0.07	0.67	0.07
V26170.B0-V26170	4838	170	8	0.006	0.63	0.00	0.05	0.00	0.06	0.01	0.09	0.67	0.09
V26170-V26171	5673	115	8	0.125	2.76	0.01	0.06	0.02	0.07	0.03	0.08	0.67	0.09
V26171-V26172	6508	181	8	0.044	1.64	0.01	0.07	0.02	0.09	0.03	0.10	0.67	0.11
V26172-V26173	6022	206	6	0.060	0.89	0.02	0.18	0.03	0.25	0.04	0.29	0.50	0.33
V26173-V26174	6024	102	8	0.025	1.22	0.11	0.22	0.21	0.31	0.27	0.36	0.67	0.41
V26174-V26257	6025	61	8	0.012	0.87	0.11	0.27	0.21	0.39	0.28	0.45	0.67	0.54
V26175-V26177	6175	232	8	0.027	1.29	0.21	0.31	0.47	0.49	0.60	0.57	0.67	0.69
V26177-V26182	6174	167	8	0.011	0.84	0.21	0.31	0.47	0.48	0.61	0.56	0.67	0.90
V26178-V26179	6700	70	8	0.010	0.79	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V26179-V26180	5672	131	8	0.027	1.28	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.04
V26180-V26181	6190	88	8	0.128	2.79	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
V26181-V26182	6504	205	8	0.112	2.61	0.00	0.14	0.00	0.21	0.02	0.26	0.67	0.53
V26182-V26183	6354	60	8	0.035	1.46	0.21	0.35	0.48	0.56	0.63	0.73	0.67	1.00
V26183-V26185	6355	192	8	0.006	0.59	0.21	0.32	0.48	0.52	0.64	0.68	0.67	0.71
V26184.A0-V26184	6435	292	8	0.018	1.03	0.00	0.11	0.00	0.16	0.00	0.20	0.67	0.23
V26184-V26185	5137	58	8	0.000	0.03	0.00	0.20	0.00	0.30	0.01	0.36	0.67	0.42
V26185-V26186	4491	120	8	0.094	2.39	0.21	0.25	0.48	0.38	0.65	0.46	0.67	0.54
V26186-V26187	5765	381	8	0.021	1.14	0.21	0.29	0.48	0.46	0.67	0.56	0.67	0.66
V26187-V26189	5888	232	8	0.022	1.16	0.22	0.30	0.49	0.46	0.70	0.57	0.67	0.69
V26188-V26189	5062	185	6	0.004	0.24	0.00	0.24	0.00	0.34	0.01	0.48	0.50	0.55
V26189-V26190	5061	153	8	0.020	1.10	0.23	0.30	0.50	0.46	0.71	0.57	0.67	0.69
V26190-V26191	4789	365	8	0.024	1.20	0.23	0.31	0.50	0.48	0.73	0.61	0.67	0.74
V26191-V26236	5409	363	8	0.015	0.96	0.23	0.35	0.50	0.53	0.74	0.68	0.67	0.81
V26192-V26193	6052	267	8	0.054	1.82	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V26193-V26194	2472	156	8	0.062	1.95	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V26194-V26195	6525	178	8	0.065	1.98	0.00	0.04	0.01	0.04	0.01	0.04	0.67	0.05
V26195-V26196	5135	211	8	0.057	1.87	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V26196-V26197	5115	69	8	0.073	2.11	0.01	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V26197-V26198	5123	81	8	0.074	2.12	0.01	0.05	0.01	0.06	0.01	0.06	0.67	0.07
V26198-V26199	6805	194	8	0.031	1.37	0.01	0.05	0.01	0.06	0.01	0.06	0.67	0.07
V26199-V26200	1673	148	8	0.107	2.56	0.01	0.05	0.01	0.06	0.01	0.06	0.67	0.07
V26200-V26202	4564	241	8	0.049	1.74	0.01	0.06	0.02	0.07	0.01	0.07	0.67	0.08
V26201-V26202	6449	209	8	0.132	2.84	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V26202-V26203	6448	254	8	0.051	1.76	0.01	0.08	0.02	0.11	0.02	0.10	0.67	0.13
V26203-V26204	6447	336	8	0.005	0.53	0.01	0.12	0.02	0.16	0.02	0.14	0.67	0.18
V26204-V26205	6779	227	8	0.004	0.48	0.02	0.13	0.03	0.17	0.02	0.15	0.67	0.19
V26205-V26206	6778	182	8	0.004	0.49	0.02	0.13	0.03	0.17	0.02	0.15	0.67	0.19
V26206-V26207	6777	259	8	0.004	0.50	0.02	0.14	0.03	0.18	0.02	0.15	0.67	0.20
V26207-V26208	6776	137	8	0.007	0.64	0.02	0.10	0.04	0.13	0.03	0.11	0.67	0.14
V26208-V26209	1643	177	8	0.137	2.89	0.02	0.07	0.04	0.09	0.03	0.07	0.67	0.10
V26209-V26210	6624	59	8	0.091	2.35	0.02	0.07	0.04	0.09	0.03	0.07	0.67	0.10
V26210-V26213	6291	116	8	0.169	3.21	0.02	0.10	0.04	0.13	0.03	0.11	0.67	0.14
V26211-V26212	6446	106	8	0.053	1.79	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V26212-V26213	6623	162	8	0.133	2.85	0.00	0.08	0.00	0.10	0.00	0.08	0.67	0.11
V26213-V26214	6695	126	8	0.013	0.88	0.03	0.09	0.05	0.13	0.03	0.11	0.67	0.14
V26214-V26215	6442	138	8	0.258	3.97	0.03	0.07	0.05	0.10	0.03	0.08	0.67	0.10
V26215.A0-V26215.B0	6694	3	8	0.210	3.58	0.00	0.01	0.00	0.01	0.00	0.01	0.67	0.01
V26215.B0-V26215.C0	5671	180	8	0.151	3.03	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V26215.C0-V26215.D0	6503	119	8	0.073	2.12	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
V26215.D0-V26215.E0	5995	122	8	0.026	1.25	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
V26215.E0-V26215	6444	69	8	0.048	1.71	0.00	0.06	0.01	0.08	0.00	0.07	0.67	0.09
V26215-V26216	6445	60	8	0.066	2.01	0.03	0.09	0.05	0.12	0.04	0.10	0.67	0.13
V26216-V26217	4484	239	8	0.040	1.57	0.03	0.11	0.06	0.14	0.04	0.12	0.67	0.16
V26217-V26227	4483	45	8	0.022	1.17	0.03	0.11	0.06	0.15	0.04	0.12	0.67	0.16
V26218-V26219	6441	214	8	0.008	0.71	0.00	0.03	0.00	0.03	0.01	0.08	0.67	0.08
V26219-V26220	6622	318	8	0.025	1.23	0.00	0.04	0.00	0.04	0.01	0.07	0.67	0.07
V26220-V26221	6290	103	8	0.068	2.04	0.00	0.04	0.01	0.05	0.01	0.07	0.67	0.07
V26221-V26223	6685	243	8	0.021	1.13	0.00	0.04	0.01	0.05	0.01	0.07	0.67	0.07
V26222-V26223	6440	41	8	0.090	2.35	0.00	0.01	0.00	0.02	0.00	0.03	0.67	0.03
V26223-V26225	5670	126	8	0.145	2.97	0.00	0.03	0.01	0.04	0.01	0.05	0.67	0.06
V26224-V26225	6439	96	8	0.066	2.00	0.00	0.01	0.00	0.02	0.00	0.03	0.67	0.03
V26225-V26226	6502	98	8	0.247	3.88	0.00	0.03	0.01	0.05	0.02	0.05	0.67	0.06
V26226-V26227	5734	76	8	0.120	2.70	0.00	0.06	0.01	0.09	0.02	0.09	0.67	0.11
V26227-V26228	4482	135	8	0.055	1.83	0.04	0.10	0.07	0.14	0.06	0.13	0.67	0.16
V26228-V26229	5764	123	8	0.041	1.58	0.04	0.11	0.07	0.15	0.06	0.15	0.67	0.18
V26229-V26231.A0	5665	92	8	0.033	1.42	0.04	0.12	0.08	0.15	0.09	0.17	0.67	0.19
V26230-V26231	6636	144	8	0.002	0.35	0.01	0.14	0.01	0.14	0.00	0.09	0.67	0.11
V26231.A0-V26231	8278	62	8	0.049	1.74	0.05	0.13	0.08	0.16	0.10	0.18	0.67	0.20
V26231-V26233	5664	223	8	0.030	1.34	0.07	0.18	0.09	0.21	0.10	0.24	0.67	0.27
V26232-V26233.A0	4773	53	8	0.037	1.50	0.00	0.04	0.00	0.04	0.03	0.13	0.67	0.13
V26233.A0-V26233	5060	191	8	0.022	1.15	0.02	0.14	0.02	0.15	0.08	0.24	0.67	0.25
V26233.AA-V26233.AB	7942	83	8	0.002	0.33	0.02	0.17	0.02	0.17	0.01	0.22	0.67	0.22
V26233.AB-V26233.A0	7943	340	8	0.002	0.35	0.02	0.14	0.02	0.14	0.05	0.25	0.67	0.25
V26233-V26234	4788	261	8	0.014	0.94	0.08	0.22	0.11	0.25	0.18	0.34	0.67	0.36
V26234-V26235	5981	364	8	0.008	0.70	0.08	0.26	0.11	0.30	0.21	0.43	0.67	0.49
V26235-V26236	5980	53	8	0.004	0.50	0.09	0.33	0.12	0.43	0.24	0.60	0.67	0.70
V26236-V26237	5979	339	10	0.014	0.92	0.31	0.28	0.62	0.40	0.99	0.52	0.83	0.60
V26237-V26241	6437	367	10	0.023	1.18	0.33	0.36	0.63	0.49	1.00	0.63	0.83	0.71
V26238.A0-V26238.B0	5978	280	8	0.019	1.06	0.02	0.12	0.02	0.12	0.04	0.13	0.67	0.13
V26238.B0-V26238.C0	5636	233	8	0.019	1.07	0.04	0.14	0.04	0.14	0.04	0.15	0.67	0.15
V26238.C0-V26238	5836	136	8	0.012	0.87	0.04	0.15	0.04	0.15	0.06	0.17	0.67	0.17
V26238-V26239	5837	107	8	0.012	0.85	0.04	0.16	0.04	0.16	0.06	0.19	0.67	0.19
V26239-V26240	5835	319	8	0.009	0.74	0.04	0.15	0.04	0.15	0.06	0.19	0.67	0.19
V26240-V26241	6438	32	8	0.021	1.13	0.04	0.35	0.04	0.44	0.07	0.57	0.67	0.58
V26241-V26242	5944	60	12	0.001	0.25	0.37	0.30	0.67	0.41	1.07	0.53	1.00	0.60
V26242-V24052.A0	5141	9	12	0.026	1.26	0.37	0.26	0.67	0.36	1.07	0.48	1.00	0.53
V26252-V26256	V26252-V26256	283	10	0.006	1.08	0.08	0.18	0.22	0.30	0.21	0.30	0.83	0.38
V26253-V26252	V26253-V26252	167	10	0.006	1.11	0.08	0.19	0.22	0.30	0.21	0.29	0.83	0.38
V26254-V26253	V26254-V26253	206	10	0.006	1.09	0.08	0.19	0.21	0.30	0.21	0.29	0.83	0.37
V26255-V26254	CDT-20	21	10	0.008	1.30	0.08	0.18	0.21	0.29	0.21	0.28	0.83	0.36
V26256-V26257	6176	194	10	0.010	1.44	0.10	0.21	0.25	0.32	0.30	0.36	0.83	0.44
V27001-V27002	219	175	8	0.010	0.78	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V27002-V27004	6546	258	8	0.086	2.28	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
V27003.A0-V27003.B0	1045	131	8	0.189	3.39	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V27003.B0-V27003	1044	151	8	0.011	0.82	0.00	0.03	0.00	0.05	0.00	0.05	0.67	0.06
V27003.C0-V27003	7985	199	8	0.044	1.63	0.00	0.03	0.00	0.04	0.01	0.06	0.67	0.07
V27003.CA-V27003.CB	7986	50	8	0.163	3.15	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V27003.CB-V27003.C0	7483	130	8	0.011	0.83	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V27003-V27004	6545	188	8	0.018	1.04	0.00	0.05	0.01	0.08	0.01	0.08	0.67	0.10
V27004-V27005	6775	340	8	0.010	0.79	0.01	0.06	0.01	0.09	0.01	0.08	0.67	0.10
V27005-V27006	6774	311	8	0.036	1.48	0.01	0.06	0.02	0.09	0.01	0.08	0.67	0.11
V27006-V27007	1642	320	8	0.015	0.97	0.01	0.05	0.02	0.08	0.01	0.07	0.67	0.10
V27007-V27008	6731	75	8	0.224	3.69	0.01	0.10	0.02	0.15	0.02	0.13	0.67	0.17
V27008-V27011	1043	37	8	0.000	0.04	0.01	0.12	0.02	0.19	0.02	0.20	0.67	0.24
V27009-V27010	6621	299	8	0.026	1.25	0.00	0.01	0.00	0.03	0.01	0.08	0.67	0.09
V27010-V27011	1042	160	8	0.004	0.49	0.00	0.05	0.00	0.09	0.01	0.14	0.67	0.16
V27011.A0-V27011.B0	6773	30	8	0.059	1.90	0.00	0.01	0.00	0.01	0.01	0.11	0.67	0.11
V27011.B0-V27011.C0	6772	133	8	0.015	0.95	0.00	0.02	0.00	0.03	0.07	0.21	0.67	0.21
V27011.C0-V27011.D0	6771	307	8	0.005	0.56	0.00	0.04	0.00	0.06	0.07	0.25	0.67	0.25
V27011.D0-V27011.E0	1641	343	8	0.005	0.54	0.00	0.04	0.01	0.06	0.07	0.20	0.67	0.20
V27011.E0-V27011.F0	6730	359	8	0.059	1.89	0.00	0.04	0.01	0.07	0.07	0.17	0.67	0.17
V27011.F0-V27011	1040	128	8	0.011	0.81	0.00	0.06	0.01	0.11	0.07	0.20	0.67	0.20
V27011-V26001	1041	207	8	0.025	1.24	0.01	0.08	0.04	0.13	0.09	0.19	0.67	0.21
V28001-V28002	6524	223	8	0.185	3.36	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V28002-V28003	6804	168	8	0.127	2.79	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
V28003.A0-V28003.B0	V28003.A0-V28003.B0	152	8	0.139	2.92	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V28003.B0-V28003.C0	V28003.B0-V28003.C0	53	8	0.146	2.98	0.00	0.03	0.00	0.03	0.01	0.05	0.67	0.05
V28003.C0-V28003	V28003.C0-V28003	34	8	0.011	0.84	0.00	0.03	0.00	0.04	0.01	0.06	0.67	0.06
V28003-V28004	1672	64	8	0.128	2.80	0.00	0.07	0.01	0.08	0.01	0.09	0.67	0.10
V28004-V28005	8322	17	8	0.000	0.06	0.00	0.07	0.01	0.09	0.01	0.10	0.67	0.10
V28005-V28006	6665	168	8	0.076	2.15	0.00	0.04	0.01	0.05	0.01	0.06	0.67	0.06
V28006-V28008	6544	150	8	0.087	2.30	0.01	0.05	0.01	0.06	0.01	0.07	0.67	0.08
V28007-V28008	6770	32	8	0.006	0.60	0.00	0.20	0.00	0.22	0.00	0.22	0.67	0.23
V28008-V28010	6769	23	8	0.024	1.21	0.01	0.06	0.01	0.07	0.02	0.08	0.67	0.09
V28009-V28010	5918	180	8	0.050	1.74	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.05
V28010-V28020	1640	327	8	0.043	1.61	0.01	0.10	0.02	0.13	0.02	0.14	0.67	0.16
V28012-V28013	5916	198	8	0.096	2.43	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V28013-V28015	1639	119	8	0.114	2.64	0.00	0.05	0.00	0.06	0.01	0.09	0.67	0.09
V28014.A0-V28014.B0	5920	101	8	0.060	1.91	0.00	0.01	0.00	0.02	0.02	0.07	0.67	0.07
V28014.AA-V28014.A0	7192	74	8	0.022	1.16	0.00	0.01	0.00	0.01	0.01	0.07	0.67	0.07
V28014.B0-V28014	5921	32	8	0.058	1.88	0.00	0.02	0.00	0.03	0.02	0.10	0.67	0.10
V28014-V28015	5922	205	8	0.005	0.54	0.00	0.05	0.00	0.07	0.02	0.14	0.67	0.14
V28015-V28017	6729	113	8	0.005	0.56	0.00	0.07	0.01	0.09	0.03	0.15	0.67	0.16
V28016-V28017	6726	9	8	0.026	1.26	0.00	0.05	0.00	0.06	0.00	0.09	0.67	0.09
V28017-V28019	6728	257	8	0.004	0.50	0.01	0.08	0.01	0.11	0.03	0.16	0.67	0.16
V28018-V28019	5915	158	6	0.036	0.69	0.00	0.56	0.00	0.57	0.00	0.60	0.50	0.61
V28019-V28020	2020	158	8	0.006	0.61	0.01	0.12	0.02	0.15	0.03	0.18	0.67	0.20
V28020-V28021	6727	100	8	0.004	0.51	0.02	0.13	0.04	0.16	0.05	0.18	0.67	0.21
V28021-V28023	6725	227	8	0.016	0.98	0.02	0.12	0.04	0.16	0.05	0.17	0.67	0.20
V28022-V28023	5919	308	8	0.027	1.29	0.00	0.08	0.00	0.10	0.00	0.11	0.67	0.13
V28023-V28037	6021	287	8	0.007	0.65	0.03	0.17	0.04	0.22	0.05	0.23	0.67	0.27
V28024-V28025	5925	284	8	0.035	1.46	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V28025-V28026	1638	216	8	0.038	1.51	0.00	0.05	0.01	0.05	0.00	0.05	0.67	0.05
V28026-V28027	1637	163	8	0.014	0.94	0.01	0.13	0.01	0.14	0.01	0.12	0.67	0.14
V28027-V28028	6767	7	8	0.011	0.81	0.01	0.13	0.01	0.14	0.01	0.12	0.67	0.14
V28028-V28029	6766	55	8	0.027	1.29	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.06
V28029-V28030	6765	250	8	0.043	1.63	0.01	0.53	0.01	0.53	0.01	0.53	0.67	0.53
V28030-V28034	6764	85	8	0.077	2.16	0.01	0.77	0.01	0.79	0.01	0.77	0.67	0.79
V28031-V28032	5923	94	8	0.015	0.94	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V28032-V28033	6763	199	8	0.011	0.83	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V28033-V28034	6762	216	8	0.012	0.84	0.01	0.30	0.01	0.32	0.00	0.30	0.67	0.32
V28034-V28035	1636	139	8	0.002	0.38	0.02	0.29	0.02	0.30	0.02	0.29	0.67	0.31
V28035-V28036	6020	9	8	1.480	9.50	0.02	0.52	0.02	0.52	0.02	0.52	0.67	0.52
V28036-V28037	6019	107	8	0.067	2.03	0.02	0.60	0.02	0.63	0.02	0.63	0.67	0.66
V28037-V28038	6018	343	8	0.004	0.49	0.04	0.20	0.07	0.26	0.07	0.25	0.67	0.30
V28038-V28039	6017	249	8	0.005	0.56	0.05	0.20	0.08	0.25	0.08	0.25	0.67	0.30
V28039-V28041	6016	115	8	0.007	0.64	0.05	0.16	0.08	0.20	0.08	0.20	0.67	0.23
V28040-V28041	6014	170	8	0.013	0.88	0.00	0.07	0.00	0.08	0.00	0.10	0.67	0.11
V28041-V28042	6620	199	8	0.057	1.86	0.05	0.11	0.08	0.14	0.08	0.14	0.67	0.16
V28042-V28043	6289	192	8	0.084	2.26	0.05	0.11	0.09	0.14	0.08	0.14	0.67	0.17
V28043-V28044	5616	186	8	0.052	1.79	0.05	0.13	0.09	0.16	0.08	0.16	0.67	0.19
V28044-V28048	5615	164	8	0.028	1.31	0.05	0.15	0.09	0.19	0.08	0.18	0.67	0.22
V28047-V28048	6288	195	8	0.198	3.48	0.00	0.09	0.00	0.11	0.00	0.11	0.67	0.13
V28048-V28049	5614	226	8	0.019	1.07	0.06	0.16	0.10	0.21	0.09	0.20	0.67	0.24
V28049-V28050	6185	223	8	0.017	1.02	0.06	0.15	0.10	0.20	0.09	0.19	0.67	0.23
V28050-V28054	6501	176	8	0.035	1.47	0.06	0.14	0.10	0.18	0.09	0.17	0.67	0.21
V28051-V28053	5928	109	8	0.208	3.56	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V28052-V28053	5929	88	8	0.065	1.98	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V28053-V28054	5613	197	8	0.141	2.94	0.00	0.08	0.00	0.11	0.00	0.10	0.67	0.12
V28054-V28076.A0	V28054-V28076.A0	188	8	0.035	1.46	0.06	0.14	0.11	0.18	0.09	0.16	0.67	0.20
V28055-V28056	6013	400	8	0.015	0.95	0.00	0.07	0.00	0.07	0.00	0.07	0.67	0.07
V28056-V28058	5932	365	8	0.003	0.40	0.01	0.09	0.01	0.09	0.01	0.09	0.67	0.10
V28057-V28058	5931	134	8	0.005	0.57	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V28058-V28059	5930	234	8	0.006	0.62	0.01	0.08	0.01	0.10	0.01	0.08	0.67	0.11
V28059-V28062	6012	223	8	0.007	0.65	0.01	0.10	0.01	0.13	0.01	0.10	0.67	0.14
V28060-V28061	6543	360	8	0.036	1.47	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V28061-V28062	1634	359	8	0.064	1.98	0.00	0.08	0.01	0.10	0.00	0.08	0.67	0.10
V28062-V28063	6011	283	8	0.006	0.58	0.01	0.09	0.03	0.12	0.02	0.09	0.67	0.13
V28063-V28064	6010	38	8	0.072	2.10	0.02	0.06	0.03	0.08	0.02	0.06	0.67	0.09
V28064-V28065	6619	70	8	0.103	2.51	0.02	0.05	0.03	0.07	0.02	0.05	0.67	0.08
V28065-V28066	6287	100	8	0.206	3.54	0.02	0.07	0.03	0.09	0.02	0.07	0.67	0.10
V28066-V28067	5612	426	8	0.032	1.40	0.02	0.06	0.03	0.08	0.02	0.06	0.67	0.09
V28067-V28070	6184	5	8	0.740	6.72	0.02	0.06	0.03	0.08	0.02	0.06	0.67	0.08
V28068-V28069	6693	108	8	0.100	2.47	0.00	0.01	0.00	0.01	0.00	0.01	0.67	0.01
V28069-V28070	5611	119	8	0.106	2.54	0.00	0.04	0.00	0.06	0.00	0.04	0.67	0.07
V28070-V28071	6183	41	8	0.043	1.62	0.02	0.07	0.04	0.10	0.02	0.07	0.67	0.10
V28071.00-V28072	6500	199	8	0.084	2.26	0.02	0.10	0.04	0.14	0.02	0.12	0.67	0.16
V28073-V28074	2445	123	8	0.031	1.37	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V28074-V28075	2444	121	8	0.054	1.82	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V28075-V28076.C0	V28075-V28076.C0	302	8	0.055	1.83	0.00	0.09	0.00	0.12	0.00	0.10	0.67	0.13
V28076.A0-V28076.B0	V28076.A0-V28076.B0	35	8	0.053	1.79	0.06	0.14	0.11	0.18	0.09	0.16	0.67	0.21
V28076.B0-V28076.C0	V28076.B0-V28076.C0	144	8	0.049	1.73	0.08	0.15	0.15	0.20	0.11	0.17	0.67	0.23
V28076.C0-V28076	V28076.C0-V28076	151	8	0.050	1.74	0.08	0.14	0.15	0.19	0.11	0.17	0.67	0.22
V28076-V28085	4481	60	8	0.073	2.11	0.08	0.14	0.16	0.19	0.11	0.17	0.67	0.22
V28077-V28078	5934	62	8	0.072	2.09	0.00	0.02	0.00	0.02	0.01	0.04	0.67	0.04
V28078-V28079	6499	128	8	0.128	2.79	0.00	0.03	0.00	0.03	0.01	0.06	0.67	0.06
V28079-V28081	5730	286	8	0.033	1.41	0.00	0.05	0.00	0.05	0.02	0.08	0.67	0.08
V28080-V28081	6957	24	8	0.017	1.01	0.00	0.06	0.00	0.06	0.01	0.08	0.67	0.08
V28081-V28082	4480	115	8	0.047	1.70	0.01	0.08	0.01	0.08	0.03	0.12	0.67	0.12
V28082-V28083	4478	139	8	0.006	0.61	0.01	0.10	0.01	0.10	0.03	0.17	0.67	0.17
V28083-V28084	4477	235	8	0.006	0.61	0.01	0.10	0.01	0.11	0.04	0.18	0.67	0.18
V28084-V28085	4476	246	8	0.006	0.60	0.01	0.12	0.02	0.15	0.05	0.19	0.67	0.21
V28085-V28089	4475	22	8	0.075	2.14	0.10	0.15	0.17	0.20	0.16	0.19	0.67	0.24
V28086-V28087	5729	148	6	0.187	1.57	0.00	0.03	0.00	0.03	0.00	0.04	0.50	0.04
V28087-V28088	4474	251	6	0.035	0.68	0.00	0.04	0.00	0.05	0.00	0.06	0.50	0.06

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V28088.A0-V28088	5728	181	8	0.115	2.65	0.00	0.03	0.00	0.03	0.01	0.04	0.67	0.04
V28088-V28089	4473	34	8	0.101	2.48	0.01	0.09	0.01	0.12	0.01	0.13	0.67	0.15
V28089-V28090.A0	5763	103	6	0.093	1.10	0.10	0.60	0.18	0.64	0.18	0.63	0.50	0.66
V28090.A0-V28172	CDT-26	79	8	0.064	1.97	0.10	0.57	0.18	0.59	0.18	0.59	0.67	0.61
V28091-V28092	5876	333	6	0.011	0.38	0.00	0.15	0.00	0.18	0.02	0.24	0.50	0.26
V28092.A0-V28092	CDT-25	122	8	0.045	1.66	0.11	0.17	0.19	0.23	0.18	0.23	0.67	0.28
V28092-V28127.A0	5635	333	8	0.050	1.75	0.11	0.21	0.20	0.28	0.22	0.30	0.67	0.35
V28093-V28094	2443	140	8	0.062	1.94	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V28094-V28095	6497	136	8	0.078	2.18	0.00	0.04	0.00	0.04	0.01	0.04	0.67	0.05
V28095-V28097	5992	381	8	0.030	1.36	0.01	0.08	0.01	0.08	0.01	0.08	0.67	0.09
V28096-V28097	6642	123	6	0.009	0.34	0.00	0.09	0.00	0.09	0.00	0.09	0.50	0.10
V28097-V28101	5991	261	8	0.004	0.49	0.01	0.11	0.01	0.12	0.01	0.11	0.67	0.13
V28098-V28100	6332	123	8	0.009	0.76	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V28099-V28100	5990	38	8	0.120	2.70	0.00	0.51	0.00	0.52	0.00	0.51	0.67	0.52
V28100-V28101	5989	234	8	0.022	1.15	0.00	0.07	0.00	0.09	0.00	0.07	0.67	0.09
V28101-V28104	5988	333	8	0.004	0.49	0.01	0.13	0.02	0.16	0.01	0.13	0.67	0.16
V28102-V28103	6637	188	6	0.122	1.26	0.00	0.03	0.00	0.03	0.00	0.03	0.50	0.03
V28103-V28104	6496	235	8	0.099	2.45	0.00	0.09	0.00	0.10	0.00	0.08	0.67	0.10
V28104-V28108	5987	241	8	0.004	0.49	0.02	0.12	0.03	0.15	0.02	0.12	0.67	0.15
V28105-V28108	6638	257	8	0.137	2.89	0.00	0.06	0.00	0.06	0.00	0.06	0.67	0.07
V28106-V28107	6639	136	6	0.130	1.31	0.00	0.02	0.00	0.02	0.00	0.03	0.50	0.03
V28107-V28108	6640	222	8	0.058	1.88	0.00	0.06	0.00	0.07	0.00	0.06	0.67	0.07
V28108-V28119	5727	110	8	0.031	1.37	0.02	0.10	0.04	0.12	0.02	0.10	0.67	0.13
V28109-V28110	6327	183	8	0.020	1.10	0.00	0.04	0.00	0.04	0.01	0.06	0.67	0.06
V28110-V28111	5986	136	8	0.011	0.81	0.00	0.06	0.00	0.06	0.01	0.08	0.67	0.09
V28111-V28112	6495	399	8	0.005	0.56	0.00	0.07	0.01	0.08	0.01	0.11	0.67	0.12
V28112-V28113	6494	107	8	0.004	0.52	0.01	0.08	0.01	0.10	0.02	0.13	0.67	0.14
V28113-V28114	6165	238	8	0.005	0.53	0.01	0.08	0.01	0.09	0.02	0.12	0.67	0.12
V28114-V28115	6164	274	8	0.021	1.14	0.01	0.07	0.01	0.08	0.02	0.10	0.67	0.11
V28115-V28119	5726	221	8	0.023	1.19	0.01	0.08	0.02	0.10	0.02	0.11	0.67	0.12
V28116-V28117	6328	89	6	0.050	0.81	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V28117-V28118	5725	138	6	0.102	1.16	0.00	0.05	0.00	0.05	0.00	0.06	0.50	0.06
V28118-V28119	4472	40	6	0.013	0.42	0.00	0.10	0.00	0.11	0.00	0.11	0.50	0.13
V28119-V28120	4471	140	8	0.058	1.88	0.04	0.10	0.06	0.13	0.05	0.12	0.67	0.14
V28120-V28121	4470	102	8	0.050	1.75	0.04	0.10	0.06	0.13	0.05	0.12	0.67	0.15
V28121-V28122	6329	362	8	0.053	1.79	0.04	0.10	0.07	0.13	0.06	0.12	0.67	0.15
V28122-V28123.F0	7939	111	8	0.067	2.03	0.04	0.10	0.07	0.13	0.06	0.12	0.67	0.14
V28123.A0-V28123.B0	7934	168	8	0.077	2.16	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V28123.B0-V28123.C0	7935	83	8	0.039	1.53	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V28123.C0-V28123.D0	7936	136	8	0.282	4.15	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
V28123.D0-V28123.E0	7937	91	8	0.040	1.57	0.00	0.04	0.01	0.05	0.00	0.05	0.67	0.06
V28123.E0-V28123.F0	7938	110	8	0.020	1.10	0.00	0.07	0.01	0.09	0.01	0.09	0.67	0.11
V28123.F0-V28124.A0	V28123.F0-V28124.A0	91	8	0.073	2.11	0.05	0.11	0.08	0.14	0.07	0.14	0.67	0.16
V28124.A0-V28126	5634	187	8	0.039	1.54	0.05	0.13	0.08	0.17	0.08	0.17	0.67	0.20
V28125-V28126	V28125-V28126	17	8	0.001	0.27	0.00	0.13	0.00	0.16	0.00	0.17	0.67	0.20
V28126-V28127	5834	270	10	0.019	1.96	0.06	0.19	0.09	0.24	0.10	0.25	0.83	0.29
V28127.00-V28137	5833	308	12	0.006	1.81	0.19	0.22	0.30	0.27	0.34	0.31	1.00	0.35
V28127.A0-V28127.00	CDT-24	171	8	0.012	0.87	0.12	0.29	0.20	0.37	0.23	0.40	0.67	0.47
V28128-V28129	4834	221	6	0.024	0.56	0.02	0.11	0.02	0.11	0.02	0.14	0.50	0.14
V28129-V28132	5938	242	6	0.047	0.78	0.02	0.14	0.02	0.14	0.04	0.20	0.50	0.20
V28130-V28131	5935	191	8	0.069	2.05	0.01	0.06	0.01	0.06	0.02	0.08	0.67	0.08
V28131-V28132	5936	255	8	0.119	2.70	0.02	0.10	0.02	0.10	0.03	0.13	0.67	0.13
V28132-V28133	5937	187	6	0.028	0.60	0.04	0.18	0.04	0.18	0.09	0.26	0.50	0.26
V28133-V28134	5977	139	6	0.029	0.61	0.04	0.19	0.04	0.19	0.09	0.29	0.50	0.29
V28134-V28135	5633	373	6	0.020	0.51	0.05	0.20	0.05	0.20	0.11	0.31	0.50	0.31
V28135-V28137	5832	195	8	0.016	1.00	0.05	0.24	0.05	0.27	0.12	0.35	0.67	0.38
V28137-V28138	5961	28	12	0.010	2.29	0.23	0.25	0.34	0.30	0.46	0.36	1.00	0.40
V28138-V28140	CDT-23	465	12	0.004	1.36	0.23	0.28	0.34	0.34	0.46	0.41	1.00	0.47
V28140-V28141	5828	437	8	0.007	0.65	0.23	0.41	0.35	0.52	0.48	0.64	0.67	0.76
V28141-V28142	5700	439	8	0.007	0.65	0.23	0.44	0.35	0.56	0.50	0.70	0.67	0.85
V28142-V28166	5775	329	8	0.007	0.65	0.23	0.32	0.35	0.40	0.50	0.50	0.67	0.60
V28143-V28145	6325	223	8	0.013	0.90	0.00	0.03	0.00	0.04	0.01	0.07	0.67	0.07
V28144-V28145	6326	319	6	0.082	1.04	0.00	0.05	0.00	0.05	0.00	0.07	0.50	0.07
V28145-V28146	6493	246	8	0.027	1.27	0.01	0.05	0.01	0.06	0.01	0.08	0.67	0.08
V28146-V28148	5724	212	8	0.024	1.22	0.01	0.06	0.01	0.07	0.02	0.09	0.67	0.10
V28147-V28148	1322	189	8	0.002	0.35	0.00	0.06	0.00	0.06	0.00	0.09	0.67	0.09
V28148-V28150	4469	175	8	0.028	1.31	0.01	0.06	0.02	0.07	0.02	0.08	0.67	0.09
V28149-V28150	5723	224	8	0.105	2.53	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V28150-V28152	4984	233	8	0.148	3.00	0.01	0.05	0.02	0.06	0.03	0.07	0.67	0.08
V28151-V28152	5941	81	8	0.064	1.98	0.00	0.04	0.00	0.05	0.00	0.06	0.67	0.06
V28152-V28161	5976	62	8	0.112	2.61	0.02	0.07	0.03	0.08	0.03	0.09	0.67	0.10
V28153-V28154	5940	232	8	0.051	1.77	0.00	0.02	0.00	0.02	0.01	0.04	0.67	0.04
V28154-V28158	4983	110	8	0.108	2.56	0.00	0.04	0.00	0.04	0.01	0.05	0.67	0.05
V28155-V28156	5663	81	6	0.144	1.37	0.00	0.05	0.00	0.05	0.00	0.06	0.50	0.06
V28156-V28157	5662	117	6	0.006	0.28	0.00	0.07	0.00	0.07	0.00	0.08	0.50	0.08
V28157-V28158	4982	167	8	0.024	1.21	0.00	0.05	0.00	0.05	0.01	0.06	0.67	0.06
V28158-V28160	5975	123	8	0.061	1.93	0.01	0.06	0.01	0.06	0.02	0.07	0.67	0.08
V28159-V28160	4981	128	8	0.123	2.74	0.00	0.04	0.00	0.04	0.00	0.05	0.67	0.05
V28160-V28161	5973	104	8	0.030	1.35	0.01	0.07	0.01	0.08	0.02	0.09	0.67	0.10
V28161-V28164	5632	158	8	0.089	2.33	0.03	0.08	0.04	0.09	0.05	0.11	0.67	0.12
V28162.A0-V28162.B0	6320	113	8	0.036	1.48	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V28162.B0-V28162	6321	145	8	0.006	0.59	0.00	0.04	0.00	0.05	0.00	0.06	0.67	0.07
V28162-V28163	6322	48	8	0.006	0.62	0.00	0.04	0.00	0.06	0.01	0.07	0.67	0.08
V28163-V28164	6323	31	8	0.004	0.51	0.00	0.06	0.00	0.08	0.01	0.09	0.67	0.10
V28164-V28165	5699	126	8	0.089	2.33	0.03	0.09	0.05	0.11	0.06	0.12	0.67	0.14
V28165-V28166	5774	100	8	0.039	1.54	0.03	0.13	0.05	0.16	0.07	0.19	0.67	0.22
V28166-V28167	6958	166	8	0.032	1.39	0.09	0.17	0.13	0.21	0.19	0.25	0.67	0.28
V28167-V24056	6959	31	8	0.032	1.39	0.09	0.42	0.13	0.53	0.19	0.63	0.67	0.64
V28172-V28092.A0	4787	178	8	0.107	2.55	0.10	0.15	0.19	0.21	0.18	0.20	0.67	0.24
V29001-V29002	6404	83	8	0.044	1.64	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V29002-V29005	4468	269	8	0.049	1.72	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.06
V29003-V29004	6492	182	8	0.056	1.84	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.02
V29004-V29005	5722	293	8	0.091	2.35	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.07
V29005-V29006	5762	382	8	0.006	0.60	0.01	0.07	0.01	0.09	0.01	0.07	0.67	0.09
V29006-V29010	6393	355	8	0.025	1.23	0.01	0.06	0.02	0.08	0.01	0.07	0.67	0.09
V29007-V29009	6390	105	8	0.075	2.13	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V29008-V29009	6389	274	8	0.073	2.10	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V29009-V29010	6391	37	8	0.094	2.39	0.01	0.05	0.01	0.06	0.01	0.06	0.67	0.07
V29010-V29011	6392	52	8	0.074	2.13	0.01	0.06	0.03	0.08	0.02	0.07	0.67	0.09
V29011-V29020	4980	345	8	0.083	2.25	0.02	0.07	0.03	0.09	0.02	0.08	0.67	0.10
V29012-V29013	6395	182	8	0.051	1.77	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V29013-V29014	6396	180	8	0.008	0.69	0.00	0.04	0.00	0.05	0.00	0.03	0.67	0.04
V29014-V29015	6399	135	8	0.053	1.80	0.00	0.04	0.01	0.04	0.00	0.03	0.67	0.04
V29015-V29016	6398	106	8	0.085	2.28	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.05
V29016-V29019	6400	97	8	0.034	1.44	0.00	0.05	0.01	0.07	0.01	0.06	0.67	0.07
V29017-V29018	6397	180	8	0.030	1.35	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V29018-V29019	6402	182	8	0.084	2.27	0.00	0.05	0.01	0.06	0.01	0.06	0.67	0.06

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V29019-V29020	6401	177	8	0.032	1.39	0.01	0.07	0.02	0.09	0.02	0.09	0.67	0.10
V29020-V29021	5698	145	8	0.087	2.30	0.03	0.08	0.05	0.11	0.04	0.10	0.67	0.13
V29021-V29023	5773	75	8	0.039	1.55	0.03	0.10	0.05	0.13	0.04	0.12	0.67	0.14
V29022-V29023	6405	276	6	0.053	0.84	0.00	0.09	0.00	0.11	0.01	0.12	0.50	0.13
V29023-V29024	5772	216	8	0.039	1.53	0.03	0.10	0.06	0.14	0.05	0.13	0.67	0.16
V29024-V29031	1274	250	8	0.032	1.40	0.03	0.15	0.06	0.20	0.06	0.21	0.67	0.24
V29031-V29032	4721	311	8	0.005	0.54	0.03	0.14	0.06	0.19	0.09	0.22	0.67	0.25
V29032-V29134	7765	91	8	0.043	1.62	0.03	0.11	0.07	0.15	0.09	0.18	0.67	0.20
V29038-V29039	6410	365	8	0.043	1.62	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V29039-V29040	4979	403	8	0.052	1.79	0.00	0.03	0.00	0.05	0.00	0.03	0.67	0.05
V29040-V29041	5972	309	8	0.044	1.64	0.00	0.03	0.01	0.06	0.00	0.04	0.67	0.06
V29041-V29046	5631	310	8	0.052	1.78	0.00	0.05	0.01	0.09	0.01	0.06	0.67	0.09
V29042.A0-V29042	6416	66	6	0.067	0.94	0.00	0.02	0.00	0.02	0.00	0.03	0.50	0.03
V29042-V29043	5761	219	8	0.051	1.77	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
V29043.A0-V29043.B0	2442	110	8	0.022	1.16	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V29043.B0-V29043.C0	5721	301	8	0.088	2.32	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V29043.C0-V29043.E0	6417	74	8	0.016	1.00	0.00	0.05	0.01	0.07	0.00	0.05	0.67	0.07
V29043.D0-V29043.E0	4467	128	8	0.019	1.08	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V29043.E0-V29043.F0	4466	153	8	0.007	0.63	0.00	0.04	0.01	0.06	0.00	0.05	0.67	0.07
V29043.F0-V29043	5759	204	8	0.096	2.42	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.06
V29043-V29044	4977	242	8	0.050	1.75	0.01	0.04	0.02	0.07	0.01	0.05	0.67	0.07
V29044-V29045.C0	6415	376	8	0.060	1.92	0.01	0.05	0.02	0.07	0.01	0.05	0.67	0.08
V29045.A0-V29045.B0	6412	238	8	0.101	2.48	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V29045.B0-V29045.C0	6413	149	8	0.013	0.90	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.07
V29045.C0-V29045	6414	45	8	0.065	1.99	0.01	0.06	0.03	0.09	0.01	0.06	0.67	0.09
V29045-V29046	5827	102	8	0.033	1.42	0.01	0.06	0.03	0.11	0.01	0.07	0.67	0.11
V29046-V29047.C0	6419	141	8	0.036	1.48	0.01	0.07	0.04	0.12	0.02	0.08	0.67	0.12
V29047.A0-V29047.B0	5771	55	8	0.034	1.43	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V29047.B0-V29047.C0	6420	80	8	0.024	1.21	0.00	0.04	0.00	0.07	0.00	0.05	0.67	0.07
V29047.C0-V29047.CA	V29047.C0-V29047.CA	100	8	0.041	1.59	0.01	0.07	0.05	0.12	0.02	0.08	0.67	0.13
V29047.CA-V29047	V29047.CA-V29047	126	8	0.033	1.41	0.01	0.07	0.05	0.13	0.02	0.09	0.67	0.14
V29047-V29048	6859	462	8	0.030	1.36	0.02	0.08	0.05	0.14	0.03	0.10	0.67	0.16
V29048-V29049	6860	203	8	0.017	1.03	0.02	0.08	0.05	0.15	0.03	0.11	0.67	0.17
V29049-V29145	1320	303	8	0.022	1.16	0.02	0.54	0.05	0.57	0.03	0.56	0.67	0.58
V29051.A0-V29051	6009	141	8	0.049	1.74	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V29051-V29052	6618	401	8	0.021	1.14	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
V29052-V29053	5069	234	8	0.040	1.57	0.00	0.03	0.01	0.05	0.01	0.04	0.67	0.05
V29053-V29054	6286	300	8	0.126	2.77	0.01	0.05	0.01	0.08	0.01	0.07	0.67	0.08
V29054-V29055	5610	172	8	0.007	0.63	0.01	0.06	0.01	0.09	0.01	0.07	0.67	0.10
V29055-V29056	6163	298	8	0.045	1.66	0.01	0.06	0.01	0.10	0.01	0.08	0.67	0.11
V29056-V29063	6162	281	8	0.005	0.55	0.01	0.06	0.02	0.10	0.01	0.08	0.67	0.11
V29057.A0-V29057	V29057.A0-V29057	87	8	0.091	3.06	0.00	0.51	0.00	0.51	0.00	0.51	0.67	0.51
V29057-V29058	6421	269	8	0.090	2.35	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V29058-V29059	6422	169	8	0.090	2.35	0.00	0.03	0.01	0.04	0.00	0.04	0.67	0.04
V29059-V29060	5720	111	8	0.049	1.74	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V29060-V29062	4465	136	8	0.019	1.07	0.00	0.05	0.01	0.07	0.01	0.06	0.67	0.08
V29061-V29062	5719	170	8	0.101	2.49	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.05
V29062-V29063	5718	274	8	0.014	0.92	0.01	0.05	0.01	0.08	0.01	0.07	0.67	0.09
V29063-V29064	6423	330	8	0.149	3.01	0.01	0.05	0.03	0.09	0.02	0.07	0.67	0.10
V29064-V29065	6424	329	8	0.045	1.66	0.01	0.09	0.04	0.16	0.02	0.12	0.67	0.17
V29065-V29067	5826	221	8	0.003	0.46	0.01	0.10	0.04	0.17	0.02	0.13	0.67	0.18
V29066-V29067	5630	325	8	0.051	1.76	0.00	0.04	0.00	0.07	0.00	0.06	0.67	0.08
V29067-V29068	5697	309	8	0.029	1.34	0.01	0.14	0.05	0.26	0.02	0.19	0.67	0.29
V29068-V29127	4729	308	8	0.000	0.15	0.01	0.22	0.05	0.41	0.03	0.28	0.67	0.44
V29069-V29071	6008	5	8	1.374	9.15	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.04
V29070-V29071	6007	315	8	0.053	1.80	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V29071-V29074	6006	200	8	0.004	0.47	0.00	0.05	0.00	0.07	0.00	0.06	0.67	0.08
V29072-V29073	6429	175	6	0.016	0.45	0.00	0.02	0.00	0.03	0.00	0.04	0.50	0.04
V29073-V29074	6005	156	6	0.091	1.09	0.00	0.04	0.00	0.07	0.00	0.06	0.50	0.07
V29074-V29075	6004	55	8	0.007	0.65	0.00	0.06	0.01	0.10	0.00	0.08	0.67	0.11
V29075-V29077	6003	157	8	0.002	0.35	0.00	0.07	0.01	0.11	0.00	0.08	0.67	0.12
V29076-V29077	6002	257	8	0.056	1.84	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.06
V29077-V29078	6243	102	8	0.008	0.69	0.00	0.05	0.01	0.09	0.01	0.06	0.67	0.09
V29078-V29079	5068	315	8	0.024	1.21	0.01	0.05	0.02	0.08	0.01	0.06	0.67	0.09
V29079-V29080	5067	305	8	0.025	1.23	0.01	0.07	0.02	0.11	0.01	0.08	0.67	0.12
V29080-V29081	5066	195	8	0.004	0.50	0.01	0.08	0.02	0.15	0.01	0.10	0.67	0.15
V29081-V29082	5065	143	8	0.004	0.47	0.01	0.09	0.02	0.16	0.01	0.11	0.67	0.17
V29082-V29083	6285	366	8	0.004	0.49	0.01	0.07	0.03	0.13	0.01	0.09	0.67	0.14
V29083-V29084	6430	245	8	0.041	1.58	0.01	0.06	0.03	0.11	0.01	0.08	0.67	0.12
V29084-V29085	6431	162	8	0.013	0.89	0.01	0.08	0.03	0.13	0.01	0.09	0.67	0.14
V29085-V29086	2491	286	8	0.013	0.90	0.01	0.07	0.03	0.12	0.02	0.09	0.67	0.13
V29086-V29087.C0	7981	198	8	0.037	1.50	0.01	0.06	0.04	0.11	0.02	0.08	0.67	0.11
V29087.A0-V29087.B0	7983	139	8	0.092	2.37	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V29087.B0-V29087.C0	7984	319	8	0.086	2.29	0.00	0.04	0.00	0.07	0.00	0.05	0.67	0.07
V29087.C0-V29087	7982	15	8	0.051	1.77	0.01	0.09	0.04	0.16	0.02	0.11	0.67	0.17
V29087-V29092	2493	293	8	0.004	0.49	0.01	0.09	0.04	0.16	0.02	0.11	0.67	0.17
V29088-V29089	2166	174	6	0.006	0.27	0.00	0.04	0.00	0.04	0.00	0.06	0.50	0.06
V29089-V29092	2167	158	6	0.099	1.14	0.00	0.05	0.00	0.09	0.00	0.07	0.50	0.09
V29090-V29091	2495	244	8	0.005	0.56	0.00	0.02	0.00	0.03	0.00	0.05	0.67	0.05
V29091-V29092	2165	302	8	0.015	0.96	0.00	0.04	0.00	0.07	0.00	0.06	0.67	0.08
V29092-V29093	2168	253	8	0.100	2.46	0.02	0.07	0.06	0.12	0.03	0.09	0.67	0.13
V29093-V29094	4464	154	8	0.052	1.77	0.02	0.06	0.06	0.11	0.03	0.08	0.67	0.12
V29094-V29095	5758	161	8	0.145	2.97	0.02	0.06	0.06	0.11	0.03	0.08	0.67	0.12
V29095-V29096	2170	182	8	0.050	1.75	0.02	0.07	0.06	0.13	0.03	0.09	0.67	0.14
V29096-V29102	2175	124	8	0.048	1.72	0.02	0.10	0.06	0.17	0.03	0.12	0.67	0.18
V29097-V29098	2181	192	8	0.013	0.90	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V29098-V29099	2178	227	8	0.136	2.88	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V29099-V29100	2179	113	8	0.157	3.10	0.00	0.02	0.01	0.04	0.00	0.03	0.67	0.04
V29100-V29101	2180	184	8	0.077	2.17	0.00	0.03	0.01	0.04	0.00	0.03	0.67	0.05
V29101-V29102	2177	115	8	0.058	1.89	0.00	0.08	0.01	0.13	0.00	0.09	0.67	0.14
V29102-V29103	2176	79	8	0.010	0.79	0.02	0.11	0.07	0.19	0.04	0.14	0.67	0.21
V29103-V29104	2174	389	8	0.023	1.19	0.02	0.09	0.08	0.17	0.04	0.12	0.67	0.18
V29104-V29105	2173	223	8	0.036	1.49	0.03	0.09	0.08	0.16	0.04	0.11	0.67	0.17
V29105-V29112	2172	150	8	0.042	1.59	0.03	0.11	0.08	0.19	0.04	0.13	0.67	0.20
V29106-V29109	5971	161	8	0.004	0.50	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V29107-V29108	6428	133	8	0.129	2.80	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V29108-V29109	4976	201	8	0.064	1.98	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V29109-V29110	5970	22	8	0.037	1.51	0.00	0.03	0.01	0.05	0.00	0.04	0.67	0.05
V29110-V29111	5629	346	8	0.047	1.69	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V29111-V29112	5696	393	8	0.040	1.55	0.00	0.08	0.01	0.14	0.01	0.10	0.67	0.15
V29112-V29116	4728	119	8	0.012	0.86	0.03	0.26	0.10	0.42	0.05	0.31	0.67	0.45
V29113-V29114	5825	135	6	0.010	0.36	0.00	0.04	0.00	0.04	0.00	0.04	0.50	0.04
V29114-V29115	5824	139	6	0.109	1.20	0.00	0.04	0.00	0.05	0.00	0.04	0.50	0.05
V29115-V29116	5694	273	6	0.018	0.48	0.00	0.28	0.00	0.44	0.00	0.33	0.50	0.47
V29116-V29117	6427	194	8	0.000	0.02	0.03	0.28	0.10	0.46	0.05	0.33	0.67	0.49
V29117-V29121	6425	118	8	0.005	0.53	0.03	0.18	0.11	0.32	0.05	0.22	0.67	0.33
V29118-V29119	5660	5	8	1.215	8.61	0.00	0.01	0.00	0.01	0.00	0.01	0.67	0.01

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V29119-V29120	4975	221	8	0.127	2.78	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V29120.A0-V29120	5628	71	6	0.051	0.82	0.00	0.03	0.00	0.03	0.00	0.04	0.50	0.04
V29120-V29121	5693	329	8	0.075	2.14	0.00	0.11	0.00	0.18	0.00	0.13	0.67	0.19
V29121-V29122	4727	179	8	0.004	0.51	0.04	0.18	0.12	0.32	0.06	0.22	0.67	0.34
V29122-V29126	5692	313	8	0.005	0.53	0.04	0.19	0.12	0.33	0.06	0.22	0.67	0.34
V29126-V29127	5691	299	8	0.004	0.52	0.04	0.21	0.12	0.37	0.06	0.25	0.67	0.40
V29127-V29128	5690	274	8	0.004	0.49	0.05	0.24	0.18	0.43	0.09	0.29	0.67	0.46
V29128-V29129	5823	265	8	0.004	0.49	0.05	0.18	0.18	0.32	0.09	0.22	0.67	0.35
V29129-V29139	72	357	8	0.078	2.18	0.05	0.55	0.18	0.60	0.09	0.57	0.67	0.60
V29132-V08157	7773	41	8	0.108	2.57	0.00	0.50	0.00	0.50	0.00	0.50	0.67	0.50
V29134-V29141	7766	170	8	0.020	1.09	0.03	0.56	0.07	0.58	0.09	0.60	0.67	0.61
V29139-V30069	73	186	36	0.002	12.31	5.27	0.37	9.07	0.49	9.80	0.51	3.00	0.61
V29140-V29146	FM1	70	30	0.004	16.45	5.20	0.40	8.79	0.55	9.67	0.58	2.50	0.70
V29141-V29143	7758	142	27	0.004	13.00	3.33	0.35	5.96	0.48	6.32	0.50	2.25	0.61
V29142-V29141	7767	218	27	0.004	12.35	3.30	0.35	5.88	0.48	6.22	0.50	2.25	0.61
V29143-V29144	7549	343	24	0.005	10.29	3.33	0.35	5.96	0.49	6.32	0.51	2.00	0.63
V29144-V29140	7550	35	21	0.024	15.72	3.33	0.45	5.97	0.63	6.32	0.67	1.75	0.81
V29145-V29139	74	774	30	0.003	15.24	5.21	0.41	8.85	0.56	9.71	0.59	2.50	0.71
V29146-V29145	7694	88	30	0.003	14.43	5.20	0.41	8.79	0.55	9.67	0.58	2.50	0.71
V29147-V29148	13	170	24	0.005	10.74	1.86	0.28	2.81	0.35	3.35	0.38	2.00	0.43
V29148-V29149	14	232	24	0.005	10.69	1.86	0.27	2.82	0.34	3.35	0.37	2.00	0.45
V29149-V29140	264	95	21	0.008	9.29	1.87	0.43	2.83	0.57	3.35	0.61	1.75	0.76
V30001-V30002	6097	213	8	0.041	1.58	0.01	0.06	0.01	0.06	0.01	0.06	0.67	0.06
V30002-V30004	5757	382	8	0.042	1.60	0.01	0.08	0.01	0.09	0.01	0.09	0.67	0.10
V30003-V30004	6098	212	8	0.022	1.17	0.00	0.06	0.00	0.07	0.00	0.07	0.67	0.08
V30004-V30008	5659	217	8	0.004	0.50	0.01	0.12	0.02	0.13	0.01	0.12	0.67	0.13
V30005-V30006	6095	268	8	0.002	0.34	0.02	0.17	0.02	0.17	0.02	0.16	0.67	0.16
V30006-V30007	6096	190	8	0.004	0.49	0.03	0.16	0.03	0.16	0.02	0.15	0.67	0.15
V30007-V30008	5658	120	8	0.004	0.49	0.03	0.15	0.03	0.15	0.02	0.14	0.67	0.14
V30008-V30010	4974	335	8	0.024	1.21	0.04	0.16	0.04	0.18	0.04	0.16	0.67	0.18
V30009-V30010.B0	V30009-V30010.B0	147	8	0.004	0.51	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.06
V30010.A0-V30010.B0	V30010.A0-V30010.B0	409	8	0.041	1.58	0.00	0.03	0.00	0.05	0.00	0.03	0.67	0.05
V30010.B0-V30010	V30010.B0-V30010	136	8	0.004	0.49	0.00	0.12	0.01	0.15	0.00	0.12	0.67	0.15
V30010-V30012	4973	242	8	0.004	0.49	0.04	0.20	0.05	0.23	0.04	0.20	0.67	0.23
V30011-V30012	6093	291	8	0.091	2.35	0.00	0.11	0.00	0.13	0.00	0.11	0.67	0.13
V30012-V30015	5657	318	8	0.004	0.49	0.04	0.22	0.06	0.26	0.04	0.22	0.67	0.26
V30013-V30014	6091	87	8	0.051	1.76	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V30014-V30015	6252	352	8	0.110	2.59	0.00	0.13	0.00	0.15	0.00	0.13	0.67	0.16
V30015-V30017	4972	215	8	0.003	0.43	0.05	0.20	0.07	0.24	0.05	0.21	0.67	0.25
V30016-V30017	4971	302	8	0.095	2.41	0.00	0.09	0.00	0.11	0.00	0.09	0.67	0.11
V30017-V30018	5969	28	8	0.012	0.84	0.05	0.19	0.07	0.23	0.05	0.19	0.67	0.23
V30018-V30021	5968	424	8	0.004	0.49	0.05	0.22	0.07	0.27	0.05	0.22	0.67	0.27
V30019-V30020	6090	138	8	0.004	0.52	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V30020-V30021	4463	326	8	0.104	2.52	0.00	0.12	0.00	0.15	0.00	0.12	0.67	0.15
V30021-V30022	5967	185	8	0.004	0.49	0.05	0.22	0.08	0.28	0.05	0.22	0.67	0.28
V30022-V30023	6999	437	8	0.004	0.52	0.05	0.30	0.09	0.47	0.05	0.34	0.67	0.50
V30023-V30043.A0	V30023-V30043.A0	50	10	0.003	0.80	0.16	0.30	0.44	0.53	0.24	0.37	0.83	0.58
V30024-V30025	6089	187	8	0.094	2.39	0.00	0.00	0.00	0.01	0.00	0.01	0.67	0.01
V30025-V30026	6491	114	8	0.181	3.32	0.00	0.00	0.00	0.03	0.00	0.02	0.67	0.04
V30026-V30027.E0	V30026-V30027.E0	335	8	0.005	0.53	0.00	0.02	0.00	0.06	0.00	0.04	0.67	0.07
V30027.B0-V30027.C0	V30027.B0-V30027.C0	227	8	0.099	2.46	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V30027.C0-V30027.D0	V30027.C0-V30027.D0	208	8	0.024	1.21	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V30027.D0-V30027.E0	V30027.D0-V30027.E0	189	8	0.094	2.39	0.00	0.02	0.00	0.05	0.00	0.03	0.67	0.05
V30027.E0-V30027	V30027.E0-V30027	22	8	0.020	1.11	0.00	0.04	0.01	0.09	0.00	0.05	0.67	0.09
V30027-V30030	6160	123	8	0.005	0.55	0.00	0.05	0.01	0.11	0.00	0.06	0.67	0.11
V30028-V30029	2441	54	8	0.040	1.56	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V30029-V30030	6489	195	8	0.108	2.56	0.00	0.04	0.00	0.07	0.00	0.05	0.67	0.07
V30030-V30032	6159	269	8	0.006	0.58	0.00	0.07	0.02	0.13	0.01	0.08	0.67	0.14
V30031-V30032	6158	80	8	0.010	0.78	0.00	0.06	0.00	0.09	0.00	0.07	0.67	0.09
V30032-V30040	6157	373	8	0.005	0.55	0.01	0.06	0.02	0.12	0.01	0.08	0.67	0.12
V30033-V30034	5385	152	8	0.134	2.86	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V30034-V30036	6488	246	8	0.079	2.20	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.05
V30035-V30036	6487	129	8	0.219	3.66	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
V30036-V30037	6086	151	8	0.006	0.59	0.00	0.05	0.01	0.08	0.00	0.06	0.67	0.08
V30037-V30038	6087	47	8	0.006	0.58	0.00	0.05	0.01	0.08	0.00	0.07	0.67	0.09
V30038-V30039	6088	306	8	0.006	0.58	0.00	0.06	0.01	0.09	0.01	0.08	0.67	0.11
V30039-V30040	6155	207	8	0.006	0.58	0.00	0.06	0.01	0.10	0.01	0.08	0.67	0.11
V30040-V30041	5717	177	8	0.100	2.47	0.01	0.05	0.04	0.08	0.02	0.06	0.67	0.09
V30041-V30042	4462	157	8	0.223	3.69	0.01	0.05	0.04	0.09	0.02	0.07	0.67	0.10
V30042-V30043	5966	86	8	0.039	1.55	0.01	0.34	0.04	0.55	0.02	0.40	0.67	0.56
V30043.A0-V30043	V30043.A0-V30043	241	10	0.003	0.80	0.16	0.40	0.45	0.66	0.24	0.47	0.83	0.72
V30043-V30044.B0	7006	144	10	0.001	0.33	0.17	0.34	0.49	0.55	0.26	0.40	0.83	0.59
V30044.B0-V30044	7008	214	10	0.028	2.36	0.17	0.18	0.49	0.31	0.26	0.22	0.83	0.33
V30044-V30050	5822	363	10	0.028	2.39	0.17	0.20	0.50	0.32	0.26	0.25	0.83	0.35
V30045-V30048	7004	169	8	0.054	1.81	0.00	0.01	0.00	0.03	0.00	0.02	0.67	0.03
V30046-V30047	7005	276	8	0.041	1.59	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V30047-V30048	5965	285	8	0.041	1.59	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.05
V30048-V30049	5627	311	8	0.038	1.52	0.00	0.03	0.01	0.06	0.00	0.05	0.67	0.08
V30049-V30050.D0	7953	142	8	0.021	1.13	0.00	0.03	0.01	0.07	0.01	0.08	0.67	0.10
V30050.A0-V30050.B0	5821	299	8	0.004	0.52	0.05	0.21	0.05	0.21	0.05	0.22	0.67	0.22
V30050.B0-V30050.C0	5820	347	8	0.004	0.51	0.05	0.22	0.05	0.22	0.06	0.23	0.67	0.23
V30050.C0-V30050.I0	V30050.C0-V30050.I0	53	8	0.004	0.48	0.05	0.22	0.05	0.22	0.06	0.29	0.67	0.29
V30050.D0-V30050	7954	99	8	0.023	1.17	0.00	0.15	0.01	0.24	0.02	0.20	0.67	0.28
V30050.E0-V30050.H0	V30050.E0-V30050.H0	208	8	0.008	0.72	0.00	0.05	0.01	0.06	0.04	0.16	0.67	0.16
V30050.F0-V30050.G0	V30050.F0-V30050.G0	49	8	0.024	1.21	0.00	0.00	0.00	0.01	0.00	0.05	0.67	0.05
V30050.G0-V30050.H0	V30050.G0-V30050.H0	172	8	0.008	0.70	0.00	0.02	0.00	0.04	0.02	0.13	0.67	0.13
V30050.H0-V30050.I0	V30050.H0-V30050.I0	82	8	0.022	1.16	0.00	0.13	0.01	0.14	0.07	0.25	0.67	0.25
V30050.I0-V30050	V30050.I0-V30050	301	8	0.005	0.53	0.06	0.24	0.06	0.31	0.13	0.34	0.67	0.39
V30050-V30051.C0	6851	333	10	0.029	2.40	0.23	0.21	0.57	0.33	0.40	0.29	0.83	0.38
V30051.B0-V30051.C0	6853	226	8	0.016	0.98	0.00	0.15	0.00	0.23	0.07	0.28	0.67	0.32
V30051.C0-V30051	6852	173	10	0.030	2.44	0.23	0.22	0.58	0.35	0.47	0.32	0.83	0.41
V30051-V30052	1271	505	10	0.020	1.98	0.24	0.22	0.58	0.36	0.47	0.32	0.83	0.42
V30052-V30055	4719	11	10	0.029	2.42	0.24	0.23	0.58	0.36	0.47	0.32	0.83	0.42
V30053-V30054	4726	314	10	0.002	0.63	0.08	0.23	0.08	0.23	0.00	0.06	0.83	0.06
V30054-V30055	1270	393	10	0.002	0.63	0.07	0.24	0.07	0.29	0.02	0.21	0.83	0.29
V30055-V30056.A0	4718	152	10	0.020	1.98	0.29	0.26	0.64	0.39	0.48	0.33	0.83	0.44
V30056.A0-V30056	4786	290	10	0.003	0.81	0.29	0.38	0.64	0.60	0.48	0.50	0.83	0.73
V30056-V30057.C0	4717	101	10	0.008	1.30	0.29	0.31	0.64	0.49	0.48	0.42	0.83	0.57
V30057.B0-V30057.CD	926	112	8	0.100	2.47	0.00	0.00	0.00	0.02	0.00	0.04	0.67	0.04
V30057.C0-V30057	5501	353	10	0.010	1.39	0.29	0.34	0.65	0.53	0.49	0.45	0.83	0.63
V30057.CA-V30057.CB	923	187	8	0.005	0.56	0.00	0.00	0.00	0.02	0.01	0.09	0.67	0.10
V30057.CB-V30057.CC	924	338	8	0.005	0.54	0.00	0.00	0.00	0.05	0.01	0.10	0.67	0.11
V30057.CC-V30057.CD	925	48	8	0.007	0.66	0.00	0.00	0.00	0.05	0.01	0.09	0.67	0.09
V30057.CD-V30057.C0	928	259	8	0.048	1.71	0.00	0.19	0.01	0.32	0.02	0.28	0.67	0.39
V30057-V30058	7375	191	10	0.005	1.03	0.29	0.36	0.66	0.57	0.49	0.48	0.83	0.68
V30058-V30059	7374	149	10	0.006	1.11	0.29	0.36	0.66	0.59	0.49	0.49	0.83	0.70
V30059-V30060	7373	163	10	0.005	0.96	0.29	0.37	0.66	0.57	0.49	0.49	0.83	0.68

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V30060-V30061	7371	26	10	0.002	0.56	0.29	0.26	0.66	0.38	0.49	0.33	0.83	0.44
V30061-V30070	7372	17	10	0.146	5.40	0.29	0.58	0.66	0.62	0.49	0.60	0.83	0.63
V30062.A0-V30062	7625	7	8	0.001	0.30	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
V30062-V30078	7587	302	8	0.019	1.08	0.00	0.03	0.00	0.03	0.01	0.06	0.67	0.06
V30063-V30077	5949	30	8	0.003	0.44	0.00	0.79	0.02	1.00	0.02	1.00	0.67	1.00
V30068-V32157	7388	473	36	0.016	53.70	6.23	0.29	11.24	0.39	11.64	0.40	3.00	0.47
V30069-V30071	7369	89	36	0.000	0.89	5.27	0.34	9.07	0.47	9.81	0.48	3.00	0.58
V30070-V30072	7377	450	36	0.002	12.93	5.55	0.35	9.78	0.48	10.34	0.49	3.00	0.59
V30071-V30070	7370	11	36	0.013	30.71	5.27	0.33	9.09	0.45	9.82	0.47	3.00	0.56
V30072-V30073	7382	75	36	0.003	13.39	5.99	0.34	10.87	0.48	11.28	0.49	3.00	0.57
V30073-V30079	7383	76	36	0.003	14.59	6.23	0.33	11.23	0.47	11.63	0.48	3.00	0.57
V30074-V30078	6855	139	36	0.005	18.82	6.23	0.37	11.26	0.52	11.67	0.53	3.00	0.63
V30075-V30077	7551	374	36	0.000	3.06	6.23	0.31	11.21	0.42	11.60	0.42	3.00	0.48
V30076-V30075	7386	21	36	0.019	36.90	6.23	0.36	11.28	0.49	11.70	0.50	3.00	0.58
V30077-V30068	7387	42	36	0.033	47.86	6.23	0.21	11.33	0.28	11.76	0.29	3.00	0.33
V30078-V30076	6856	233	36	0.000	5.21	6.23	0.36	11.22	0.51	11.62	0.52	3.00	0.61
V30079-V30074	7385	12	36	0.000	2.40	6.23	0.32	11.23	0.45	11.63	0.46	3.00	0.55
V30086-V30050.E0	V30086-V30050.E0	251	8	0.013	0.88	0.00	0.05	0.00	0.05	0.01	0.12	0.67	0.12
V30089-V30051.B0	6854	123	8	0.011	0.82	0.00	0.04	0.00	0.04	0.05	0.17	0.67	0.17
V31001-V31002	2440	146	8	0.003	0.43	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V31002-V31003	2439	274	8	0.005	0.53	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.05
V31003-V31008	2438	293	8	0.017	1.02	0.00	0.03	0.00	0.06	0.00	0.04	0.67	0.07
V31004-V31005	6692	153	8	0.006	0.60	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V31005-V31006	6691	186	8	0.017	1.01	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
V31006-V31007	6690	251	8	0.017	1.02	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.05
V31007-V31008.A0	5384	236	8	0.066	2.01	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.05
V31008.A0-V31008	2437	83	8	0.047	1.70	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.07
V31008-V31009	6388	296	8	0.030	1.35	0.00	0.04	0.02	0.08	0.01	0.05	0.67	0.08
V31009-V31010	6386	330	8	0.062	1.94	0.00	0.04	0.02	0.08	0.01	0.05	0.67	0.08
V31010-V31011	6478	179	8	0.046	1.68	0.00	0.04	0.02	0.09	0.01	0.05	0.67	0.09
V31011.A0-V31011	6476	112	8	0.002	0.35	0.00	0.03	0.00	0.05	0.00	0.05	0.67	0.07
V31011-V31014	5756	325	8	0.042	1.61	0.01	0.05	0.03	0.10	0.01	0.07	0.67	0.11
V31012.A0-V31012	6384	177	8	0.087	2.31	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V31012-V31013	6385	266	8	0.050	1.74	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V31013-V31014	5755	314	8	0.075	2.14	0.00	0.05	0.01	0.08	0.00	0.06	0.67	0.08
V31014-V31015	4461	329	8	0.026	1.26	0.01	0.07	0.04	0.13	0.02	0.08	0.67	0.14
V31015-V31116	5964	335	8	0.017	1.01	0.01	0.20	0.04	0.37	0.02	0.27	0.67	0.41
V31016-V31017	6963	298	8	0.005	0.54	0.00	0.04	0.00	0.04	0.01	0.10	0.67	0.10
V31017-V31018	217	220	8	0.014	0.92	0.00	0.05	0.00	0.06	0.02	0.10	0.67	0.10
V31018-V31022.C0	6542	130	8	0.010	0.79	0.00	0.04	0.01	0.06	0.02	0.09	0.67	0.09
V31019-V31021	6960	73	8	0.203	3.52	0.00	0.03	0.00	0.04	0.00	0.05	0.67	0.05
V31020-V31021	6961	355	8	0.002	0.31	0.00	0.05	0.00	0.06	0.00	0.08	0.67	0.08
V31021-V31022.B0	6761	113	8	0.003	0.43	0.00	0.06	0.01	0.09	0.01	0.08	0.67	0.10
V31022.A0-V31022.B0	6759	321	8	0.028	1.30	0.00	0.04	0.00	0.06	0.00	0.06	0.67	0.07
V31022.B0-V31022	6758	112	8	0.005	0.54	0.00	0.07	0.01	0.11	0.01	0.12	0.67	0.14
V31022.C0-V31022	6757	85	8	0.147	3.00	0.00	0.06	0.01	0.08	0.02	0.10	0.67	0.11
V31022-V31024	6760	166	8	0.006	0.59	0.01	0.09	0.02	0.13	0.03	0.15	0.67	0.17
V31023-V31024	6962	188	6	0.002	0.16	0.00	0.09	0.00	0.12	0.00	0.14	0.50	0.15
V31024-V31025	1633	328	8	0.008	0.70	0.01	0.07	0.02	0.11	0.03	0.12	0.67	0.14
V31025-V31036.D0	V31025-V31036.D0	41	8	0.039	1.55	0.00	0.04	0.00	0.05	0.00	0.06	0.67	0.06
V31026-V31027	6966	86	8	0.051	1.76	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V31027-V31028	6150	161	8	0.010	0.77	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V31028-V31030	5064	212	8	0.015	0.95	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.06
V31029-V31030	6965	266	8	0.122	2.72	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.04
V31030-V31036	5063	102	8	0.049	1.72	0.00	0.06	0.01	0.09	0.01	0.08	0.67	0.11
V31031-V31032	6968	202	8	0.022	1.16	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
V31032-V31034	6001	207	8	0.004	0.52	0.00	0.05	0.00	0.07	0.01	0.09	0.67	0.10
V31033-V31034	6969	304	8	0.049	1.72	0.00	0.04	0.00	0.06	0.00	0.07	0.67	0.08
V31034-V31035	6148	89	8	0.004	0.48	0.00	0.05	0.01	0.08	0.01	0.09	0.67	0.11
V31035-V31036.B0	6627	223	8	0.014	0.94	0.00	0.05	0.01	0.07	0.01	0.08	0.67	0.10
V31036.A0-V31036.B0	6970	134	6	0.249	1.81	0.00	0.04	0.00	0.06	0.00	0.08	0.50	0.08
V31036.B0-V31036	6719	192	8	0.017	1.02	0.01	0.06	0.01	0.10	0.02	0.11	0.67	0.13
V31036.D0-V31036	V31036.D0-V31036	381	8	0.074	2.12	0.01	0.07	0.03	0.10	0.04	0.11	0.67	0.13
V31036-V31037	6284	207	8	0.051	1.76	0.02	0.08	0.06	0.12	0.06	0.12	0.67	0.15
V31037-V31049	5383	303	8	0.075	2.14	0.02	0.10	0.06	0.16	0.06	0.15	0.67	0.19
V31038-V31040	6972	244	8	0.008	0.68	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.05
V31039-V31040	6971	92	8	0.004	0.50	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.05
V31040-V31041	6000	262	8	0.005	0.53	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.07
V31041-V31042	5999	266	8	0.042	1.61	0.00	0.03	0.01	0.04	0.01	0.04	0.67	0.05
V31042-V31043	6147	230	8	0.599	6.05	0.00	0.51	0.01	0.52	0.01	0.51	0.67	0.52
V31043-V31044	6718	42	8	2.784	13.03	0.01	0.52	0.01	0.53	0.01	0.53	0.67	0.54
V31044-V31045	6717	172	8	0.054	1.81	0.00	0.04	0.01	0.06	0.01	0.06	0.67	0.07
V31045-V31047	6283	178	8	0.080	2.20	0.01	0.03	0.01	0.05	0.01	0.04	0.67	0.06
V31046-V31047	6861	100	8	0.972	7.70	0.00	0.51	0.00	0.52	0.01	0.51	0.67	0.52
V31047-V31048	6689	115	8	1.375	9.16	0.01	0.51	0.02	0.52	0.01	0.51	0.67	0.52
V31048-V31049	5382	234	8	0.336	4.53	0.01	0.56	0.02	0.60	0.02	0.60	0.67	0.62
V31049-V31051	6974	288	8	0.017	1.01	0.03	0.14	0.08	0.23	0.08	0.22	0.67	0.28
V31050-V31051	6975	271	8	0.108	2.57	0.00	0.09	0.00	0.14	0.00	0.14	0.67	0.17
V31051-V31052	6976	113	8	0.007	0.63	0.03	0.13	0.09	0.22	0.08	0.21	0.67	0.27
V31052-V31054	6977	141	8	0.030	1.35	0.03	0.11	0.09	0.18	0.08	0.17	0.67	0.22
V31053-V31054	6978	196	8	0.147	2.99	0.00	0.06	0.00	0.10	0.00	0.09	0.67	0.12
V31054-V31056	6154	279	8	0.030	1.35	0.03	0.11	0.10	0.18	0.09	0.17	0.67	0.22
V31055-V31056	6979	336	6	0.165	1.47	0.00	0.09	0.00	0.13	0.00	0.13	0.50	0.16
V31056-V31064	5275	16	8	0.030	1.36	0.04	0.11	0.10	0.18	0.09	0.17	0.67	0.22
V31057-V31058	6981	137	8	0.078	2.18	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V31058-V31059	6146	214	8	0.019	1.08	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.06
V31059-V31060	6715	291	8	0.005	0.54	0.00	0.04	0.00	0.06	0.00	0.06	0.67	0.07
V31060-V31062	6714	154	8	0.069	2.05	0.00	0.03	0.01	0.05	0.01	0.04	0.67	0.05
V31061-V31062	6980	135	6	0.035	0.68	0.00	0.04	0.00	0.05	0.00	0.05	0.50	0.05
V31062-V31063	6281	149	8	0.087	2.31	0.01	0.03	0.01	0.05	0.01	0.04	0.67	0.05
V31063-V31064	5381	203	8	0.171	3.23	0.01	0.07	0.01	0.11	0.01	0.10	0.67	0.13
V31064-V31074	5274	315	8	0.042	1.61	0.04	0.13	0.12	0.21	0.10	0.19	0.67	0.24
V31065-V31067	6992	19	8	0.029	1.33	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.02
V31066-V31067	6991	155	8	0.016	0.98	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V31067-V31068	6988	281	8	0.023	1.18	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V31068-V31070	6983	107	8	0.148	3.01	0.00	0.02	0.00	0.04	0.00	0.02	0.67	0.04
V31069-V31070	6990	274	8	0.057	1.86	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V31070-V31071	6984	184	8	0.156	3.09	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.07
V31071-V31072	6985	76	8	0.005	0.58	0.00	0.06	0.01	0.10	0.00	0.06	0.67	0.10
V31072-V31073	6986	115	8	0.009	0.74	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.07
V31073-V31074	6987	42	8	0.289	4.20	0.00	0.08	0.01	0.14	0.00	0.11	0.67	0.15
V31074.A0-V31074.B0	5379	141	8	0.151	3.04	0.00	0.01	0.00	0.01	0.00	0.01	0.67	0.01
V31074.B0-V31074.C0	2436	107	8	0.186	3.37	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V31074.C0-V31074.D0	5714	175	8	0.006	0.59	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.05
V31074.D0-V31074	5713	100	8	0.215	3.63	0.00	0.08	0.01	0.13	0.00	0.11	0.67	0.15
V31074-V31079	5715	243	8	0.024	1.21	0.05	0.15	0.14	0.25	0.11	0.21	0.67	0.29
V31075-V31076	5378	222	8	0.055	1.84	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.02

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V31076-V31077	6486	232	8	0.101	2.48	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.03
V31077-V31079	5712	257	8	0.086	2.28	0.00	0.09	0.00	0.15	0.00	0.12	0.67	0.17
V31078-V31079	6475	100	8	0.115	2.64	0.00	0.09	0.00	0.14	0.00	0.12	0.67	0.16
V31079-V31080	6474	293	8	0.016	0.98	0.05	0.18	0.15	0.30	0.11	0.25	0.67	0.34
V31080-V31085	6473	299	8	0.008	0.69	0.05	0.18	0.16	0.30	0.11	0.25	0.67	0.34
V31081-V31082	5711	301	8	0.042	1.60	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V31082-V31085	6472	92	8	0.148	3.01	0.00	0.09	0.00	0.15	0.00	0.12	0.67	0.16
V31083-V31084	6471	220	8	0.011	0.83	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V31084-V31085	6470	29	8	0.206	3.54	0.00	0.08	0.00	0.14	0.00	0.12	0.67	0.16
V31085-V31091	5754	388	8	0.019	1.09	0.06	0.17	0.17	0.28	0.11	0.23	0.67	0.32
V31086-V31087	5273	332	8	0.010	0.78	0.00	0.03	0.00	0.04	0.00	0.02	0.67	0.03
V31087-V31089	5272	337	8	0.019	1.07	0.00	0.04	0.00	0.07	0.00	0.03	0.67	0.06
V31088-V31089	5271	121	8	0.010	0.77	0.00	0.04	0.00	0.05	0.00	0.03	0.67	0.05
V31089-V31090	5270	138	8	0.010	0.78	0.00	0.04	0.01	0.06	0.00	0.03	0.67	0.06
V31090-V31091	5710	127	8	0.226	3.72	0.01	0.10	0.01	0.17	0.00	0.13	0.67	0.19
V31091-V31109	6251	381	8	0.015	0.95	0.06	0.17	0.18	0.30	0.12	0.23	0.67	0.33
V31092-V31093	6993	166	8	0.041	1.57	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V31093-V31094	6994	209	8	0.071	2.08	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V31094-V31098	6995	388	8	0.029	1.33	0.00	0.05	0.01	0.07	0.00	0.06	0.67	0.07
V31098-V31099	6688	265	8	0.006	0.61	0.00	0.06	0.01	0.10	0.01	0.08	0.67	0.10
V31099-V31100	6687	282	8	0.005	0.56	0.01	0.07	0.01	0.11	0.01	0.09	0.67	0.12
V31100-V31101	5377	283	8	0.005	0.58	0.01	0.08	0.02	0.12	0.01	0.10	0.67	0.13
V31101-V31102	5376	286	8	0.005	0.53	0.01	0.07	0.02	0.11	0.01	0.09	0.67	0.12
V31102-V31106	5375	391	8	0.029	1.34	0.01	0.05	0.02	0.09	0.01	0.07	0.67	0.09
V31103-V31104	6686	255	8	0.039	1.55	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.02
V31104-V31105	5374	159	8	0.048	1.70	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.04
V31105-V31106.B0	2435	194	8	0.022	1.15	0.00	0.03	0.00	0.05	0.00	0.04	0.67	0.06
V31106.A0-V31106.B0	6996	108	8	0.010	0.79	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V31106.B0-V31106	7585	53	8	0.018	1.04	0.00	0.04	0.01	0.07	0.00	0.05	0.67	0.08
V31106-V31107	5709	389	8	0.076	2.16	0.01	0.05	0.03	0.09	0.02	0.07	0.67	0.10
V31107-V31108	5753	284	8	0.052	1.77	0.01	0.06	0.04	0.11	0.02	0.08	0.67	0.11
V31108-V31109	6250	355	8	0.033	1.42	0.01	0.12	0.04	0.20	0.02	0.16	0.67	0.23
V31109-V31110	4553	362	8	0.024	1.21	0.08	0.20	0.23	0.35	0.14	0.27	0.67	0.39
V31110-V31111	5874	357	8	0.008	0.69	0.08	0.26	0.23	0.48	0.14	0.36	0.67	0.54
V31111-V31116.F0	5873	330	8	0.003	0.44	0.08	0.24	0.24	0.43	0.14	0.32	0.67	0.49
V31112-V31113	4552	399	8	0.054	1.81	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.04
V31113-V31114	5872	124	8	0.004	0.50	0.00	0.04	0.00	0.07	0.00	0.05	0.67	0.07
V31114-V31115	5871	333	8	0.004	0.49	0.00	0.04	0.01	0.14	0.00	0.06	0.67	0.17
V31115-V31116	5870	65	8	0.004	0.50	0.00	0.19	0.01	0.41	0.00	0.25	0.67	0.47
V31116.A0-V31116.C0	5752	249	8	0.071	2.08	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V31116.B0-V31116.C0	6249	5	8	0.061	1.93	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.02
V31116.C0-V31116.D0	4551	304	8	0.038	1.52	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V31116.D0-V31116.E0	5867	157	8	0.019	1.08	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.07
V31116.E0-V31116.F0	5866	145	8	0.005	0.53	0.00	0.11	0.01	0.19	0.00	0.13	0.67	0.21
V31116.F0-V31116	5865	11	8	0.026	1.27	0.08	0.25	0.25	0.46	0.14	0.34	0.67	0.50
V31116-V31118	5869	160	10	0.002	0.68	0.09	0.23	0.30	0.42	0.16	0.31	0.83	0.46
V31117-V31118	6998	328	8	0.025	1.24	0.00	0.13	0.00	0.23	0.00	0.17	0.67	0.25
V31118-V31136	5864	66	10	0.007	1.17	0.09	0.22	0.31	0.41	0.17	0.29	0.83	0.45
V31119-V31121	5373	241	8	0.046	1.67	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V31120-V31121	1878	99	6	0.033	0.66	0.00	0.03	0.00	0.04	0.00	0.02	0.50	0.03
V31121-V31122	6485	329	8	0.058	1.89	0.00	0.02	0.00	0.04	0.00	0.02	0.67	0.04
V31122-V31123	5708	251	8	0.063	1.96	0.00	0.03	0.01	0.05	0.00	0.02	0.67	0.05
V31123-V31125	6469	249	8	0.051	1.76	0.00	0.03	0.01	0.06	0.00	0.03	0.67	0.06
V31124-V31125	6468	202	8	0.012	0.87	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
V31125-V31131	5751	100	8	0.048	1.71	0.00	0.04	0.01	0.07	0.00	0.04	0.67	0.07
V31126-V31128	5269	187	8	0.010	0.76	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V31127-V31128	5268	13	8	0.069	2.05	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.02
V31128-V31129	5707	280	8	0.044	1.63	0.00	0.04	0.00	0.05	0.00	0.03	0.67	0.05
V31129-V31130	5706	155	8	0.010	0.78	0.00	0.04	0.01	0.05	0.00	0.03	0.67	0.05
V31130-V31131	5705	100	8	0.171	3.23	0.00	0.04	0.01	0.06	0.00	0.03	0.67	0.05
V31131-V31134	6248	176	8	0.071	2.09	0.01	0.05	0.02	0.09	0.01	0.05	0.67	0.08
V31132-V31133	6247	322	8	0.018	1.03	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V31133-V31134	6246	127	8	0.051	1.77	0.00	0.04	0.00	0.07	0.00	0.04	0.67	0.06
V31134-V31135	4550	234	8	0.049	1.73	0.01	0.07	0.03	0.11	0.01	0.06	0.67	0.10
V31135-V31136	5863	247	8	0.020	1.11	0.01	0.20	0.04	0.36	0.01	0.24	0.67	0.39
V31136-V31137	4549	330	10	0.003	0.74	0.11	0.26	0.35	0.48	0.18	0.33	0.83	0.53
V31137-V31138	6245	316	10	0.003	0.75	0.11	0.25	0.35	0.48	0.18	0.33	0.83	0.52
V31138-V31139	6383	103	10	0.003	0.82	0.11	0.24	0.35	0.44	0.18	0.31	0.83	0.48
V31139-V30023	7001	91	10	0.005	0.97	0.11	0.26	0.35	0.48	0.18	0.33	0.83	0.52
V32002-V32003	5861	268	8	0.030	1.35	0.00	0.01	0.00	0.02	0.01	0.07	0.67	0.07
V32003-V32004	5626	66	8	0.100	2.47	0.00	0.01	0.00	0.03	0.01	0.05	0.67	0.06
V32004-V32005	5689	258	8	0.111	2.61	0.00	0.01	0.00	0.03	0.01	0.06	0.67	0.07
V32005-V32006.A0	1269	199	8	0.054	1.81	0.00	0.01	0.01	0.04	0.02	0.06	0.67	0.07
V32006.A0-V32006.B0	V32006.A0-V32006.B0	41	8	0.164	3.16	0.00	0.01	0.01	0.04	0.02	0.06	0.67	0.07
V32006.B0-V32006	V32006.B0-V32006	31	8	0.153	3.05	0.00	0.03	0.01	0.05	0.02	0.08	0.67	0.08
V32006-V32007	5500	279	8	0.037	1.51	0.01	0.05	0.01	0.06	0.02	0.08	0.67	0.09
V32007-V32157	7389	94	8	0.072	2.10	0.01	0.52	0.01	0.53	0.02	0.54	0.67	0.54
V32008-V32009	6244	200	8	0.030	1.35	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V32009-V32013	6116	201	8	0.038	1.52	0.00	0.05	0.00	0.06	0.01	0.07	0.67	0.08
V32010-V32012	6115	136	8	0.030	1.35	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V32011-V32012	6114	161	6	0.019	0.50	0.00	0.03	0.00	0.03	0.00	0.05	0.50	0.05
V32012-V32013	6112	58	8	0.059	1.90	0.00	0.05	0.00	0.06	0.00	0.07	0.67	0.07
V32013-V32016	4548	250	8	0.006	0.59	0.01	0.09	0.01	0.11	0.01	0.13	0.67	0.14
V32014-V32015	4546	147	8	0.006	0.59	0.00	0.04	0.00	0.04	0.01	0.10	0.67	0.10
V32015-V32016	5860	351	8	0.005	0.58	0.01	0.10	0.01	0.11	0.02	0.14	0.67	0.14
V32016-V32025	2182	295	8	0.006	0.59	0.02	0.11	0.02	0.14	0.03	0.16	0.67	0.17
V32017-V32018	6058	38	8	0.006	0.62	0.00	0.03	0.00	0.04	0.00	0.07	0.67	0.07
V32018-V32020	5985	338	8	0.006	0.61	0.00	0.06	0.00	0.07	0.01	0.11	0.67	0.11
V32019-V32020	2429	346	8	0.007	0.66	0.00	0.06	0.00	0.07	0.01	0.11	0.67	0.11
V32020-V32021	2428	297	8	0.008	0.71	0.01	0.07	0.01	0.09	0.03	0.12	0.67	0.13
V32021-V32022	4545	351	8	0.022	1.17	0.01	0.08	0.02	0.10	0.03	0.14	0.67	0.15
V32022-V32026	5859	176	8	0.006	0.61	0.01	0.13	0.02	0.18	0.04	0.22	0.67	0.24
V32023-V32018	5984	249	8	0.042	1.60	0.00	0.03	0.00	0.04	0.00	0.06	0.67	0.06
V32023-V32024	2427	347	8	0.029	1.33	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.05
V32024-V32025	6433	353	8	0.030	1.36	0.00	0.08	0.01	0.10	0.01	0.10	0.67	0.11
V32025-V32026	6432	270	8	0.012	0.86	0.02	0.14	0.04	0.19	0.04	0.21	0.67	0.23
V32026-V32027	5858	172	8	0.005	0.58	0.03	0.15	0.06	0.20	0.08	0.23	0.67	0.26
V32027-V32029	5857	290	8	0.020	1.10	0.04	0.11	0.07	0.15	0.09	0.17	0.67	0.19
V32028-V32029.A0	3361	125	8	0.000	0.02	0.01	0.13	0.01	0.13	0.00	0.10	0.67	0.10
V32029.A0-V32029	7951	179	8	0.049	1.73	0.01	0.08	0.01	0.09	0.01	0.11	0.67	0.11
V32029-V32030	5688	306	8	0.071	2.08	0.04	0.10	0.08	0.13	0.10	0.14	0.67	0.16
V32030-V32031	1268	273	8	0.109	2.58	0.04	0.16	0.08	0.19	0.10	0.18	0.67	0.21
V32031-V32034	4784	128	8	0.011	0.81	0.09	0.25	0.12	0.28	0.10	0.24	0.67	0.27
V32032-V32033	4783	196	8	0.005	0.53	0.00	0.09	0.00	0.09	0.00	0.00	0.67	0.02
V32033-V32034	4782	152	8	0.005	0.57	0.04	0.23	0.04	0.23	0.00	0.12	0.67	0.16
V32034-V32035	5499	241	8	0.010	0.78	0.13	0.30	0.15	0.33	0.10	0.26	0.67	0.30
V32035-V32036	4540	192	10	0.004	0.85	0.13	0.27	0.16	0.29	0.10	0.28	0.83	0.30

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V32036-V32037	4539	63	10	0.003	0.78	0.13	0.22	0.16	0.24	0.19	0.26	0.83	0.27
V32037-V32038	4328	317	10	0.024	2.17	0.13	0.20	0.16	0.22	0.19	0.24	0.83	0.25
V32038-V32039	4327	191	10	0.010	1.41	0.13	0.16	0.16	0.18	0.19	0.19	0.83	0.20
V32039-V32160	7552	37	10	0.268	7.33	0.13	0.55	0.16	0.55	0.19	0.55	0.83	0.56
V32040-V32041.A0	5687	120	8	0.156	3.09	0.00	0.01	0.00	0.01	0.00	0.09	0.67	0.09
V32041.A0-V32041	1267	181	8	0.103	2.51	0.00	0.01	0.00	0.03	0.12	0.18	0.67	0.18
V32041-V32042	5498	383	8	0.040	1.56	0.00	0.02	0.00	0.04	0.14	0.21	0.67	0.21
V32042-V32043	4318	37	8	0.033	1.43	0.00	0.04	0.01	0.07	0.15	0.31	0.67	0.31
V32043-V32044	5425	106	8	0.008	0.70	0.00	0.04	0.01	0.06	0.21	0.29	0.67	0.29
V32044-V32047	5424	32	8	0.143	2.95	0.00	0.06	0.01	0.08	0.21	0.31	0.67	0.31
V32045-V32046	7002	260	8	0.006	0.58	0.01	0.08	0.01	0.08	0.00	0.05	0.67	0.06
V32046-V32047	5423	208	8	0.004	0.51	0.01	0.09	0.01	0.10	0.00	0.23	0.67	0.24
V32047-V32048	5422	105	8	0.005	0.54	0.01	0.09	0.02	0.12	0.21	0.40	0.67	0.40
V32048-V32049	5421	238	8	0.013	0.90	0.01	0.06	0.02	0.09	0.21	0.27	0.67	0.27
V32049-V32162	825	54	8	0.127	2.79	0.01	0.38	0.02	0.50	0.21	0.57	0.67	0.59
V32050-V32051	5420	196	8	0.040	1.56	0.04	0.16	0.04	0.16	0.00	0.01	0.67	0.02
V32051-V32052	5518	200	8	0.007	0.66	0.04	0.13	0.04	0.13	0.00	0.01	0.67	0.03
V32052-V32165	824	42	8	0.450	5.24	0.04	0.53	0.04	0.53	0.00	0.50	0.67	0.51
V32053-V32054	5704	69	8	0.086	2.29	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V32054-V32056	5750	295	8	0.062	1.94	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.07
V32055-V32056	2426	259	8	0.016	1.00	0.00	0.05	0.00	0.06	0.00	0.06	0.67	0.06
V32056-V32057	2425	141	8	0.004	0.46	0.01	0.08	0.01	0.10	0.01	0.09	0.67	0.11
V32057-V32058	2424	235	8	0.004	0.49	0.01	0.09	0.01	0.12	0.01	0.10	0.67	0.12
V32058-V32060	2423	300	8	0.004	0.49	0.01	0.10	0.02	0.13	0.01	0.10	0.67	0.13
V32059-V32060	2422	41	8	0.000	0.04	0.00	0.10	0.00	0.13	0.00	0.11	0.67	0.13
V32060-V32062	2421	180	8	0.005	0.55	0.01	0.11	0.02	0.14	0.01	0.11	0.67	0.14
V32061-V32062	2420	247	8	0.020	1.10	0.00	0.07	0.00	0.09	0.00	0.07	0.67	0.09
V32062-V32069	2419	180	8	0.005	0.55	0.02	0.13	0.03	0.17	0.02	0.14	0.67	0.18
V32063-V32064	5703	121	8	0.026	1.25	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V32064.A0-V32064	5702	72	8	0.037	1.51	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.03
V32064-V32065	5903	179	8	0.039	1.54	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V32065-V32068	5749	238	8	0.040	1.56	0.00	0.05	0.01	0.06	0.00	0.05	0.67	0.06
V32066-V32067	5902	166	8	0.009	0.74	0.00	0.04	0.00	0.04	0.01	0.06	0.67	0.06
V32067-V32068	5748	300	8	0.009	0.73	0.00	0.06	0.00	0.06	0.01	0.07	0.67	0.08
V32068-V32069	2418	236	8	0.033	1.42	0.01	0.11	0.02	0.14	0.01	0.11	0.67	0.14
V32069-V32070	2416	135	8	0.005	0.55	0.03	0.15	0.05	0.20	0.03	0.16	0.67	0.21
V32070-V32071	2415	193	8	0.005	0.55	0.03	0.15	0.05	0.20	0.03	0.16	0.67	0.20
V32071-V32077	2414	310	8	0.007	0.64	0.03	0.16	0.05	0.22	0.03	0.17	0.67	0.22
V32072-V32073	5267	225	8	0.042	1.60	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V32073-V32075	5266	85	8	0.017	1.03	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V32074-V32075	5265	137	8	0.003	0.44	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.03
V32075-V32076	5983	350	8	0.052	1.78	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V32076-V32077	5747	247	8	0.067	2.02	0.01	0.11	0.01	0.15	0.01	0.11	0.67	0.15
V32077-V32080	2413	175	8	0.005	0.55	0.04	0.18	0.07	0.25	0.04	0.19	0.67	0.25
V32078-V32079	4949	233	8	0.062	1.94	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V32079-V32080	5746	351	8	0.056	1.85	0.00	0.11	0.00	0.15	0.00	0.12	0.67	0.15
V32080-V32084	4781	198	8	0.005	0.55	0.04	0.20	0.08	0.27	0.05	0.21	0.67	0.27
V32081-V32082	4832	213	8	0.033	1.43	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V32082-V32083	5901	308	8	0.043	1.62	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V32083-V32084	5745	351	8	0.045	1.66	0.01	0.13	0.01	0.17	0.01	0.13	0.67	0.17
V32084-V32085	4780	128	8	0.005	0.55	0.05	0.21	0.09	0.28	0.06	0.22	0.67	0.29
V32085-V32092	4779	139	8	0.005	0.55	0.05	0.22	0.10	0.30	0.06	0.23	0.67	0.31
V32086-V32087	5264	115	8	0.056	1.85	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V32087-V32088	4831	186	8	0.054	1.82	0.00	0.03	0.00	0.04	0.00	0.04	0.67	0.04
V32088-V32089	5900	236	8	0.018	1.05	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V32089-V32090	5899	243	8	0.019	1.07	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.07
V32090-V32091	5898	301	8	0.020	1.10	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.07
V32091-V32092	5744	297	8	0.050	1.75	0.01	0.15	0.02	0.20	0.01	0.15	0.67	0.20
V32092-V32093	4778	122	8	0.005	0.55	0.07	0.21	0.12	0.29	0.07	0.22	0.67	0.29
V32093-V32094	4777	91	8	0.011	0.83	0.07	0.19	0.12	0.26	0.07	0.20	0.67	0.27
V32094-V32096	4776	177	8	0.010	0.78	0.07	0.21	0.12	0.28	0.07	0.21	0.67	0.28
V32095-V32096	4775	165	8	0.045	1.66	0.00	0.12	0.00	0.16	0.00	0.12	0.67	0.16
V32096-V32097	4544	241	8	0.010	0.78	0.07	0.18	0.13	0.24	0.07	0.18	0.67	0.24
V32097-V32100	5625	317	8	0.050	1.74	0.07	0.14	0.13	0.18	0.07	0.14	0.67	0.19
V32098-V32099	4774	85	8	0.037	1.49	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V32099-V32100	4543	270	8	0.078	2.18	0.00	0.08	0.00	0.10	0.00	0.08	0.67	0.10
V32100-V32101	5818	165	8	0.069	2.05	0.08	0.13	0.14	0.17	0.08	0.13	0.67	0.17
V32101-V32102	5686	110	8	0.123	2.74	0.08	0.17	0.14	0.23	0.08	0.17	0.67	0.23
V32102-V32113	4724	239	8	0.010	0.78	0.08	0.20	0.14	0.26	0.08	0.19	0.67	0.25
V32103-V32104	5742	199	8	0.063	1.96	0.00	0.06	0.00	0.06	0.00	0.03	0.67	0.03
V32104-V32105	4542	288	8	0.038	1.53	0.04	0.12	0.04	0.12	0.00	0.04	0.67	0.05
V32105-V32108	5856	161	8	0.025	1.24	0.04	0.13	0.04	0.13	0.01	0.05	0.67	0.07
V32106-V32107	5855	186	8	0.011	0.83	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V32107-V32108	5854	340	8	0.017	1.01	0.00	0.08	0.00	0.08	0.00	0.05	0.67	0.06
V32108-V32109	5623	255	8	0.041	1.59	0.05	0.14	0.05	0.15	0.01	0.07	0.67	0.09
V32109-V32112	5816	127	8	0.012	0.85	0.05	0.18	0.05	0.19	0.01	0.10	0.67	0.13
V32110-V32111	5853	201	8	0.039	1.54	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V32111-V32112	5622	212	8	0.039	1.55	0.00	0.12	0.00	0.13	0.00	0.07	0.67	0.09
V32112-V32113.A0	5955	115	8	0.010	0.78	0.06	0.14	0.06	0.15	0.02	0.08	0.67	0.10
V32113.A0-V32113	5956	65	8	0.338	4.54	0.06	0.13	0.06	0.15	0.02	0.10	0.67	0.13
V32113-V32116	1266	112	8	0.086	2.28	0.13	0.15	0.20	0.18	0.10	0.13	0.67	0.17
V32114-V32115	5685	319	8	0.102	2.49	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V32115-V32116	1265	263	8	0.019	1.07	0.00	0.08	0.00	0.10	0.00	0.07	0.67	0.09
V32116-V32117	1554	47	8	0.319	4.41	0.14	0.18	0.21	0.22	0.10	0.15	0.67	0.21
V32117-V32118	1283	55	8	0.025	1.22	0.14	0.20	0.21	0.25	0.10	0.17	0.67	0.24
V32118-V32119	5497	294	8	0.071	2.09	0.14	0.21	0.21	0.26	0.10	0.18	0.67	0.25
V32119.A0-V32119.B0	7433	127	8	1.223	8.64	0.00	0.50	0.00	0.50	0.00	0.50	0.67	0.50
V32119.B0-V32119.C0	7434	49	8	2.074	11.25	0.00	0.01	0.00	0.02	0.00	0.01	0.67	0.02
V32119.C0-V32119.D0	7909	139	8	0.011	0.82	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V32119.D0-V32119.E0	7815	74	8	0.012	0.85	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V32119.E0-V32119.F0	7910	178	8	0.026	1.25	0.00	0.03	0.00	0.05	0.00	0.03	0.67	0.05
V32119.F0-V32119	7911	7	8	0.026	1.26	0.00	0.14	0.01	0.18	0.00	0.12	0.67	0.17
V32119-V32121	5517	65	8	0.022	1.17	0.14	0.21	0.22	0.26	0.10	0.18	0.67	0.24
V32120-V32121	5516	396	8	0.025	1.24	0.00	0.08	0.00	0.11	0.00	0.08	0.67	0.11
V32121-V32122	5513	138	8	0.087	2.30	0.14	0.19	0.23	0.24	0.10	0.16	0.67	0.22
V32122.A0-V32122.B0	7647	28	8	0.010	0.78	0.02	0.12	0.05	0.18	0.03	0.14	0.67	0.18
V32122.AA-V32122.AB	7912	123	8	0.021	1.13	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V32122.AB-V32122.AC	7913	48	8	0.022	1.16	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V32122.AC-V32122.AE	7914	115	8	0.021	1.13	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V32122.AD-V32122.AE	7813	228	8	0.084	2.27	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V32122.AE-V32122.AF	7814	208	8	0.056	1.86	0.01	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V32122.AF-V32122.AG	7915	107	8	0.034	1.44	0.01	0.05	0.01	0.06	0.00	0.04	0.67	0.06
V32122.AG-V32122.AH	7916	166	8	0.037	1.50	0.01	0.06	0.01	0.08	0.01	0.06	0.67	0.08
V32122.AH-V32122.AI	7878	311	8	0.010	0.80	0.01	0.08	0.02	0.10	0.01	0.07	0.67	0.10
V32122.AI-V32122.AJ	7917	134	8	0.011	0.82	0.01	0.08	0.02	0.11	0.01	0.08	0.67	0.11
V32122.AJ-V32122.AO	7918	154	8	0.011	0.82	0.01	0.08	0.02	0.10	0.01	0.08	0.67	0.10
V32122.AK-V32122.AL	7876	102	8	0.011	0.84	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V32122.AL-V32122.AM	7667	149	8	0.013	0.89	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V32122.AM-V32122.AN	7875	209	8	0.070	2.07	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V32122.AN-V32122.AO	7874	347	8	0.115	2.65	0.01	0.05	0.01	0.06	0.01	0.05	0.67	0.06
V32122.AO-V32122.AP	7873	129	8	0.083	2.24	0.02	0.07	0.03	0.09	0.02	0.07	0.67	0.09
V32122.AP-V32122.AQ	7872	90	8	0.063	1.96	0.02	0.07	0.04	0.10	0.02	0.07	0.67	0.10
V32122.AQ-V32122.AR	7871	53	8	0.054	1.81	0.02	0.07	0.04	0.10	0.02	0.08	0.67	0.10
V32122.AR-V32122.AS	7870	23	8	0.052	1.78	0.02	0.07	0.04	0.10	0.02	0.08	0.67	0.10
V32122.AS-V32122.AT	7869	56	8	0.054	1.81	0.02	0.08	0.04	0.10	0.02	0.08	0.67	0.11
V32122.AT-V32122.AU	7834	53	8	0.044	1.63	0.02	0.10	0.04	0.13	0.02	0.10	0.67	0.13
V32122.AU-V32122.AV	7833	266	8	0.011	0.80	0.02	0.11	0.04	0.15	0.02	0.12	0.67	0.15
V32122.AV-V32122.AW	7832	102	8	0.012	0.85	0.02	0.11	0.04	0.15	0.02	0.12	0.67	0.16
V32122.AW-V32122.AX	7831	74	8	0.013	0.88	0.02	0.12	0.04	0.16	0.03	0.13	0.67	0.17
V32122.AX-V32122.AY	7817	99	8	0.010	0.76	0.02	0.10	0.04	0.14	0.03	0.11	0.67	0.15
V32122.AY-V32122.A0	7432	333	8	0.050	1.74	0.02	0.10	0.05	0.14	0.03	0.11	0.67	0.15
V32122.B0-V32122.C0	7646	300	8	0.008	0.68	0.02	0.13	0.05	0.19	0.03	0.15	0.67	0.20
V32122.C0-V32122.D0	7645	300	8	0.008	0.68	0.02	0.11	0.05	0.16	0.03	0.12	0.67	0.16
V32122.D0-V32173	7644	46	8	0.068	2.03	0.02	0.54	0.05	0.56	0.03	0.54	0.67	0.56
V32122-V32170	7003	312	8	0.035	1.46	0.14	0.60	0.23	0.63	0.10	0.59	0.67	0.62
V32123-V32124	5511	223	8	0.015	0.96	0.00	0.00	0.00	0.02	0.00	0.00	0.67	0.02
V32124-V32125	5510	185	8	0.008	0.68	0.00	0.05	0.00	0.07	0.00	0.00	0.67	0.05
V32125-V32126	5509	108	8	0.005	0.55	0.01	0.09	0.01	0.10	0.00	0.00	0.67	0.06
V32126-V32128	5508	69	8	0.005	0.55	0.01	0.14	0.01	0.18	0.00	0.12	0.67	0.18
V32127.A0-V32127.B0	4830	149	8	0.121	2.72	0.00	0.01	0.00	0.01	0.01	0.04	0.67	0.04
V32127.B0-V32127.C0	5897	72	8	0.206	3.54	0.00	0.02	0.00	0.03	0.01	0.04	0.67	0.04
V32127.C0-V32127.D0	5741	148	8	0.058	1.88	0.00	0.02	0.00	0.03	0.01	0.05	0.67	0.05
V32127.D0-V32127.E0	4541	286	8	0.088	2.31	0.00	0.03	0.01	0.04	0.01	0.05	0.67	0.06
V32127.E0-V32127.F0	5684	283	8	0.121	2.72	0.00	0.03	0.01	0.04	0.02	0.06	0.67	0.06
V32127.F0-V32127.G0	5496	295	8	0.103	2.50	0.00	0.03	0.01	0.05	0.02	0.06	0.67	0.07
V32127.G0-V32127.H0	5512	144	8	0.132	2.84	0.01	0.04	0.01	0.06	0.02	0.07	0.67	0.08
V32127.H0-V32127.I0	5515	113	8	0.053	1.80	0.01	0.05	0.02	0.08	0.02	0.09	0.67	0.10
V32127.I0-V32128.D0	7735	56	8	0.015	0.95	0.01	0.06	0.02	0.10	0.02	0.11	0.67	0.12
V32128.A0-V32122.AS	7816	104	8	0.011	0.84	0.00	0.05	0.00	0.06	0.00	0.04	0.67	0.05
V32128.A0-V32128.B0	7919	55	8	0.088	2.32	0.00	0.02	0.00	0.02	0.00	0.01	0.67	0.01
V32128.B0-V32128.C0	7879	110	8	0.057	1.87	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V32128.C0-V32128.E0	7920	144	8	0.011	0.82	0.00	0.07	0.00	0.09	0.00	0.08	0.67	0.09
V32128.D0-V32128.E0	7734	75	8	0.012	0.85	0.01	0.07	0.02	0.11	0.02	0.12	0.67	0.14
V32128.E0-V32128.F0	7733	111	8	0.008	0.72	0.01	0.09	0.02	0.13	0.02	0.13	0.67	0.15
V32128.F0-V32128.I0	7736	52	8	0.008	0.70	0.01	0.09	0.03	0.13	0.02	0.12	0.67	0.15
V32128.G0-V32128.H0	7921	156	8	0.050	1.74	0.00	0.02	0.00	0.02	0.00	0.02	0.67	0.02
V32128.H0-V32128.I0	7922	55	8	0.060	1.92	0.00	0.06	0.00	0.08	0.00	0.07	0.67	0.08
V32128.I0-V32128.J0	7737	136	8	0.013	0.88	0.01	0.09	0.03	0.13	0.03	0.12	0.67	0.15
V32128.J0-V32128.K0	7738	143	8	0.011	0.82	0.02	0.10	0.03	0.14	0.03	0.12	0.67	0.15
V32128.K0-V32128.X0	7739	63	8	0.012	0.87	0.02	0.10	0.03	0.13	0.03	0.13	0.67	0.16
V32128.L0-V32128.M0	7931	47	8	0.105	2.53	0.00	0.01	0.00	0.01	0.01	0.04	0.67	0.04
V32128.M0-V32128.N0	7932	233	8	0.109	2.58	0.00	0.02	0.00	0.02	0.01	0.04	0.67	0.04
V32128.N0-V32128.P0	7930	70	8	0.107	2.56	0.00	0.02	0.00	0.04	0.01	0.06	0.67	0.06
V32128.P0-V32128.Q0	7929	148	8	0.041	1.58	0.00	0.03	0.01	0.05	0.02	0.09	0.67	0.10
V32128.PA-V32128.P0	8349	78	8	0.002	0.35	0.00	0.01	0.00	0.02	0.01	0.12	0.67	0.12
V32128.Q0-V32128.R0	7928	284	8	0.015	0.97	0.00	0.05	0.01	0.07	0.02	0.11	0.67	0.12
V32128.R0-V32128.T0	7927	307	8	0.010	0.80	0.01	0.07	0.01	0.09	0.03	0.12	0.67	0.12
V32128.S0-V32128.T0	7926	160	8	0.011	0.82	0.01	0.06	0.01	0.08	0.01	0.10	0.67	0.11
V32128.SA-V32128.SB	7923	90	8	0.021	1.13	0.00	0.02	0.00	0.02	0.01	0.07	0.67	0.07
V32128.SB-V32128.SC	7924	164	8	0.021	1.12	0.00	0.04	0.00	0.04	0.01	0.08	0.67	0.08
V32128.SC-V32128.S0	7925	139	8	0.012	0.86	0.00	0.05	0.00	0.06	0.01	0.09	0.67	0.09
V32128.T0-V32128.U0	7760	77	8	0.042	1.61	0.01	0.07	0.02	0.09	0.04	0.11	0.67	0.12
V32128.U0-V32128.V0	7761	68	8	0.042	1.61	0.02	0.07	0.03	0.09	0.04	0.11	0.67	0.12
V32128.V0-V32128.W0	7762	71	8	0.059	1.89	0.02	0.06	0.03	0.08	0.04	0.10	0.67	0.10
V32128.W0-V32128.X0	7763	60	8	0.133	2.85	0.02	0.08	0.03	0.10	0.04	0.11	0.67	0.13
V32128.X0-V32128.Y0	7740	176	8	0.060	1.91	0.03	0.08	0.06	0.11	0.07	0.12	0.67	0.14
V32128.Y0-V32128.Z0	7741	78	8	0.196	3.46	0.03	0.10	0.07	0.14	0.07	0.15	0.67	0.17
V32128.Z0-V32128	5537	183	8	0.011	0.82	0.03	0.17	0.07	0.23	0.07	0.22	0.67	0.26
V32128-V32129	5507	68	8	0.005	0.55	0.04	0.19	0.08	0.26	0.07	0.26	0.67	0.31
V32129-V32130	6106	227	8	0.005	0.55	0.04	0.20	0.08	0.27	0.09	0.29	0.67	0.33
V32130-V32131	6107	318	8	0.004	0.49	0.04	0.21	0.08	0.29	0.09	0.31	0.67	0.36
V32131-V32139	5506	265	8	0.004	0.49	0.04	0.17	0.09	0.23	0.09	0.25	0.67	0.29
V32132-V32133.A0	5505	80	8	0.017	1.03	0.00	0.00	0.00	0.01	0.00	0.00	0.67	0.01
V32133.A0-V32133	6102	81	8	0.017	1.03	0.00	0.03	0.00	0.04	0.00	0.06	0.67	0.06
V32133-V32135	6103	192	8	0.017	1.03	0.01	0.06	0.01	0.06	0.03	0.13	0.67	0.13
V32134-V32135	6104	182	8	0.012	0.85	0.00	0.03	0.00	0.04	0.00	0.07	0.67	0.07
V32135-V32139	6105	231	8	0.013	0.89	0.01	0.09	0.01	0.11	0.04	0.16	0.67	0.17
V32136-V32137	6109	138	8	0.004	0.49	0.00	0.04	0.00	0.04	0.00	0.00	0.67	0.02
V32137-V32138	6110	100	8	0.004	0.49	0.00	0.07	0.00	0.07	0.00	0.00	0.67	0.04
V32138-V32139	5503	193	8	0.006	0.60	0.00	0.09	0.01	0.11	0.00	0.09	0.67	0.12
V32139-V32140	6111	249	8	0.062	1.94	0.05	0.15	0.11	0.21	0.15	0.25	0.67	0.28
V32140-V32180	7009	174	8	0.009	0.76	0.05	0.17	0.11	0.23	0.15	0.27	0.67	0.30
V32141-V32142	7016	305	8	0.016	1.00	0.01	0.08	0.01	0.08	0.02	0.10	0.67	0.10
V32142-V32143	7015	298	8	0.008	0.72	0.01	0.09	0.01	0.09	0.02	0.11	0.67	0.12
V32143-V32145.E0	V32143-V32145.E0	149	8	0.008	0.70	0.01	0.09	0.01	0.10	0.02	0.12	0.67	0.13
V32144-V32145	7014	259	8	0.072	2.09	0.00	0.06	0.00	0.07	0.00	0.07	0.67	0.08
V32145.A0-V32145.B0	V32145.A0-V32145.B0	184	8	0.002	0.39	0.00	0.00	0.00	0.02	0.00	0.06	0.67	0.06
V32145.B0-V32145.D0	V32145.B0-V32145.D0	227	8	0.008	0.71	0.00	0.00	0.00	0.04	0.00	0.05	0.67	0.06
V32145.C0-V32145.D0	V32145.C0-V32145.D0	144	8	0.027	1.29	0.00	0.00	0.00	0.03	0.00	0.03	0.67	0.03
V32145.D0-V32145.E0	V32145.D0-V32145.E0	74	8	0.015	0.97	0.00	0.04	0.00	0.08	0.00	0.09	0.67	0.10
V32145.E0-V32145	V32145.E0-V32145	105	8	0.008	0.70	0.01	0.09	0.02	0.11	0.02	0.12	0.67	0.14
V32145-V32148	7012	74	8	0.014	0.93	0.02	0.09	0.03	0.12	0.03	0.12	0.67	0.14
V32146-V32147	5502	23	8	0.093	2.39	0.00	0.01	0.00	0.01	0.00	0.04	0.67	0.04
V32147-V32148	7222	536	8	0.021	1.14	0.00	0.05	0.00	0.07	0.01	0.09	0.67	0.10
V32148-V32156	7011	289	8	0.015	0.96	0.02	0.50	0.03	0.56	0.03	0.56	0.67	0.58
V32153-V32154	7336	443	24	0.004	9.27	0.81	0.20	1.45	0.27	1.20	0.25	2.00	0.30
V32154-V32155	FM5	376	24	0.004	9.24	0.84	0.20	1.49	0.26	1.25	0.24	2.00	0.30
V32155-V32156	7338	311	24	0.005	10.35	0.84	0.25	1.50	0.33	1.25	0.30	2.00	0.36
V32157-V32181	7390	338	36	0.003	24.28	6.23	0.36	11.11	0.49	11.43	0.50	3.00	0.60
V32158-V32159	7393	395	36	0.003	22.43	6.27	0.36	11.14	0.49	11.41	0.50	3.00	0.60
V32159-V32160	7395	451	36	0.003	23.07	6.27	0.37	11.08	0.50	11.31	0.51	3.00	0.61
V32160-V32161	7396	509	36	0.003	21.69	6.40	0.36	11.20	0.49	11.43	0.49	3.00	0.59
V32161-V32162	7397	356	36	0.003	24.29	6.40	0.26	11.21	0.34	11.41	0.34	3.00	0.40
V32162-V32163	7398	159	36	0.077	119.62	6.47	0.19	11.38	0.25	11.70	0.25	3.00	0.30
V32163-V32164	7400	151	36	0.020	60.74	6.47	0.29	11.39	0.39	11.70	0.40	3.00	0.48
V32164-V32165	7401	151	36	0.003	22.98	6.47	0.36	11.39	0.49	11.70	0.50	3.00	0.60
V32165-V32166	7402	314	36	0.003	23.08	6.51	0.35	11.43	0.47	11.70	0.48	3.00	0.57
V32166-V32167	7403	351	36	0.004	27.14	6.51	0.31	11.44	0.42	11.70	0.43	3.00	0.51
V32167-V32168	7404	446	36	0.007	35.72	6.51	0.27	11.45	0.37	11.69	0.37	3.00	0.44
V32168-V32169	7405	105	36	0.012	46.43	6.51	0.25	11.47	0.34	11.69	0.34	3.00	0.41
V32169-V32170	7406	258	36	0.011	45.42	6.51	0.26	11.47	0.35	11.69	0.35	3.00	0.42
V32170-V32171	7407	202	36	0.011	44.99	6.64	0.23	11.71	0.30	11.79	0.30	3.00	0.35
V32171-ABN_V32T068.0	7408	401	36	0.043	89.37	6.64	0.28	11.72	0.38	11.79	0.38	3.00	0.46
V32172-V32173	7411	450	36	0.003	24.04	6.64	0.37	11.73	0.51	11.77	0.51	3.00	0.62

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V32173-V32183	7412	528	36	0.003	21.79	6.67	0.37	11.80	0.51	11.80	0.51	3.00	0.62
V32174-V32184	7024	568	36	0.004	26.22	6.67	0.38	11.85	0.51	11.80	0.51	3.00	0.62
V32175-V32176	7027	549	36	0.003	22.83	6.67	0.45	11.91	0.59	11.80	0.59	3.00	0.71
V32176-V32177	7028	431	36	0.000	0.66	6.67	0.38	11.93	0.50	11.80	0.49	3.00	0.59
V32177-V32178	7029	440	36	0.015	52.79	6.67	0.26	11.95	0.35	11.80	0.35	3.00	0.42
V32178-V32179	7030	449	36	0.008	38.35	6.67	0.33	11.96	0.45	11.80	0.45	3.00	0.54
V32180-V01061	7334	209	24	0.007	12.00	0.05	0.13	0.11	0.17	0.15	0.16	2.00	0.20
V32181-V32158	7391	120	36	0.002	20.43	6.23	0.37	11.07	0.50	11.36	0.51	3.00	0.61
V32182-V32174	7023	475	36	0.003	22.47	6.67	0.36	11.84	0.49	11.80	0.49	3.00	0.60
V32183-V32182	7022	408	36	0.003	24.34	6.67	0.37	11.82	0.50	11.80	0.50	3.00	0.61
V32184-V01062	7025	539	36	0.002	17.33	6.67	0.33	11.88	0.45	11.80	0.45	3.00	0.54
V32T033.00-V32T032.0	145	477	36	0.004	27.27	7.51	0.36	14.01	0.50	13.05	0.48	3.00	0.60
V32T034.00-V32T033.0	146	457	36	0.004	28.80	7.51	0.35	13.99	0.50	13.05	0.48	3.00	0.60
V32T035.00-V32T034.0	147	430	36	0.033	78.64	7.51	0.28	13.97	0.39	13.05	0.37	3.00	0.46
V32T036.00-V32T035.0	148	556	36	0.006	33.52	7.51	0.27	13.95	0.38	13.05	0.36	3.00	0.45
V32T037.00-V32T036.0	150	433	36	0.029	73.32	7.51	0.28	13.93	0.38	13.05	0.37	3.00	0.45
V32T038.00-V32T037.0	149	222	36	0.046	92.30	7.51	0.20	13.92	0.28	13.05	0.27	3.00	0.33
V32T039.00-V32T038.0	151	506	36	0.006	34.48	7.51	0.26	13.90	0.36	13.05	0.35	3.00	0.43
V32T040.00-V32T039.0	152	612	36	0.005	30.23	7.51	0.34	13.88	0.47	13.05	0.45	3.00	0.56
V32T041.00-V32T040.0	154	373	36	0.042	88.05	7.51	0.27	13.87	0.37	13.05	0.36	3.00	0.45
V32T042.00-V32T041.0	155	550	36	0.074	117.13	7.51	0.18	13.84	0.25	13.05	0.24	3.00	0.30
V32T043.00-V32T042.0	157	558	36	0.005	31.76	7.51	0.26	13.82	0.36	13.05	0.35	3.00	0.44
V32T044.00-V32T043.0	159	48	36	0.038	84.24	7.51	0.28	13.82	0.38	13.05	0.37	3.00	0.47
V32T045.00-V32T044.0	158	104	36	0.007	35.88	7.51	0.25	13.82	0.34	13.05	0.33	3.00	0.42
V32T046.00-V32T045.0	160	234	36	0.027	70.47	6.67	0.26	12.13	0.34	11.80	0.34	3.00	0.41
V32T047.00-V32T046.0	162	456	36	0.003	23.10	6.67	0.29	12.11	0.39	11.80	0.39	3.00	0.46
V32T048.00-V32T047.0	7446	473	36	0.003	22.70	6.67	0.37	12.09	0.51	11.80	0.50	3.00	0.61
V32T049.00-V32T048.0	7445	190	36	0.003	23.42	6.67	0.37	12.09	0.52	11.80	0.51	3.00	0.63
V32T050.00-V32T049.0	7444	362	36	0.048	94.93	6.67	0.27	12.07	0.38	11.80	0.37	3.00	0.45
V32T051.00-V32T050.0	7037	454	36	0.037	83.14	6.67	0.19	12.05	0.25	11.80	0.25	3.00	0.29
V32T052.00-V32T051.0	7036	366	36	0.006	32.64	6.67	0.26	12.04	0.35	11.80	0.34	3.00	0.41
V32T053.00-V32T052.0	7035	482	36	0.003	24.85	6.67	0.34	12.02	0.46	11.80	0.45	3.00	0.55
V32T054.00-V32T053.0	7034	321	36	0.015	52.85	6.67	0.30	12.01	0.41	11.80	0.40	3.00	0.49
V32T055.00-V32T054.0	7033	288	36	0.003	22.85	6.67	0.30	12.00	0.40	11.80	0.40	3.00	0.48
V32T056.00-V32T055.0	7032	445	36	0.003	22.75	6.67	0.37	11.98	0.50	11.80	0.49	3.00	0.60
V32T068.00-V3217	7409	406	36	0.003	22.53	6.64	0.37	11.72	0.50	11.78	0.50	3.00	0.61
V32T205.00-V32T045.0	1327	78	27	0.022	29.65	0.00	0.20	0.01	0.28	0.00	0.26	2.25	0.33
V32T206.00-V32T207.0	828	13	27	0.002	8.95	0.00	0.00	0.00	0.00	0.00	0.00	2.25	0.00
V32T207.00-V32T205.0	1001	164	27	0.002	8.95	0.00	0.00	0.00	0.01	0.00	0.00	2.25	0.01
V32T208.00-V32T045.0	827	55	27	0.014	23.60	0.85	0.27	1.67	0.36	1.26	0.34	2.25	0.47
V32T209.00-V32T208.0	1000	177	27	0.014	23.80	0.85	0.13	1.67	0.18	1.26	0.16	2.25	0.26
V32T210.00-V32T210.A	999	119	27	0.000	0.58	0.85	0.19	1.66	0.24	1.26	0.22	2.25	0.27
V32T210.A0-V32T209.0	826	24	27	0.014	23.85	0.85	0.13	1.66	0.18	1.26	0.16	2.25	0.20
V32T211.00-V32T210.0	7218	459	27	0.002	9.80	0.85	0.22	1.65	0.29	1.26	0.26	2.25	0.32
V32T212.00-V32T211.0	7217	325	27	0.002	9.81	0.85	0.20	1.64	0.28	1.26	0.24	2.25	0.31
V32T213.00-V32T212.0	7216	442	24	0.004	9.26	0.85	0.21	1.63	0.30	1.26	0.26	2.00	0.33
V32T214.00-V32T213.0	7215	395	21	0.009	9.60	0.85	0.22	1.62	0.30	1.26	0.27	1.75	0.34
V32T215.00-V32T214.0	7214	387	21	0.009	9.62	0.85	0.20	1.61	0.28	1.26	0.24	1.75	0.31
V32T216.00-V32T215.0	7454	408	21	0.009	9.61	0.85	0.20	1.60	0.28	1.26	0.24	1.75	0.31
V32T216.A0-V32T216.0	7453	155	21	0.009	9.62	0.85	0.20	1.60	0.28	1.26	0.24	1.75	0.31
V32T217.00-V32T216.A	7452	282	21	0.009	9.62	0.85	0.20	1.59	0.28	1.26	0.24	1.75	0.31
V32T218.00-V32T217.0	7221	166	21	0.004	6.52	0.85	0.22	1.59	0.30	1.26	0.27	1.75	0.34
V32T219.00-V32T218.0	7220	165	21	0.004	6.52	0.85	0.25	1.58	0.34	1.26	0.30	1.75	0.38
V32T220.00-V32T219.0	7451	591	21	0.012	11.36	0.85	0.21	1.57	0.29	1.26	0.26	1.75	0.33
V32T221.00-V32T220.0	7450	594	21	0.009	9.61	0.85	0.19	1.56	0.26	1.26	0.24	1.75	0.30
V32T222.00-V32T221.0	7449	256	21	0.009	9.60	0.85	0.20	1.55	0.27	1.26	0.25	1.75	0.31
V32T223.00-V32T222.0	7448	470	21	0.004	6.48	0.85	0.23	1.54	0.31	1.26	0.28	1.75	0.34
V32T224.00-V32T223.0	7339	73	24	0.000	2.42	0.85	0.26	1.54	0.35	1.26	0.32	2.00	0.39
V33001-V33002	1721	363	8	0.010	0.80	0.00	0.04	0.00	0.04	0.00	0.04	0.67	0.04
V33002-V33005	1720	270	8	0.020	1.11	0.00	0.06	0.00	0.07	0.00	0.06	0.67	0.07
V33002-V33083	1719	331	8	0.023	1.18	0.00	0.05	0.00	0.06	0.00	0.05	0.67	0.06
V33003-V33004	1718	161	8	0.007	0.67	0.00	0.05	0.00	0.05	0.00	0.05	0.67	0.05
V33004-V33005	1717	350	8	0.008	0.68	0.00	0.07	0.01	0.08	0.00	0.07	0.67	0.08
V33005-V33006	1716	236	8	0.021	1.12	0.01	0.08	0.02	0.10	0.01	0.08	0.67	0.11
V33006-V33007	1715	358	8	0.010	0.78	0.01	0.10	0.02	0.12	0.02	0.10	0.67	0.13
V33007-V33008	1714	339	8	0.010	0.80	0.02	0.11	0.03	0.14	0.02	0.12	0.67	0.15
V33008-V33009	1713	147	8	0.010	0.80	0.02	0.11	0.04	0.13	0.02	0.11	0.67	0.14
V33009-V33012	1712	146	8	0.029	1.34	0.02	0.12	0.04	0.16	0.03	0.13	0.67	0.16
V33010-V33011	1711	352	8	0.041	1.59	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V33010-V33082	1710	250	8	0.020	1.11	0.00	0.03	0.00	0.03	0.00	0.03	0.67	0.03
V33011-V33012	1709	323	8	0.050	1.74	0.00	0.09	0.01	0.12	0.00	0.10	0.67	0.13
V33012-V33023	1630	365	8	0.006	0.59	0.03	0.18	0.05	0.23	0.03	0.17	0.67	0.24
V33013-V33014	1629	197	8	0.020	1.11	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V33013-V33118	1628	219	8	0.021	1.13	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V33014-V33015	1627	213	8	0.054	1.82	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
V33015-V33023	1626	146	8	0.057	1.87	0.01	0.12	0.01	0.16	0.00	0.11	0.67	0.15
V33016-V33018	1625	120	8	0.011	0.84	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V33017-V33018	1624	85	8	0.012	0.86	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V33018-V33019	1623	190	8	0.010	0.79	0.00	0.05	0.00	0.06	0.00	0.04	0.67	0.05
V33019-V33021	1622	194	8	0.019	1.06	0.00	0.05	0.01	0.06	0.00	0.04	0.67	0.06
V33020-V33021	1621	221	8	0.011	0.80	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
V33020-V33125	1620	231	8	0.045	1.65	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.02
V33021-V33022	1619	103	8	0.042	1.60	0.01	0.05	0.01	0.07	0.00	0.04	0.67	0.06
V33022-V33023	1618	253	8	0.040	1.57	0.01	0.13	0.02	0.17	0.01	0.11	0.67	0.17
V33023-V33024	1617	380	8	0.005	0.56	0.05	0.20	0.09	0.28	0.04	0.19	0.67	0.28
V33024-V33025	1616	326	8	0.005	0.58	0.05	0.17	0.09	0.23	0.04	0.16	0.67	0.23
V33025-V33027	1615	351	8	0.043	1.62	0.05	0.12	0.10	0.17	0.05	0.12	0.67	0.17
V33026-V33027	1217	238	6	0.011	0.37	0.00	0.11	0.00	0.13	0.00	0.10	0.50	0.13
V33027-V33028	1216	290	8	0.050	1.75	0.06	0.12	0.11	0.17	0.05	0.12	0.67	0.17
V33028-V33029	1215	197	8	0.050	1.75	0.06	0.13	0.11	0.17	0.05	0.12	0.67	0.17
V33029-V33030	1214	194	8	0.050	1.75	0.06	0.13	0.11	0.17	0.05	0.12	0.67	0.17
V33030-V33031	1213	204	8	0.049	1.73	0.06	0.15	0.12	0.21	0.05	0.14	0.67	0.21
V33031-V33032	1212	71	8	0.022	1.15	0.06	0.13	0.12	0.18	0.05	0.12	0.67	0.17
V33032-V33033	97	94	8	0.355	4.65	0.06	0.11	0.12	0.15	0.05	0.10	0.67	0.15
V33033-V33034	98	111	8	0.049	1.73	0.06	0.13	0.12	0.17	0.06	0.12	0.67	0.18
V33034-V33035	99	312	10	0.051	3.20	0.06	0.10	0.12	0.14	0.06	0.10	0.83	0.14
V33035-V33041	100	126	10	0.039	2.80	0.07	0.11	0.13	0.15	0.06	0.12	0.83	0.16
V33036.A0-V33036	106	71	8	0.022	1.16	0.00	0.02	0.00	0.02	0.00	0.00	0.67	0.01
V33036-V33037	108	192	8	0.020	1.09	0.00	0.05	0.00	0.05	0.00	0.04	0.67	0.05
V33037-V33038	109	178	8	0.030	1.36	0.01	0.06	0.01	0.06	0.01	0.08	0.67	0.08
V33038-V33039	110	70	8	0.031	1.38	0.01	0.07	0.01	0.09	0.02	0.10	0.67	0.11
V33039.A0-V33039.B0	107	86	8	0.015	0.95	0.00	0.00	0.00	0.01	0.00	0.04	0.67	0.04
V33039.B0-V33039.D0	103	57	8	0.022	1.15	0.00	0.02	0.00	0.04	0.01	0.06	0.67	0.06
V33039.C0-V33039.D0	288	101	8	0.010	0.77	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V33039.D0-V33039.E0	104	236	8	0.026	1.25	0.00	0.05	0.01	0.06	0.01	0.06	0.67	0.06
V33039.E0-V33039	105	237	8	0.020	1.12	0.01	0.08	0.01	0.09	0.01	0.08	0.67	0.10
V33039-V33040	111	50	8	0.020	1.10	0.02	0.08	0.02	0.09	0.03	0.10	0.67	0.11

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V33040-V33041	112	103	8	0.085	2.27	0.02	0.10	0.03	0.14	0.04	0.13	0.67	0.15
V33041-V33042	115	123	10	0.043	2.94	0.08	0.14	0.16	0.19	0.10	0.16	0.83	0.20
V33042-V33047	518	152	12	0.009	2.23	0.08	0.15	0.16	0.21	0.11	0.17	1.00	0.22
V33047-V33048	520	69	12	0.004	1.38	0.09	0.15	0.17	0.20	0.11	0.16	1.00	0.21
V33048-V33056	521	91	12	0.017	2.96	0.09	0.22	0.17	0.28	0.11	0.24	1.00	0.30
V33049-V33051.A0	464	94	8	0.009	0.73	0.00	0.03	0.00	0.03	0.00	0.05	0.67	0.05
V33050-V33051	467	113	8	0.010	0.78	0.00	0.06	0.00	0.06	0.00	0.05	0.67	0.05
V33051.A0-V33051	465	84	8	0.010	0.78	0.00	0.06	0.00	0.07	0.01	0.09	0.67	0.09
V33051-V33052	463	225	8	0.010	0.77	0.01	0.07	0.01	0.08	0.02	0.10	0.67	0.10
V33052-V33053	462	175	8	0.010	0.80	0.01	0.08	0.01	0.09	0.02	0.11	0.67	0.11
V33053-V33054	118	130	8	0.010	0.80	0.01	0.09	0.02	0.10	0.02	0.12	0.67	0.13
V33054-V33055	119	41	8	0.011	0.83	0.01	0.08	0.02	0.09	0.02	0.11	0.67	0.12
V33055-V33056	448	99	8	0.032	1.41	0.02	0.28	0.02	0.34	0.03	0.31	0.67	0.37
V33056-V33057	116	35	12	0.002	1.10	0.10	0.23	0.19	0.29	0.14	0.26	1.00	0.31
V33057-V33080	460	173	12	0.012	2.57	0.10	0.18	0.19	0.24	0.14	0.22	1.00	0.27
V33059-V33060	489	24	8	0.017	1.03	0.00	0.00	0.00	0.01	0.00	0.00	0.67	0.01
V33060-V33061	490	82	8	0.027	1.28	0.00	0.00	0.00	0.01	0.00	0.03	0.67	0.03
V33061-V33063	491	209	8	0.069	2.05	0.00	0.00	0.00	0.03	0.01	0.06	0.67	0.06
V33062-V33063	514	160	8	0.020	1.09	0.00	0.00	0.00	0.02	0.00	0.04	0.67	0.04
V33063-V33064	492	55	8	0.032	1.39	0.00	0.02	0.01	0.05	0.01	0.07	0.67	0.07
V33064-V33080.B0	494	63	8	0.031	1.38	0.00	0.06	0.01	0.09	0.01	0.10	0.67	0.11
V33065.A0-V33065.B0	496	208	8	0.010	0.77	0.00	0.05	0.00	0.05	0.00	0.00	0.67	0.02
V33065.B0-V33065	497	80	8	0.024	1.21	0.00	0.05	0.01	0.06	0.00	0.03	0.67	0.05
V33065.C0-V33065.D0	207	29	8	0.578	5.94	0.00	0.02	0.00	0.02	0.00	0.00	0.67	0.01
V33065.D0-V33065	495	64	8	0.025	1.22	0.00	0.05	0.00	0.05	0.00	0.03	0.67	0.04
V33065-V33066	498	74	8	0.020	1.12	0.01	0.06	0.01	0.06	0.01	0.05	0.67	0.06
V33066-V33067	7588	126	8	0.029	1.33	0.01	0.06	0.01	0.07	0.01	0.05	0.67	0.07
V33067-V33068	499	106	8	0.021	1.14	0.01	0.08	0.02	0.09	0.01	0.06	0.67	0.08
V33068-V33080.A0	501	43	8	0.014	0.92	0.01	0.09	0.02	0.11	0.01	0.09	0.67	0.12
V33069.A0-V33069.B0	485	68	8	0.010	0.77	0.00	0.00	0.00	0.01	0.00	0.00	0.67	0.01
V33069.B0-V33069.C0	486	80	8	0.012	0.86	0.00	0.00	0.00	0.03	0.00	0.00	0.67	0.03
V33069.C0-V33069.E0	487	244	8	0.011	0.81	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.05
V33069.D0-V33069.E0	484	94	8	0.010	0.77	0.00	0.02	0.00	0.03	0.00	0.03	0.67	0.03
V33069.E0-V33069.F0	197	344	8	0.031	1.37	0.00	0.04	0.01	0.06	0.01	0.07	0.67	0.08
V33069.F0-V33069.G0	198	21	8	0.030	1.35	0.00	0.04	0.01	0.07	0.02	0.09	0.67	0.10
V33069.G0-V33069	204	97	8	0.023	1.19	0.00	0.05	0.01	0.08	0.03	0.11	0.67	0.12
V33069.H0-V33069.I0	200	22	8	0.018	1.05	0.00	0.00	0.00	0.01	0.00	0.00	0.67	0.01
V33069.I0-V33069.J0	201	38	8	0.023	1.19	0.00	0.00	0.00	0.01	0.00	0.00	0.67	0.01
V33069.J0-V33069	202	69	8	0.034	1.44	0.00	0.03	0.00	0.05	0.00	0.06	0.67	0.07
V33069-V33080.A0	502	274	8	0.017	1.01	0.01	0.08	0.02	0.11	0.03	0.12	0.67	0.14
V33070.A0-V33070	468	132	8	0.017	1.00	0.00	0.00	0.00	0.02	0.00	0.00	0.67	0.02
V33070-V33072	469	165	8	0.011	0.83	0.00	0.04	0.00	0.07	0.00	0.05	0.67	0.07
V33071.A0-V33071	475	68	8	0.010	0.79	0.01	0.64	0.01	0.64	0.01	0.65	0.67	0.65
V33071-V33072.B0	474	118	8	0.007	0.65	0.01	0.53	0.01	0.53	0.01	0.54	0.67	0.54
V33072.A0-V33072.B0	473	183	8	0.010	0.80	0.00	0.53	0.00	0.53	0.00	0.54	0.67	0.54
V33072.B0-V33072	472	166	8	0.021	1.14	0.01	0.08	0.01	0.09	0.02	0.09	0.67	0.10
V33072-V33073	470	167	8	0.010	0.78	0.01	0.09	0.02	0.10	0.01	0.09	0.67	0.11
V33073-V33074.B0	451	60	8	0.013	0.90	0.01	0.09	0.02	0.11	0.01	0.11	0.67	0.12
V33074.A0-V33074.B0	450	212	6	0.010	0.37	0.00	0.10	0.00	0.11	0.01	0.13	0.50	0.13
V33074.B0-V33074	452	86	8	0.013	0.88	0.02	0.10	0.02	0.12	0.03	0.13	0.67	0.14
V33074-V33079.B0	455	81	8	0.010	0.77	0.02	0.10	0.03	0.13	0.03	0.13	0.67	0.15
V33075.A0-V33075	476	84	8	0.011	0.82	0.00	0.00	0.00	0.01	0.00	0.01	0.67	0.02
V33075-V33076	477	240	8	0.010	0.78	0.00	0.04	0.00	0.05	0.00	0.05	0.67	0.06
V33076-V33077	479	352	8	0.010	0.79	0.01	0.09	0.01	0.10	0.01	0.09	0.67	0.10
V33077-V33078	480	198	8	0.010	0.79	0.02	0.10	0.02	0.11	0.01	0.11	0.67	0.12
V33078-V33079	481	130	8	0.012	0.86	0.02	0.11	0.02	0.13	0.03	0.14	0.67	0.16
V33079.A0-V33079.B0	458	186	6	0.016	0.46	0.00	0.07	0.00	0.09	0.00	0.09	0.50	0.10
V33079.B0-V33079.D0	456	164	8	0.010	0.78	0.02	0.11	0.03	0.13	0.03	0.14	0.67	0.16
V33079.C0-V33079.D0	482	119	8	0.012	0.84	0.00	0.08	0.00	0.09	0.00	0.09	0.67	0.10
V33079.D0-V33079	457	108	8	0.011	0.81	0.02	0.12	0.03	0.15	0.04	0.15	0.67	0.17
V33079-V33080	461	124	8	0.020	1.12	0.04	0.23	0.06	0.30	0.07	0.29	0.67	0.34
V33080.A0-V33080.B0	205	187	8	0.016	0.98	0.02	0.10	0.04	0.13	0.03	0.13	0.67	0.15
V33080.B0-V33080.H0	195	160	8	0.043	1.62	0.03	0.10	0.05	0.13	0.06	0.14	0.67	0.16
V33080.C0-V33080.D0	513	319	8	0.030	1.34	0.00	0.02	0.00	0.02	0.00	0.03	0.67	0.03
V33080.D0-V33080.E0	511	26	8	0.033	1.42	0.00	0.04	0.01	0.05	0.01	0.06	0.67	0.06
V33080.E0-V33080.H0	510	132	8	0.018	1.05	0.00	0.07	0.01	0.10	0.01	0.11	0.67	0.12
V33080.F0-V33080.G0	7590	151	8	0.024	1.22	0.00	0.01	0.00	0.04	0.00	0.00	0.67	0.04
V33080.FA-V33080.F0	7591	292	8	0.025	1.23	0.00	0.00	0.00	0.02	0.00	0.00	0.67	0.02
V33080.G0-V33080.H0	7589	106	8	0.022	1.17	0.00	0.06	0.01	0.10	0.00	0.08	0.67	0.11
V33080.H0-V33080	196	109	8	0.029	1.33	0.03	0.21	0.06	0.30	0.07	0.28	0.67	0.34
V33080-V33081	515	77	12	0.005	1.68	0.17	0.22	0.32	0.30	0.27	0.28	1.00	0.34
V33081-V33135	516	213	12	0.006	1.84	0.17	0.18	0.32	0.24	0.27	0.21	1.00	0.27
V33082-V33083	1211	324	8	0.031	1.37	0.00	0.05	0.01	0.06	0.00	0.05	0.67	0.06
V33083-V33092	1210	175	8	0.039	1.54	0.01	0.08	0.02	0.10	0.01	0.07	0.67	0.10
V33084-V33085	1209	198	8	0.027	1.29	0.00	0.02	0.00	0.03	0.00	0.02	0.67	0.02
V33084-V33093	1208	144	8	0.011	0.82	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V33085-V33086	1207	248	8	0.057	1.87	0.00	0.04	0.00	0.05	0.00	0.03	0.67	0.04
V33086-V33087	1206	349	8	0.032	1.40	0.01	0.05	0.01	0.06	0.00	0.04	0.67	0.06
V33087-V33088	1205	331	8	0.032	1.39	0.01	0.06	0.01	0.08	0.01	0.05	0.67	0.07
V33088-V33091	1204	90	8	0.032	1.39	0.01	0.07	0.02	0.09	0.01	0.06	0.67	0.09
V33089-V33090	1203	50	6	0.031	0.64	0.00	0.03	0.00	0.03	0.00	0.02	0.50	0.02
V33090-V33091	2712	201	6	0.030	0.63	0.00	0.07	0.00	0.08	0.00	0.06	0.50	0.08
V33091-V33092	2711	275	8	0.022	1.16	0.01	0.08	0.02	0.11	0.01	0.07	0.67	0.11
V33092-V33103	2655	182	8	0.033	1.43	0.02	0.12	0.05	0.17	0.02	0.11	0.67	0.17
V33093-V33095	2654	301	8	0.032	1.40	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V33094-V33095	2653	127	8	0.056	1.86	0.00	0.03	0.00	0.03	0.00	0.02	0.67	0.03
V33095-V33096	2652	128	8	0.055	1.83	0.00	0.04	0.01	0.05	0.00	0.03	0.67	0.05
V33096-V33097	2651	230	8	0.057	1.86	0.01	0.04	0.01	0.06	0.00	0.04	0.67	0.06
V33097-V33098	2650	267	8	0.049	1.73	0.01	0.06	0.02	0.08	0.01	0.05	0.67	0.08
V33098-V33099	2649	350	8	0.016	1.00	0.01	0.08	0.02	0.11	0.01	0.07	0.67	0.11
V33099-V33102	2648	351	8	0.010	0.80	0.01	0.10	0.03	0.13	0.01	0.08	0.67	0.13
V33100-V33101	2647	350	8	0.012	0.86	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
V33100-V33109	2646	276	8	0.042	1.60	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.04
V33101-V33102	2645	299	8	0.020	1.12	0.00	0.07	0.01	0.10	0.00	0.06	0.67	0.10
V33102-V33103	2644	177	8	0.014	0.94	0.02	0.13	0.04	0.18	0.01	0.11	0.67	0.17
V33103-V33105	2643	250	8	0.018	1.04	0.05	0.14	0.10	0.20	0.04	0.12	0.67	0.19
V33104-V33105	2642	109	6	0.041	0.73	0.00	0.10	0.00	0.14	0.00	0.09	0.50	0.13
V33105-V33106	2641	343	8	0.031	1.37	0.05	0.13	0.10	0.19	0.04	0.12	0.67	0.19
V33106-V33107	2640	350	8	0.028	1.31	0.05	0.14	0.11	0.20	0.04	0.12	0.67	0.19
V33107-V33108	2639	350	8	0.028	1.31	0.06	0.15	0.11	0.21	0.04	0.13	0.67	0.20
V33108-V33115	2638	334	8	0.025	1.24	0.06	0.14	0.12	0.19	0.05	0.12	0.67	0.19
V33109-V33110	2637	251	8	0.023	1.18	0.00	0.04	0.01	0.05	0.00	0.04	0.67	0.05
V33110-V33111	2636	231	8	0.069	2.05	0.01	0.05	0.01	0.06	0.00	0.04	0.67	0.05
V33111-V33114	2635	120	8	0.061	1.92	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.07
V33112-V33113	2634	205	6	0.040	0.72	0.00	0.03	0.00	0.04	0.00	0.03	0.50	0.04
V33113-V33114	2633	169	8	0.040	1.56	0.00	0.04	0.00	0.05	0.00	0.04	0.67	0.06
V33114-V33115	2632	256	8	0.060	1.92	0.01	0.09	0.02	0.12	0.01	0.08	0.67	0.12

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V33115-V33116	2631	262	8	0.089	2.32	0.07	0.12	0.15	0.17	0.06	0.11	0.67	0.17
V33116-V33117	2630	155	8	0.089	2.32	0.07	0.13	0.15	0.19	0.06	0.12	0.67	0.19
V33117-V33132	2629	155	8	0.048	1.71	0.07	0.14	0.15	0.20	0.06	0.12	0.67	0.20
V33118-V33121	2628	289	8	0.059	1.90	0.00	0.04	0.00	0.05	0.00	0.03	0.67	0.05
V33119-V33120	2627	114	8	0.011	0.80	0.00	0.04	0.00	0.04	0.00	0.03	0.67	0.03
V33120-V33121	2626	300	8	0.013	0.89	0.00	0.05	0.00	0.06	0.00	0.04	0.67	0.05
V33121-V33123	2625	339	8	0.061	1.93	0.01	0.06	0.02	0.07	0.01	0.04	0.67	0.07
V33122-V33123	2624	184	8	0.017	1.01	0.00	0.04	0.00	0.05	0.00	0.03	0.67	0.05
V33122-V33126	2623	234	8	0.013	0.90	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V33123-V33124	2622	335	8	0.060	1.91	0.01	0.08	0.03	0.10	0.01	0.06	0.67	0.10
V33124-V33128	2621	112	8	0.014	0.93	0.02	0.10	0.03	0.13	0.01	0.07	0.67	0.12
V33125-V33126	2620	308	8	0.081	2.22	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.04
V33126-V33127	2619	201	8	0.079	2.20	0.01	0.05	0.01	0.06	0.00	0.04	0.67	0.06
V33127-V33128	2618	167	8	0.035	1.46	0.01	0.08	0.02	0.11	0.01	0.06	0.67	0.10
V33128-V33129	2617	186	8	0.027	1.29	0.03	0.12	0.05	0.16	0.01	0.09	0.67	0.15
V33129-V33130	2616	279	8	0.011	0.83	0.03	0.11	0.05	0.16	0.02	0.09	0.67	0.15
V33130-V33131	2615	328	8	0.050	1.75	0.03	0.09	0.06	0.13	0.02	0.07	0.67	0.12
V33131-V33132	2614	326	8	0.055	1.83	0.03	0.11	0.06	0.16	0.02	0.09	0.67	0.16
V33132-V33133	2613	284	12	0.070	6.09	0.11	0.09	0.22	0.13	0.08	0.08	1.00	0.13
V33133-V33134	2612	339	12	0.069	6.05	0.11	0.10	0.23	0.14	0.08	0.09	1.00	0.14
V33134-V33135	507	246	12	0.036	4.39	0.11	0.12	0.23	0.17	0.08	0.12	1.00	0.18
V33135-V33143	517	139	12	0.099	7.26	0.28	0.31	0.56	0.45	0.35	0.36	1.00	0.50
V33136-V33137.A0	2611	590	12	0.011	2.39	0.56	0.38	0.98	0.53	0.77	0.46	1.00	0.62
V33137-V33140	2610	309	12	0.004	1.41	0.56	0.44	0.99	0.62	0.77	0.53	1.00	0.73
V33138-V33140	1614	6	8	0.002	0.35	0.00	0.65	0.00	0.92	0.00	0.78	0.67	1.00
V33139-V33140	1613	6	8	0.002	0.35	0.00	0.65	0.00	0.92	0.00	0.78	0.67	1.00
V33140-V33141	2609	310	12	0.004	1.42	0.56	0.44	0.99	0.62	0.77	0.53	1.00	0.74
V33141-V33142	2608	288	12	0.004	1.42	0.56	0.38	1.00	0.53	0.77	0.45	1.00	0.61
V33142-V33143	508	281	12	0.014	2.71	0.56	0.40	1.00	0.56	0.77	0.47	1.00	0.64
V33143-V33144	509	262	15	0.004	2.58	0.84	0.39	1.57	0.57	1.12	0.46	1.25	0.64
V33144-V33146	3000	349	15	0.004	2.56	0.84	0.39	1.58	0.57	1.12	0.46	1.25	0.64
V33145-V33146	2607	7	8	0.002	0.35	0.01	0.73	0.01	1.00	0.01	0.86	0.67	1.00
V33146-V33148	2606	383	15	0.004	2.55	0.84	0.40	1.58	0.57	1.12	0.47	1.25	0.65
V33147-V33148	1612	12	8	0.002	0.35	0.01	0.73	0.01	1.00	0.01	0.86	0.67	1.00
V33148-V33149	2605	451	15	0.004	2.53	0.84	0.40	1.59	0.58	1.12	0.47	1.25	0.65
V33149-V33150	2604	451	15	0.004	2.53	0.84	0.40	1.60	0.58	1.12	0.47	1.25	0.65
V33150-V33151	2603	456	15	0.004	2.54	0.84	0.40	1.61	0.58	1.12	0.47	1.25	0.66
V33151-V33152	3002	455	15	0.004	2.54	0.84	0.39	1.62	0.56	1.12	0.45	1.25	0.64
V33152-V33154	3001	341	15	0.005	2.91	0.84	0.45	1.63	0.67	1.12	0.53	1.25	0.77
V33153-V33154	2602	16	8	0.038	1.52	0.00	0.54	0.00	0.82	0.00	0.64	0.67	0.95
V33154-V33156	2601	558	15	0.002	1.84	0.84	0.44	1.64	0.66	1.12	0.52	1.25	0.76
V33155-V33156	1751	10	8	0.002	0.35	0.01	0.64	0.01	0.94	0.01	0.75	0.67	1.00
V33156-V33173	2600	350	15	0.006	3.22	0.84	0.40	1.65	0.59	1.12	0.47	1.25	0.66
V33157-V33158	3004	140	8	0.020	1.12	0.00	0.03	0.00	0.03	0.00	0.04	0.67	0.04
V33158-V33162	2599	340	8	0.020	1.10	0.00	0.06	0.00	0.07	0.01	0.07	0.67	0.08
V33159-V33160	2598	278	8	0.024	1.20	0.00	0.04	0.00	0.04	0.01	0.05	0.67	0.05
V33160-V33161	2597	352	8	0.040	1.56	0.01	0.05	0.01	0.06	0.01	0.06	0.67	0.07
V33161-V33162	2596	164	8	0.025	1.22	0.01	0.07	0.01	0.09	0.01	0.08	0.67	0.10
V33162-V33163	2595	328	8	0.020	1.11	0.02	0.09	0.02	0.11	0.02	0.10	0.67	0.12
V33163-V33164	2594	329	8	0.020	1.11	0.02	0.09	0.03	0.12	0.02	0.10	0.67	0.13
V33164-V33165	2593	320	8	0.020	1.10	0.02	0.11	0.03	0.15	0.03	0.12	0.67	0.16
V33165-V33166	2592	359	8	0.007	0.67	0.02	0.13	0.04	0.17	0.03	0.15	0.67	0.18
V33166-V33168	2591	304	8	0.010	0.78	0.03	0.13	0.05	0.16	0.03	0.13	0.67	0.16
V33167-V33168	2590	219	8	0.052	1.78	0.04	0.12	0.04	0.12	0.00	0.06	0.67	0.07
V33168-V33172	2589	214	8	0.051	1.77	0.07	0.19	0.08	0.27	0.04	0.19	0.67	0.27
V33169.A0-V33169	8062	78	8	0.055	1.84	0.00	0.07	0.00	0.12	0.06	0.15	0.67	0.18
V33169-V33171	2588	319	15	0.057	9.97	0.10	0.09	0.32	0.15	0.18	0.11	1.25	0.17
V33170-V33171	2587	72	8	0.191	3.41	0.00	0.10	0.00	0.17	0.00	0.12	0.67	0.19
V33171-V33172	2586	245	15	0.012	4.65	0.10	0.12	0.33	0.19	0.18	0.14	1.25	0.21
V33172-V33173	2585	175	15	0.011	4.45	0.17	0.29	0.42	0.44	0.21	0.34	1.25	0.49
V33173-V33174.A0	V33173-V33174.A0	64	18	0.003	3.40	1.00	0.37	2.08	0.57	1.34	0.44	1.50	0.63
V33174.A0-V33174	V33174.A0-V33174	411	18	0.002	3.38	1.00	0.38	2.08	0.57	1.34	0.44	1.50	0.64
V33174-V33175	FM08	469	18	0.003	3.41	1.00	0.36	2.09	0.78	1.34	0.41	1.50	0.82
V33175-B01128	FMB2_1	138	18	0.004	4.44	1.00	0.32	2.10	1.00	1.34	0.37	1.50	1.00
V34001-V34002	2583	354	8	0.010	0.80	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.04
V34002-V34003	2582	266	8	0.050	1.75	0.01	0.04	0.01	0.06	0.01	0.04	0.67	0.05
V34003-V34015	2581	320	8	0.066	2.01	0.01	0.09	0.02	0.15	0.01	0.10	0.67	0.11
V34004-V34006	2580	354	8	0.006	0.58	0.00	0.04	0.00	0.07	0.00	0.05	0.67	0.05
V34005-V34006	2579	144	8	0.045	1.66	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.05
V34006-V34009	2578	289	8	0.013	0.89	0.00	0.06	0.01	0.09	0.01	0.06	0.67	0.07
V34007-V34008	2577	304	8	0.020	1.10	0.00	0.04	0.01	0.06	0.00	0.03	0.67	0.03
V34008-V34009	2576	278	8	0.020	1.12	0.01	0.06	0.01	0.08	0.00	0.05	0.67	0.06
V34009-V34010	2575	178	8	0.040	1.55	0.01	0.06	0.03	0.09	0.01	0.06	0.67	0.07
V34010-V34015	2574	233	8	0.062	1.95	0.01	0.10	0.03	0.16	0.01	0.11	0.67	0.12
V34011-V34012	3007	67	8	0.026	1.26	0.00	0.03	0.00	0.06	0.00	0.05	0.67	0.05
V34012-V34013	2573	292	8	0.010	0.80	0.00	0.04	0.01	0.08	0.00	0.06	0.67	0.06
V34013-V34014	2572	224	8	0.010	0.79	0.00	0.05	0.01	0.10	0.01	0.07	0.67	0.07
V34014-V34015.B0	8325	114	8	0.006	0.59	0.00	0.06	0.02	0.11	0.01	0.07	0.67	0.08
V34015.A0-V34015.B0	8001	134	6	0.014	0.43	0.00	0.04	0.00	0.07	0.00	0.05	0.50	0.05
V34015.B0-V34015	2571	209	8	0.007	0.64	0.00	0.10	0.02	0.17	0.01	0.11	0.67	0.13
V34015-V34018	2570	279	8	0.006	0.59	0.03	0.15	0.07	0.24	0.03	0.16	0.67	0.18
V34016-V34017	2569	175	8	0.040	1.56	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.03
V34017-V34018	2568	349	8	0.053	1.80	0.00	0.10	0.01	0.15	0.00	0.10	0.67	0.11
V34018-V34020	2567	255	8	0.006	0.59	0.03	0.16	0.08	0.25	0.04	0.17	0.67	0.19
V34019-V34020	2566	288	8	0.054	1.81	0.00	0.10	0.01	0.15	0.00	0.10	0.67	0.12
V34020-V34028	2565	257	8	0.008	0.71	0.04	0.17	0.10	0.27	0.04	0.19	0.67	0.21
V34021-V34028	2564	259	8	0.058	1.87	0.00	0.11	0.01	0.17	0.01	0.12	0.67	0.13
V34022-V34023	3298	100	8	0.011	0.81	0.00	0.02	0.00	0.05	0.00	0.02	0.67	0.02
V34023-V34019	2563	289	8	0.045	1.65	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.03
V34023-V34024	2562	256	8	0.010	0.79	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.03
V34024-V34021	2561	260	8	0.051	1.76	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.04
V34024-V34025	2560	259	8	0.010	0.79	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.03
V34025-V34026	2559	229	8	0.040	1.56	0.00	0.04	0.01	0.06	0.00	0.04	0.67	0.04
V34026-V34027	2558	234	8	0.040	1.56	0.01	0.05	0.01	0.07	0.01	0.05	0.67	0.06
V34027-V34028	2557	248	8	0.028	1.30	0.01	0.12	0.02	0.18	0.01	0.13	0.67	0.14
V34028-V34029	2556	263	8	0.008	0.71	0.05	0.18	0.13	0.28	0.06	0.19	0.67	0.22
V34029-V34035	2555	174	8	0.011	0.83	0.05	0.17	0.13	0.27	0.06	0.19	0.67	0.21
V34030-V34031	2554	260	8	0.010	0.79	0.00	0.05	0.00	0.07	0.00	0.05	0.67	0.05
V34031-V34032	2553	261	8	0.010	0.79	0.00	0.06	0.01	0.09	0.00	0.06	0.67	0.06
V34032-V34033	2552	260	8	0.010	0.79	0.01	0.06	0.01	0.09	0.01	0.06	0.67	0.06
V34033-V34034	2551	270	8	0.005	0.55	0.00	0.06	0.01	0.08	0.00	0.06	0.67	0.06
V34033-V34052	2550	251	8	0.010	0.79	0.01	0.07	0.01	0.09	0.00	0.06	0.67	0.07
V34034-V34035	2549	319	8	0.012	0.84	0.01	0.12	0.01	0.18	0.01	0.12	0.67	0.14
V34035-V34036	2548	332	8	0.012	0.84	0.06	0.18	0.14	0.28	0.07	0.19	0.67	0.22
V34036-V34037	2546	348	8	0.012	0.84	0.06	0.17	0.14	0.27	0.07	0.18	0.67	0.21
V34037-V34060	2545	111	8	0.019	1.07	0.06	0.19	0.15	0.29	0.07	0.21	0.67	0.26
V34038-V34039	2544	213	8	0.020	1.10	0.00	0.01	0.00	0.02	0.00	0.02	0.67	0.03

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V34039-V34040	2543	303	8	0.017	1.02	0.00	0.04	0.00	0.07	0.00	0.05	0.67	0.06
V34040-V34042	2542	234	8	0.008	0.71	0.00	0.05	0.01	0.07	0.01	0.08	0.67	0.08
V34041-V34042	2541	51	8	0.019	1.08	0.00	0.02	0.00	0.03	0.01	0.08	0.67	0.08
V34042-V34043	2540	354	8	0.023	1.18	0.00	0.04	0.01	0.06	0.02	0.08	0.67	0.08
V34043-V34044	2539	304	8	0.054	1.81	0.00	0.04	0.01	0.05	0.02	0.07	0.67	0.08
V34044-V34047	2538	325	8	0.054	1.81	0.00	0.04	0.01	0.06	0.02	0.09	0.67	0.10
V34045-V34047	2537	51	8	0.009	0.73	0.00	0.03	0.00	0.06	0.00	0.06	0.67	0.07
V34046.A0-V34046.B0	7297	197	8	0.074	2.12	0.00	0.00	0.00	0.01	0.01	0.06	0.67	0.06
V34046.B0-V34046.H0	V34046.B0-V34046.H0	220	8	0.062	1.94	0.00	0.01	0.00	0.03	0.03	0.08	0.67	0.08
V34046.C0-V34046.D0	V34046.C0-V34046.D0	106	8	0.010	1.03	0.00	0.00	0.00	0.01	0.00	0.00	0.67	0.01
V34046.D0-V34046.F0	V34046.D0-V34046.F0	84	8	0.010	0.78	0.00	0.02	0.00	0.04	0.00	0.00	0.67	0.02
V34046.E0-V34046.F0	V34046.E0-V34046.F0	123	8	0.010	1.02	0.00	0.05	0.01	0.06	0.00	0.00	0.67	0.01
V34046.F0-V34046.G0	V34046.F0-V34046.G0	95	8	0.011	0.80	0.00	0.05	0.01	0.07	0.00	0.03	0.67	0.05
V34046.G0-V34046.H0	V34046.G0-V34046.H0	176	8	0.008	0.69	0.00	0.04	0.01	0.05	0.01	0.07	0.67	0.08
V34046.H0-V34046	V34046.H0-V34046	64	8	0.123	2.74	0.00	0.04	0.01	0.05	0.03	0.11	0.67	0.12
V34046-V34047	2536	160	8	0.010	0.77	0.00	0.05	0.01	0.07	0.03	0.13	0.67	0.14
V34047-V34048	2535	319	8	0.054	1.81	0.01	0.05	0.02	0.08	0.05	0.11	0.67	0.13
V34048-V34050	2534	212	8	0.053	1.80	0.01	0.05	0.02	0.08	0.05	0.13	0.67	0.14
V34049-V34050	2533	49	8	0.014	0.93	0.00	0.03	0.00	0.04	0.02	0.11	0.67	0.12
V34050-V34051	2532	215	8	0.035	1.47	0.01	0.07	0.02	0.10	0.06	0.16	0.67	0.18
V34051-V34060	2531	137	8	0.011	0.83	0.01	0.15	0.02	0.22	0.06	0.22	0.67	0.26
V34052-V34053	2529	253	8	0.010	0.77	0.01	0.07	0.02	0.10	0.01	0.06	0.67	0.07
V34053-V34058	2528	252	8	0.020	1.10	0.01	0.09	0.02	0.13	0.01	0.08	0.67	0.09
V34054-V34055	2527	245	8	0.049	1.73	0.00	0.03	0.00	0.04	0.00	0.03	0.67	0.03
V34055-V34056	2526	300	8	0.050	1.75	0.00	0.04	0.01	0.06	0.00	0.03	0.67	0.04
V34056-V34057	2525	300	8	0.050	1.75	0.01	0.05	0.01	0.07	0.00	0.04	0.67	0.05
V34057-V34058	2088	280	8	0.041	1.58	0.01	0.08	0.02	0.12	0.01	0.07	0.67	0.08
V34058-V34059	2087	210	8	0.011	0.83	0.02	0.11	0.04	0.16	0.02	0.10	0.67	0.11
V34059-V34060.D0	V34059-V34060.D0	81	8	0.010	0.77	0.02	0.11	0.04	0.16	0.02	0.10	0.67	0.12
V34060.A0-V34060.B0	V34060.A0-V34060.B0	164	8	0.010	0.79	0.00	0.00	0.00	0.01	0.00	0.05	0.67	0.05
V34060.B0-V34060.C0	V34060.B0-V34060.C0	205	8	0.013	0.90	0.00	0.00	0.00	0.02	0.01	0.05	0.67	0.05
V34060.C0-V34060.D0	V34060.C0-V34060.D0	195	8	0.030	1.36	0.00	0.06	0.00	0.08	0.01	0.08	0.67	0.09
V34060.D0-V34060	V34060.D0-V34060	173	8	0.011	0.82	0.02	0.16	0.04	0.24	0.02	0.18	0.67	0.22
V34060-V34061	2085	204	10	0.010	1.43	0.09	0.17	0.21	0.25	0.13	0.20	0.83	0.24
V34061-V34063	2084	201	10	0.014	1.68	0.09	0.18	0.21	0.28	0.13	0.22	0.83	0.27
V34062.A0-V34062.B0	8023	34	8	0.039	1.53	0.01	0.06	0.01	0.06	0.01	0.07	0.67	0.07
V34062.B0-V34062.C0	8024	134	8	0.028	1.31	0.01	0.06	0.01	0.07	0.01	0.07	0.67	0.07
V34062.C0-V34062.D0	8022	263	8	0.079	2.19	0.02	0.08	0.02	0.09	0.02	0.08	0.67	0.08
V34062.D0-V34063	1750	104	8	0.011	0.82	0.02	0.18	0.02	0.25	0.02	0.20	0.67	0.24
V34063-V34065	2083	351	10	0.008	1.23	0.11	0.18	0.24	0.26	0.15	0.21	0.83	0.26
V34064-V34065	1749	115	8	0.035	1.47	0.00	0.09	0.00	0.14	0.01	0.14	0.67	0.16
V34065-V34066.D0	V34065-V34066.D0	29	10	0.027	2.31	0.11	0.17	0.24	0.26	0.16	0.21	0.83	0.25
V34066.A0-V34066.B0	V34066.A0-V34066.B0	259	8	0.010	0.79	0.00	0.02	0.00	0.03	0.00	0.00	0.67	0.01
V34066.B0-V34066.C0	V34066.B0-V34066.C0	300	8	0.010	0.78	0.00	0.03	0.00	0.05	0.00	0.03	0.67	0.04
V34066.C0-V34066.D0	V34066.C0-V34066.D0	135	8	0.053	1.80	0.00	0.14	0.01	0.21	0.01	0.17	0.67	0.21
V34066.D0-V34066	V34066.D0-V34066	241	10	0.009	1.33	0.11	0.19	0.24	0.28	0.16	0.23	0.83	0.28
V34066-V34073	2081	165	10	0.013	1.63	0.11	0.20	0.25	0.30	0.16	0.25	0.83	0.30
V34067-V34068	2080	259	8	0.044	1.64	0.00	0.02	0.00	0.02	0.01	0.05	0.67	0.05
V34068-V34069	2079	231	8	0.048	1.71	0.01	0.04	0.01	0.05	0.01	0.08	0.67	0.08
V34069-V34070	2078	241	8	0.048	1.71	0.01	0.06	0.01	0.07	0.03	0.10	0.67	0.10
V34070-V34071	2077	227	8	0.048	1.71	0.01	0.07	0.02	0.08	0.03	0.10	0.67	0.11
V34071-V34073	2076	146	8	0.026	1.26	0.01	0.18	0.02	0.25	0.03	0.24	0.67	0.27
V34073-V34079	2075	147	10	0.006	1.12	0.12	0.23	0.27	0.34	0.20	0.29	0.83	0.35
V34074-V34077	1807	166	8	0.048	1.71	0.00	0.03	0.00	0.05	0.00	0.03	0.67	0.03
V34075-V34076	1806	228	8	0.035	1.46	0.00	0.03	0.00	0.05	0.00	0.03	0.67	0.03
V34076-V34077	1805	239	8	0.026	1.27	0.00	0.04	0.01	0.06	0.00	0.03	0.67	0.04
V34077-V34078	1804	271	8	0.074	2.12	0.01	0.05	0.02	0.09	0.00	0.05	0.67	0.05
V34078-V34079	1803	234	8	0.009	0.74	0.01	0.18	0.02	0.28	0.01	0.21	0.67	0.26
V34079-V34081	1802	165	10	0.006	1.10	0.13	0.23	0.29	0.34	0.20	0.29	0.83	0.34
V34080-V34081	1801	131	8	0.023	1.18	0.00	0.15	0.00	0.23	0.00	0.19	0.67	0.22
V34081-V34082	1800	211	10	0.009	1.38	0.13	0.19	0.30	0.28	0.21	0.23	0.83	0.27
V34082-V34086	1799	239	10	0.043	2.92	0.14	0.15	0.30	0.22	0.21	0.18	0.83	0.22
V34083-V34084	1798	138	8	0.010	0.79	0.00	0.03	0.00	0.05	0.00	0.03	0.67	0.03
V34084-V34085	1797	255	8	0.102	2.50	0.00	0.03	0.01	0.05	0.00	0.03	0.67	0.03
V34085-V34086	1796	269	8	0.092	2.37	0.00	0.11	0.01	0.17	0.00	0.13	0.67	0.15
V34086-V34088	1795	246	10	0.040	2.83	0.14	0.17	0.32	0.25	0.21	0.20	0.83	0.25
V34087-V34088	1794	59	8	0.025	1.25	0.00	0.13	0.00	0.19	0.00	0.15	0.67	0.17
V34088-V34093	1793	216	10	0.022	2.10	0.14	0.16	0.33	0.25	0.21	0.20	0.83	0.24
V34089-V34090	1792	171	8	0.082	2.24	0.00	0.02	0.00	0.04	0.00	0.02	0.67	0.02
V34090-V34091	1791	251	8	0.116	2.67	0.00	0.03	0.01	0.05	0.00	0.02	0.67	0.03
V34091-V34092	1790	279	8	0.112	2.61	0.01	0.04	0.01	0.06	0.00	0.03	0.67	0.03
V34092-V34093	1789	281	8	0.092	2.37	0.01	0.11	0.02	0.16	0.00	0.12	0.67	0.15
V34093-V34104	1788	175	10	0.060	3.46	0.15	0.21	0.35	0.31	0.22	0.24	0.83	0.29
V34094-V34095	1787	273	8	0.071	2.07	0.01	0.04	0.01	0.05	0.00	0.02	0.67	0.03
V34095-V34096	1786	300	8	0.070	2.07	0.01	0.05	0.01	0.06	0.01	0.04	0.67	0.04
V34096-V34097	2524	191	8	0.052	1.78	0.01	0.06	0.01	0.06	0.01	0.04	0.67	0.05
V34097-V34098	2523	185	8	0.053	1.80	0.01	0.06	0.02	0.07	0.01	0.04	0.67	0.05
V34098-V34099	2522	184	8	0.054	1.82	0.01	0.06	0.02	0.07	0.01	0.04	0.67	0.05
V34099-V34100	2521	191	8	0.054	1.82	0.01	0.06	0.02	0.07	0.01	0.05	0.67	0.06
V34100-V34101	2520	273	8	0.041	1.59	0.01	0.07	0.02	0.09	0.01	0.05	0.67	0.07
V34101-V34102	2519	199	8	0.017	1.01	0.01	0.07	0.02	0.09	0.01	0.06	0.67	0.08
V34102-V34103	2518	178	8	0.042	1.59	0.01	0.06	0.02	0.07	0.01	0.04	0.67	0.06
V34103-V34104	2517	189	8	0.103	2.50	0.01	0.19	0.02	0.28	0.01	0.21	0.67	0.26
V34104-V34105.A0	20	94	10	0.007	1.18	0.17	0.21	0.37	0.31	0.22	0.24	0.83	0.30
V34105.A0-V34105	21	350	10	0.054	3.30	0.17	0.28	0.37	0.41	0.22	0.32	0.83	0.39
V34105-V34164	2516	243	12	0.001	0.87	0.17	0.25	0.37	0.37	0.22	0.29	1.00	0.35
V34106-V34107	2515	250	12	0.005	1.62	0.17	0.22	0.37	0.33	0.23	0.25	1.00	0.31
V34107-V34108	2514	320	12	0.005	1.60	0.17	0.24	0.37	0.36	0.23	0.28	1.00	0.34
V34108-V34109	FM06	341	12	0.004	1.47	0.17	0.16	0.37	0.24	0.23	0.19	1.00	0.67
V34109-V34110	3299	31	12	0.760	20.08	0.17	0.53	0.37	0.55	0.23	0.54	1.00	1.00
V34110-V34111	FMV2_2	34	15	0.011	4.31	0.37	0.20	0.60	0.25	1.03	0.33	1.25	1.00
V34164-V34106	V34164-V34106	107	12	0.014	2.70	0.17	0.19	0.37	0.29	0.23	0.23	1.00	0.28
V35002-V35003	2512	66	8	0.061	1.93	0.00	0.00	0.00	0.03	0.02	0.06	0.67	0.06
V35003-V35005	2511	122	8	0.137	2.89	0.00	0.01	0.00	0.04	0.02	0.06	0.67	0.06
V35004-V35005	1748	7	6	0.001	0.09	0.00	0.06	0.00	0.09	0.00	0.10	0.50	0.10
V35005-V35006	2510	147	10	0.120	4.90	0.00	0.03	0.01	0.05	0.02	0.06	0.83	0.06
V35006-V35007	2509	221	10	0.020	2.02	0.00	0.04	0.01	0.07	0.02	0.08	0.83	0.08
V35007-V35008	2508	351	10	0.010	1.42	0.01	0.06	0.02	0.08	0.02	0.09	0.83	0.10
V35008-V35009	2507	296	10	0.010	1.43	0.01	0.05	0.02	0.08	0.03	0.08	0.83	0.09
V35009-V35021	2506	91	10	0.045	3.01	0.01	0.04	0.03	0.07	0.03	0.08	0.83	0.08
V35010-V35011	2505	70	8	0.008	0.70	0.00	0.00	0.00	0.01	0.04	0.16	0.67	0.16
V35011-V35012	2504	127	8	0.008	0.70	0.00	0.00	0.00	0.02	0.04	0.13	0.67	0.13
V35012-V35013	2503	267	8	0.066	2.01	0.00	0.00	0.00	0.02	0.04	0.10	0.67	0.10
V35013-V35014	2502	213	8	0.045	1.65	0.00	0.01	0.00	0.03	0.04	0.11	0.67	0.11
V35014-V35018	2501	40	8	0.026	1.26	0.00	0.03	0.00	0.06	0.04	0.13	0.67	0.13
V35015-V35016	2500	87	8	0.008	0.68	0.00	0.03	0.00	0.06	0.00	0.04	0.67	0.04
V35016-V35018	2499	163	8	0.009	0.75	0.00	0.05	0.01	0.08	0.00	0.09	0.67	0.10

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V35017-V35018	2498	217	8	0.009	0.74	0.00	0.04	0.00	0.07	0.00	0.09	0.67	0.09
V35018-V35019	2497	383	8	0.026	1.26	0.01	0.07	0.02	0.13	0.05	0.19	0.67	0.20
V35019.B0-V35019.C0	8115	121	8	0.012	0.84	0.00	0.01	0.00	0.02	0.02	0.09	0.67	0.09
V35019.B0-V35019.C0	8116	274	8	0.028	1.30	0.00	0.03	0.00	0.05	0.02	0.08	0.67	0.08
V35019.C0-V35019.D0	8114	219	8	0.047	1.69	0.00	0.04	0.01	0.06	0.02	0.09	0.67	0.10
V35019.D0-V35019	8113	218	8	0.011	0.80	0.00	0.07	0.01	0.12	0.02	0.18	0.67	0.19
V35019-V35020	2496	203	8	0.008	0.71	0.01	0.07	0.03	0.12	0.07	0.17	0.67	0.18
V35020-V35021	2191	117	8	0.219	3.65	0.01	0.05	0.04	0.08	0.08	0.11	0.67	0.11
V35021-V35022	2190	218	10	0.181	6.02	0.02	0.05	0.06	0.09	0.10	0.11	0.83	0.12
V35022-V35023	2189	301	10	0.040	2.82	0.02	0.07	0.06	0.11	0.10	0.14	0.83	0.15
V35023-V35024	2188	300	10	0.020	2.01	0.02	0.08	0.06	0.12	0.10	0.16	0.83	0.17
V35024-V35025	2187	348	10	0.017	1.86	0.02	0.07	0.06	0.12	0.10	0.15	0.83	0.17
V35025-V35040	2186	161	10	0.025	2.23	0.02	0.11	0.06	0.16	0.10	0.20	0.83	0.22
V35027-V35028	2185	282	8	0.085	2.27	0.00	0.04	0.00	0.05	0.00	0.03	0.67	0.04
V35028-V35031	2184	233	8	0.022	1.15	0.00	0.06	0.01	0.09	0.00	0.07	0.67	0.08
V35029-V35030	2183	48	8	0.008	0.68	0.00	0.03	0.00	0.06	0.00	0.05	0.67	0.05
V35030-V35031	425	302	8	0.016	0.97	0.00	0.05	0.01	0.09	0.01	0.08	0.67	0.08
V35031-V35032	424	188	8	0.010	0.78	0.01	0.06	0.02	0.09	0.01	0.08	0.67	0.09
V35032-V35033	423	362	8	0.062	1.94	0.01	0.06	0.02	0.08	0.02	0.08	0.67	0.09
V35033-V35037	422	365	8	0.045	1.66	0.02	0.10	0.03	0.12	0.03	0.13	0.67	0.14
V35034-V35035	421	141	8	0.071	2.08	0.01	0.05	0.01	0.05	0.00	0.04	0.67	0.04
V35035-V35036	420	282	8	0.075	2.13	0.01	0.06	0.01	0.06	0.01	0.06	0.67	0.06
V35036-V35037.D0	8108	102	8	0.035	1.46	0.01	0.07	0.01	0.08	0.02	0.09	0.67	0.09
V35037.A0-V35037.B0	8111	210	8	0.014	0.93	0.01	0.06	0.01	0.06	0.01	0.06	0.67	0.06
V35037.B0-V35037.C0	8112	63	8	0.172	3.24	0.01	0.04	0.01	0.04	0.01	0.05	0.67	0.05
V35037.C0-V35037.D0	8110	32	8	0.092	2.37	0.01	0.07	0.01	0.07	0.01	0.08	0.67	0.08
V35037.D0-V35037	8109	225	8	0.032	1.40	0.02	0.10	0.02	0.12	0.03	0.13	0.67	0.14
V35037-V35038	419	389	8	0.034	1.44	0.04	0.09	0.05	0.11	0.06	0.12	0.67	0.13
V35038-V35039	418	97	8	0.497	5.51	0.04	0.09	0.06	0.11	0.06	0.11	0.67	0.12
V35039-V35040	417	38	8	0.026	1.26	0.04	0.16	0.06	0.20	0.06	0.23	0.67	0.26
V35040-V35061	416	14	10	0.007	1.22	0.06	0.16	0.12	0.20	0.16	0.25	0.83	0.28
V35041-V35042	415	112	8	0.009	0.73	0.00	0.01	0.00	0.02	0.00	0.05	0.67	0.05
V35042-V35043	414	281	8	0.026	1.26	0.00	0.04	0.00	0.05	0.01	0.05	0.67	0.06
V35043-V35044	413	282	8	0.026	1.26	0.01	0.06	0.01	0.08	0.01	0.09	0.67	0.10
V35044-V35045	411	331	8	0.005	0.53	0.01	0.08	0.01	0.10	0.02	0.15	0.67	0.16
V35045-V35046	3431	207	8	0.004	0.52	0.01	0.09	0.01	0.12	0.03	0.17	0.67	0.18
V35046-V35047	3430	185	8	0.004	0.52	0.01	0.11	0.02	0.14	0.03	0.18	0.67	0.19
V35047-V35048	410	179	8	0.004	0.49	0.01	0.08	0.02	0.10	0.03	0.13	0.67	0.14
V35048-V35059	409	38	8	0.126	2.77	0.01	0.06	0.02	0.07	0.03	0.09	0.67	0.10
V35049-V35050	408	5	8	0.073	2.11	0.00	0.00	0.00	0.00	0.01	0.06	0.67	0.06
V35050-V35054	407	209	8	0.004	0.49	0.00	0.05	0.00	0.05	0.01	0.09	0.67	0.09
V35051-V35052	406	4	8	0.005	0.56	0.01	0.08	0.01	0.08	0.00	0.05	0.67	0.05
V35052-V35053	933	230	8	0.035	1.47	0.01	0.07	0.01	0.07	0.01	0.06	0.67	0.06
V35053-V35054	932	233	8	0.048	1.72	0.01	0.08	0.01	0.08	0.01	0.08	0.67	0.09
V35054-V35055	1586	346	8	0.016	1.00	0.02	0.10	0.02	0.10	0.02	0.12	0.67	0.12
V35055-V35056	1585	301	8	0.016	0.98	0.02	0.09	0.02	0.10	0.04	0.13	0.67	0.14
V35056-V35057.A0	V35056-V35057.A0	224	8	0.019	1.07	0.02	0.09	0.02	0.11	0.04	0.14	0.67	0.15
V35057.A0-V35057	V35057.A0-V35057	86	8	0.018	1.06	0.02	0.08	0.02	0.09	0.04	0.12	0.67	0.13
V35057-V35058	1583	119	8	0.114	2.64	0.02	0.11	0.03	0.12	0.04	0.15	0.67	0.16
V35058-V35059	1582	86	8	0.005	0.53	0.02	0.11	0.03	0.13	0.04	0.15	0.67	0.16
V35059-V35060	3432	280	8	0.242	3.84	0.03	0.07	0.05	0.09	0.08	0.11	0.67	0.12
V35060-V35061	3433	184	8	0.102	2.49	0.03	0.14	0.05	0.17	0.08	0.22	0.67	0.24
V35061-V35063	1581	518	10	0.016	1.81	0.10	0.15	0.16	0.19	0.25	0.24	0.83	0.27
V35062-V35063	2336	45	8	0.010	0.78	0.00	0.09	0.00	0.12	0.00	0.15	0.67	0.17
V35063-V35064	1580	350	10	0.021	2.07	0.10	0.15	0.16	0.18	0.25	0.23	0.83	0.26
V35064-V35065	1891	351	10	0.023	2.14	0.10	0.16	0.16	0.20	0.25	0.25	0.83	0.28
V35065-V35066	1890	231	10	0.011	1.51	0.10	0.17	0.16	0.22	0.25	0.28	0.83	0.31
V35066-V35067	1889	350	10	0.011	1.47	0.10	0.17	0.16	0.22	0.25	0.28	0.83	0.31
V35067-V35068	1888	331	10	0.010	1.43	0.10	0.18	0.16	0.22	0.25	0.28	0.83	0.32
V35068-V35069	1887	346	10	0.010	1.43	0.10	0.18	0.16	0.23	0.25	0.28	0.83	0.32
V35069-V35100	1886	277	10	0.010	1.43	0.10	0.18	0.16	0.23	0.25	0.27	0.83	0.31
V35070-V35071	1885	103	8	0.008	0.71	0.00	0.06	0.01	0.08	0.00	0.04	0.67	0.05
V35071-V35073	1884	260	8	0.006	0.60	0.01	0.07	0.01	0.08	0.00	0.07	0.67	0.08
V35072-V35073	1883	8	8	0.016	1.00	0.00	0.03	0.00	0.04	0.01	0.08	0.67	0.08
V35073-V35074	1882	221	8	0.015	0.95	0.01	0.06	0.01	0.08	0.01	0.09	0.67	0.09
V35074-V35075	1881	224	8	0.018	1.03	0.01	0.07	0.01	0.08	0.02	0.09	0.67	0.09
V35075-V35076	1880	298	8	0.031	1.38	0.01	0.08	0.02	0.09	0.02	0.09	0.67	0.10
V35076-V35080	1879	271	8	0.033	1.41	0.03	0.11	0.03	0.12	0.03	0.13	0.67	0.14
V35077-V35078	1578	8	8	0.033	1.41	0.01	0.05	0.01	0.05	0.00	0.01	0.67	0.01
V35078-V35079	1577	262	8	0.033	1.43	0.01	0.05	0.01	0.05	0.00	0.05	0.67	0.05
V35079-V35080	1576	303	8	0.029	1.33	0.01	0.09	0.01	0.10	0.02	0.12	0.67	0.13
V35080-V35081	1575	318	8	0.015	0.95	0.03	0.12	0.04	0.13	0.05	0.14	0.67	0.15
V35081-V35097	1574	308	8	0.039	1.53	0.04	0.12	0.05	0.13	0.05	0.14	0.67	0.15
V35082-V35083	3435	108	8	0.046	1.68	0.00	0.02	0.00	0.03	0.00	0.01	0.67	0.01
V35083-V35097	1573	349	8	0.070	2.07	0.00	0.07	0.00	0.09	0.00	0.09	0.67	0.09
V35084-V35085	1572	174	6	0.007	0.30	0.00	0.08	0.01	0.11	0.00	0.07	0.50	0.07
V35085-V35086	1571	86	6	0.007	0.31	0.01	0.09	0.01	0.13	0.00	0.08	0.50	0.08
V35086-V35087	1570	67	6	0.009	0.35	0.01	0.10	0.01	0.16	0.00	0.09	0.50	0.10
V35087-V35088	1569	370	8	0.004	0.49	0.01	0.07	0.02	0.11	0.01	0.08	0.67	0.08
V35088-V35089	1568	319	8	0.035	1.47	0.01	0.06	0.02	0.09	0.02	0.08	0.67	0.09
V35089-V35091	1567	352	8	0.040	1.56	0.01	0.08	0.03	0.11	0.03	0.11	0.67	0.12
V35090-V35091	1566	92	8	0.010	0.80	0.00	0.05	0.00	0.07	0.00	0.07	0.67	0.07
V35091-V35092	2150	208	8	0.010	0.79	0.01	0.08	0.03	0.11	0.03	0.11	0.67	0.12
V35092-V35096	2149	246	8	0.035	1.45	0.01	0.08	0.03	0.11	0.03	0.11	0.67	0.12
V35093-V35094	2148	253	6	0.013	0.41	0.01	0.10	0.01	0.11	0.01	0.08	0.50	0.09
V35094-V35095	2147	184	6	0.016	0.46	0.01	0.08	0.01	0.09	0.01	0.08	0.50	0.09
V35095-V35096	2146	73	8	0.066	2.00	0.01	0.07	0.01	0.08	0.01	0.09	0.67	0.10
V35096-V35097	2145	97	8	0.027	1.29	0.02	0.11	0.04	0.13	0.04	0.14	0.67	0.15
V35097-V35098	2144	273	8	0.070	2.07	0.07	0.13	0.09	0.15	0.10	0.15	0.67	0.17
V35098-V35099	2143	270	8	0.071	2.08	0.07	0.12	0.09	0.14	0.10	0.14	0.67	0.15
V35099-V35100	2142	257	8	0.140	2.92	0.07	0.17	0.09	0.20	0.10	0.23	0.67	0.25
V35100-V35107	2141	192	10	0.027	2.31	0.17	0.19	0.26	0.23	0.34	0.27	0.83	0.31
V35101-V35102	2140	294	8	0.054	1.81	0.00	0.05	0.01	0.07	0.00	0.05	0.67	0.05
V35102.A0-V35102.B0	8123	225	8	0.026	1.27	0.00	0.04	0.00	0.05	0.01	0.07	0.67	0.07
V35102.B0-V35102.C0	8124	229	8	0.026	1.27	0.01	0.06	0.01	0.08	0.02	0.10	0.67	0.11
V35102.C0-V35102.D0	8125	276	8	0.029	1.32	0.01	0.07	0.03	0.09	0.04	0.10	0.67	0.11
V35102.CA-V35102.CB	8121	170	8	0.065	1.99	0.00	0.02	0.00	0.04	0.00	0.03	0.67	0.03
V35102.CB-V35102.CC	8122	210	8	0.065	1.99	0.00	0.04	0.01	0.05	0.01	0.05	0.67	0.06
V35102.CC-V35102.C0	8120	240	8	0.050	1.75	0.01	0.06	0.01	0.08	0.02	0.09	0.67	0.10
V35102.D0-V35102.E0	8126	226	8	0.094	2.40	0.01	0.07	0.03	0.10	0.04	0.11	0.67	0.12
V35102.E0-V35102	8127	199	8	0.022	1.16	0.01	0.07	0.03	0.10	0.04	0.11	0.67	0.12
V35102-V35103	2139	242	8	0.071	2.08	0.02	0.07	0.04	0.10	0.04	0.11	0.67	0.12
V35103-V35104	2138	253	8	0.045	1.66	0.02	0.07	0.04	0.09	0.05	0.10	0.67	0.11
V35104-V35105	2137	84	8	0.286	4.18	0.02	0.06	0.04	0.09	0.05	0.10	0.67	0.11
V35105-V35106	2136	141	8	0.042	1.61	0.02	0.09	0.04	0.13	0.05	0.14	0.67	0.16
V35106-V35107	2135	130	8	0.010	0.78	0.02	0.18	0.04	0.22	0.05	0.26	0.67	0.29
V35107-V35108	2132	159	10	0.025	2.24	0.18	0.22	0.29	0.27	0.39	0.32	0.83	0.36

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V35108-V35109	2131	352	10	0.010	1.42	0.18	0.24	0.29	0.31	0.39	0.36	0.83	0.41
V35109-V35125	2130	350	10	0.010	1.43	0.18	0.26	0.29	0.32	0.39	0.37	0.83	0.42
V35110-V35111	1782	210	8	0.011	0.81	0.00	0.07	0.01	0.07	0.00	0.06	0.67	0.06
V35111-V35112	1781	257	8	0.011	0.81	0.01	0.09	0.01	0.09	0.01	0.07	0.67	0.08
V35112-V35114	1780	346	8	0.010	0.80	0.01	0.09	0.02	0.10	0.01	0.08	0.67	0.09
V35113-V35114	1779	71	8	0.030	1.35	0.00	0.06	0.00	0.07	0.01	0.06	0.67	0.07
V35114-V35115	1778	180	8	0.025	1.24	0.02	0.09	0.03	0.11	0.02	0.09	0.67	0.10
V35115-V35116	1777	242	8	0.022	1.15	0.02	0.08	0.03	0.09	0.02	0.07	0.67	0.08
V35116-V35117	1776	152	8	0.230	3.74	0.02	0.05	0.03	0.07	0.02	0.05	0.67	0.06
V35117-V35124	1775	288	8	0.209	3.57	0.02	0.10	0.03	0.12	0.02	0.10	0.67	0.11
V35118-V35119	1774	246	8	0.020	1.11	0.01	0.07	0.01	0.07	0.01	0.06	0.67	0.07
V35119-V35120	1773	86	8	0.010	0.79	0.01	0.07	0.01	0.08	0.01	0.07	0.67	0.07
V35120-V35121	1611	346	8	0.014	0.94	0.01	0.08	0.01	0.09	0.01	0.08	0.67	0.09
V35121-V35122	1610	76	8	0.010	0.78	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.07
V35122-V35123	1609	157	8	0.467	5.33	0.01	0.04	0.02	0.04	0.01	0.04	0.67	0.04
V35123-V35124	1607	39	8	0.215	3.62	0.01	0.09	0.02	0.11	0.01	0.09	0.67	0.10
V35124-V35125	1606	115	8	0.010	0.77	0.03	0.24	0.05	0.29	0.03	0.31	0.67	0.35
V35125-V35126	365	256	10	0.010	1.44	0.22	0.25	0.33	0.32	0.42	0.36	0.83	0.41
V35126-V35144	364	351	10	0.015	1.74	0.22	0.24	0.34	0.30	0.42	0.35	0.83	0.40
V35127-V35128	886	103	8	0.019	1.09	0.00	0.00	0.00	0.01	0.00	0.00	0.67	0.01
V35128-V35129	885	349	8	0.020	1.11	0.00	0.04	0.00	0.05	0.00	0.00	0.67	0.02
V35129-V35136	884	249	8	0.013	0.88	0.01	0.08	0.01	0.09	0.00	0.05	0.67	0.07
V35130-V35131	883	290	6	0.005	0.25	0.00	0.03	0.00	0.04	0.00	0.00	0.50	0.02
V35131-V35132	882	310	6	0.007	0.31	0.00	0.07	0.00	0.08	0.00	0.07	0.50	0.09
V35132-V35135	881	280	6	0.011	0.39	0.00	0.06	0.00	0.08	0.02	0.13	0.50	0.14
V35133-V35134	880	262	6	0.006	0.27	0.00	0.03	0.00	0.08	0.00	0.00	0.50	0.02
V35134-V35135	879	266	6	0.011	0.37	0.00	0.04	0.00	0.07	0.00	0.06	0.50	0.09
V35135-V35136	878	85	6	0.036	0.69	0.00	0.08	0.01	0.10	0.02	0.13	0.50	0.14
V35136-V35137	877	249	8	0.027	1.29	0.02	0.10	0.02	0.12	0.02	0.14	0.67	0.16
V35137-V35139	876	270	8	0.004	0.52	0.02	0.13	0.02	0.16	0.04	0.21	0.67	0.23
V35138-V35139	875	386	8	0.005	0.55	0.00	0.08	0.00	0.10	0.00	0.13	0.67	0.15
V35139-V35140	874	299	8	0.003	0.45	0.02	0.14	0.03	0.18	0.05	0.23	0.67	0.25
V35140-V35141	873	330	8	0.005	0.53	0.02	0.11	0.03	0.14	0.05	0.17	0.67	0.18
V35141-V35142	872	269	8	0.115	2.65	0.02	0.06	0.04	0.08	0.06	0.11	0.67	0.12
V35142-V35143	871	301	8	0.169	3.21	0.02	0.07	0.04	0.08	0.09	0.13	0.67	0.14
V35143-V35144	870	111	8	0.066	2.00	0.02	0.19	0.04	0.24	0.09	0.30	0.67	0.34
V35144-V35145	246	300	10	0.016	1.81	0.24	0.25	0.38	0.32	0.51	0.38	0.83	0.43
V35145-V35146	245	128	10	0.012	1.56	0.24	0.27	0.38	0.34	0.51	0.40	0.83	0.46
V35146-V35147	244	273	10	0.010	1.43	0.24	0.28	0.38	0.36	0.51	0.42	0.83	0.49
V35147-V35148	243	360	10	0.010	1.43	0.24	0.25	0.38	0.32	0.51	0.38	0.83	0.43
V35148-V35149	242	322	10	0.027	2.32	0.24	0.21	0.38	0.27	0.53	0.32	0.83	0.36
V35149-V35204	241	365	10	0.031	2.47	0.24	0.29	0.38	0.37	0.53	0.48	0.83	0.53
V35150-V35152	240	292	8	0.042	1.59	0.00	0.06	0.00	0.09	0.01	0.08	0.67	0.09
V35151.A0-V35151.B0	362	86	8	0.012	0.86	0.00	0.04	0.00	0.06	0.00	0.05	0.67	0.05
V35151.B0-V35151.C0	361	175	8	0.009	0.75	0.00	0.05	0.01	0.08	0.01	0.07	0.67	0.07
V35151.C0-V35151.D0	360	253	8	0.012	0.84	0.00	0.05	0.01	0.08	0.01	0.06	0.67	0.07
V35151.D0-V35151.E0	359	147	8	0.048	1.71	0.00	0.04	0.01	0.06	0.01	0.05	0.67	0.05
V35151.E0-V35151	166	47	8	0.100	2.47	0.01	0.05	0.02	0.07	0.01	0.06	0.67	0.07
V35151.F0-V35151	8295	5	8	0.000	0.11	0.00	0.06	0.00	0.09	0.00	0.07	0.67	0.08
V35151-V35152	363	99	8	0.017	1.02	0.01	0.07	0.02	0.11	0.01	0.10	0.67	0.11
V35152-V35153	165	104	8	0.006	0.59	0.01	0.08	0.02	0.12	0.02	0.10	0.67	0.11
V35153-V35154	164	351	8	0.037	1.50	0.01	0.06	0.03	0.09	0.02	0.07	0.67	0.08
V35154-V35155.C0	8096	24	8	0.072	2.09	0.01	0.06	0.03	0.08	0.02	0.08	0.67	0.09
V35155.A0-V35155.B0	8136	367	8	0.029	1.32	0.00	0.06	0.01	0.07	0.02	0.11	0.67	0.11
V35155.B0-V35155.C0	8137	75	8	0.005	0.56	0.01	0.07	0.01	0.09	0.02	0.11	0.67	0.12
V35155.C0-V35155	8135	318	8	0.072	2.10	0.02	0.06	0.04	0.09	0.04	0.09	0.67	0.10
V35155-V35172	1423	126	8	0.079	2.19	0.02	0.08	0.04	0.11	0.04	0.11	0.67	0.13
V35156-V35158	1422	76	6	0.010	0.36	0.00	0.02	0.00	0.03	0.01	0.10	0.50	0.10
V35157-V35158	1420	55	6	0.020	0.51	0.00	0.04	0.00	0.06	0.00	0.08	0.50	0.08
V35158-V35160	1419	193	8	0.017	1.02	0.00	0.04	0.00	0.06	0.01	0.08	0.67	0.08
V35159-V35160	1418	25	6	0.027	0.59	0.00	0.05	0.00	0.08	0.00	0.08	0.50	0.08
V35160-V35162	1417	193	8	0.017	1.02	0.00	0.05	0.01	0.07	0.01	0.08	0.67	0.08
V35161-V35162	1416	73	8	0.053	1.81	0.00	0.02	0.00	0.03	0.00	0.04	0.67	0.04
V35162-V35165	1415	168	8	0.029	1.33	0.00	0.05	0.01	0.08	0.01	0.08	0.67	0.09
V35163-V35165	1414	28	6	0.020	0.51	0.00	0.05	0.00	0.09	0.00	0.09	0.50	0.09
V35164-V35165	1413	27	6	0.020	0.51	0.00	0.05	0.00	0.09	0.00	0.09	0.50	0.09
V35165-V35167	1412	168	8	0.030	1.35	0.01	0.06	0.02	0.09	0.02	0.09	0.67	0.10
V35167-V35168	1410	68	8	0.015	0.96	0.01	0.08	0.02	0.11	0.02	0.10	0.67	0.11
V35168-V35170	1409	188	8	0.012	0.87	0.02	0.11	0.03	0.13	0.02	0.11	0.67	0.12
V35169-V35170	1406	6	6	0.057	0.86	0.00	0.10	0.00	0.12	0.01	0.11	0.50	0.11
V35170-V35171	1405	187	8	0.013	0.89	0.02	0.10	0.03	0.12	0.03	0.12	0.67	0.13
V35171-V35172	1404	131	8	0.050	1.75	0.02	0.09	0.03	0.11	0.06	0.13	0.67	0.14
V35172-V35173	1403	226	8	0.079	2.20	0.04	0.10	0.07	0.13	0.09	0.14	0.67	0.15
V35173-V35174.G0	3426	105	8	0.064	1.97	0.04	0.10	0.07	0.14	0.09	0.17	0.67	0.18
V35174.A0-V35174.B0	3353	206	8	0.013	0.88	0.00	0.05	0.01	0.06	0.01	0.09	0.67	0.09
V35174.B0-V35174.C0	3354	174	8	0.040	1.57	0.01	0.05	0.01	0.06	0.04	0.11	0.67	0.11
V35174.C0-V35174.D0	3355	145	8	0.069	2.05	0.01	0.05	0.02	0.06	0.04	0.10	0.67	0.10
V35174.D0-V35174.E0	3356	80	8	0.089	2.33	0.01	0.05	0.02	0.06	0.05	0.11	0.67	0.11
V35174.E0-V35174.F0	3357	94	8	0.051	1.77	0.01	0.07	0.02	0.09	0.05	0.18	0.67	0.19
V35174.F0-V35174.G0	3424	185	8	0.005	0.55	0.01	0.10	0.02	0.13	0.07	0.22	0.67	0.23
V35174.G0-V35174	3425	245	8	0.062	1.95	0.05	0.12	0.08	0.15	0.16	0.21	0.67	0.22
V35174-V35175	1402	350	8	0.039	1.55	0.05	0.14	0.08	0.18	0.16	0.25	0.67	0.27
V35175-V35178	1401	349	8	0.018	1.06	0.05	0.14	0.08	0.18	0.17	0.25	0.67	0.27
V35176-V35177.A0	3344	70	8	0.037	1.49	0.00	0.01	0.00	0.04	0.00	0.04	0.67	0.04
V35177.A0-V35177	3345	280	8	0.038	1.51	0.00	0.03	0.01	0.06	0.00	0.03	0.67	0.04
V35177-V35178.E0	3346	55	8	0.058	1.88	0.01	0.05	0.01	0.07	0.00	0.05	0.67	0.05
V35178.A0-V35178.B0	3348	108	8	0.013	0.88	0.00	0.03	0.00	0.05	0.01	0.09	0.67	0.09
V35178.B0-V35178.C0	3350	240	8	0.011	0.83	0.00	0.03	0.00	0.06	0.01	0.09	0.67	0.09
V35178.C0-V35178.D0	3351	153	8	0.012	0.85	0.00	0.04	0.01	0.07	0.02	0.09	0.67	0.10
V35178.D0-V35178.E0	3352	148	8	0.018	1.06	0.00	0.04	0.01	0.07	0.02	0.08	0.67	0.09
V35178.E0-V35178	3347	292	8	0.085	2.28	0.01	0.09	0.03	0.12	0.02	0.15	0.67	0.16
V35178-V35193	322	221	10	0.043	2.92	0.06	0.09	0.11	0.13	0.19	0.16	0.83	0.17
V35179-V35180	321	371	10	0.015	1.71	0.00	0.01	0.00	0.01	0.01	0.06	0.83	0.06
V35180-V35191	319	369	10	0.076	3.90	0.00	0.05	0.00	0.07	0.03	0.09	0.83	0.10
V35181-V35183	318	260	8	0.011	0.80	0.01	0.08	0.01	0.08	0.01	0.07	0.67	0.08
V35182-V35183	317	280	8	0.059	1.89	0.01	0.06	0.01	0.07	0.00	0.06	0.67	0.06
V35183-V35187	316	240	8	0.011	0.81	0.01	0.10	0.02	0.12	0.01	0.10	0.67	0.11
V35184-V35186	315	246	8	0.038	1.52	0.00	0.02	0.00	0.05	0.00	0.03	0.67	0.03
V35185-V35186	314	18	6	0.021	0.52	0.00	0.03	0.00	0.07	0.00	0.03	0.50	0.04
V35186-V35187	313	298	8	0.049	1.73	0.00	0.06	0.01	0.10	0.00	0.07	0.67	0.08
V35187-V35189	312	221	8	0.010	0.78	0.02	0.10	0.03	0.14	0.02	0.11	0.67	0.13
V35188-V35189	311	326	6	0.056	0.86	0.00	0.07	0.00	0.11	0.00	0.09	0.50	0.10
V35189-V35190	310	29	8	0.016	1.00	0.02	0.10	0.04	0.15	0.03	0.12	0.67	0.13
V35190-V35191	309	350	8	0.010	0.79	0.02	0.11	0.04	0.16	0.03	0.14	0.67	0.16
V35191-V35192	308	244	10	0.010	1.44	0.02	0.09	0.05	0.13	0.05	0.13	0.83	0.15
V35192-V35193	307	173	10	0.007	1.20	0.02	0.09	0.05	0.13	0.05	0.14	0.83	0.15
V35193-V35202.A0	8221	60	10	0.171	5.86	0.08	0.12	0.16	0.16	0.24	0.20	0.83	0.21

Appendix C-2. Table 3 - Gravity Main Model Output for Collection System with Recommended Improvements for Buildout Flows

						2015 PDWF		2015 PWWF		Buildout PDWF		Buildout PWWF	
Asset ID	Model ID	LENGTH (ft)	Diameter (in)	Slope (ft/ft)	Full Flow (mgd)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)	Maximum Flow (mgd)	Maximum d/D (in/in)
V35202.A0-V35202.B0	8245	246	10	0.014	1.69	0.09	0.15	0.16	0.21	0.24	0.26	0.83	0.29
V35202.B0-V35202.C0	8246	127	10	0.013	1.62	0.09	0.16	0.16	0.21	0.26	0.27	0.83	0.29
V35202.C0-V35202.D0	8244	224	10	0.013	1.61	0.09	0.17	0.16	0.23	0.26	0.29	0.83	0.31
V35202.D0-V35202.E0	8243	317	10	0.013	1.62	0.09	0.12	0.16	0.17	0.26	0.21	0.83	0.23
V35202.E0-V35202.F0	8242	99	10	0.297	7.72	0.09	0.12	0.16	0.16	0.26	0.21	0.83	0.23
V35202.F0-V35202.G0	8241	350	10	0.010	1.42	0.09	0.17	0.16	0.23	0.26	0.29	0.83	0.32
V35202.G0-V35202.H0	8240	248	10	0.010	1.42	0.09	0.17	0.16	0.23	0.26	0.29	0.83	0.32
V35202.H0-V35202.I0	8239	248	10	0.010	1.42	0.09	0.17	0.16	0.23	0.26	0.29	0.83	0.32
V35202.I0-V35202.J0	8238	307	10	0.013	1.62	0.09	0.14	0.16	0.18	0.26	0.24	0.83	0.26
V35202.J0-V35202.K0	8237	189	10	0.080	4.01	0.09	0.10	0.16	0.13	0.29	0.18	0.83	0.19
V35202.K0-V35202.L0	8236	150	10	0.098	4.43	0.09	0.10	0.16	0.13	0.29	0.17	0.83	0.19
V35202.L0-V35202.M0	8235	95	10	0.098	4.43	0.09	0.11	0.16	0.15	0.29	0.19	0.83	0.21
V35202.M0-V35202	1408	84	10	0.039	2.78	0.09	0.14	0.16	0.19	0.29	0.29	0.83	0.31
V35202-V35203	815	331	10	0.014	1.66	0.09	0.14	0.16	0.20	0.42	0.32	0.83	0.34
V35203-V35204	576	365	10	0.028	2.37	0.09	0.25	0.16	0.32	0.42	0.46	0.83	0.51
V35204-V35205	696	506	15	0.004	2.52	0.32	0.25	0.53	0.32	0.95	0.44	1.25	0.49
V35205-V35206	3427	315	15	0.004	2.59	0.32	0.19	0.54	0.24	0.95	0.32	1.25	0.35
V35206-V35207	575	167	15	0.087	12.30	0.32	0.19	0.54	0.24	0.95	0.32	1.25	0.36
V35207-V35208	574	498	15	0.004	2.54	0.32	0.20	0.54	0.26	0.96	0.35	1.25	0.39
V35208-V35225	3428	203	15	0.027	6.92	0.32	0.15	0.54	0.19	0.96	0.26	1.25	0.28
V35209-V35210	573	194	8	0.050	1.75	0.01	0.04	0.01	0.04	0.01	0.05	0.67	0.05
V35210-V35212	572	198	8	0.050	1.74	0.01	0.06	0.01	0.07	0.01	0.06	0.67	0.07
V35211-V35212	571	330	8	0.071	2.09	0.01	0.07	0.01	0.07	0.01	0.07	0.67	0.07
V35212-V35213	570	212	8	0.047	1.70	0.03	0.09	0.03	0.09	0.02	0.09	0.67	0.09
V35213-V35214	569	241	8	0.059	1.89	0.03	0.09	0.03	0.09	0.03	0.10	0.67	0.10
V35214-V35215	568	286	8	0.050	1.75	0.03	0.11	0.04	0.12	0.04	0.14	0.67	0.14
V35215-V35220	567	132	8	0.010	0.78	0.03	0.15	0.04	0.16	0.05	0.18	0.67	0.19
V35216-V35217	566	13	8	0.009	0.75	0.01	0.08	0.01	0.08	0.01	0.09	0.67	0.09
V35217-V35218	565	199	8	0.015	0.96	0.01	0.07	0.01	0.08	0.01	0.08	0.67	0.08
V35218-V35219	564	251	8	0.015	0.96	0.01	0.07	0.01	0.07	0.01	0.08	0.67	0.08
V35219-V35220	563	343	8	0.024	1.20	0.01	0.11	0.01	0.12	0.01	0.13	0.67	0.14
V35220-V35222	562	190	8	0.010	0.78	0.04	0.16	0.05	0.18	0.06	0.19	0.67	0.20
V35222-V35223	561	162	8	0.010	0.78	0.05	0.19	0.06	0.21	0.06	0.22	0.67	0.23
V35223-V35224	560	61	8	0.005	0.53	0.05	0.14	0.06	0.16	0.06	0.16	0.67	0.18
V35224-V35225	3429	61	8	0.354	4.65	0.05	0.18	0.06	0.23	0.07	0.29	0.67	0.32
V35225-V34110	3629	232	15	0.027	6.85	0.37	0.18	0.60	0.23	1.03	0.30	1.25	0.65
V35270-V34164	V35270-V34164	92	8	0.280	4.14	0.00	0.13	0.00	0.19	0.01	0.16	0.67	0.19
2016 CIP	8077_P00	283	12	0.008	2.09	0.75	0.44	1.31	0.62	1.05	0.53	1.00	0.83
2016 CIP	8077_P01	79	15	0.002	2.05	0.19	0.26	0.28	0.38	0.23	0.32	1.25	0.44
2016 CIP	8077_P02	217	15	0.006	3.30	0.56	0.28	1.04	0.39	0.82	0.34	1.25	0.43
2016 CIP	8077_P03	220	15	0.003	2.39	0.56	0.31	1.04	0.44	0.82	0.38	1.25	0.49
2016 CIP	8077_P04	168	15	0.007	3.40	0.56	0.27	1.04	0.38	0.82	0.33	1.25	0.43
2016 CIP	8077_P05	366	15	0.008	3.68	0.56	0.26	1.04	0.36	0.82	0.32	1.25	0.41
2016 CIP	8077_P06	234	15	0.016	5.28	0.56	0.22	1.04	0.30	0.81	0.27	1.25	0.33
2016 CIP	8077_P07	83	15	0.005	3.04	0.56	0.29	1.04	0.40	0.81	0.35	1.25	0.45
2016 CIP	8077_P08	362	15	0.003	2.42	0.53	0.31	1.00	0.43	0.73	0.36	1.25	0.47
2016 CIP	8077_P09	159	15	0.005	2.93	0.53	0.29	0.99	0.40	0.73	0.34	1.25	0.43
2016 CIP	8077_P10	91	15	0.005	3.09	0.53	0.28	0.99	0.39	0.73	0.33	1.25	0.43
2016 CIP	8077_P11	153	12	0.007	1.87	0.31	0.27	0.65	0.41	0.46	0.34	1.00	0.45
2016 CIP	8077_P12	26	12	0.011	2.43	0.31	0.24	0.65	0.35	0.46	0.29	1.00	0.39
2016 CIP	8077_P13	21	12	0.016	2.95	0.31	0.22	0.65	0.32	0.46	0.27	1.00	0.35
2016 CIP	8077_P14	263	12	0.008	2.08	0.30	0.26	0.65	0.38	0.46	0.32	1.00	0.43
2016 CIP	8077_P15	227	12	0.014	2.68	0.30	0.24	0.65	0.36	0.46	0.30	1.00	0.40
2016 CIP	8077_P16	43	12	0.011	2.45	0.30	0.24	0.65	0.35	0.46	0.29	1.00	0.39
2016 CIP	8077_P17	193	10	0.009	1.35	0.22	0.28	0.35	0.35	0.27	0.31	0.83	0.37
2016 CIP	8077_P18	418	10	0.009	1.33	0.22	0.28	0.35	0.35	0.27	0.31	0.83	0.37
2016 CIP	8077_P20	23	8	0.146	2.99	0.03	0.07	0.05	0.09	0.08	0.11	0.67	0.12
2016 CIP	8077_P21	54	8	0.221	3.67	0.00	0.03	0.00	0.04	0.00	0.06	0.67	0.06
2016 CIP	8077_P22	154	8	0.084	2.26	0.03	0.07	0.05	0.09	0.08	0.12	0.67	0.13
2016 CIP	8077_P23	31	8	0.015	0.95	0.03	0.18	0.05	0.21	0.08	0.24	0.67	0.26
2016 CIP	8077_P24	322	8	0.006	0.59	0.03	0.14	0.05	0.19	0.08	0.25	0.67	0.27

Note: 2016 CIP pipes manually added to the model based on drawings for near term CIP projects received March 2016. Asset ID unavailable for these pipes.

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Appendix C-3. Vista Carlsbad Interceptor Buildout Capacity Analysis Brief

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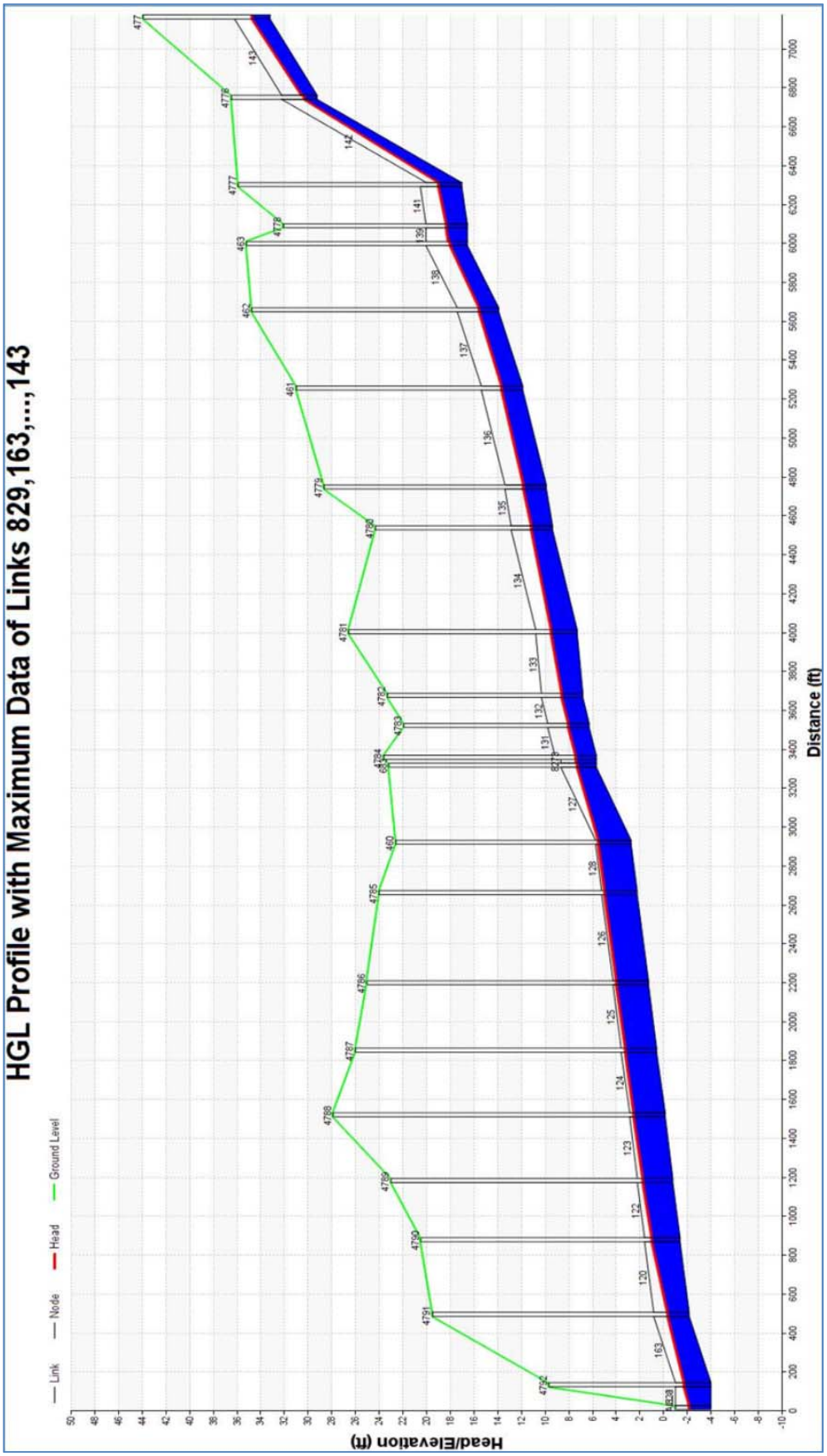
Vista Carlsbad Interceptor Buildout Capacity Analysis Brief

The model results for the Vista-Carlsbad interceptor, peak Vista wet weather buildout flows + max Oceanside transfer flows, indicate that none of the interceptor pipes included in the model surcharge. However, some of the interceptor pipes fail the Vista collection system criteria (d/D > 0.8 and q/Q > 1) shown below in the plan, HGL, and table.

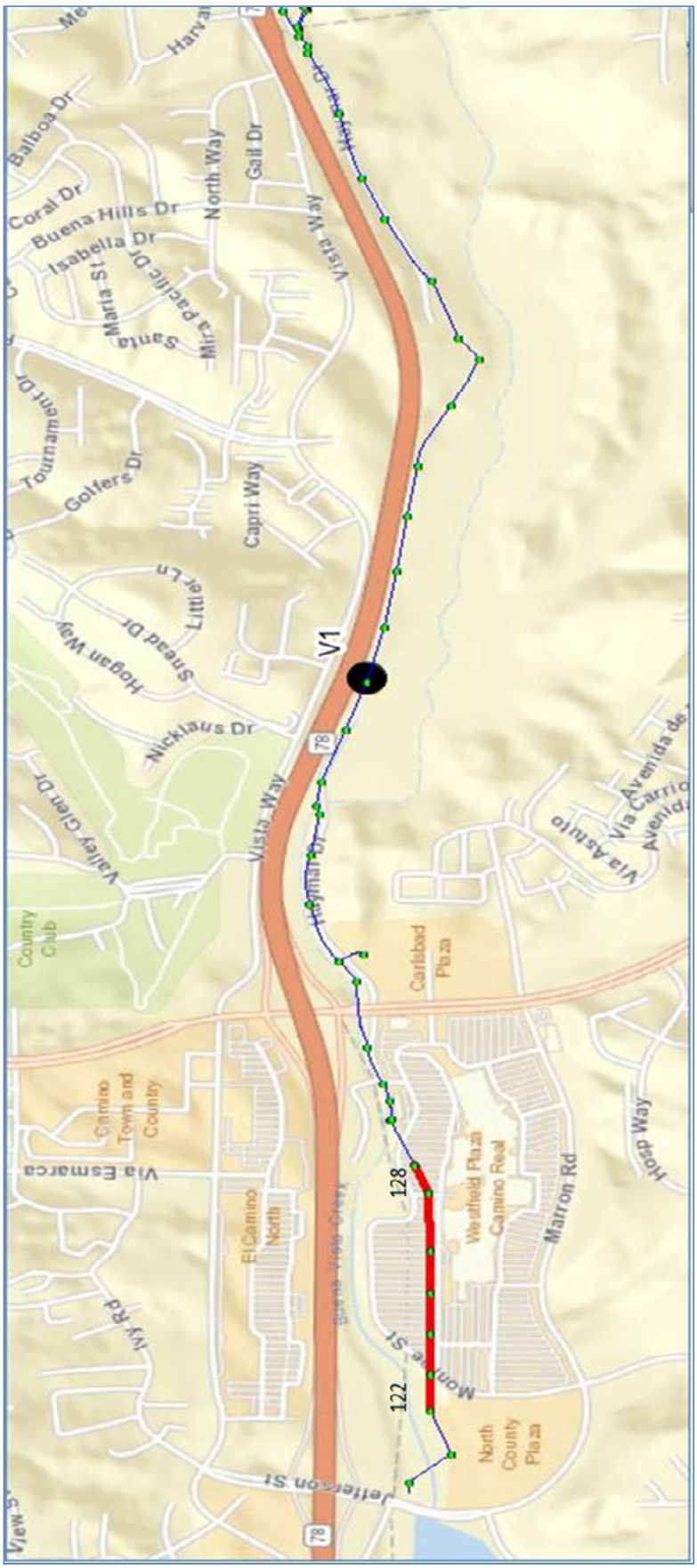
Interceptor Pipes Failing the Vista Collection System Criteria for Buildout Flows Plus Oceanside Transfer Flows

ID	d/D	q/Q
	Max Depth/Full Depth	Max Flow/Full Flow
122	0.82	1.09
123	0.87	1.13
124	0.89	1.05
125	0.9	1.11
126	0.91	1.09
128	0.92	1.09

Interceptor Profile for Peak Wet Weather Buildout Flows Plus 2.15 mgd Oceanside Transfer Flows



Interceptor Pipes Failing the Vista Collection System Criteria for Buildout Flows Plus Oceanside Transfer Flows



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Appendix C-4. Recommended Improvement – Hydraulic Profile

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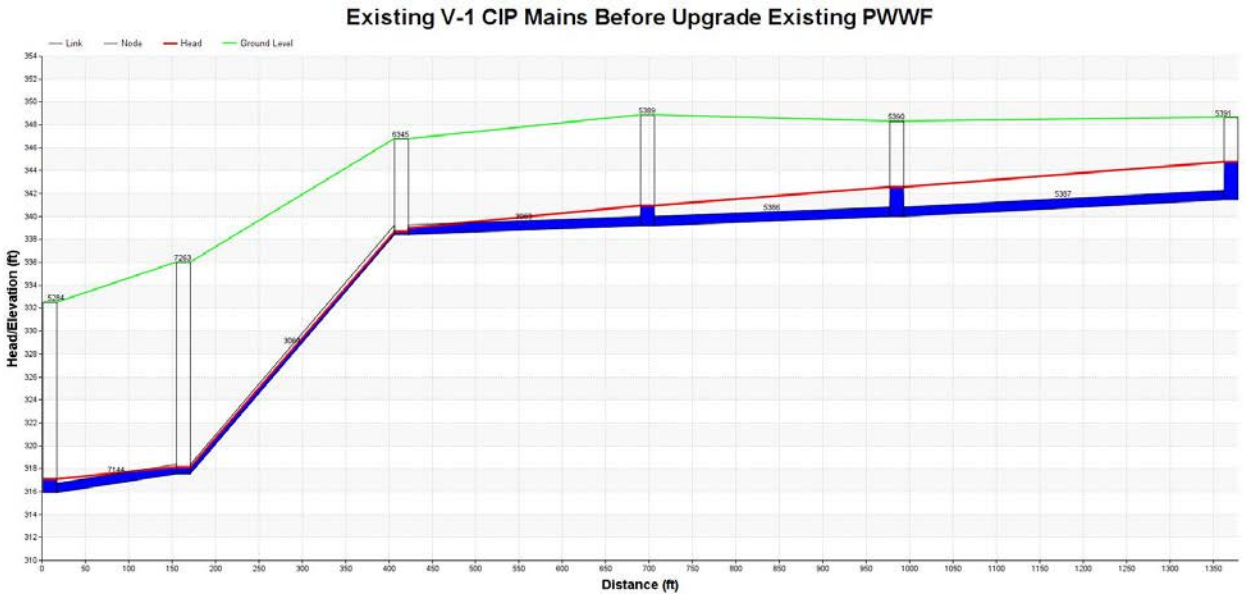
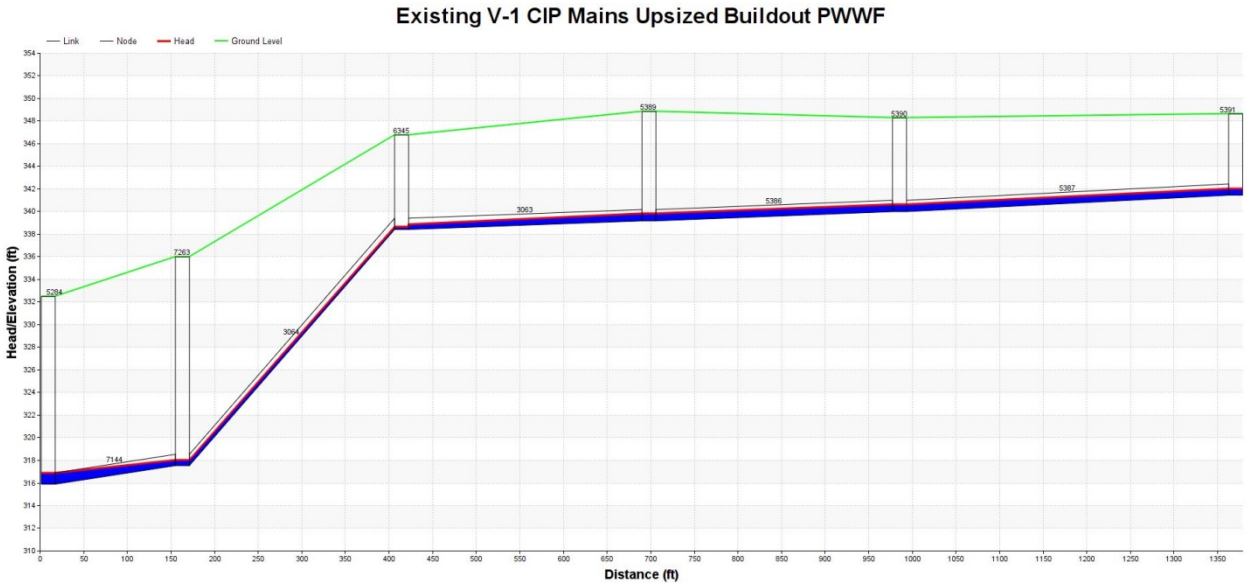
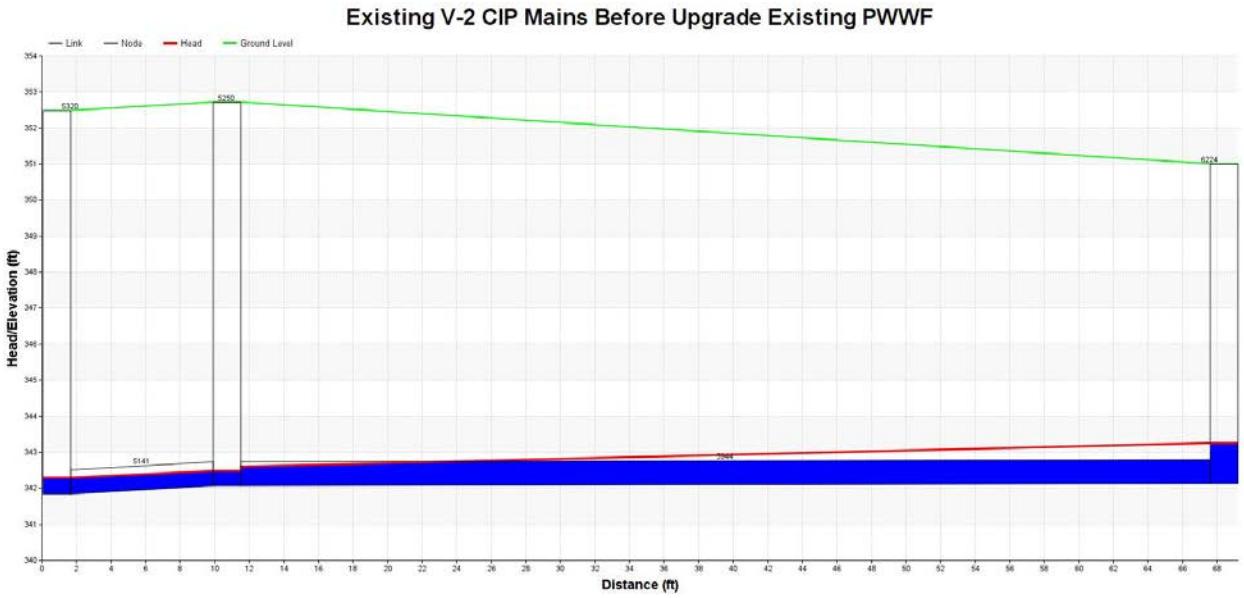
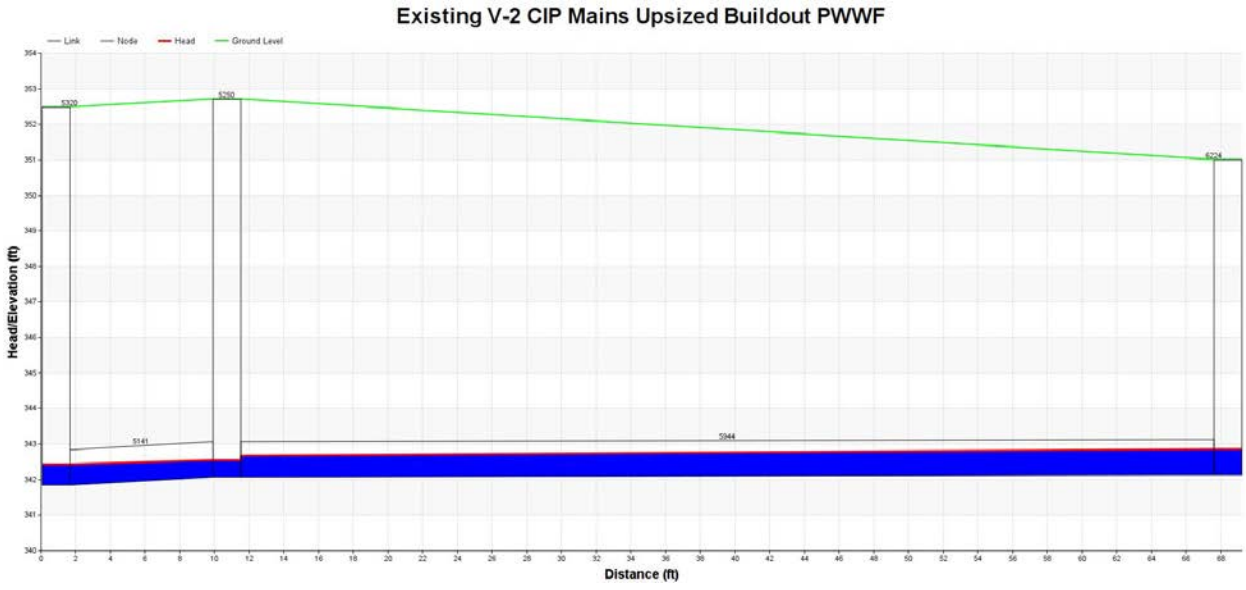

Existing V-1 CIP Mains Before Upgrade Existing PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
5284
7263
6345
5389
5390
5391
7144
3063
5386
5387

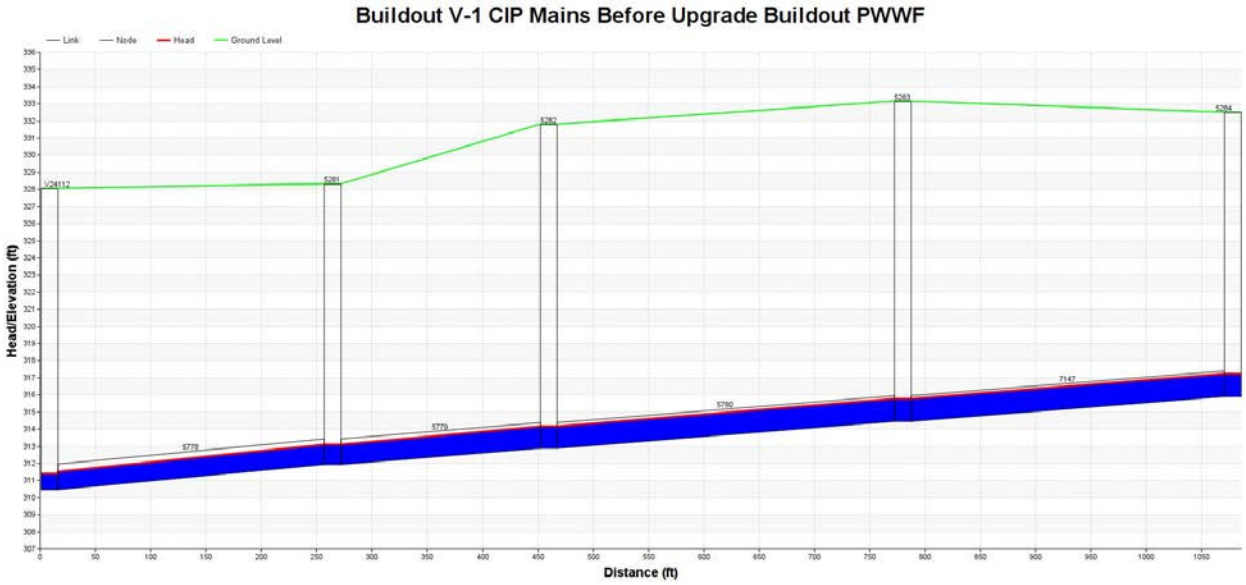

Existing V-1 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
5284
7263
6345
5389
5390
5391
7144
3063
5386
5387

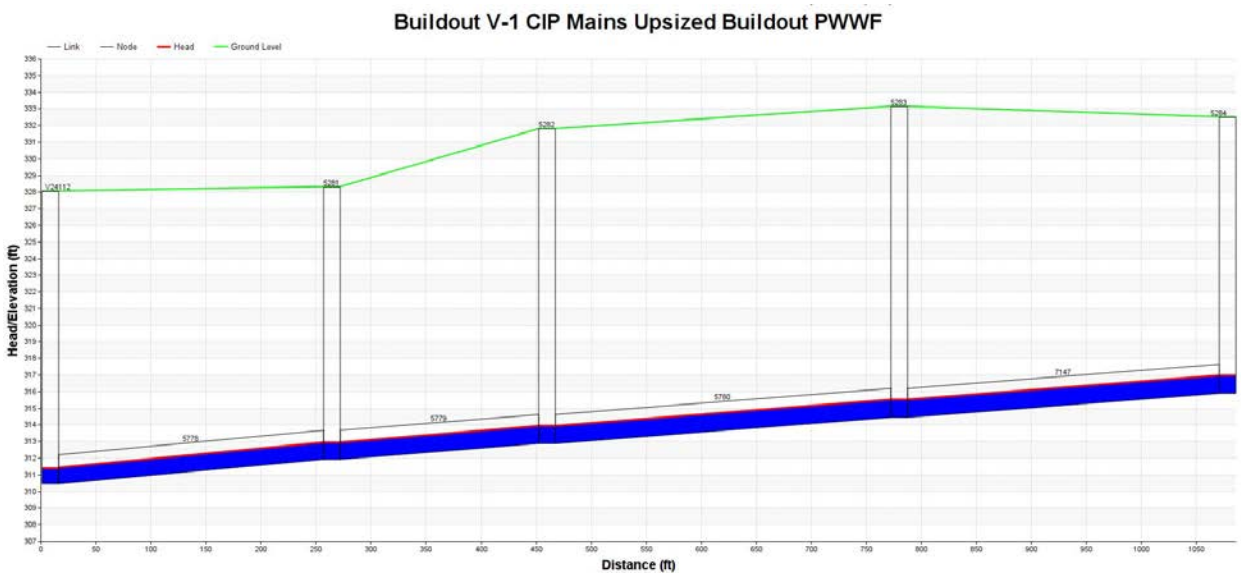
VISTA EX 2


Existing V-2 CIP Mains Before Upgrade Existing PWWF
Link
Node
Head
Ground Level
5320
5250
6224
5141
5944
Head/Elevation (ft)
Distance (ft)

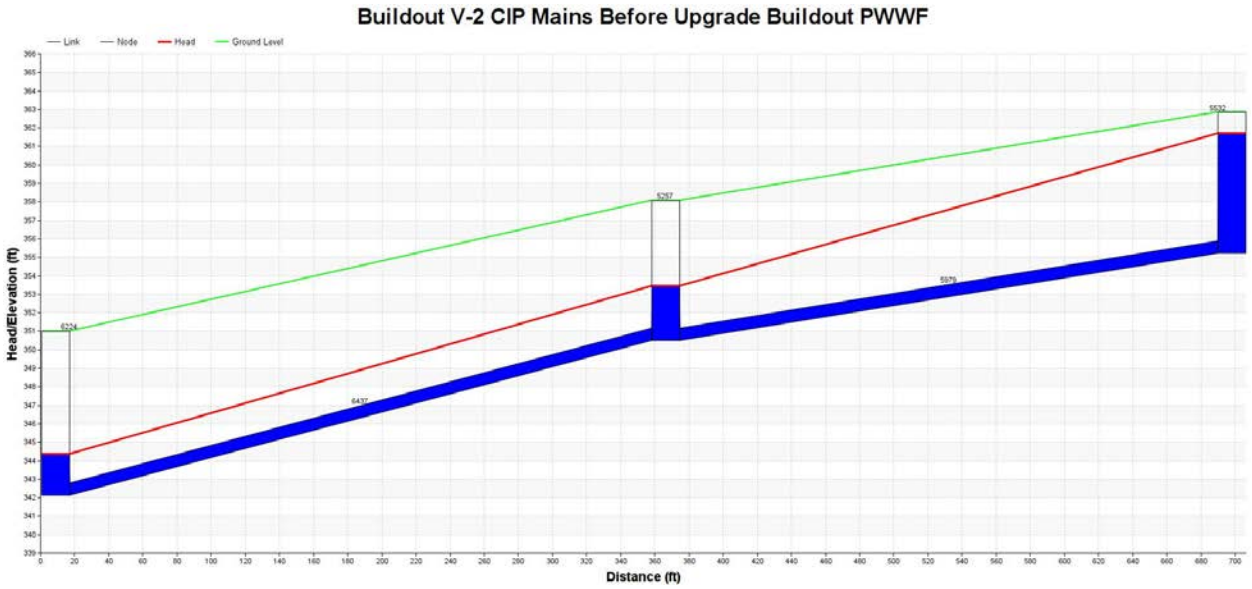

Existing V-2 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
5320
5250
6224
5141
5944
Head/Elevation (ft)
Distance (ft)

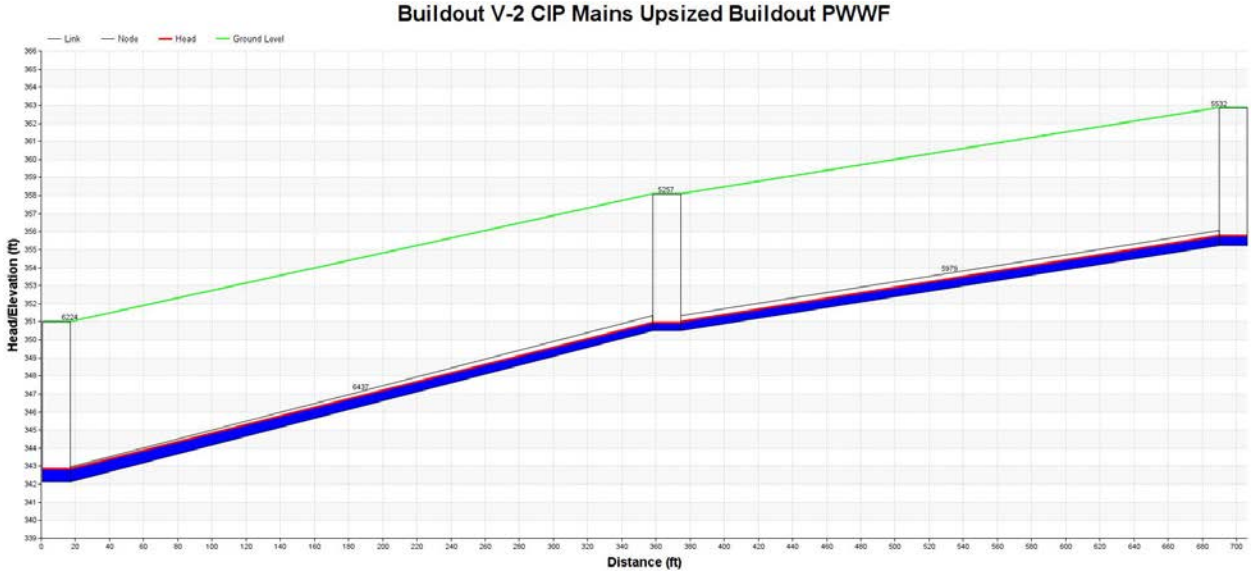
VISTA BO 1


Buildout V-1 CIP Mains Before Upgrade Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
V24112
5281
5282
5283
5284
5778
5779
5780
7147

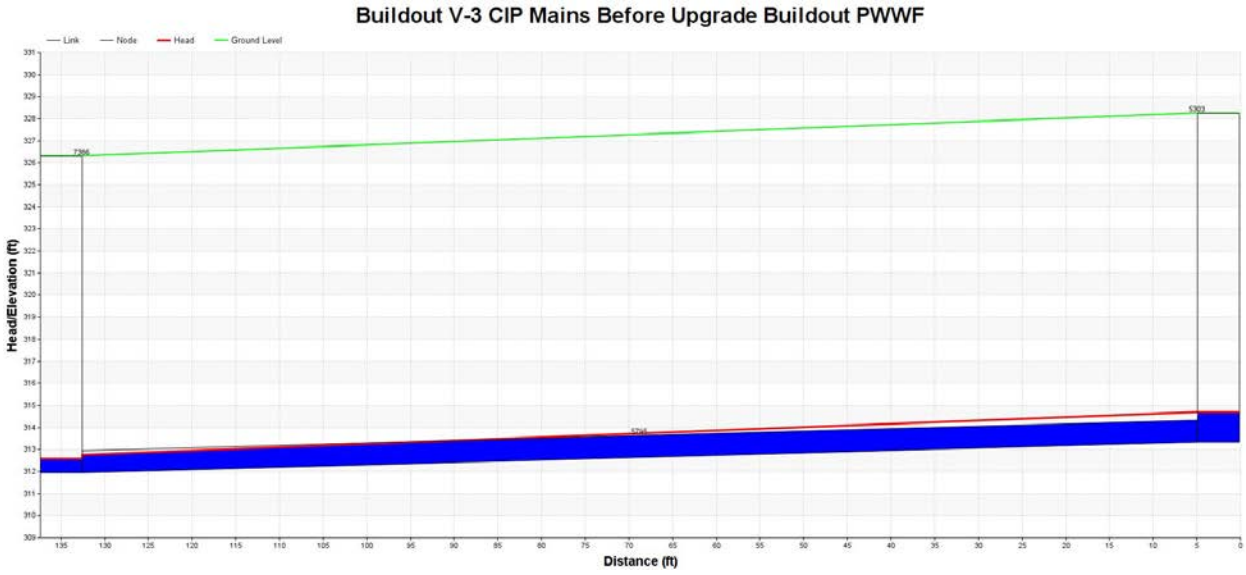

Buildout V-1 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
V24112
5281
5282
5283
5284
5778
5779
5780
7147

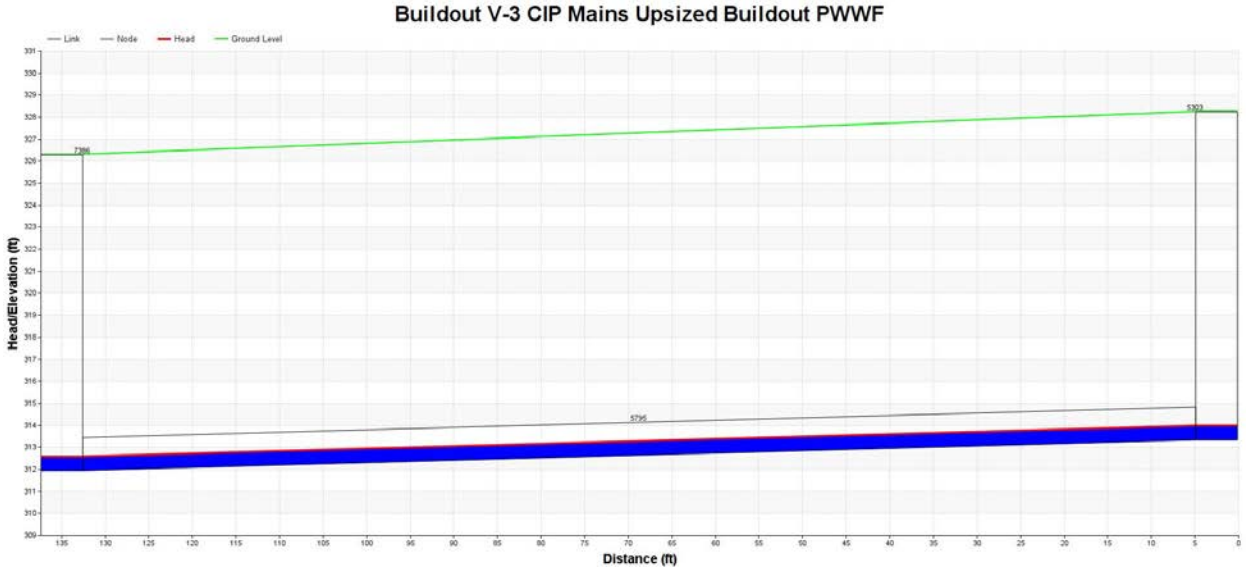
VISTA BO 2


Buildout V-2 CIP Mains Before Upgrade Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
6224
6437
5257
5979
5532

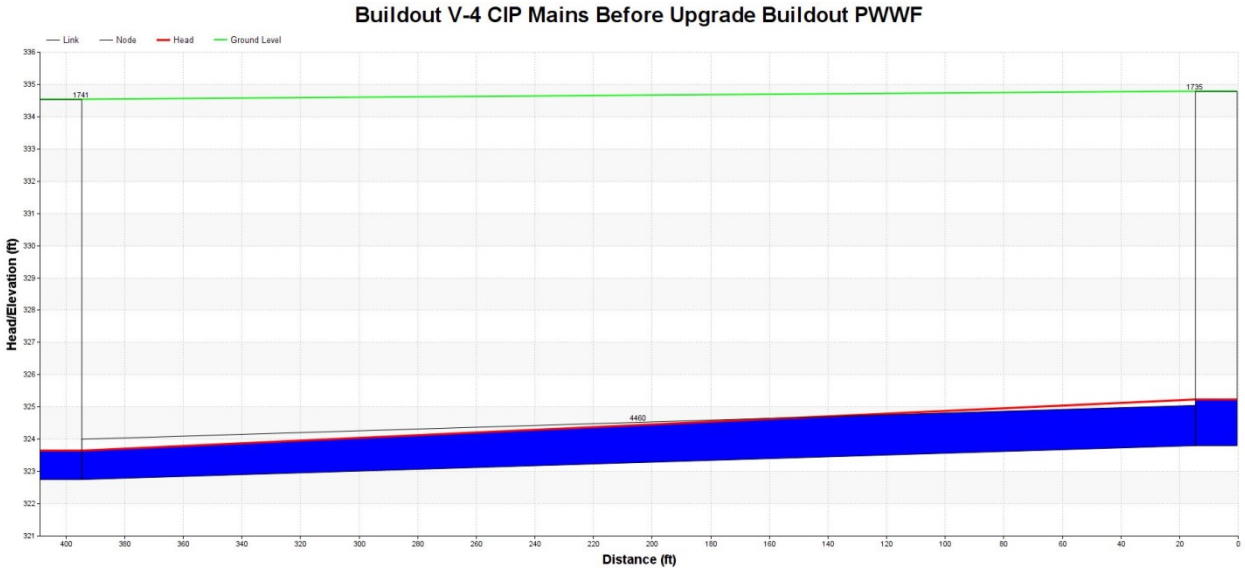

Buildout V-2 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
6224
6437
5257
5979
5532

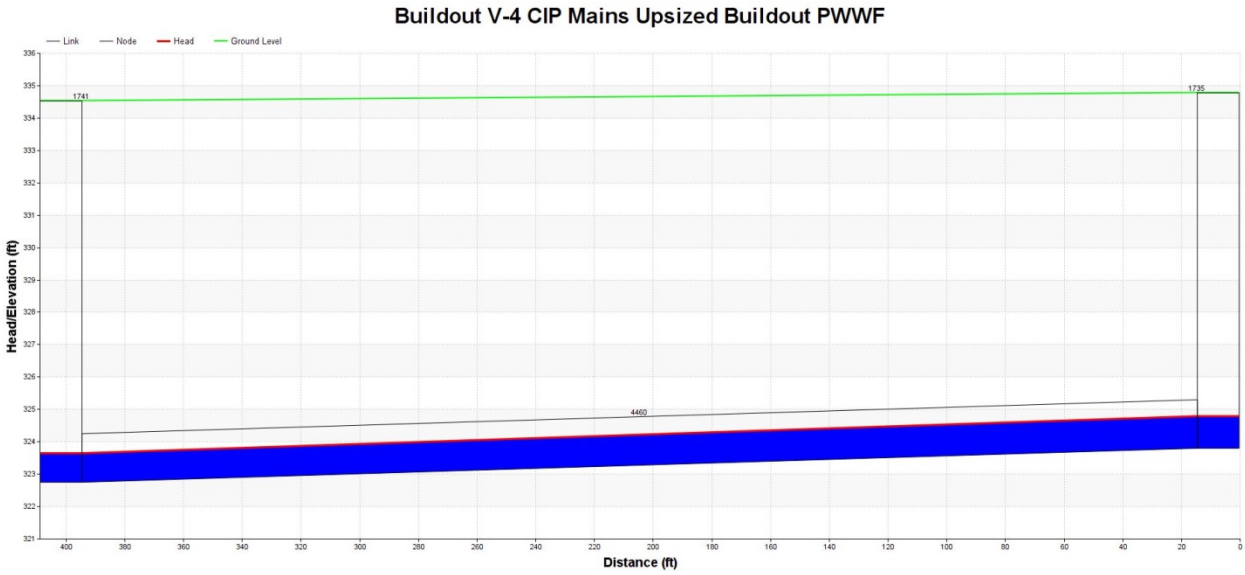
VISTA BO 3


Buildout V-3 CIP Mains Before Upgrade Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
7386
5303
5795

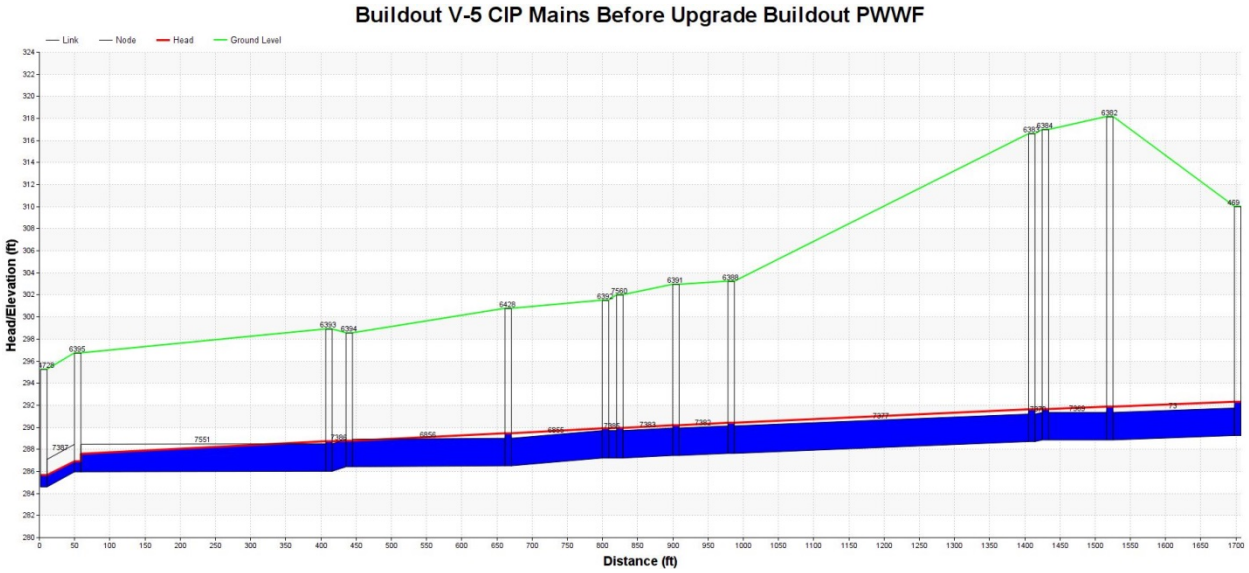

Buildout V-3 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
7386
5303
5795

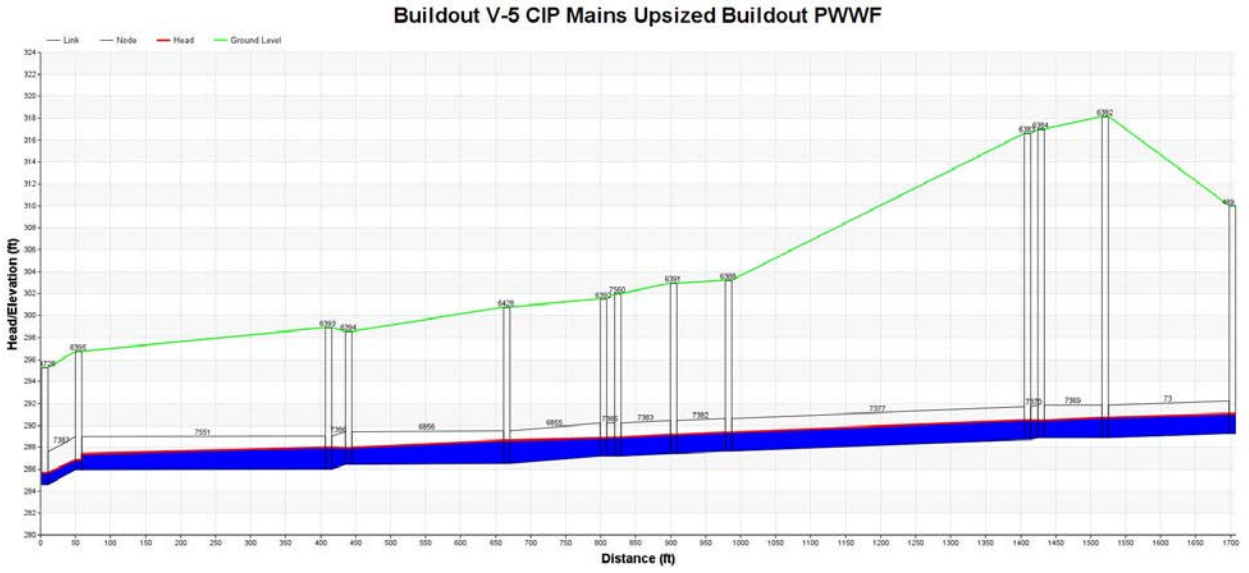
VISTA BO 4


Buildout V-4 CIP Mains Before Upgrade Buildout PWWF
Link
Node
Head
Ground Level
1741
1735
4460
Head/Elevation (ft)
Distance (ft)

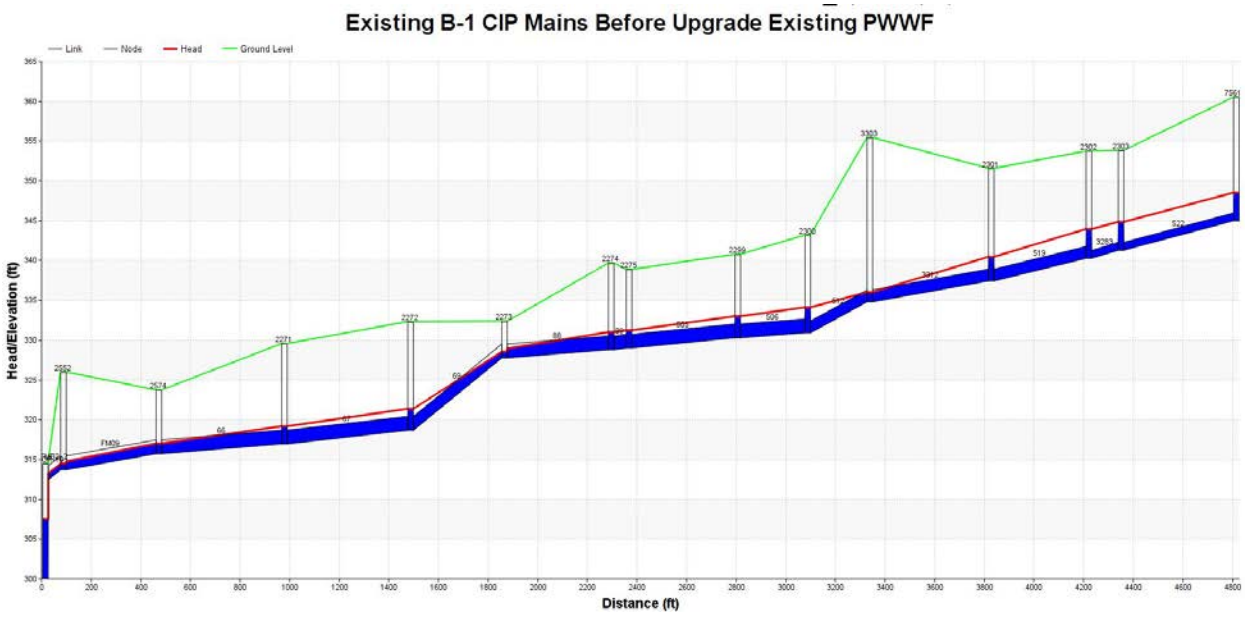

Buildout V-4 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
1741
1735
4460
Head/Elevation (ft)
Distance (ft)

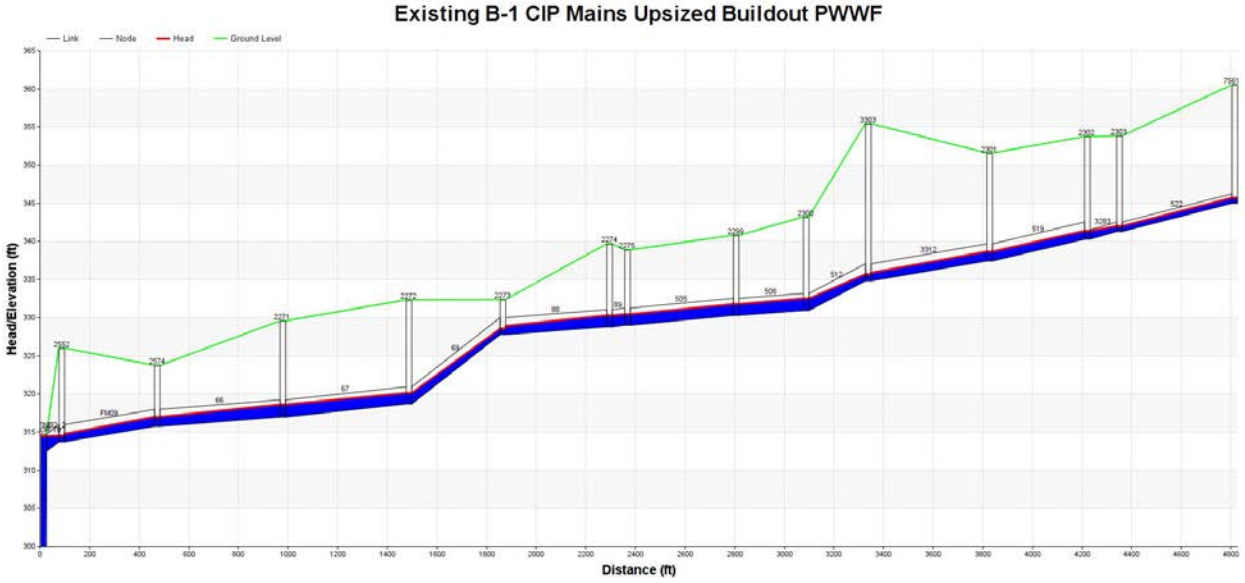
VISTA BO 5


Buildout V-5 CIP Mains Before Upgrade Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)

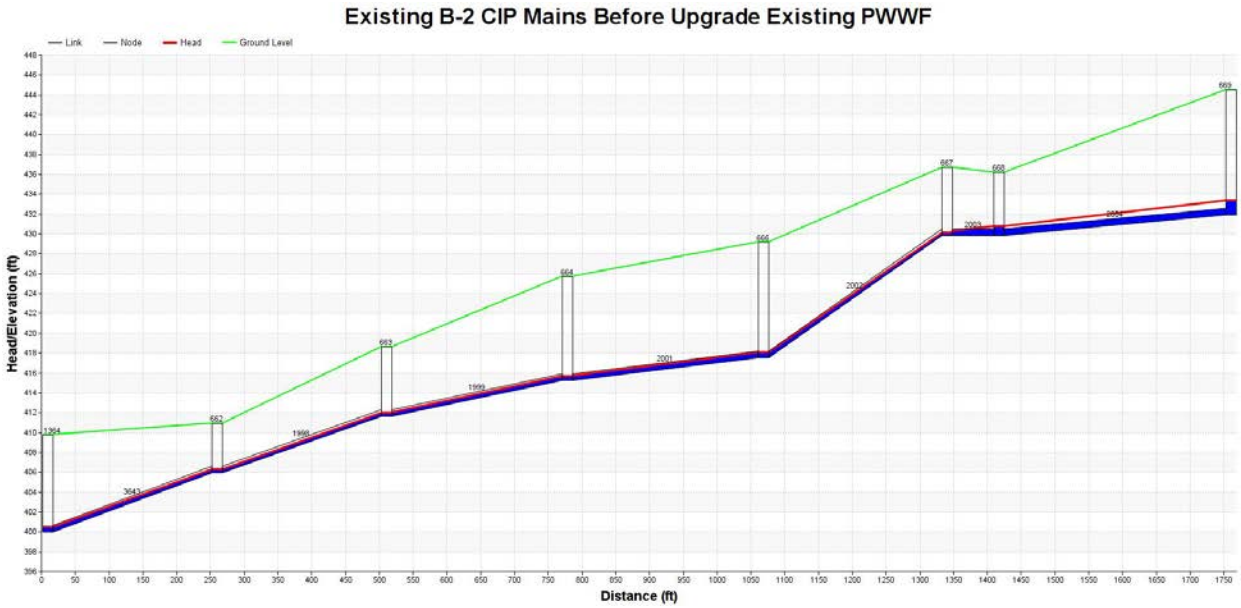

Buildout V-5 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)

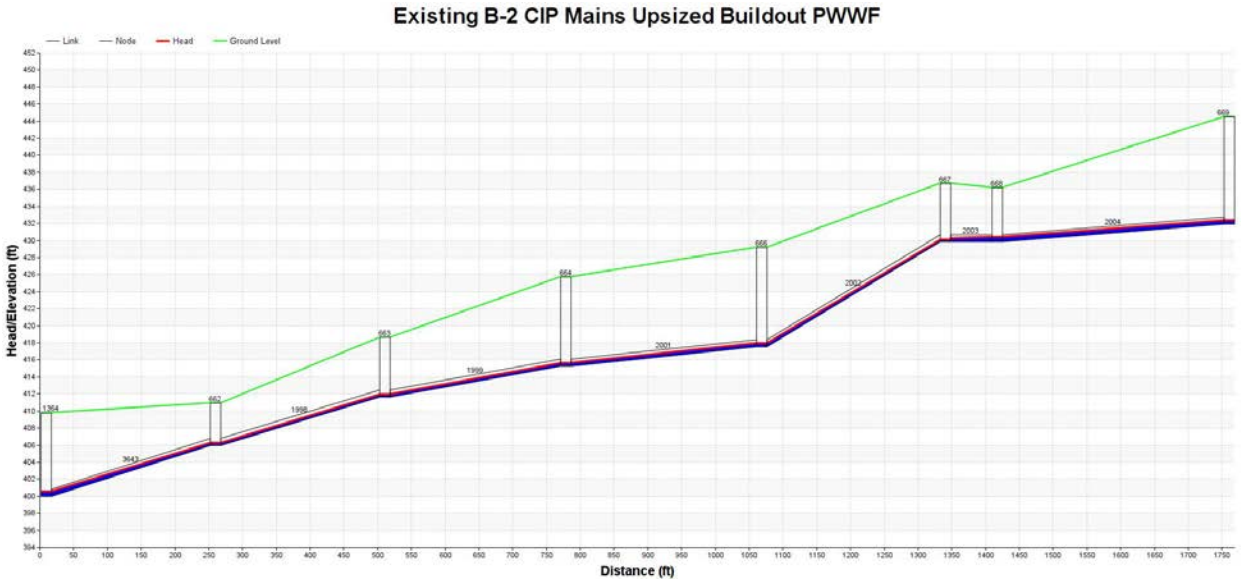
BUENA EX 1


Existing B-1 CIP Mains Before Upgrade Existing PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)

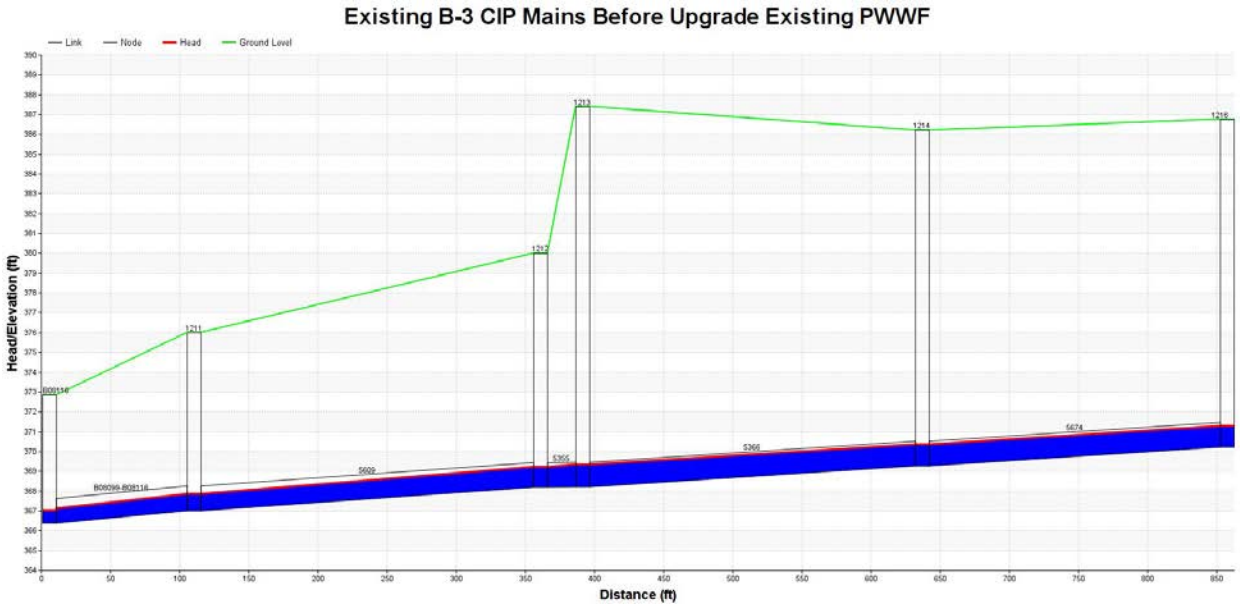

Existing B-1 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)

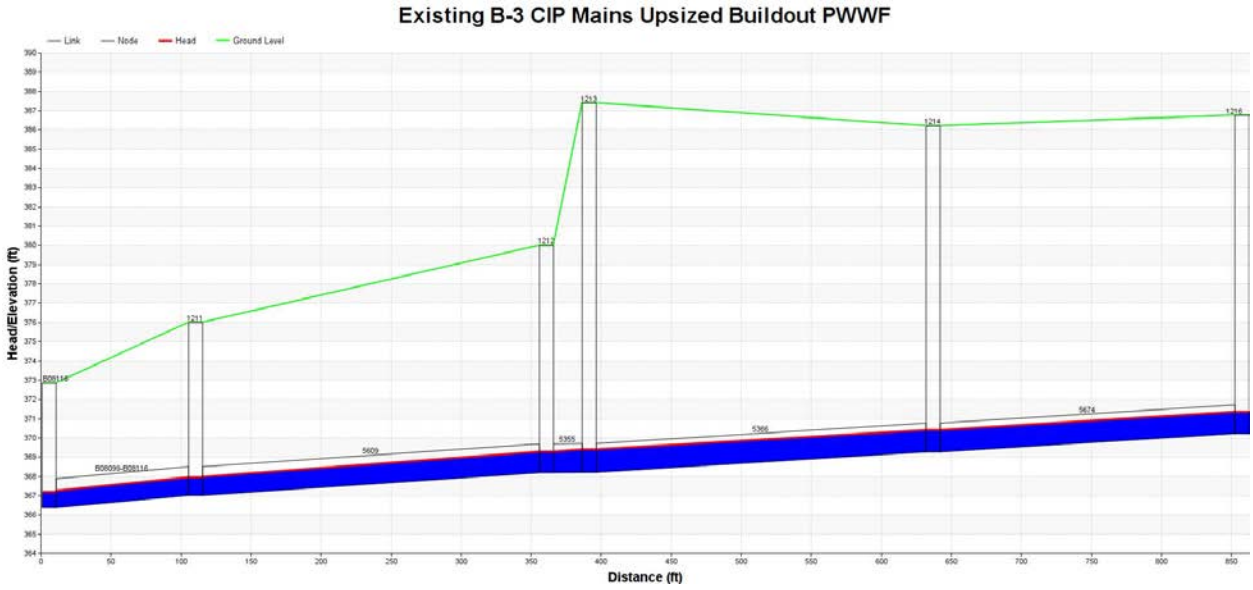
BUENA EX 2


Existing B-2 CIP Mains Before Upgrade Existing PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)


Existing B-2 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)

BUENA EX 3


Existing B-3 CIP Mains Before Upgrade Existing PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
1211
1212
1213
1214
1216
5609
5355
5366
5674


Existing B-3 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
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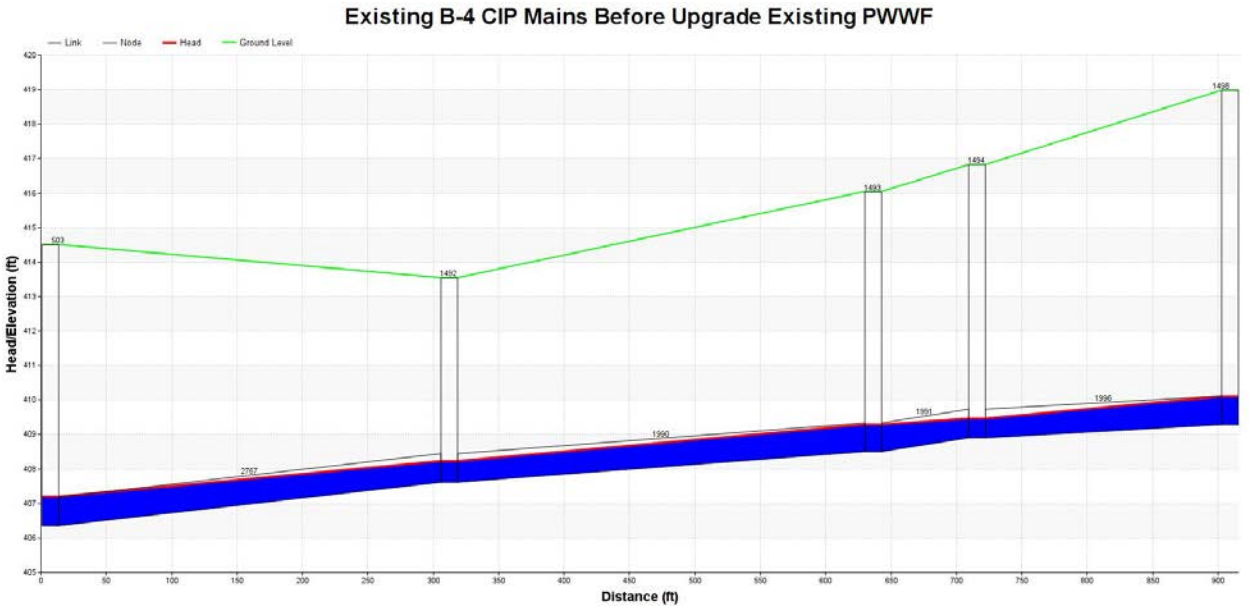
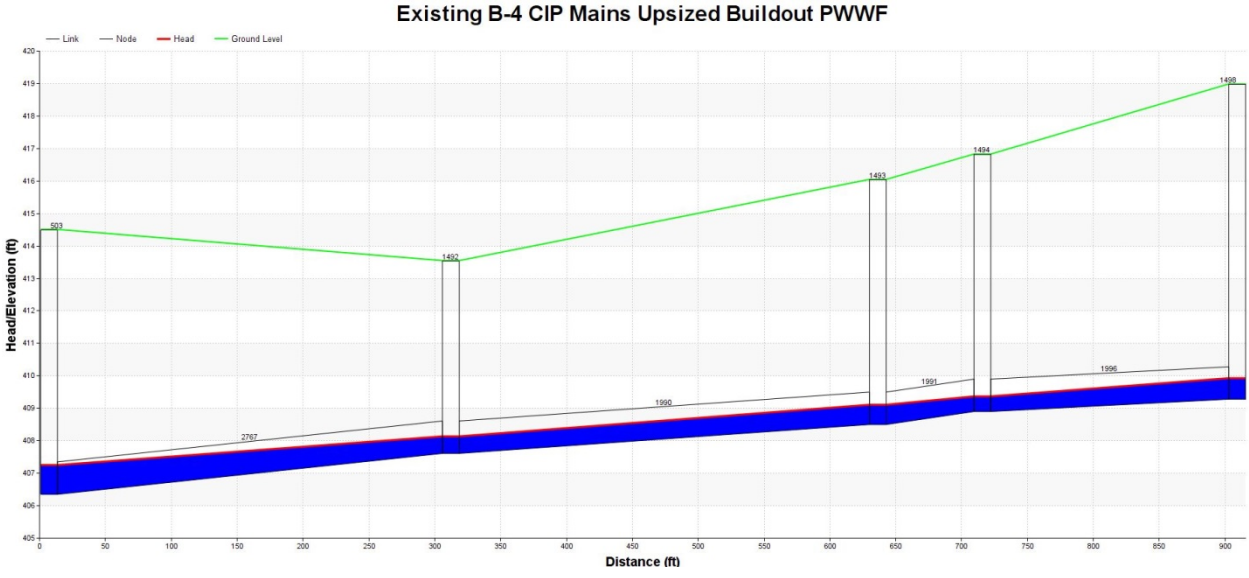
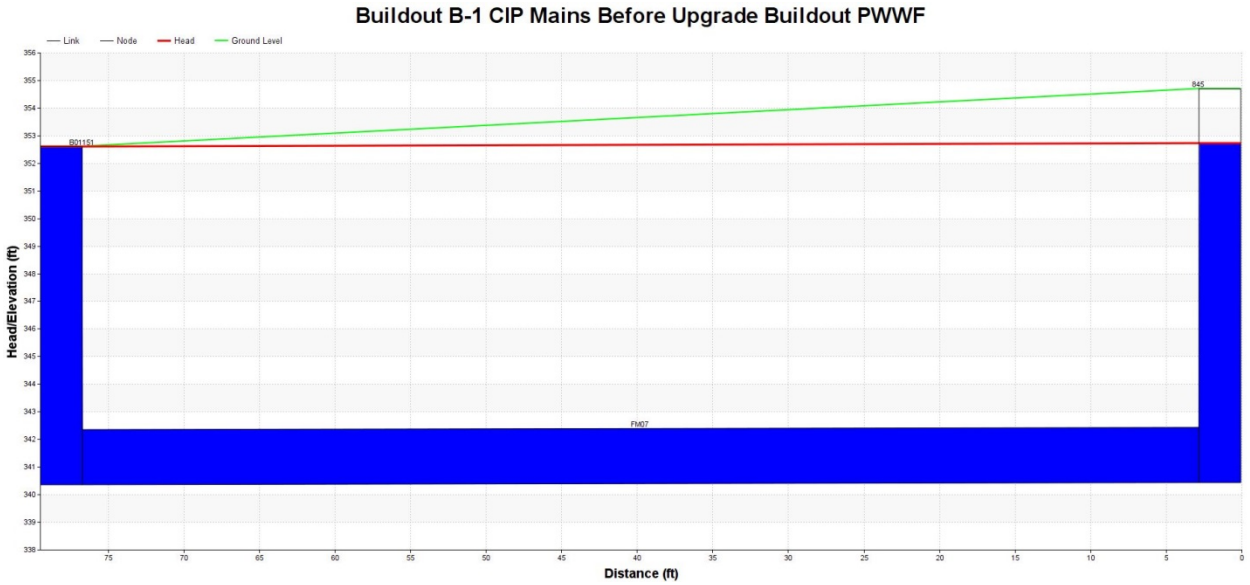
1212
1213
1214
1216
5609
5355
5366
5674

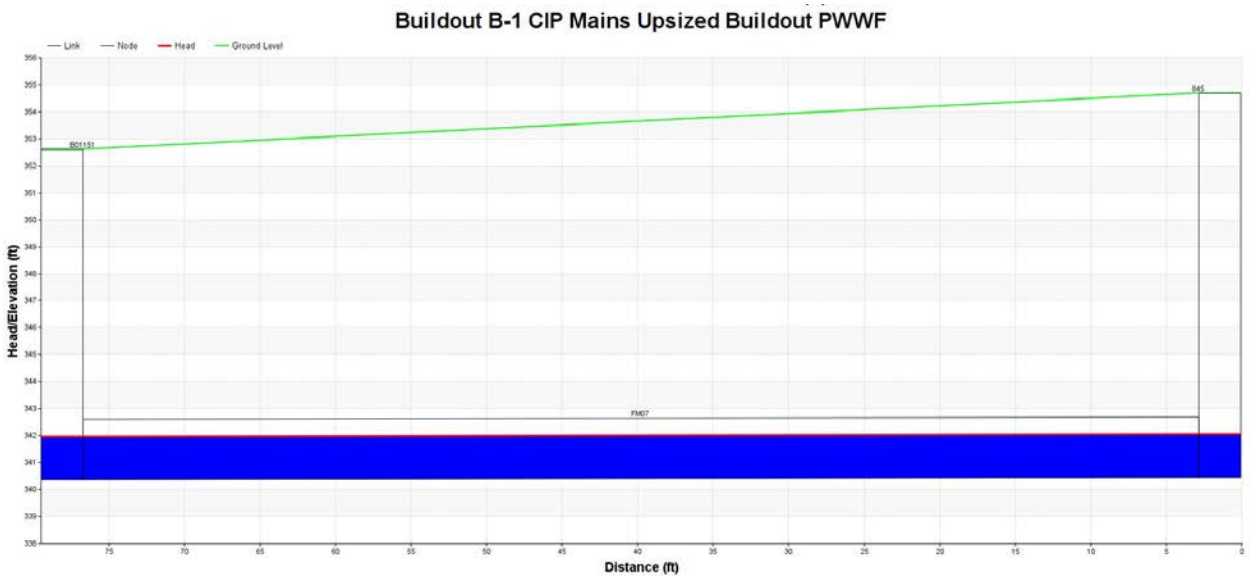
BUENA EX 4


Existing B-4 CIP Mains Before Upgrade Existing PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
503
1492
1493
1494
1498
2767
1990
1991
1996

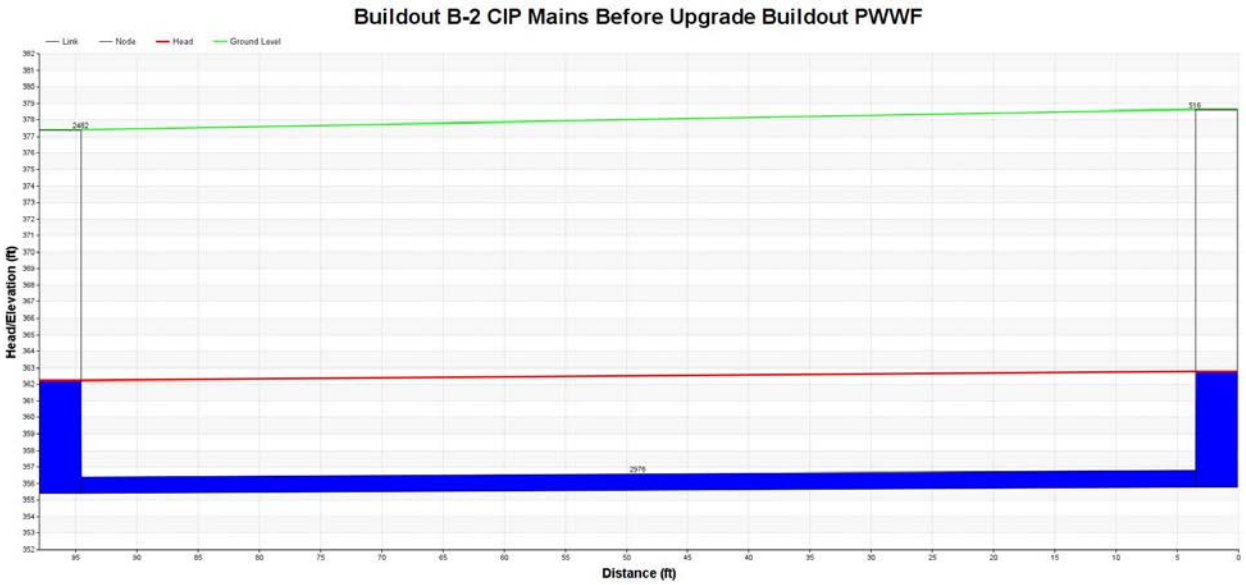

Existing B-4 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
503
1492
1493
1494
1498
2767
1990
1991
1996

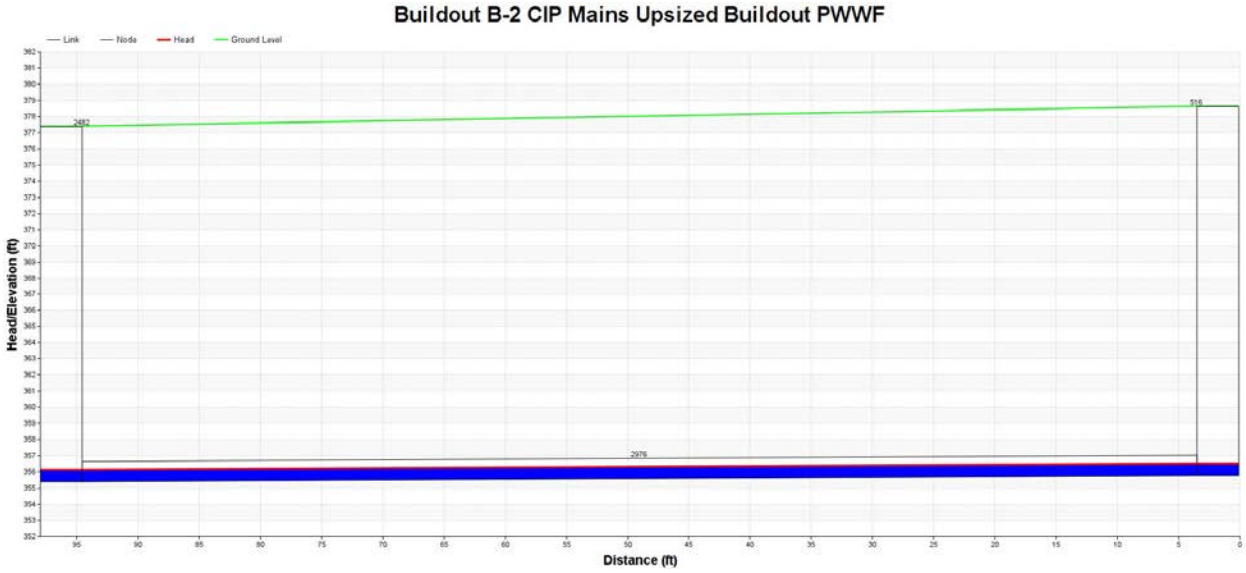
BUENA BO 1


Buildout B-1 CIP Mains Before Upgrade Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
845
FM07

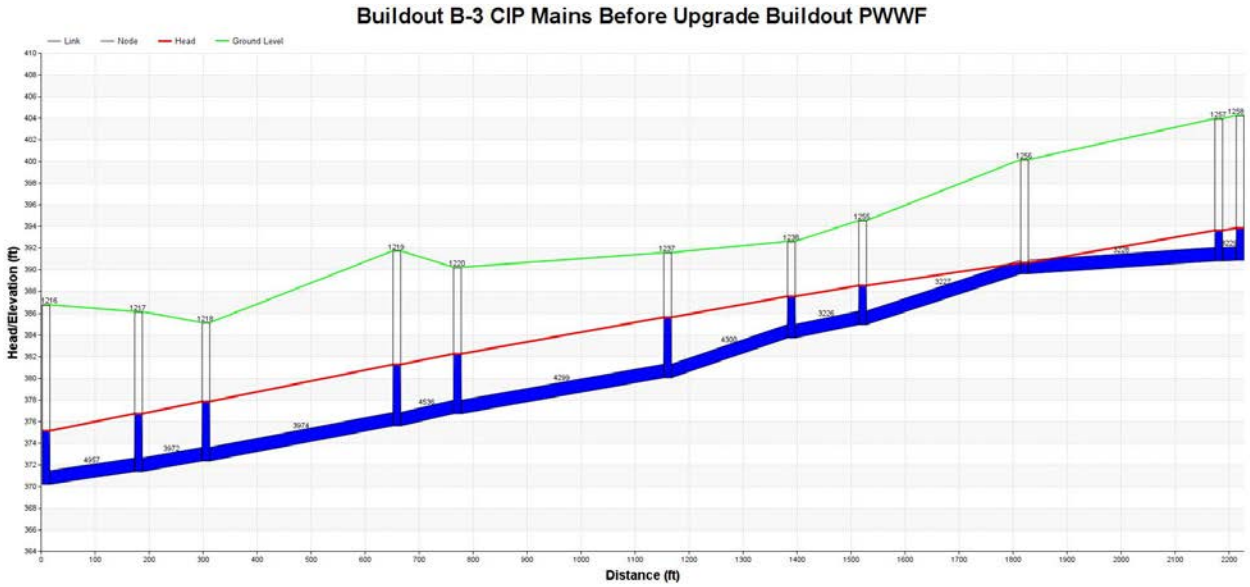

Buildout B-1 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
845
FM07

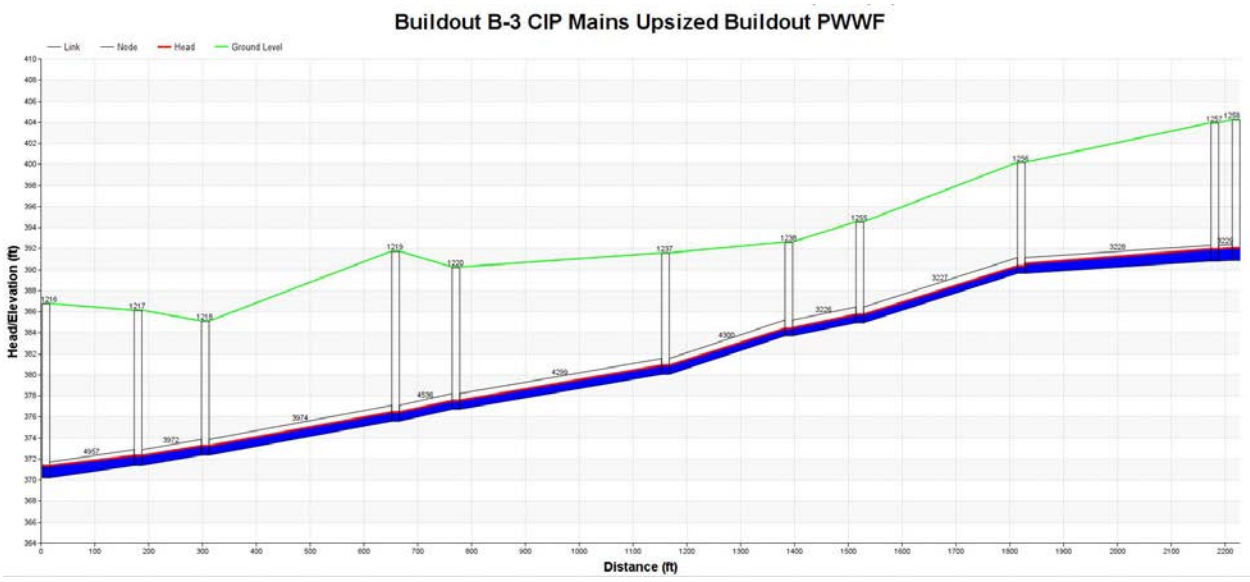
BUENA BO 2


Buildout B-2 CIP Mains Before Upgrade Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
2482
516
2976


Buildout B-2 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)
2482
516
2976

BUENA BO 3


Buildout B-3 CIP Mains Before Upgrade Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)


Buildout B-3 CIP Mains Upsized Buildout PWWF
Link
Node
Head
Ground Level
Head/Elevation (ft)
Distance (ft)

Appendix D. Basis of Unit Cost Option

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Comprehensive Sewer Management Plan
APPENDIX D
Draft Gravity Sewer Unit Costs
10/20/2016

Legend:	Input fields

Cost Factors

	Factor Description	Replacement		CIPP		Point Repair	
Installation Cost Factor (Applied first)	Installation Cost Factor is based on CIPP bid tabs	**Replacement**	**1.60**	**CIPP SD**	**1.50**	**Point Repair**	**1.2**
		N/A	N/A	**CIPP LD**	**1.60**	N/A	N/A
Manhole Renewal Factor (Applied second)	Manhole Renewal Factor addresses the cost to renew a percentage of Manholes associated with replacement and CIPP projects	Assumed % of MHs Renewed in each Project for SD pipe	10%	Assumed % of MHs Renewed in each Project for SD pipe	10%	N/A	N/A
		Assumes 95% of LD pipe MHs are coated and 5% are renewed	N/A	Assumes 95% of LD pipe MHs are coated and 5% are renewed	N/A	N/A	N/A
		Apportioned Manhole cost per LF - SD	**$6.90**	**Apportioned Manhole cost per LF - SD**	**$6.90**	N/A	N/A
		Apportioned Manhole cost per LF - LD	**$11.29**	**Apportioned Manhole cost per LF - LD**	**$11.29**	N/A	N/A
Capital Cost Factor	The capital cost factor addresses the costs related to agency administration, design, construction management, and contingencies.	Replacement (Uses the sum of the below percentages)	1.40	CIPP (Uses the sum of the below percentages)	1.35	Point Repair (Uses the sum of the below percentages)	1.35
		Planning	3%	Planning	3%	Planning	3%
		Design	10%	Design	5%	Design	5%
		Legal	2%	Legal	2%	Legal	2%
		Construction Administration	10%	Construction Administration	10%	Construction Administration	10%
		Owner Administration	5%	Owner Administration	5%	Owner Administration	5%
		Contingency	10%	Contingency	10%	Contingency	10%
		Subtotal	40%	Subtotal	35%	Subtotal	35%
Easement Contingency Factor	The Easement Contingency Factor addresses additional costs associated with an approximate percentage of pipe that may require easement acquisition.	Easement Contingency	30%	Easement Contingency	30%	Easement Contingency	30%
		Easement Contingency % - Assumed % of pipes requiring easement contingency	10%	Easement Contingency % - Assumed % of pipes requiring easement contingency	10%	Easement Contingency % - Assumed % of pipes requiring easement contingency	10%
		Easement Contingency Factor	3.00%	Easement Contingency Factor	3.00%	Easement Contingency Factor	3.00%
Capital + Easement Contingency Factor (Applied third)		**Replacement**	**1.43**	**CIPP**	**1.38**	**Point Repair**	**1.38**

Cost Tables

Z

Assumptions	Notes	Cost per inch diameter per LF	Unit cost notes
Replacement	Based on industry experience. Uses 2008 Master Plan costs + Inflation using RSMeans ~1.75% per year.	$10.75	Note: Bid tab prices are approximately $28/In-Diam/LF for 8" dia pipe for limited quantities
CIPP SD		$3.00	$3 aligns with SD bid tabs.
CIPP LD		$4.75	$4.75 aligns with LD bid tab for 36".
Contractor PR	Assumes a >12 foot depth	N/A	N/A

Notes:

1. Unit cost forecasts are based on limited data and should be updated as the City performs additional work
2. Unit costs are in 2016 dollars
3. Unit costs do not account for specific site conditions and actual costs will vary
4. Replacement unit costs are based on the 2008 master plan values escalated for inflation

	Y		A = Z x Y	B	C = A x B	D	E = (A x B) + D	F	G = F x E	H	I = H x E	J = C x H
Action	**Diameter**	**Action_Diameter**	**Material Cost per LF or Point Repair**	**Installation Factor**	**Construction Cost (No MHs) / LF or Point Repair [Used to check against bid tabs]**	**MH Cost Factor**	**Construction Costs / LF or Point Repair**	**Capital Cost Factor**	**Capital Costs / LF or Point Repair**	**Capital Cost Factor with Easement Contingency Factor**	**Capital Costs with Easement Contingency Factor / LF or Point Repair (Includes project packaging yield increase factor for CIPP SD)**	**Capital + Easement Contingency Factor without Manholes / LF or Point Repair**
Replace SD	0	Replace SD0	$86	1.60	$137	6.90	$144	1.40	$202	1.43	$206	$197
Replace SD	4	Replace SD4	$86	1.60	$137	6.90	$144	1.40	$202	1.43	$206	$197
Replace SD	6	Replace SD6	$86	1.60	$137	6.90	$144	1.40	$202	1.43	$206	$197
Replace SD	8	Replace SD8	$86	1.60	$137	6.90	$144	1.40	$202	1.43	$206	$197
Replace SD	10	Replace SD10	$108	1.60	$172	6.90	$179	1.40	$250	1.43	$256	$246
Replace SD	12	Replace SD12	$129	1.60	$206	6.90	$213	1.40	$298	1.43	$305	$295
Replace SD	14	Replace SD14	$151	1.60	$241	6.90	$247	1.40	$346	1.43	$354	$344
Replace SD	15	Replace SD15	$161	1.60	$258	6.90	$265	1.40	$370	1.43	$378	$369
Replace LD	16	Replace LD16	$172	1.60	$275	11.29	$286	1.40	$401	1.43	$409	$393
Replace LD	18	Replace LD18	$194	1.60	$309	11.29	$321	1.40	$449	1.43	$458	$442
Replace LD	20	Replace LD20	$215	1.60	$344	11.29	$355	1.40	$497	1.43	$507	$491
Replace LD	21	Replace LD21	$226	1.60	$361	11.29	$372	1.40	$521	1.43	$532	$516
Replace LD	24	Replace LD24	$258	1.60	$412	11.29	$424	1.40	$593	1.43	$606	$590
Replace LD	27	Replace LD27	$290	1.60	$464	11.29	$475	1.40	$665	1.43	$679	$663
Replace LD	30	Replace LD30	$323	1.60	$515	11.29	$527	1.40	$737	1.43	$753	$737
Replace LD	36	Replace LD36	$387	1.60	$618	11.29	$630	1.40	$882	1.43	$901	$884
Replace LD	42	Replace LD42	$452	1.60	$722	11.29	$733	1.40	$1,026	1.43	$1,048	$1,032
CIPP SD	0	CIPP SD0	$27	1.50	$41	6.90	$47	1.40	$66	1.43	$81	$58
CIPP SD	4	CIPP SD4	$27	1.50	$41	6.90	$47	1.40	$66	1.43	$81	$58
CIPP SD	6	CIPP SD6	$27	1.50	$41	6.90	$47	1.40	$66	1.43	$81	$58
CIPP SD	8	CIPP SD8	$27	1.50	$41	6.90	$47	1.40	$66	1.43	$81	$58
CIPP SD	10	CIPP SD10	$30	1.50	$45	6.90	$52	1.40	$73	1.43	$89	$64
CIPP SD	12	CIPP SD12	$36	1.50	$54	6.90	$61	1.40	$85	1.43	$105	$77
CIPP SD	14	CIPP SD14	$42	1.50	$63	6.90	$70	1.40	$98	1.43	$120	$90
CIPP SD	15	CIPP SD15	$71	1.60	$114	6.90	$121	1.40	$169	1.43	$207	$163
CIPP LD	16	CIPP LD16	$76	1.60	$121	11.29	$133	1.40	$186	1.43	$190	$174
CIPP LD	18	CIPP LD18	$86	1.60	$137	11.29	$148	1.40	$207	1.43	$212	$195
CIPP LD	20	CIPP LD20	$95	1.60	$152	11.29	$163	1.40	$228	1.43	$233	$217
CIPP LD	21	CIPP LD21	$100	1.60	$159	11.29	$171	1.40	$239	1.43	$244	$228
CIPP LD	24	CIPP LD24	$114	1.60	$182	11.29	$193	1.40	$271	1.43	$277	$261
CIPP LD	27	CIPP LD27	$128	1.60	$205	11.29	$216	1.40	$303	1.43	$309	$293
CIPP LD	30	CIPP LD30	$143	1.60	$228	11.29	$239	1.40	$335	1.43	$342	$326
CIPP LD	36	CIPP LD36	$171	1.60	$273	11.29	$285	1.40	$398	1.43	$407	$391
CIPP LD	42	CIPP LD42	$200	1.60	$319	11.29	$330	1.40	$462	1.43	$472	$456
Contractor Point Repair SD	0	Contractor Point Repair SD0	$15,403	1.20	$18,484	N/A	N/A	1.35	$24,953	1.38	$25,507	$25,507
Contractor Point Repair SD	4	Contractor Point Repair SD4	$15,403	1.20	$18,484	N/A	N/A	1.35	$24,953	1.38	$25,507	$25,507
Contractor Point Repair SD	6	Contractor Point Repair SD6	$15,403	1.20	$18,484	N/A	N/A	1.35	$24,953	1.38	$25,507	$25,507
Contractor Point Repair SD	8	Contractor Point Repair SD8	$15,403	1.20	$18,484	N/A	N/A	1.35	$24,953	1.38	$25,507	$25,507
Contractor Point Repair SD	10	Contractor Point Repair SD10	$17,000	1.20	$20,400	N/A	N/A	1.35	$27,540	1.38	$28,152	$28,152
Contractor Point Repair SD	12	Contractor Point Repair SD12	$18,500	1.20	$22,200	N/A	N/A	1.35	$29,970	1.38	$30,636	$30,636
Contractor Point Repair SD	14	Contractor Point Repair SD14	$20,500	1.20	$24,600	N/A	N/A	1.35	$33,210	1.38	$33,948	$33,948
Contractor Point Repair SD	15	Contractor Point Repair SD15	$22,500	1.20	$27,000	N/A	N/A	1.35	$36,450	1.38	$37,260	$37,260
Contractor Point Repair LD	16	Contractor Point Repair LD16	$24,500	1.20	$29,400	N/A	N/A	1.35	$39,690	1.38	$40,572	$40,572
Contractor Point Repair LD	18	Contractor Point Repair LD18	$27,000	1.20	$32,400	N/A	N/A	1.35	$43,740	1.38	$44,712	$44,712
Contractor Point Repair LD	20	Contractor Point Repair LD20	$30,000	1.20	$36,000	N/A	N/A	1.35	$48,600	1.38	$49,680	$49,680
Contractor Point Repair LD	21	Contractor Point Repair LD21	$31,500	1.20	$37,800	N/A	N/A	1.35	$51,030	1.38	$52,164	$52,164
Contractor Point Repair LD	24	Contractor Point Repair LD24	$34,500	1.20	$41,400	N/A	N/A	1.35	$55,890	1.38	$57,132	$57,132
Contractor Point Repair LD	27	Contractor Point Repair LD27	$37,500	1.20	$45,000	N/A	N/A	1.35	$60,750	1.38	$62,100	$62,100
Contractor Point Repair LD	30	Contractor Point Repair LD30	$40,500	1.20	$48,600	N/A	N/A	1.35	$65,610	1.38	$67,068	$67,068
Contractor Point Repair LD	36	Contractor Point Repair LD36	$43,500	1.20	$52,200	N/A	N/A	1.35	$70,470	1.38	$72,036	$72,036
Contractor Point Repair LD	42	Contractor Point Repair LD42	$46,500	1.20	$55,800	N/A	N/A	1.35	$75,330	1.38	$77,004	$77,004
Point Repair + CIPP SD	0	Point Repair + CIPP SD0				Point Repair + CIPP SD = CIPP SD unit cost per LF + Crew Point Repair Cost*1.5 Point Repairs per Pipe/195 feet average pipe length					$97	
Point Repair + CIPP SD	4	Point Repair + CIPP SD4									$97	
Point Repair + CIPP SD	6	Point Repair + CIPP SD6									$97	
Point Repair + CIPP SD	8	Point Repair + CIPP SD8									$97	
Point Repair + CIPP SD	10	Point Repair + CIPP SD10									$104	
Point Repair + CIPP SD	12	Point Repair + CIPP SD12									$120	
Point Repair + CIPP SD	14	Point Repair + CIPP SD14									$135	
Point Repair + CIPP SD	15	Point Repair + CIPP SD15									$223	
Point Repair + CIPP SD	16	Point Repair + CIPP SD16									$205	
Point Repair + CIPP SD	18	Point Repair + CIPP SD18									$227	
Point Repair + CIPP SD	20	Point Repair + CIPP SD20									$249	
Point Repair + CIPP SD	21	Point Repair + CIPP SD21									$259	
Point Repair + CIPP SD	24	Point Repair + CIPP SD24									$292	
Point Repair + CIPP SD	27	Point Repair + CIPP SD27									$325	
Point Repair + CIPP SD	30	Point Repair + CIPP SD30									$357	
Point Repair + CIPP SD	36	Point Repair + CIPP SD36									$422	
Point Repair + CIPP SD	42	Point Repair + CIPP SD42									$487	