# Appendix I

Wastewater Analysis

# Wastewater Analysis for

CAL POLY
SAN LUIS OBISPO

# California Polytechnic State University, San Luis Obispo Master Plan 2035

**Watearth Project No. 2018-314.1-CA**

**August 2019**

**Prepared for:**

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**Wastewater Analysis for Master Plan 2035**

**Watearth No. 2018-314.1-CA**

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# 1 Executive Summary

## 1.1 Purpose of the Wastewater Analysis

The purpose of this wastewater analysis technical memorandum is to assess adequate capacity of the existing and proposed wastewater system requirements based on the Environmental Impact Report evaluating Cal Poly's *2035 Master Plan.*

## 1.2 Project Summary

The Cal Poly campus is undergoing a 20-year master planning effort that will guide the development and use of campus lands through the year 2035. In order to accommodate planned growth in enrollment, Cal Poly has undertaken development of a *2035 Master Plan* to provide for needed academic facilities, additional student and non-student housing on campus, recreation and athletics facilities, and other support facilities on the Cal Poly campus to increase the student population from 20,944 in 2015 to 25,000 in 2035. To accommodate the additional students, Cal Poly determined they needed a total building development in academic facilities, new housing, and other support services of 1,290,000 gross square feet (GSF). Non-building projects include water conservation efforts such as replacing existing building fixtures with low-flow options, removing landscaping or replacing with low-water use alternatives, and increasing efficiency of irrigation for playfields including treatments for improving water retention. Proposed building projects include the following:

- Academic Center Library Addition
- Classroom and Offices Building
- Engineering Project Building
- Davidson Music Center Renovation and Addition
- Health Center
- 
- Slack and Grand Residential Neighborhood for Faculty and Staff
- University-based Retirement Community
- Student Housing (multiple buildings)
- Beef Cattle Evaluation Center
- 
- Facilities Operations Complex
- Technology Park Facility
- Operations and Farm Shop Relocation
- IT Services Consolidation
- Wastewater Reclamation Facility (WRF)

## 1.3 Summary of Analysis

### *1.3.1 Summary of Methodology*

The methodology for analysis was intended to identify potential increases of wastewater flow to the City's Water Resources Reclamation Facility (City WRRF), which is established via the existing capacity agreements for wastewater treatment and conveyance. Several standard factors were calculated to identify any impacts based on the proposed project elements compared to existing wastewater flows. These include Annual Average Wastewater Flows, Peak Dry

Weather, and Peak Wet Weather. Key factors included proposed buildings by type of use and size, water conservation efforts by land use type, and the on-campus Water Reclamation Facility (WRF). The *Master Plan 2035* proposed project elements are intended to be phased during the planning period so the reporting is in five-year increments including 2015 (baseline year), 2020, 2025, 2030, and 2035 (final year).

The City's existing wastewater collection system was evaluated using the City-supplied SewerCAD model to conduct node-specific checks on capacity needs based on the proposed phases of development and changes in flows to the City WRRF. The node-specific checks analyzed 30 different scenarios.

The planning-level analysis of water quality of the wastewater discharge reviewed the existing water quality parameters and compared to anticipated changes due to increased water conservation efforts and construction of the project element WRF.

### *1.3.2 Summary of Results*

Calculations for the Average Annual Wastewater Flows is shown in Table 1. The analysis years are 2015 (based the Corrected Adjusted 2015 flows), 2020, 2025, 2030, and 2035 for the proposed project elements for student residential, non-student residential, and academic and support services (non-residential) buildings. The analysis includes two scenarios for construction of the first phase of the WRF; year 2022 is most likely case and year 2026 is worst case with the second phase of the WRF following in 2028 under both scenarios. Near-term development of housing and other proposed construction between the 2020 and 2025 will result in an increase above the current allowable limits at the end of that term. The proposed near-term project element WRF needs to be operational in approximately 2022 to prevent increases in average annual wastewater flows to the City as compared to baseline 2015 conditions.

Additionally, the average annual wastewater flow of 0.478 million gallons per day (MGD) in 2035 without the WRF exceeds Cal Poly's 0.471 MGD capacity agreement with the City indicating that the WRF is critical for development of the *2035 Master Plan*.

Modeling of the City's wastewater conveyance system indicates adequate capacity for average daily dry weather flows (ADWF) that are based on October and March through 2035. However, there are existing capacity issues in the City's wastewater collection system in peak wet weather flow (PWWF) conditions and in some peak dry weather flow (PDWF) conditions. Estimates of various flow conditions show an increase of Cal Poly's flows into the City's system when peaking factors are applied to Cal Poly's flows and the WFR capacity is removed. Cal Poly's flows for all modeled flow conditions also increase as compared to baseline 2015 conditions with or without the WRF. Additionally, Cal Poly's estimated 2015 baseline through 2035 PWWF exceed the 1.2 MGD transmission capacity with or without the WRF.

The WRF is planned to provide tertiary treatment with ultraviolet disinfection for wastewater treated on-campus meeting regulatory requirements for use as irrigation water on food products. The proposed project does not include replacement of existing sewer conveyance throughout the campus, which could reduce the amount of inflow and infiltration (I/I) during wet weather.

**Table 1: Summary of Average Annual Wastewater Flows (GPD)**

| Wastewater Flow Source | Average Annual Wastewater Flows (GPD) 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|
| **Baseline** | 197,557 | 197,557 | 197,557 | 197,557 | 197,557 |
| Student Housing Residential Projects | | | | | |
| **2,000 beds projected for 2022 (Unnamed)** | 0 | 0 | 50,568 | 50,568 | 50,568 |
| **600 beds projected for 2024 (Unnamed)** | 0 | 0 | 15,170 | 15,170 | 15,170 |
| **1,500 beds projected for 2027 (Unnamed)** | 0 | 0 | 0 | 37,926 | 37,926 |
| **1,500 beds projected for 2031 (Unnamed)** | 0 | 0 | 0 | 0 | 37,926 |
| **1,600 beds projected for 2035 (Unnamed)** | 0 | 0 | 0 | 0 | 40,454 |
| Subtotal Student Residential Projects | **0** | **0** | **65,738** | **103,664** | **182,045** |
| Non-Student Housing Residential Projects | | | | | |
| **Slack and Grand Residential Neighborhood**[1] | 0 | 0 | 33,278 | 33,278 | 33,278 |
| **University-based Retirement Community**[1] | 0 | 0 | 0 | 21,129 | 21,129 |
| Subtotal Non-Student Residential Projects | **0** | **0** | **33,278** | **54,407** | **54,407** |
| | | | | | |
| Subtotal All Residential Projects | **0** | **0** | **99,016** | **158,071** | **236,451** |
| Non-Residential Projects | | | | | |
| **Academic Center Library Addition** | 0 | 0 | 1,710 | 3,847 | 5,984 |
| **Classroom and Offices Building** | 0 | 0 | 1,080 | 2,430 | 3,779 |
| **Beef Cattle Evaluation Center (BCEC) Expansion** | 0 | 0 | 425 | 956 | 1,487 |
| **Engineering Projects Buildings** | 0 | 0 | 1,420 | 3,194 | 4,969 |
| **Facilities Operations Complex** | 0 | 0 | 2,160 | 4,859 | 7,559 |
| **Davidson Music Center Renovation/Addition** | 0 | 0 | 339 | 763 | 1,186 |
| **Building 19 - Dining Commons Renovation and Addition** | 0 | 0 | 1,870 | 4,207 | 6,544 |
| **Operations and Farm Shop Relocation** | 0 | 0 | 2,167 | 4,876 | 7,585 |
| **IT Services Consolidation** | 0 | 0 | 225 | 506 | 787 |
| **Fermentation Building**[2] | 0 | 0 | 186 | 419 | 652 |
| **Vista Grande**[2] | 0 | 0 | 256 | 575 | 895 |
| **Health Center**[1] | 0 | 0 | 1,394 | 3,136 | 4,878 |

| Wastewater Flow Source | Average Annual Wastewater Flows (GPD) | | | | |
|---|---|---|---|---|---|
| | 2015 | 2020 | 2025 | 2030 | 2035 |
| **Tech Park Expansion[1]** | 0 | 0 | 2,187 | 4,921 | 7,655 |
| Subtotal All Non-Residential Projects | **0** | **0** | **15,417** | **34,688** | **53,960** |
| | | | | | |
| Total Increased Flow | **0** | **0** | **114,433** | **192,759** | **290,411** |
| | | | | | |
| **Reduction due to Conservation** | 0 | 2,187 | 8,747 | 8,747 | 8,747 |
| **Reduction due to Off-campus Properties** | 0 | 1,154 | 1,154 | 1,154 | 1,154 |
| **Reduction due to On-campus WRF (Likely Case)** | 0 | 0 | 169,621 | 339,242 | 339,242 |
| **Reduction due to On-campus WRF (Worst Case)** | 0 | 0 | 0 | 339,242 | 339,242 |
| Total Reduced Flow (Likely Case) | 0 | 3,341 | 179,523 | 349,144 | 349,144 |
| Total Reduced Flow (Worst Case) | 0 | 3,341 | 9,902 | 349,144 | 349,144 |
| | | | | | |
| Total Cal Poly Flow Excluding WRF | 197,557 | 194,216 | 302,088 | 380,414 | 478,066 |
| | | | | | |
| Total Cal Poly Flow to City of SLO System (Likely Case) | 197,557 | 194,216 | 132,467 | 41,172 | 138,824 |
| Total Cal Poly Flow to City of SLO System (Worst Case) | 197,557 | 194,216 | 302,088 | 41,172 | 138,824 |
| | | | | | |
| **Change in Cal Poly Flow to City of SLO System (Likely Case)** | **0** | **-3,341** | **-65,090** | **-156,385** | **-58,733** |
| **Change in Cal Poly Flow to City of SLO System (Worst Case)** | **0** | **-3,341** | **104,531** | **-156,385** | **-58,733** |

[1] These are projects with Public Private Partnerships (PPP).

[2] This building was reviewed for CEQA under the 2001 Amendment but was not constructed by 2015, therefore it is not included in the 2015 Corrected Adjusted baseline flows. This facility is included here to incorporate the wastewater flows for this review.

## 1.4 Determination

As shown in Table 1 above, the proposed development scenario will result in up to 290,411 GPD (0.29 MGD) of new wastewater production in year 2035 with the proposed project elements excluding the WRF project element. With the WRF project element, the proposed change in flow

to the City WRRF in 2035 is a reduction of -58,733 GPD (-0.059 MGD). The two scenarios of bringing the on-campus WRF online demonstrates the differences in phasing of various proposed building projects during the intermediate years of 2025 and 2030. The actual construction phasing of the proposed buildings in relation to bringing the two phases of the WRF online will determine the wastewater flows to the City WRRF however, this analysis shows that the WRF is effective at maintaining and/or reducing proposed project wastewater flows for the *2035 Master Plan* once the WRF is online in 2022 or 2026. If the WRF is delayed beyond 2022, proposed residential and non-residential buildings need to be delayed until it is online to avoid increasing annual average wastewater flows above 2015 baseline levels.

Although Cal Poly's ADWF increase as the WRF's capacity is held constant at average day flows, the City's wastewater collection system has adequate capacity for Cal Poly's ADWF through 2035. Capacity for conveyance of PWWF appears to be an issue in 2015 baseline conditions through 2035. Increases in PWWF from Cal Poly due to build-out of the *2035 Master Plan* exacerbates existing capacity issues in peak conditions and the 1.2 MGD transmission capacity is likely to be exceeded as new residential and non-residential buildings are brought online even if there are no historical exceedances. Given that estimated 2015 baseline PWWF exceed the PWWF, even accounting for peak treatment capacity of the WRF will likely still result in additional PWWF capacity issues and the 1.2 MGD transmission capacity being exceeded. The *Draft Utility Master Plan* is also critical to identify improvements that may reduce inflow and infiltration (I/I) into the Cal Poly system. Further, additional peak transmission capacity may need to be negotiated with the City Because existing I/I conditions are assumed in this analysis and no assumptions are made on future reductions. But since the Utility Master Plan is not due until 2020, only the current I/I conditions can be used.

The average annual wastewater flow of 0.478 million gallons per day (MGD) in 2035 without the WRF exceeds Cal Poly's 0.471 MGD wastewater treatment capacity agreement with the City by 0.07 MGD indicating that the WRF is critical for development of the *2035 Master Plan*. Additionally, Cal Poly's estimated 2015 baseline through 2035 PWWF exceed the 1.2 MGD transmission capacity with or without the WRF.

# 2 Introduction

As more fully discussed in the *2035 Master Plan EIR* Project Description, California Polytechnic State University, San Luis Obispo (Cal Poly) campus is undergoing a master planning effort that will guide the development and use of campus lands through the year 2035. In order to accommodate planned growth in enrollment, Cal Poly has undertaken development of a *2035 Master Plan* to provide for needed academic facilities, additional housing on campus, recreation and athletics facilities, and other support facilities on the Cal Poly campus.

The previous *Master Plan* was published in 2001 and most of the main campus facilities have been developed to accommodate the 20,944-headcount enrollment at the Cal Poly, as of the 2015/2016 academic year. Under the current planning effort, Cal Poly anticipates reaching a 25,000 headcount by 2035 through steady growth due to desirability of the Cal Poly as well statewide goals, among others.

## 2.1 Purpose and Applicability for the Wastewater Technical Analysis

The purpose of this report is to support the *Master Plan EIR* Utilities and Services Chapter as well as inform the Hydrology and Water Quality Chapter pursuant to the CEQA. The intent is to evaluate wastewater flow projections to compare current conditions (year 2015) to proposed conditions (year 2035). While typically a water supply-related topic, water conservation features related to indoor fixtures will also reduce the volume of wastewater discharge from Cal Poly to the City's Water Resources Recovery Facility (City WRRF). As such, water conservation is considered here for future projected flows in addition to the proposed construction of an on-campus Water Reclamation Facility (WRF).

This wastewater analysis relies on best available data from a baseline year of 2015, consisting of wastewater flow data, headcount projects for students, faculty, and staff, and building projections provided by the City, Cal Poly, and other subcontractors and consultants for Cal Poly and the City.

## 2.2 Regulatory Setting

This section provides an overview of local, state, and federal regulations in wastewater management. Wastewater and disposal are regulated pursuant to the federal Clean Water Act, administered by the US Environmental Protection Agency (EPA), and in California through the Porter-Cologne Water Quality Control Act (Porter-Cologne) through National Discharge Pollution Elimination System (NPDES) permits. This system is separate from stormwater conveyance systems, which is managed through the municipal separate storm sewer system (MS4) permit.

### *2.2.1 Federal Regulations*

#### *2.2.1.1 Clean Water Act*

The Clean Water Act of 1972 and amendments is a wide-ranging federal regulation to regulate discharges into the Water of the United States, sometimes referred to as Waters of the Nation. The most applicable section to this project is Section 402, established the National Pollutant

Discharge Elimination System (NPDES) to regulate the discharge of pollutants from point sources. The standards are intended to protect the beneficial uses of the receiving water. The NPDES permit establishes the required water quality requirements for discharged wastewater, including wastewater treatment plant requirements and reuse/reclaimed water. Cal Poly wastewater is currently managed entirely by the City's WRRF, of which Cal Poly retains a capacity interest for treatment of campus wastewater. The City's WRRF discharges to San Luis Obispo Creek under NPDES permit No. CA0049224, Regional Board Order No. R3-2002-0043, issued in March 2005.

### *2.2.2 State Regulations*

#### *2.2.2.1 California Water Code*

The purpose of the California Water Code is to ensure that water resources are put to beneficial use, reduce and prevent waste and unreasonable uses, and conserve water for the public welfare. The code regulates the right to water, water quality, and water quantity. The Water Code is the enabling legislation for implementation of the federal Clean Water Act.

#### *2.2.2.2 Porter-Cologne Water Quality Control Act*

The intent of the State of California's Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) is to put California's water resources to beneficial use to the fullest extent possible, limit wasteful practices, and promote conservation. The regulation addresses water quality protection and management including wastewater discharges and reuse of wastewater, among others. The State Water Resources Control Board administers the Act.

#### *2.2.2.3 California State Water Resources Control Board*

The California State Water Resources Control Board (SWRCB) manages and administers federal and state water quality control programs. Procedures are provided by statute, but the board has the authority to establish rules and regulations to help it carry out its work. All board activities are governed by state water policy and are administered in accordance with policies and procedures in the California Water Code. The project is within the Central Coast Regional Board (Region 3) jurisdiction.

#### *2.2.2.4 Water Reclamation Requirements for Recycled Water Use*

The SWRCB Order QA 2016-0068-DDW was passed in response to the Governor's proclamation of a Drought State of Emergency on January 17, 2014 and provides policy guidelines for recycling water for water reuse. This General Order is applicable to recycled water projects where recycled water is used or transported for non-potable uses and is administered by SWRCB. The level of treatment and disinfection dictates how the recycle can be used for non-potable purposes. The highest level of treatment and disinfection is tertiary treated and disinfection and can be used on food crops intended for human consumption. Cal Poly currently uses non-potable surface water from Whale Rock to irrigate agriculture areas and sports fields.

Cal Poly intends to use wastewater treated through the WRF for irrigation for edible food crops as well as for use on the recreational and landscaping areas (Hartman Engineering, 2019;

California Waterboard, 2019). This generally requires tertiary disinfection to meet edible food irrigation requirements. California regulates recycled discharges under a General Order, Water Reclamation Requirements for Recycled Water Use (California Waterboard, 2019). Water quality requirements for reuse and recycled wastewater are contained in the Water Code, specifically in Title 22 of the California Code of Regulations (Hartman Engineering, 2019; California Waterboard, 2019). Onsite wastewater treatment system operators must obtain permits for operation and discharge of the wastewater, including discharges to land as recycled/reused water. The discharge water must meet effluent regulations and the facility must be operated by a certified treatment plant operator.

### *2.2.3 Local Regulations*

#### *2.2.3.1 City of San Luis Obispo Public Works Department.*

The City has adopted standard specifications as a guide for the standardization of water utility installations within the City (Resolution No. 10137). These specifications also identify Countywide Standards (such as water-sewer separation criteria) that have been accepted by the City Council upon the recommendation of the City Engineer. While Cal Poly is located outside of the City limits, these specifications outline requirements for wastewater system installations, which apply to Cal Poly for connections to the City system.

# 3 Existing Conditions

The *2035 Master Plan EIR* Project Description provides a full detail of the existing Campus conditions. Below is a summary of the headcount, buildings, and other features based on year 2015, the base year for evaluation under CEQA. See Exhibit 4 for the existing wastewater system map with connections to the City system and Exhibit 5 for existing land uses.

## 3.1 Environmental Setting

### *3.1.1 Location and Topography*

For the purposes of the *2035 Master Plan* and this wastewater analysis, the area being evaluated consists of Cal Poly's approximately 1,321-acre main campus area and off campus properties as shown in Exhibits 1, 2, and 3. Located in San Luis Obispo County, California, the Cal Poly campus abuts the City to the south and west, and open space, ranch land, and public land to the north and east (Exhibit 1). The campus is generally bound by U.S. Highway 101 (US-101) to the north and east of California State Route 1 (CA-1), at 1 Grand Avenue, San Luis Obispo, California (Exhibit 1). The campus consists of rolling hills 10 miles inland from the Pacific Ocean and is dominated by coastal sage scrub plant community as well as drought-adapted chaparral and mixed oak woodland habitats, which is evident in the drab green and browns of the vegetation in Exhibit 2.

Cal Poly owns and operates several off-campus properties (see Table 2). These properties are included in this analysis to show existing and proposed wastewater service delivery method and how that would change during the *2035 Master Plan* management period and changes to application of Cal Poly's allotment.

**Table 2 Off-Campus Properties for Water Supply Analysis**

| Off Main Campus Property | Existing Wastewater Service Source | Existing Volumes (AFY) | Proposed Project Wastewater Service Source |
|---|---|---|---|
| **Bella Moñtana Housing (existing residential development)** | Cal Poly's allocation | Approximately 11-12 AFY | No change |
| **Chorro St Lofts (City)** | Cal Poly's allocation | 0.05 AFY | City |
| **Chorro State Offices (City)** | Cal Poly's allocation | 1.3 AFY | City |
| **Grand Ave Houses (3)** | City | N/A | No change |

*Information provided by Cal Poly.

Cal Poly has additional land holdings that are not subject to the *2035 Master Plan*. This includes the Chorro Ranch, Serrano Ranch House, Peterson Ranch, Escuela Ranch, and Chorro House properties, which are not serviced by Cal Poly's water supply for the main campus (Whale Rock Reservoir or groundwater, as described below) and are excluded from this analysis.

## 3.2 Student Enrollment and Other Campus Occupants

Student enrollment during the academic year 2015-2016 was 20,944 (headcount). According to research conducted by Cal Poly, students who live on campus, especially during the first two years, are more successful academically, which means that Cal Poly needs to have on-campus housing available for at least the freshman and sophomore students as well as upper division undergraduates. Currently Cal Poly provides a variety of housing options including traditional dormitories (multiple occupant rooms with common restrooms and limited to no kitchen facilities in the building) to apartment-style housing.

## 3.3 Existing Buildings and Uses

Existing campus facilities comprise approximately 149 major buildings (Exhibit 5). Within the Academic Core, there are approximately 80 buildings that include student housing (residential), academic, administration, recreation, and support services. Recognizable facilities include the Robert E. Kennedy Library, the Julian A. McPhee University Union, ASI Recreation Center, Alex G. Spanos Stadium, Robert A. Mott Athletics Center, several galleries, and the Performing Arts Center. The Project Description in the 2035 Master Plan EIR includes additional details on these existing buildings. Since the metered and Corrected Adjusted 2015 annual average wastewater flows used as the basis of this analysis capture all existing wastewater flows from existing buildings (Section 3.8), further details on existing buildings are not the square footage and type of existing buildings is not required on a granular level for this analysis.

## 3.4 Agricultural Lands, Open Space and Landscape Areas

The campus is defined by its natural setting punctuated by dramatic topography and views of the Morros volcanic peaks, rolling hills, rock outcroppings, and stands of trees and vegetation. The campus retains visual connection to the surrounding landscape by strategically siting building massing in a manner that does not block or obstruct surrounding vistas. Open spaces, abundant trees and landscaping, including the iconic Dexter Lawn, reinforce the campus's connection with its surroundings. The campus contains numerous casual recreational areas and trails. Through the water conservation projects, the amount of irrigated landscaping is being reduced through removing turf and replacing with low water vegetation and/or no vegetation.

Agricultural land is located within the North Campus and West Campus to the north of the Academic core (Exhibits 5 and 6 illustrate agricultural land locations, open space, and landscape areas). Existing water demand for irrigation of the agricultural lands is approximately 320 AFY (285,658 GPD). Irrigation demands for other open space and landscape areas is not reported separately from the total Cal Poly metered demand.

## 3.5 Cal Poly Wastewater System

The Cal Poly wastewater system collects wastewater from residential, mixed-use, academic buildings, recreational facilities, and other wastewater generating sources within the Campus boundaries (City of San Luis Obispo Sewer System Management Plan Update, 2014; Hartman Engineering, 2019). Wastewater flows from the Academic Core are primarily collected and conveyed by gravity lines with wastewater from the YTT housing complex collected and pumped by a lift station through a force main due to the higher elevations of the area. There is also a lift station and associated force main by the crops unit on the north side of Highland.

Cal Poly's wastewater discharges to a single collection point near Mustang Drive, southwest of the campus's stadium via a 15-inch sewer line (City of San Luis Obispo Sewer System Management Plan Update, 2014; Hartman Engineering, 2019). Exhibit 4 includes a graphic illustrating the Cal Poly discharge location and on-campus sewer system. From this collection point, approximately four miles of pipeline ranging from 10 to 48 inches deliver Cal Poly and other collected wastewater from facilities outside of Cal Poly to the City owned and operated WRRF (Public Utilities Department, City of San Luis Obispo, 2018).

## 3.6 Wastewater Agreements with City

Since 1957, Cal Poly has purchased capacity rights to the City's wastewater transmission (collection) lines and treatment capacity at the City's WRRF, as shown in Table 3 (Cal Poly and City Resolution No. 5961 for Share of WWTP, 1986; Capacity Interest in City of San Luis Obispo Wastewater System Facilities, 2007; Hartman Engineering, 2019; City of San Luis Obispo, 1964; California Polytechnic State University, San Luis Obispo, a. 2007). Cal Poly has participated in cost sharing of conveyance infrastructure and wastewater treatment improvements and has an agreement for rate structure and capacity share. The current treatment agreement was established in 1993 for a permanent wastewater treatment capacity share of 0.471 MGD in the City's WRRF, while Cal Poly's 1.2 MGD share of the wastewater transmission line capacity dates to the 1986 Resolution 5961 (Cal Poly and City Resolution No. 5961 for Share of WWTP, 1986; Hartman Engineering, 2019).

**Table 3 History of Wastewater System Improvements and Associated Agreements Involving Cal Poly**

| Year | Cal Poly Wastewater Improvements (Hartman Engineering, 2019) |
|---|---|
| 1957 | Sewer line from Peach/Nipomo to Marsh/Higuera enlarged |
| 1958 | Certain sewer lines increased capacity to 0.64 MGD (20-year agreement) |
| 1963 | Capacity rights purchased in WRRF to 0.78 MGD |
| 1983 | Memo demonstrate Cal Poly usage in the City's WRRF is 0.6 MGD out of the 5.23 MGD designed capacity |
| 1986 | Resolution No. 5961 increases transmission line capacity to 1.2 MGD and reduces treatment capacity to 0.6 MGD |
| 1993 | Capacity of wastewater flows from Cal Poly set at 471,000 GPD (0.471 MGD) |

A Memorandum of Understanding ("MOU") between the City of San Luis Obispo ("City") and California Polytechnic State University ("University") regarding Capacity Interest in City Facilities, dated May 1, 2007 between Cal Poly and the City determined and reinforced Cal Poly's equity interest in the municipal water and wastewater treatment facilities (Capacity Interest in City of San Luis Obispo Wastewater System Facilities, 2007). This MOU included water treatment capacity average demand equivalent to 1,000 acre-feet as calculated on an annual basis and wastewater daily dry weather flow as calculated on a monthly average of 0.471 MGD (Cal Poly and City Resolution No. 5961 for Share of WWTP, 1986; Capacity Interest in City of San Luis Obispo Wastewater System Facilities, 2007). The agreements include sewer rates specific to the Cal Poly based on their equity interest in the wastewater system. The City's WRRF is designed for an average daily dry weather flow of 5.1 MGD (Water and Wastewater Element, Wastewater Service Section 2.0), with Cal Poly's interest in the average daily dry weather flow equaling approximately 9.2% of the total treatment capacity. While there is no specific peak daily or peak wet weather flow specified for treatment capacity, the City considers wet weather to occur between December and March (City of San Luis Obispo Sewer System Management Plan Update, 2014).

## 3.7 City Wastewater Collection System

As indicated above, Cal Poly's wastewater discharges to the City's wastewater collection system at a single collection point at the Parshall Flume near Mustang Drive, southwest of the campus's stadium via a 15-inch sewer line. Under the service agreement with the City, Cal Poly has rights to a 1.2 MGD share of wastewater transmission line conveyance capacity (Capacity Interest in City of San Luis Obispo Wastewater System Facilities, 2007; Hartman Engineering, 2019).

The City's wastewater collection system consists of one hundred and fifty miles of sewer pipes, ranging from 6 to 30 inches in diameter, with approximately 80% of these being 6-inch and 8-inch pipes (Water System Consulting, Inc, December, 2015; City of San Luis Obispo, 2004; Hartman Engineering, 2019). Appendix A includes the City's SewerCAD node map and shows the general layout of the wastewater collection system. Municipal wastewater infrastructure also includes 2,900 manholes, nine sewage lift stations, and three miles of force main. Wastewater is delivered through the sewer system to the City's WRRF, located on Prado Road near U.S. Highway 101. The City is required to maintain a minimum average daily release, year-round, of treated effluent to San Luis Obispo Creek at a rate of 2.5 cubic feet per second (CFS) (1.6 MGD or 1,800 acre-feet per year [AFY]) to provide satisfactory habitat and flow volume for the cold water fisheries habitat in San Luis Obispo Creek (Water System Consulting, Inc, December, 2015).

## 3.8 Cal Poly Annual Average Wastewater Flows

Cal Poly's metered 2015 annual average wastewater flow is used as the baseline for this analysis with the Corrected Adjusted flow of 197,557 GPD provided by Cal Poly (Veium, a. 2018) used to most accurately represent baseline conditions and account for construction between 2015 and current conditions at Cal Poly (California Polytechnic State University, San Luis Obipso, 2019). The 2015 baseline value is used for annual average wastewater flow projections through 2035 in Section 4.9 of this report and forms the basis for determining whether or not Cal Poly has adequate wastewater treatment capacity through 2035.

The 2015 baseline and wastewater flow projections are also used to estimate average daily dry weather wastewater flows (ADWF), peak dry weather wastewater flows (PDWF), and peak wet weather wastewater flows (PWWF) used in the SewerCAD modeling of the City's wastewater collection system. For reference, Table 5 in Section 3.9 shows Cal Poly's annual average wastewater flows from 2014 to 2017.

## 3.9 Cal Poly Average Daily Dry Weather Wastewater Flows

While not used to determine adequacy of wastewater treatment capacity, ADWF are used in the SewerCAD modelling analysis of the City's wastewater collection system described in Section 4.10. While annual average wastewater flows represents wastewater flows generated by Cal Poly, ADWF reflects the drier months of October and May when Cal Poly is in session and when I/I into Cal Poly's wastewater collection system is minimal. The City of San Luis Obispo's *Wastewater Collection System Infrastructure Renewal Strategy* report (Water System Consulting, Inc, December, 2015)defines ADWF as the average sewage flow for the months of May and October. As such, ADWF is calculated using October and May metered wastewater data from Cal Poly to provide consistent values for incorporation into the City's SewerCAD model. Background information and data is provided below along with the recommended factor to convert annual average wastewater flow to ADWF based on metered data.

For adequate planning and operations of municipal wastewater infrastructure, Cal Poly is required to annually provide development and population projections to the City. Additionally, this annual update must include an analysis of planned and projected water and/or wastewater treatment capacity needs for the next five years. Table 4 summarizes Cal Poly wastewater flow reporting for the 2014-2015, 2015-2016, and 2016-2017 academic years (generally late September through early June) with the lower flow summer months excluded. These academic year flows are generally higher than annual average flows as the summer months have significantly lower student enrollment. Additionally, inflow and infiltration (I/I) into the Cal Poly wastewater collection system is significantly lower during the dry summer months.

As shown in this Table 4, average daily flows decreased from 299,905 GPD in the 2014-2015 academic year to 288,371 GPD in the 2016-2017 academic year. While enrollment remained consistent in the intervening years, these wastewater flow decreases are likely due to ongoing water conservation efforts being implemented by Cal Poly, which translate into slightly reduced wastewater flows (i.e., from low water use fixtures, toilets, etc.). Continued water conservation efforts by Cal Poly are anticipated to have an additional positive effect on reducing wastewater flows from Cal Poly.

**Table 4 Cal Poly Average Annual Academic Calendar Wastewater Flows**

| Year | Academic Calendar | Average Flow (GPD) | Year-to-Year % Change |
|---|---|---|---|
| **2014** | 9/15/2014 – 6/12/2015 | 299,905 | - |
| **2015** | 9/14/2015 – 6/10/2016 | 288,409 | -3.83 |
| **2016** | 9/15/2016 – 6/16/2017 | 286,371 | -0.70 |

Source: (Cal Poly and City Resolution No. 5961 for Share of WWTP, 1986)

As shown in Table 5, monthly average wastewater flows from Cal Poly range from a low of 0.21 MGD in 2015 to a high of 0.27 MGD in 2017. Based on the wastewater flow data provided in Table 5, Cal Poly's average monthly wastewater flow for the 2013 to 2017 calendar years is approximately 0.244 MGD. This is generally consistent with the unpublished report reviewing wastewater options including developing an on-campus WRF, which states that "the campus produces an annual daily average of 250,000 gallons (0.25 MGD) that flows to one collection point near the stadium before entering the City sanitary sewer system (Hartman Engineering, 2019). It then flows to the City's WRRF."

The calculation for average daily flow (in GPD) for a specific year is standardized to account for the different number of days in the months as well as leap years and provides a representative value that can be compared to different years. The monthly average flowrate is the total flow divided by the number of days in that month. These standardized values are then averaged to obtain the annual averaged-monthly average flow. It should be noted that multiplying the "Annual Average" by 365 days will not provide the annual total wastewater flow. Note that the monthly average wastewater flows are not the same value as average annual wastewater flows and overstates average flows as compared to Cal Poly's true Corrected Adjusted 2015 baseline of 197,557 GPD (Veium, a. 2018; Daily Wastewater Flows, 15 minute increment for Cal Poly, 2014-2017).

**Table 5 Cal Poly Monthly Average Wastewater Flows by Year (MGD)**

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|
| Jan | | 0.33 | 0.30 | 0.34 | 0.38 |
| Feb | | 0.39 | 0.31 | 0.31 | 0.48 |
| Mar | | 0.30 | 0.23 | 0.26 | 0.31 |
| Apr | 0.40 | 0.39 | 0.32 | 0.31 | 0.34 |
| May | 0.37 | 0.40 | 0.29 | 0.31 | 0.34 |
| Jun | 0.20 | 0.20 | 0.15 | 0.14 | 0.18 |
| Jul | 0.05 | 0.05 | 0.05 | 0.03 | 0.06 |
| Aug | 0.08 | 0.04 | 0.04 | 0.05 | 0.09 |
| Sep | 0.37 | 0.19 | 0.18 | 0.13 | 0.30 |
| Oct | 0.38 | 0.37 | 0.31 | 0.29 | 0.37 |
| Nov | 0.31 | 0.30 | 0.26 | 0.25 | 0.28 |
| Dec | 0.16 | 0.17 | 0.13 | 0.21 | 0.12 |
| Average | **0.26** | **0.26** | **0.21** | **0.22** | **0.27** |

Based on provided 15-minute sewer flows Cal Poly as provided by City (Daily Wastewater Flows, 15 minute increment for Cal Poly, 2014-2017).

The City provided metered wastewater flows between the years of 2014 to 2017, taken from the metered single discharge point for the campus (Daily Wastewater Flows, 15 minute increment for Cal Poly, 2014-2017). Table 5 summarizes the calculations for monthly average and annual averaged-monthly average flows. Additionally, average flows for each month between 2014 and

2017 are summarized in Table 6 and illustrated in Figure 1. The percentage of flow for October and May as compared to the annual average daily flow for 2014 to 2017 is 144% of the annual average wastewater flows. Thus, the ADWF used in wastewater flow projections is 1.44 times the annual average wastewater flow.

**Table 6: Wastewater Flow Summary**

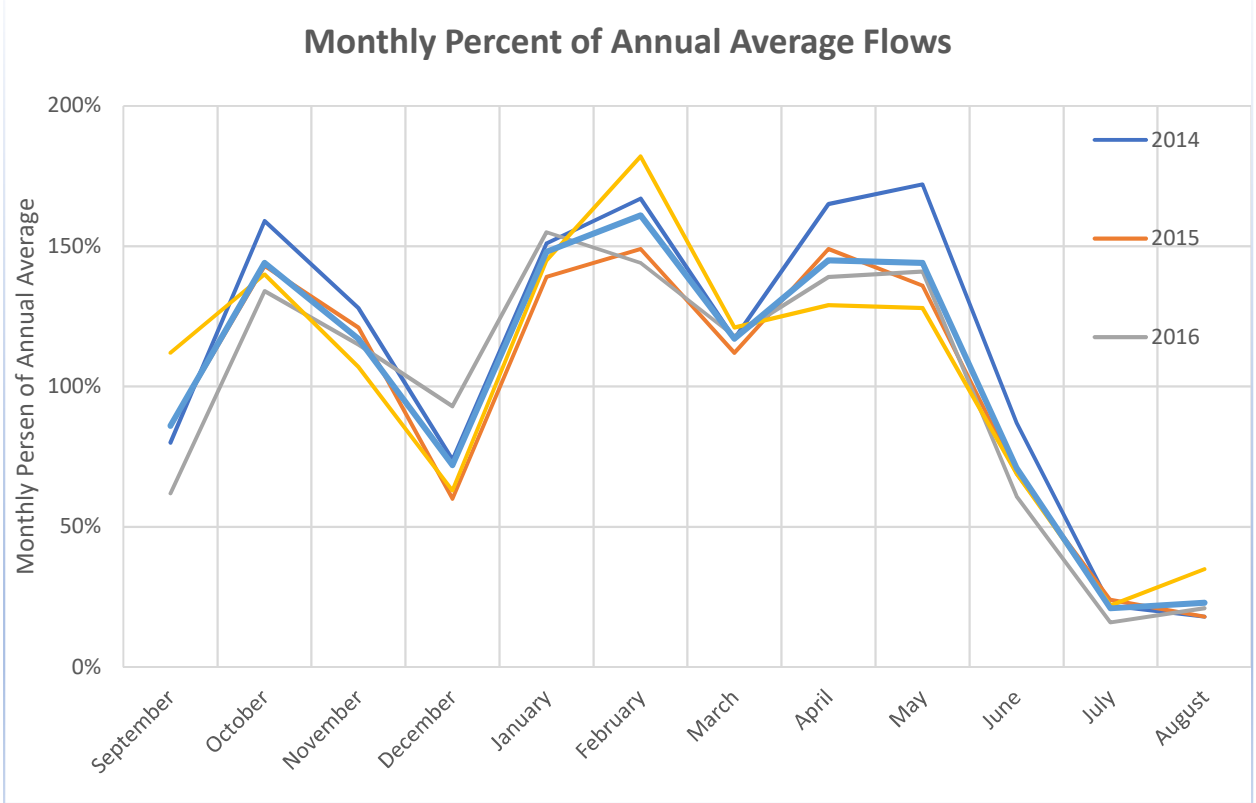
| | 2014 | | 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|---|---|---|
| | Monthly Average (GPD) | % of Annual Average | Monthly Average (GPD) | % of *Monthly* Average | Monthly Average (GPD) | % of Monthly Average | Monthly Average (GPD) | % of Monthly Average |
| **September** | 173,447 | 80% | 169,558 | 86% | 126,696 | 62% | 275,939 | 112% |
| **October** | 344,828 | 159% | 282,597 | 143% | 274,311 | 134% | 345,333 | 140% |
| **November** | 277,171 | 128% | 239,477 | 121% | 234,912 | 115% | 262,321 | 107% |
| **December** | 159,385 | 74% | 118,931 | 60% | 189,913 | 93% | 156,076 | 63% |
| **January** | 327,080 | 151% | 275,585 | 139% | 316,905 | 155% | 356,725 | 145% |
| **February** | 361,907 | 167% | 293,658 | 149% | 293,806 | 144% | 447,076 | 182% |
| **March** | 253,087 | 117% | 220,674 | 112% | 241,042 | 118% | 297,546 | 121% |
| **April** | 358,330 | 165% | 294,168 | 149% | 283,341 | 139% | 318,767 | 129% |
| **May** | 371,941 | 172% | 269,382 | 136% | 289,195 | 141% | 314,957 | 128% |
| **June** | 187,849 | 87% | 136,153 | 69% | 124,429 | 61% | 168,977 | 69% |
| **July** | 48,509 | 22% | 46,571 | 24% | 32,073 | 16% | 54,529 | 22% |
| **August** | 38,105 | 18% | 34,819 | 18% | 43,746 | 21% | 85,836 | 35% |
| | | | | | | | | |
| **Annual Average* (GPD)** | 216,688 | 100% | 197,557 | 100% | 204,396 | 100% | 246,213 | 100% |

Note: Data for March 2014 and December 2017 was incomplete; values were averaged from the other three years' data sets to complete these months (Daily Wastewater Flows, 15 minute increment for Cal Poly, 2014-2017; Veium, a. 2018).

**Table 7: Average Monthly Flows Between 2014 and 2017**

| | 2014 - 2017 Average | |
|---|---|---|
| | Monthly Average (GPD) | % of Annual Average |
| **September** | 186,410 | 86% |
| **October** | 311,767 | 144% |
| **November** | 253,470 | 117% |
| **December** | 156,076 | 72% |
| **January** | 319,074 | 148% |
| **February** | 349,112 | 161% |
| **March** | 253,087 | 117% |
| **April** | 313,651 | 145% |
| **May** | 311,369 | 144% |
| **June** | 154,352 | 71% |
| **July** | 45,421 | 21% |
| **August** | 50,627 | 23% |
| | | |
| **Annual Average* (GPD)** | 216,214 | 100% |

**Figure 1: Monthly Averages as a percent of Annual Average Wastewater Flows**




## 3.10 Cal Poly Peak Daily Dry Weather Wastewater Flows

PDWF are calculated to obtain the peak capacity needs of a wastewater system including conveyance piping and lift stations. Peak flows are calculated by applying a peaking factor to the ADWF average annual flows, to obtain a peak daily dry weather flow. The City of San Luis Obispo's *Wastewater Collection System Infrastructure Renewal Strategy* report (Water System Consulting, Inc, December, 2015) defines PDWF as "the maximum sewage flow the collection system will experience during dry weather; typically defined as being sustained for one hour." The City uses a peaking factor of 2.6 times average daily flow to yield PDWF (Watearth, Inc., 2018).

Cal Poly's proportion of the City's wastewater transmission capacity of 1.2 MGD divided by Cal Poly's City WRRF average monthly treatment capacity of 0.471 MGD yields a factor of 2.54, which is similar to this value of 2.6. To be consistent with values used in the City's SewerCAD model, a peaking factor of 2.6 times ADWF is used to calculate PDWF (Section 4.11) and for performing the SewerCAD modeling of the City's wastewater collection system discussed in Section 5.

Peaking factors related to annual average wastewater flow and peak daily wastewater flow (the peak daily wastewater flow divided by the annual average flowrate, are summarized for the years 2014 to 2017 in Table 8 below. Peak daily flows between 2014 and 2017 ranged from 2.10 to 2.87 times higher than annual average daily flows. While the 2015 baseline year Cal Poly

peaking factor is 2.45, the average for 2014 through 2017 is 2.51. Since 2017 was an extremely wet year with high I/I, the 2017 peak daily dry weather flow peaking factor may be overstated. Note that this data is for informational purposes and is not used for wastewater flow projections or SewerCAD modeling of the City's wastewater collection system.

**Table 8: Calculated Annual Peaking Factor (2014-2017)**

| Year | Peak Daily Flow (GPD) | Annual Average Flow (GPD) | Annual Average to Peak Peaking Factor (unitless) |
|---|---|---|---|
| **2014** | 451,970 | 215,577 | 2.10 |
| **2015** | 440,191 | 179,725 | 2.45 |
| **2016** | 515,513 | 197,364 | 2.61 |
| **2017** | 665,702 | 231,894 | 2.87 |

## 3.11 Cal Poly Peak Daily Wet Weather Wastewater Flows

The City considers wet weather flows to occur between December to March (City of San Luis Obispo Sewer System Management Plan Update, 2014). Wet season flows provide a maximum quantity and can be used for sizing of infrastructure such as conveyance piping and to ensure that sanitary sewer overflows do not occur and systems remain in compliance with permit requirements. PWWF addresses capacity issues in waste water systems by considering how rain and/or groundwater entering the conveyance system affects I/I (United States Environmental Protection Agency, June, 2014). While inflow is not anticipated to be as significant at Cal Poly as for residential areas (unregulated connections to the wastewater system area less likely than for older residences), infiltration from rainfall tends to increase over time as a wastewater system ages due to increased separation at joints, cracks, tree roots, and other items that increase the amount of infiltration into older wastewater collection systems.

Cal Poly's MOU with the City has a limit for the monthly average daily dry weather flow of 0.471 MGD and this was exceeded in February 2017 by approximately two-percent with a total average daily flow of 0.48 MGD (see Table 5 and Figure 2). As indicated in the rainfall data used in this analysis, February 2017 was an extremely wet month for San Luis Obispo with well above average rainfall data. The additional inflow associated with heavy rainfall was likely a primary contributing factor to this outlier month and all other months between April 2013 and December 2017 are well under the 0.471 MGD average daily flow stated in Cal Poly's MOU with the City. Peak flows during February 2017 correspond with well above average rainfall amounts and saturated soils, which is an indicator of high I/I.

As shown in Figure 3, February 2017 was an above average rainfall month. As such, the higher than normal wastewater flows associated with the 1.19-inch February 20, 2017 rainfall event were likely due in part to the two rainfall events that saturated soil conditions two days prior to this rainfall event. Additionally, the February 20, 2017 event was preceded by 7.93 inches of

rainfall received during the time-frame from January 3, 2017 through February 19, 2017. While the 3.18-inch January 4, 2017 rainfall event was much higher than the February 20, 2017 event, it occurred in the beginning of the 2017 rainy season at a time where the antecedent soil moisture conditions were very dry, thus resulting in less I/I into the Cal Poly wastewater collection system. San Luis Obispo rainfall data is taken from Station 160 (University of California Cooperative Extension, San Luis Obispo County, 2019).

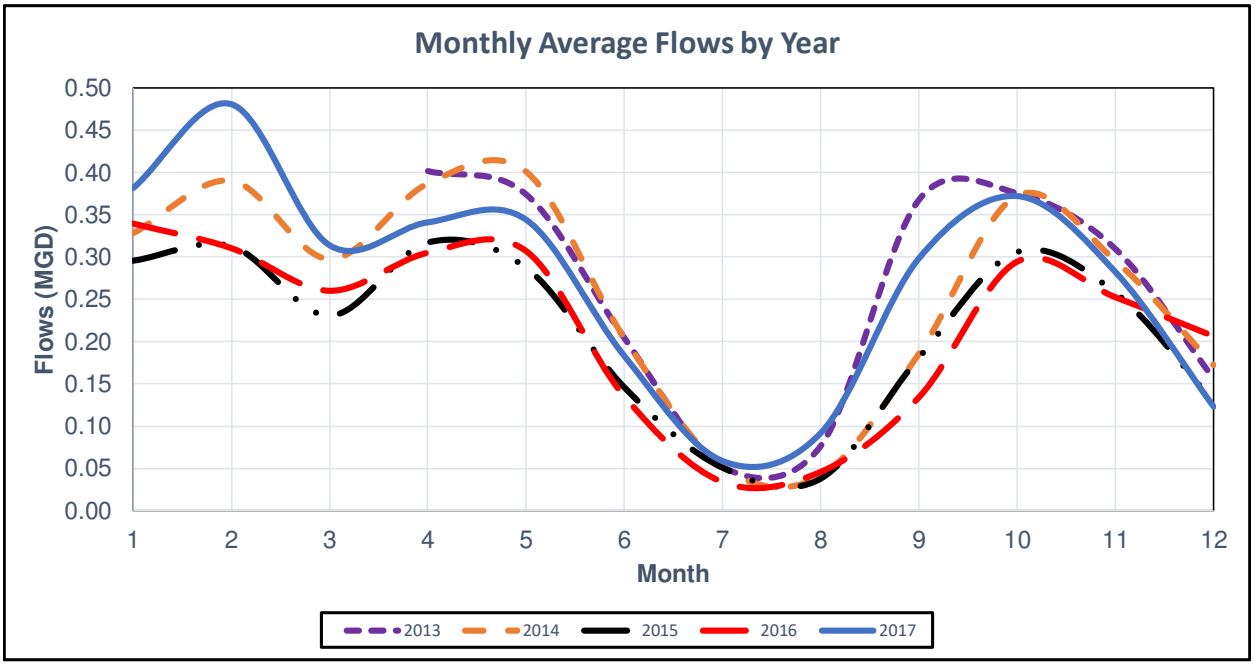



**Figure 2: 2013 – 2017 Monthly Average Daily Flows**

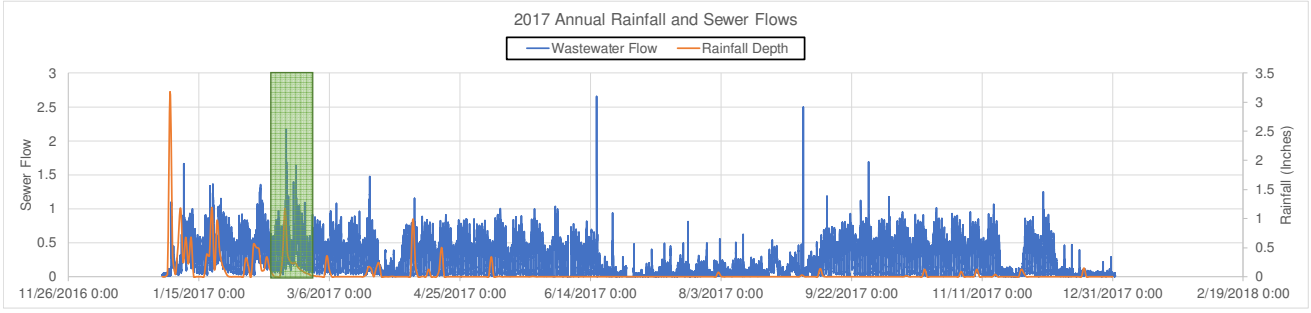



**Figure 3: 2017 Rainfall and 15-Minute Incremental Cal Poly Wastewater Flows (Daily Wastewater Flows, 15 minute increment for Cal Poly, 2014-2017; University of California Cooperative Extension, San Luis Obispo County, 2019)**

For the City's SewerCAD modeling, PWWF is defined as the peak wet weather flow that is sustained for one-hour (Water Systems Consulting, 2015) and is defined as the PDWF plus I/I. Cal Poly's peak one-hour flow is evaluated for a wet year of 2017. For 2017, this value was 1.054 MGD on January 20, 2017 between 10:30 and 11:30 am, but to be conservative a value for 2015 was doubled to 2.108 MGD was used. The 2.108 MGD value from 2015 is used and the 2015 PDWF of 708,835 GPD (0.709 MGD) is subtracted and yields a peak hourly I/I of 1.399 MGD or 971 GPM). This peak hourly I/I value is assumed to remain constant through 2035 in the PWWF projections included in Section 4.12.

## 3.12 Cal Poly Wastewater Pre-Treatment Requirements

A pretreatment agreement between the City and Cal Poly (Title 13, Public Services, Section 13.08, Sewers, of the City's Municipal Code) is consistent with Cal Poly's *Class I – Significant Industrial Waste Discharge Permit* (Permit No. 259-S) (Pre-treatment Permit No. 259-S for Cal Poly, 2016). Cal Poly's permit limits the concentration of common wastewater constituents found in the effluent from large facilities such as Cal Poly. The permit also contains provisions for monitoring and reporting requirements as well as compliance schedules (Pre-treatment Permit No. 259-S for Cal Poly, 2016). Table 9 is copied directly from the permit and no values are identified under 40 CFR 433.17 for any regulated parameters.

**Table 9 Wastewater Discharge Limitations for Cal Poly (Expires December 2019) (Pre-treatment Permit No. 259-S for Cal Poly, 2016)**

| Regulated Parameter | Ordinance 13.08.040 and 13.08.050 (Pre-treatment Permit No. 259-S for Cal Poly, 2016) | 40 CFR 433.17 | |
|---|---|---|---|
| | Local Limits<br>Daily Average (mg/L) | Daily Maximum (mg/L) | Maximum Monthly Average |
| Ammonia | 50 | Not applicable | |
| Biochemical Oxygen Demand (BOD) | 400 | Not applicable | |
| Chloride | 1,523 | Not applicable | |
| Copper, total | 0.20 | - | - |
| Sodium | 1,200 | Not applicable | |
| Total Dissolved Solids (TDS) | 2,215 | Not applicable | |
| Total Suspended Solids (TSS) | 2,346 | Not applicable | |
| Zinc, Total | 0.50 | - | - |
| Total Toxic Organics (TTO) | Presence | - | Not applicable |

Table 9 lists Cal Poly's current and past wastewater effluent limits for regulated constituents as compared to 2017 average annual and maximum monthly monitored values. Cal Poly's 2017

annual average and maximum monthly wastewater effluent levels exceeded current limits for: Ammonia (NH3-N) and Total Toxic Organics (TTO). Additionally, Cal Poly's 2017 maximum monthly levels exceeded current limits for Biological oxygen demand (BOD) and Copper (Cu).

Cal Poly staff attribute these exceedances primarily to ongoing indoor fixture water conservation efforts that reduce the amount of water being discharged to the sewer that would otherwise dilute more concentrated waste streams, including $NH_3$-N and BOD. It is expected that concentrations will decrease with the *2035 Master Plan* build out as the ratio of students that live off campus to living on campus decreases. As more students live on campus, gray water from sources such as showers and sinks will dilute the wastewater stream. TTO levels in Cal Poly's wastewater stream are caused primarily by academic lab activities and is being addressed through awareness and educational outreach (Hartman Engineering, 2019).

**Table 10 Cal Poly Effluent Water Quality Results Compared to City Effluent Limitations Per Agreement (Hartman Engineering, 2019)**

| *Regulated Parameter* | *Pre-2012 Effluent Limits (mg/L)* | *2012/2016 Daily Effluent Limits Max (mg/L)* | *Sample Frequency* | *Sample Type* | *2017 Annual Ave.(mg/L)* | *2017 Monthly Max. (mg/L)* |
|---|---|---|---|---|---|---|
| **Ammonia** | 30 | 50 | Monthly | Composite | 67 | 100 |
| **Biological Oxygen Demand (BOD)** | 400 | 400 | Monthly | Composite | 393 | 552 |
| **Chloride** | 400 | 1,523 | Monthly | Composite | 149 | 302 |
| **Sodium** | 712.3 | 1,200 | Monthly | Composite | 98 | 179 |
| **Total Dissolved Solids (TDS)** | - | 2,215 | Monthly | Composite | 629 | 910 |
| **Total Suspended Solids (TSS)** | 250 | 1,346 | Monthly | Composite | 518 | 780 |
| **Copper** | 0.10 | 0.20 | Monthly | Composite | 0.14 | 0.24 |
| **Zinc** | 0.50 | 0.50 | Monthly | Composite | 0.19 | 0.41 |
| **Total Toxic Organics (TTO)** | Presence | Presence | Monthly | Composited Grab/Grab | 0.18 | 0.59 |

Items in red exceed the City Effluent Limits based on current limits. See Table 9 for current limits.

# 4 Proposed Project Elements for Wastewater

The *2035 Master Plan EIR* Project Description provides a full detail of the proposed project elements. This section describes how proposed project elements such as proposed residential and non-residential buildings that support increased headcount, the proposed WRF, and indoor water conservation impact the on-campus and downstream City wastewater collection and treatment systems. See Exhibit 6 for proposed land uses and WRF location.

## 4.1 Student Enrollment and Other Campus Occupants

The projected headcount for enrollment during the academic year 2035-2036 is 25,000. This is a net increase of 4,056 students. This information is provided for informational purposes as wastewater flow projections are based on proposed non-residential buildings and occupancy of residential buildings (as represented by bed counts) as described below. The type and size of proposed residential and non-residential buildings and recreational facilities is a function of the proposed student headcount as well as the necessary faculty and support staff to support the additional students.

## 4.2 Proposed Buildings and Uses

Cal Poly proposes to construct residential and non-residential (academic, administrative, recreational, and other support services) buildings in support of the projected increase in student enrollment and corresponding increase in academic and other supporting staff. Many of the near-term projects will be delivered as PPP projects, which include the Slack and Grand Residential Neighborhood, the University-based Retirement Community, Health Center, and the Tech Center Expansion. Remaining residential and non-residential projects could follow either a traditional delivery method or a PPP delivery method depending on funding mechanism.

Table 12 lists all planned non-residential buildings and the GSF associated with each non-residential building. Table 11 provides a summary of potential phased construction of all non-residential buildings types to be completed by 2035 under the *2035 Master Plan*. This includes 585,638 GSF for residential projects and 704,362 GSF for non-residential buildings. The exact year of construction is unknown for each building, so the general rate of construction for each specific building is distributed linearly over the life of the Master Planning horizon between the years 2022 and 2035.

**Table 11 Total Residential, Academic, Administrative, and Support Space Growth Projections**

| Enrollment Year | Total GSF | Total Cumulative GSF |
|---|---|---|
| **MP EIR Base Year 2015–2020** | *0* | *0* |
| **2020-2022** | *0* | *0* |
| **2022–2023** | *184,000* | *184,000* |
| **2024–2026** | *276,000* | *460,000* |
| **2027–2029** | *276,000* | *736,000* |
| **2030–2032** | *276,000* | *1,012,000* |
| **2033 - 2035** | *278,000* | ***1,290,000*** |

Based on *2035 Master Plan Draft Environmental Impact Report (EIR)* Project Description.

**Table 12 Proposed New Construction Non-Residential Buildings for 2022 to 2035**

| Facility | Anticipated Completion | Size (GSF) |
|---|---|---|
| | | |
| **Academic Center Library Addition** | 2022 - 2035 | 114,000 |
| **Classroom and Offices Building** | 2022 - 2035 | 72,000 |
| **Beef Cattle Evaluation Center (BCEC) Expansion** | 2022 - 2035 | 10,000 |
| **Engineering Projects Buildings** | 2022 - 2035 | 71,000 |
| **Facilities Operations Complex** | 2022 - 2035 | 108,000 |
| **Davidson Music Center Renovation/Addition** | 2022 - 2035 | 22,600 |
| **Building 19 - Dining Commons Renovation and Addition** | 2022 - 2035 | 44,000 |
| **Operations and Farm Shop Relocation** | 2022 - 2035 | 51,000 |
| **IT Services Consolidation** | 2022 - 2035 | 15,000 |
| **Vista Grande Dining Complex**[1] | 2020 - 2035 | 38,965 |
| **Fermentation Sciences**[1] | 2022 - 2035 | N/A |
| **Health Center**[2] | 2022 - 2035 | 32,797 |
| **Tech Park Expansion**[2] | 2022 - 2035 | 125,000 |
| | | |
| **TOTAL NON-RESIDENTIAL PROJECTS** | | 704,362 |

[1] This building was reviewed for CEQA under the 2001 Amendment but was not constructed by 2015, therefore it is not included in the 2015 Corrected Adjusted baseline flows. This facility is included here to incorporate the wastewater flows for this review.

[2] These are projects with Public Private Partnerships (PPP).

Table 13 lists proposed residential buildings included in the *2035 Master Plan* along with proposed year of completion and number of beds with a total of 8,230 beds planned by 2035 (California Polytechnic State University, San Luis Obipso, 2019). Proposed student residential projects are not yet named and include five projects with a total of 7,200 beds by 2035. Non-student housing for faculty and staff include the Slack and Grand Residential Neighborhood and the University-based Retirement Community, for a total of 1,030 beds by 2035. This is a total of 8,230 beds for all residential building types by 2035.

**Table 13 Proposed Residential Buildings for 2022 to 2035**

| Facility | Anticipated Completion | Size (# of Bed) |
|---|---|---|
| **Unnamed Residential** | 2022 | 2,000 beds |
| **Unnamed Residential** | 2024 | 600 beds |
| **Unnamed Residential** | 2027 | 1,500 beds |
| **Unnamed Residential** | 2031 | 1,500 beds |
| **Unnamed Residential** | 2035 | 1,600 beds |
| **Slack and Grand Residential Neighborhood**[1] | 2023 | 630 beds |
| **University-based Retirement Community**[1] | 2028 | 400 beds |
| | | |
| **TOTAL RESIDENTIAL PROJECTS** | | 8,230 beds |

[1] Non-Student Housing.

## 4.3 Agricultural Lands, Open Space and Landscape Areas

While agricultural lands, open space, and landscape areas will not generate wastewater, these areas are included in the wastewater analysis as portions of these areas will or could receive recycled water from the planned on-campus WRF. The use of recycled water from the on-campus WRF for irrigation affects the total quantity of wastewater that would be sent to the City WRRF, which is reflected in the annual average wastewater flow projections discussed in Section 4.9. While reclaimed wastewater from the planned WRF could be mixed with Cal Poly's untreated wastewater effluent to meet effluent pre-treatment requirements, the primary role of the WRF is to provide an alternative source to potable water for irrigation. Recycled water from the WRF will initially be available for agricultural lands and some landscape areas primarily to the north of the Academic Core.

As indicated in Section 3.4, existing water demand for irrigation of the agricultural lands is approximately 320 AFY (285,658 GPD) (Hartman Engineering, 2019). There is adequate demand for the 190 AFY (169,621 GPD) of reclaimed water treated by the first phase of the WRF within the agricultural lands alone. The irrigation demand for the agricultural lands is 84% of the ultimate WRF capacity of 380 AFY (339,342 GPD). Due to lack of recycled water distribution infrastructure outside of agriculture lands, recycled water will likely not be available to serve the Academic Core until 2029 or beyond, based on information provided by Cal Poly (Watearth, Inc., 2018).

Given the large agricultural demand, which exceeds the volume of available reclaimed water from the WRF until the second phase is online in 2028, reclaimed water is not available for the Academic Core until 2028 or later. The additional landscape areas proposed as part of the *2035 Master Plan* are included in the proposed land use shown on Exhibit 6 and generate an additional average annual irrigation demand of 43,744 GPD by 2035. Due to the planned implementation of water conservation measures, the existing irrigation demand is reduced by 83,918 GPD. This yields a total reduction in average annual irrigation demand of 40,173 GPD even though additional landscape areas are proposed for irrigation as part of the *2035 Master Plan*.

## 4.4 Cal Poly Wastewater System

Changes to the Cal Poly wastewater system and operation are not planned as part of the *2035 Master Plan* with the exception of the planned first phase of the WRF slated to be online in 2022 in the likely scenario and 2026 in the worst-case scenario. Under all scenarios the WRF is anticipated to be online by 2028. The WRF is discussed in further detail in Section 4.9.5 as it relates to reducing Cal Poly's wastewater flows and in Section 4.8 related to operational items and wastewater treatment performance. The *Cal Poly Draft Utility Master Plan* is currently under development separate from the *2035 Master Plan* and *2035 Master Plan EIR* efforts and slated for completion in 2020. This study may identify Capital Improvements Plan (CIP) projects related to Cal Poly's wastewater collection and conveyance system. Additionally, during planning and detailed design for individual projects it may be determined that other wastewater collection improvements or service lines to individual buildings are facilities are required.

## 4.5 Wastewater Agreements with City

No change to Cal Poly's current wastewater agreements with the City are planned as part of the *2035 Master Plan*. However, a capacity analysis of the City's wastewater collection system between Cal Poly's discharge point and the City WRRF is included in Section 5. If impacts on the City's wastewater system are identified, this capacity analysis is intended to provide data related to available capacity and potential capacity share between Cal Poly and the City.

## 4.6 City Wastewater Collection System

No change to the City's wastewater collection system or Cal Poly's discharge point into the City's wastewater conveyance system at the Parshall Flume are planned as part of the *2035 Master Plan*. However, a capacity analysis of the City's wastewater conveyance system between Cal Poly's discharge point and the City WRRF is included in Section 5. This capacity analysis is intended to evaluate and quantity potential impacts on the City's wastewater collection system related to buildout of the *2035 Master Plan* for both the likely scenario of the first phase of the WRF being online by 2022 and the worst-case scenario of the first phase of the WRF being online by 2026.

## 4.7 On-Campus WRF Capacity

Cal Poly plans to construct an on-campus WRF in the West Campus in the agricultural lands to the north (Appendix B and Exhibit 6). Wastewater treatment systems have several common elements regardless of size and configuration that act to remove pollutants of concern. Package plants for wastewater treatment provide the treatment capabilities found in conventional activated sludge treatment plants within a compressed surface area by replacing elements with a

space saving alternative. A bioreactive membrane provides microfiltration with an integrated biological process, replacing settling ponds and other filtration systems. UV disinfection can be added to the effluent stream. Additional treatment and pollutant removal options can be added to the system including for non-biological pollutants such as copper and salinity. Sludge is still produced and will have similar characteristics as a conventional activated sludge treatment plan. Effluent from package plants can be discharged to a settling pond, which may further reduce pollutants of concern that adhere to particulates, such as copper. The sediments of a discharge pond, as proposed in this project, should be tested prior to dredging and disposal.

Cal Poly selected a package plant with a membrane reactor for treatment and ultraviolet (UV) for disinfection to meet project needs and operational constraints. The sizing of the plant will not result in disconnecting the campus from the City wastewater system, but will result in reductions in the quantity of wastewater discharged to the City's system. Evaluation and design of treatment elements, piping, and other infrastructure is not addressed here, but will be part of the preliminary engineering process to develop and install the WRF.

The WRF is anticipated to produce between 235 to 440 AFY (0.21 to 0.39 MGD) (Hartman Engineering, 2019; Veium, a. 2018) with a target size of 380 AFY (0.34 MGD) of recycled water constructed in two equally-sized phases of 190 AFY (169,621 GPD) each. In the likely scenario, the first phase of the WRF is anticipated to be online no later than 2022 with the second phase online in 2028. In the worst-case scenario, the first phase of the WRF is anticipated to be online in 2026 with the second phase online in 2028 (Table 14). While the WRF is a near-term project, this analysis is being performed at a program level-of-detail.

**Table 14 Likely WRF Scenario and Worst-Case WRF Scenario and Phasing**

| | WRF Capacity (AFY) | | | | WRF Capacity (GPD) | | | |
|---|---|---|---|---|---|---|---|---|
| **Scenario** | 2022 | 2026 | 2028 | 2035 | 2022 | 2026 | 2028 | 2035 |
| **Likely** | 190 | 190 | 380 | 380 | 169,621 | 169,621 | 339,242 | 339,242 |
| **Worst-Case** | 0 | 190 | 380 | 380 | 0 | 169,621 | 339,242 | 339,242 |

Anticipated discharge water quality values are dependent on the source surface water background characteristics and operational maintenance of the WRF plant. When operated per manufacturer directions, package plants provide a reliable water treatment option. Additional treatment units can be added if specific water quality discharge issues are identified to meet regulatory and non-regulatory needs. In addition, Cal Poly plans to reuse the wastewater with no intent to discharge to local surface water bodies except for the system-related detention ponds. Cal Poly may use some of the WRF-treated water as make-up water for wastewater discharges to the City's wastewater system, if the City requires Cal Poly to maintain specific discharge limits, or for mixing with untreated Cal Poly wastewater effluent to better meet permit requirements. Quantities will be determined as needed to meet operational requirements.

## 4.8 On-Campus WRF Operations and Treatment Performance

Cal Poly plans to handle construction and operation of the WRF through a Water Purchase Agreement (WPA) to streamline permitting, operations, and regulatory compliance (Hartman Engineering, 2019). The skilled operators provided as part of a WPA will help ensure that the WRF operates as efficiently and effectively as possible. The most common reasons for unexpected operational results and fluctuations in treatment and constituent removal efficiency, include the following (Tchobanoglous, Burton, & Metcalf & Eddy, 1991):

- Large and sudden temperature changes (less likely to be an issue for Cal Poly more than for package plants in climates with highly fluctuating temperatures);
- Variable removal efficiency of grease and scum from the primary clarifier (except with oxidation ditches that do not use primary clarifiers);
- Very low flows that make designing self-cleansing conduits and channels difficult;
- Fluctuations in flow, BOD loading, and other influent parameters;
- Hydraulic shock loads, or the large fluctuations in flow from small communities; and
    - Hydraulic shocks can be an issue with high I/I (US EPA, 2000)
- Insufficient control of the air supply rate.

Potential for operational fluctuation is minimized by using skilled and experienced operators through the proposed WPA. The potential for hydraulic shocks will be reduced as planned CIP projects defined in the *Cal Poly Draft Utility Master Plan* are constructed to address I/I issues. Self-cleansing conduits and channels will be designed with appropriate conveyance to function adequately during lower flows in the summer months (Hartman Engineering, 2019).

Package plant treatment data was obtained from multiple sources specific to wastewater treatment and package plants with membrane filtration and UV disinfection. Sources are documented as footnotes to Table 15.

Table 14 illustrates expected Cal Poly WRF performance and effluent concentrations for nutrients (as evidenced by the ammonia form of nitrogen [$NH_3$-N]), salinity (sodium and chloride), and other limited and monitored constituents based on 2017 monitoring data. As shown, all anticipated loading rates in the reclaimed wastewater treated by the planned tertiary treatment (membrane) WRF are all well below the current maximum effluent limits with the exception of TTO. Membrane filtration treatment can be provided by Nanofiltration (NF) or reverse osmosis (RO) with RO performance or percent removal typically be greater than NF. The use of NF membrane filtration is assumed where performance differs as it provides more conservative (lower) constituent removal rates. However, RO membrane filtration would further decrease the levels of monitored constituents below already acceptable levels with the use of NF membrane filtration.

The WRF is not expected to have an effect on total toxic organics (TTO) unless specific treatment measures (i.e., absorption with activated carbon) are incorporated into the design. As indicated above, exceedance of this constituent is expected to be addressed by educational and behavioral changes. However, RO membrane filtration would reduce TTO. The use of RO would

also further decrease the levels of monitored constituents below already acceptable levels with the use of NF membrane filtration.

**Table 15 Expected Cal Poly WRF Performance and Effluent Concentrations**

| Constituent | Pre-2012 Effluent Limits (mg/L) | 2012/2016 Daily Effluent Limits Max (mg/L) | 2017 Annual Ave.(mg/L) | 2017 Monthly Max. (mg/L) | Typical Removal Rates (%) | Estimated Annual Ave. (mg/L) | Estimated Monthly Max. (mg/L) |
|---|---|---|---|---|---|---|---|
| Ammonia ($NH_3$-N)[1] | 30 | 50 | 67 | 100 | 89% | 8 | 11 |
| Biological Oxygen Demand (BOD)[1] | 400 | 400 | 393 | 552 | 99% | 5 | 6 |
| Chloride[2] | 400 | 1,523 | 149 | 302 | 0% | 149 | 302 |
| Sodium[2] | 712.3 | 1,200 | 98 | 179 | 0% | 98 | 179 |
| Total Dissolved Solids (TDS)[3] | - | 2,215 | 629 | 910 | 84% | 101 | 146 |
| Total Suspended Solids (TSS)[4] | 250 | 1,346 | 518 | 780 | 53% | 243 | 367 |
| Copper[5] | 0.1 | 0.2 | 0.14 | 0.24 | 90% | 0.01 | 0.02 |
| Zinc[5] | 0.5 | 0.5 | 0.19 | 0.41 | 90% | 0.02 | 0.04 |
| Total Toxic Organics (TTO)[6] | Presence | Presence | 0.18 | 0.59 | --- | 0.18 | 0.59 |

Notes:

1. Based on tertiary treatment data from Wastewater treatment and use in agriculture - FAO irrigation and drainage paper 47 (http://www.fao.org/3/t0551e/t0551e05.htm).
2. Assumed nanofiltration (NF) rather than reverse osmosis (RO) for conservative results and based on data from https://proact-usa.com/membrane-filtration/.
3. Based on NF rather than RO for a more conservative estimate. The Ability of a Nanofiltration Membrane to Remove Hardness and Ions from Diluted Seawater (https://www.premierwatermn.com/water-quality/water-contaminants/total-dissolved-solids/). RO typical removal rates range from 90% to 99%.
4. Based on primary treatment data from Wastewater treatment and use in agriculture - FAO irrigation and drainage paper 47 (http://www.fao.org/3/t0551e/t0551e05.htm).
5. Based on data from Removal of Heavy Metals from Wastewater by Membrane Processes: A Comparative Study

(https://www.researchgate.net/publication/223105094_Removal_of_Heavy_Metals_from_Wastewater_by_Membrane_Processes_A_Comparative_Study). Assumed NF, although RO may provide higher removal rates. Assumed same removal efficiency for Zinc as Copper.

6. TTO to be addressed by educational measures and behavioral changes rather than through WRF. RO or activated carbon capable of high removal rates. However, removal of TTO by NF is minimal from Evaluation & Assessment of Removal Technology for Specific Organic Contaminants in NJ Drinking Water, November, 2008. (https://www.nj.gov/dep/watersupply/pdf/treatment_b&v_final08_rpt.pdf).

Neither the effluent limits nor the actual Cal Poly average annual or maximum monthly values before treatment are expected to change as a result of the WRF under either the likely or worst-case scenario. Therefore, loading rates for regulated and monitored constituents within wastewater effluent discharged to the City's conveyance system for treatment at the City's WRRF is not expected to change significantly from current levels based on construction of Cal Poly's WRF. However, the WRF provides Cal Poly with the added operational flexibility to mix relatively clean reclaimed wastewater that has undergone tertiary treatment with untreated wastewater prior to discharge to the City's collection system. This operational option is contingent upon the WRF design including piping and conveyance elements to readily accommodate mixing of reclaimed wastewater with untreated wastewater from Cal Poly prior to discharge to the City's conveyance system (i.e., the WRF needs to also have a connection to allow discharge to Cal Poly's wastewater system).

Using 2017 data, mixing approximately 30% tertiary treated reclaimed wastewater from the WRF with 70% Cal Poly's untreated effluent would eliminate average annual exceedances of $NH_3$-N and the monthly maximum exceedance of BOD, and Cu. To eliminate the monthly maximum exceedance of $NH_3$-N, approximately 60% tertiary treated reclaimed water from the WRF would need to be mixed with 40% Cal Poly's untreated effluent. While this level of mixing is impractical given the WRF's role in water supply for Cal Poly, it offers operational flexibility for permit compliance.

Due to planned additional indoor fixture water conservation measures that will also reduce the volume of wastewater flows, the average and maximum loading rates for some monitored and regulated constituents may increase during buildout of the *2035 Master Plan*. Depending on operational procedures, the WRF is anticipated to reduce exceedances of wastewater effluent limits for the wastewater effluent being discharged to the City's wastewater collection system.

## 4.9 Cal Poly Annual Average Wastewater Flows

Cal Poly proposes an incremental increase in headcount and capital improvement projects during the planning horizon through 2035. New and renovated/expanded facilities are divided into residential and non-residential buildings to project wastewater flows. This analysis calculates the projected wastewater flows at various stages of the *2035 Master Plan* implementation (analysis years 2020, 2025, 2030, and 2035) as compared to the 2015 baseline year.

The following sections discuss residential annual average wastewater flows, non-residential annual average wastewater flows, wastewater flow reductions due to indoor water conservation measures, reductions in Cal Poly's untreated wastewater flows to the City system, and changes in

how wastewater flows from two off-campus buildings (Chorro State and Chorro Lofts) are allocated. Residential and non-residential buildings are listed separately and individual projects listed as individual line items to facilitate future planning.

Wastewater flow projections are provided through buildout of the *2035 Master Plan* and include a likely scenario of the first phase of the WRF being online in 2022 and a worst-case scenario of the first phase of the WRF being online in 2026. Total annual average wastewater flows, increases in annual average wastewater flows, and proposed changes in annual average wastewater flows being discharged into the City's wastewater collection system are included. The wastewater flow projections are also used to estimate ADWF, PDWF, and PWWF used in the SewerCAD modeling of the City's wastewater collection system in Sections 4.10, 4.11, and 4.12.

### *4.9.1 Residential Annual Average Wastewater Flows*

Calculation of proposed wastewater flows for residential projects is based on the number of beds of the project, which takes into account shared restrooms and operation of the building even when unoccupied. Residential annual average wastewater flow projections are based on the following assumptions:

1. Note that the traditional terminology of gallons per capita per day (GPCD) is not used in this analysis as residential buildings on university campuses have different water demand and wastewater flow patterns than typical single-family or multi-family residential users as they typically do not include kitchens. Additionally, wastewater flows from classrooms, academic buildings, and other support facilities are evaluated separately from housing in the non-residential category using standard usage rates and building categories as described in Section 4.9.2.
2. 98% of water supplied for domestic use is discharged as wastewater flow (Connecticut State Department of Public Health, 2006). Typical indoor water use values range from 96% to 100%, so a mid-range value is selected.
3. All residential beds are occupied immediately after completion of the project.
4. For Slack and Grand and the University-based Retirement Community, an annual average water use per bed of 55 GPD/resident was assigned for water demand with 98% of that demand returned as wastewater flow, or 53.9 GPD/resident (City of San Luis Obispo Sewer System Management Plan Update, 2014; City of Santa Barbara, Water Resources Division, 2009; Connecticut State Department of Public Health, 2006; Hartman Engineering, 2019)
5. For student housing, an annual average water use per bed of 25.8 GPD/resident was used, as calculated based on metered data from Cal Poly's existing Poly Canyon Village residential area from July 2016 to June 2017 (Hartman Engineering, 2019). Assuming 98% of the water demand is returned as wastewater flow yields an annual average wastewater flow per bed of 25.8 GPD/resident.

As shown in Table 16 below, a total annual average wastewater flow increase from residential projects is estimated at 236,451 GPD by 2035. The first unnamed residential project is slated to be operational in 2022 with the fourth unnamed residential project slated to be operational in

2035. The Slack and Grand Residential Neighborhood PPP project is projected to contribute an annual average wastewater flow of 33,278 GPD when it comes online in 2023. The University-based Retirement Community is projected to contribute an annual average wastewater flow of 21,129 GPD in 2028.

**Table 16: Projected Annual Average Wastewater Flows from Residential Projects Based on Potable Water Demand**

| Facility | Year Completed | # of Beds | Potable Demand (GPD/ Bed) | Potable Demand (GPD/ bed) | Annual Average Water Demand (Gallons/ Year) | Annual Wastewater Flow (GPD) |
|---|---|---|---|---|---|---|
| | | | | | | |
| **2,000 beds projected for 2022 (Unnamed)** | 2022 | 2,000 | 25.8 | 51,600 | 18,834,000 | 50,568 |
| **600 beds projected for 2024 (Unnamed)** | 2024 | 600 | 25.8 | 15,480 | 5,650,200 | 15,170 |
| **1,500 beds projected for 2027 (Unnamed)** | 2027 | 1,500 | 25.8 | 38,700 | 14,125,500 | 37,926 |
| **1,500 beds projected for 2031 (Unnamed)** | 2031 | 1,500 | 25.8 | 38,700 | 14,125,500 | 37,926 |
| **1,600 beds projected for 2035 (Unnamed)** | 2035 | 1,600 | 25.8 | 41,280 | 15,067,200 | 40,454 |
| **Subtotal Student Residential Projects** | | **7,200** | | **185,760** | **67,802,400** | **182,045** |
| | | | | | | |
| **Slack and Grand Residential Neighborhood[1]** | 2023 | 630 | 53.9 | 33,957 | 12,394,305 | 33,278 |
| **University-based Retirement Community[1]** | 2028 | 400 | 53.9 | 21,560 | 7,869,400 | 21,129 |
| **Subtotal Non-Student Housing Projects** | | **1,030** | | **55,517** | **20,263,705** | **54,407** |
| | | | | | | |
| **TOTAL STUDENT AND NON-STUDENT RESIDENTIAL PROJECTS** | | **8,230** | | **241,277** | **88,066,105** | **236,451** |

[1] These are projects with known Public Private Partnerships (PPP).

### *4.9.2 Non-Residential Buildings Annual Average Wastewater Flows*

Consistent with the residential wastewater flow projections and appropriate for the usage categories of the proposed non-residential buildings, it is assumed that 98% of water use for non-residential buildings is returned as wastewater flow (Connecticut State Department of Public Health, 2006). Typical indoor water use values range from 96% to 100%, so a mid-range value is selected and is applied consistently with residential buildings.

Water demands for the 704,362 GSF of non-residential (academic) buildings were estimated using demand factors per building surface area from the City of Santa Barbara Water Resources Division report *"Water Demand Factor Update Report"* (City of Santa Barbara, Water Resources Division, 2009), which lists water demand factors for different land use categories and building types including institutional, service commercial, industrial, office, and retail buildings based on square footage. This water demand source was selected based on the close geographical proximity to Cal Poly as well as the alignment of provided building categories that are consistent with categories proposed as part of Cal Poly's *2035 Master Plan* expansion.

The City provides domestic sewage generation factors for Average Dry-Weather Flow (ADWF), the categories are more limited and do not align as well with Cal Poly's specific proposed building types as does the City of Santa Barbara's data (City of Santa Barbara, Water Resources Division, 2009; City of San Luis Obispo, December 2015; City of San Luis Obispo Sewer System Management Plan Update, 2014; Connecticut State Department of Public Health, 2006). Even when converted to annual average wastewater flow using the 1.44 factor discussed in Section 3.9, the City's wastewater yield values do not align with Cal Poly proposed building types. Cal Poly's buildings wastewater yield lower and less conservative flow projections than the City of Santa Barbara's values.

Proposed non-residential buildings are assigned to the most similar usage category (Table 16) based on the (City of Santa Barbara, Water Resources Division, 2009). The institutional is not used as it is only applicable for an entire institution and is not relevant for individual buildings within a larger institutional setting. The following provides a definition for the categories used in Table 17 (City of Santa Barbara, Water Resources Division, 2009), which are grouped by similar water demand uses:

- Office – general office space, business, professional, or research;
- Industrial – includes general industrial land uses including assembly, warehousing and storage, manufacturing, and constructed related services;
- Commercial Service – includes items such as restaurants, food service, live or movie theater, auto repair, and veterinary services.

These categories were assigned to each building, and average daily water demands and wastewater flows were estimated for each building as shown in Table 17 below. This water demand source lists metered water use for each building type based on metered data collected by the City of Santa Barbara in 2005 to 2006. Due to the timeframe of data collection, it is assumed that the metered data included a high percentage of low flow fixtures on new and retrofitted buildings and a lower percentage of older, higher flow fixtures that had yet to be replaced. Since

all new Cal Poly facilities will be constructed with low-flow and ultra-low-flow fixtures to meet current standards and Cal Poly's sustainability goals, these values provide a conservative estimate for projections.

Where projects are partially or fully in replacement of existing buildings, the water demands and wastewater flows are calculated to only represent the increase in flow from the baseline, rather than the proposed building's entire flow. Annual average wastewater flows are estimated at 53,960 GPD by 2035 for non-residential buildings.

**Table 17: Projected Non-Residential Buildings Annual Average Wastewater Flows Based on Potable Water Demand**

| Facility | Year Completed | Size (GSF) | Category[3] | Demand Factor (GPD/ GSF)[3] | Annual Average Water Demand (GPD) | Annual Average Wastewater Flows (GPD) |
|---|---|---|---|---|---|---|
| **Academic Center Library Addition** | 2022 - 2035 | 114,000 | Office | 0.053562 | 6,106 | 5,984 |
| **Classroom and Offices Building** | 2022 - 2035 | 72,000 | Office | 0.053562 | 3,856 | 3,779 |
| **Beef Cattle Evaluation Center (BCEC) Expansion** | 2022 - 2035 | 10,000 | Commercial Veterinary | 0.151759 | 1,518 | 1,487 |
| **Engineering Projects Buildings** | 2022 - 2035 | 71,000 | Industrial Assembly/ Manufacturer | 0.071416 | 5,071 | 4,969 |
| **Facilities Operations Complex** | 2022 - 2035 | 108,000 | Industrial | 0.071416 | 7,713 | 7,559 |
| **Davidson Music Center Renovation/Addition** | 2022 - 2035 | 22,600 | Office | 0.053562 | 1,211 | 1,186 |
| **Building 19 - Dining Commons Renovation and Addition** | 2022 - 2035 | 44,000 | Commercial Service | 0.151759 | 6,677 | 6,544 |
| **Operations and Farm Shop Relocation** | 2022 - 2035 | 51,000 | Commercial Auto Repair | 0.151759 | 7,740 | 7,585 |
| **IT Services Consolidation** | 2022 - 2035 | 15,000 | Office | 0.053562 | 803 | 787 |
| **Health Center[2]** | 2022 - 2035 | 32,797 | Commercial Service | 0.151759 | 4,977 | 4,878 |
| **Tech Park Expansion[2]** | 2022 - 2035 | 125,000 | 50% Office/ 50% Industrial | 0.062489 | 7,811 | 7,655 |
| **Fermentation Building[1]** | 2022 - 2035 | N/A | N/A | N/A | 1,303 | 652 |
| **Vista Grande[1]** | 2020 - 2035 | 38,965 | 33.3% Office/66.6% Commercial Service | 0.119027 | 913 | 895 |
| | | | | | | |
| **TOTAL NON-RESIDENTIAL PROJECTS** | | 704,362 | | | 55,699 | 53,960 |

[1] This building was reviewed for CEQA under the 2001 Amendment but was not constructed by 2015, therefore it is not included in the 2015 Corrected Adjusted baseline flows. This facility is included here to incorporate the wastewater flows for this review.

[2] These are projects with Public Private Partnerships (PPP).

[3] Indoor use factors taken from the City of Santa Barbara *Water Demand Factor Report* (City of Santa Barbara, Water Resources Division, 2009).

### *4.9.3 Annual Average Wastewater Flow Reductions from Indoor Water Conservation*

Domestic water usage is closely tied to wastewater flows. Certain water conservation efforts such as low-flow toilets and other low-flow fixtures will lead to reduction in wastewater flows. These types of water conservation efforts are a factor in projecting future wastewater flows. Cal Poly conducted audits of existing buildings and other water uses including landscape irrigation to identify potential water conservation opportunities (California Polytechnic State University, San Luis Obispo; Water Savers, LLC, 2014).

As summarized by Cal Poly for the low flow plumbing retrofits, CalSense audit, and AquaCents turf replacement, Cal Poly anticipates achieving a total of 10 AFY (8,927 GPD) of annual average water conservation savings from indoor fixtures by 2025, with 50% of this savings realized between 2019 and 2022 and the remaining 50% between 2023 and 2025 (Water Savers, LLC, 2014; California Polytechnic State University, San Luis Obispo; AquaCents Water Management, Inc, 2017). With 98% of water demands returned as wastewater flows, a reduction annual average wastewater flows of 8,747 GPD is realized by 2025 from changes in indoor fixtures. As such, an annual average wastewater flow reduction of 2,187 GPD and 8,747 GPD of water conservation savings is applied in analysis years 2020 and 2025, respectively.

### *4.9.4 Reduction in Annual Average Wastewater Flows from Off-Campus Properties*

As described in Section 3.1 and Table 2, two of Cal Poly's off-campus properties are being moved from Cal Poly's wastewater allocations to be served by the City's system. Chorro State and Chorro Lofts are included in Cal Poly's 2015 baseline flows and are removed from Cal Poly's wastewater flows in all analysis years from 2020 to 2035 (Veium, a. 2018). The annual average wastewater flows are 46 GPD, 1,108 GPD, and 1,154 GPD for Chorro State, Chorro Lofts, and the total of the two, respectively. This change is reflected in the "Off-Campus Properties" line item in Table 18 below.

### *4.9.5 Reduction in Annual Average Wastewater Flows from Proposed Cal Poly On-Campus WRF*

The on-campus WRF is expected to reduce wastewater flows from Cal Poly into the City wastewater conveyance system. As shown in Table 18, the WRF is planned to have an initial capacity of 190 AFY (169,621 GPD) with the first phase online in 2022 under the likely scenario and 2026 under the worst-case scenario. The full WRF capacity of 380 AFY (339,242 GPD) is expected to be online in 2028.

### *4.9.6 Summary of Annual Average Wastewater Flows*

Table 18 summarizes the total annual average wastewater flow from Cal Poly and the additional annual average wastewater flow from all proposed residential and non-residential projects by analysis year, reductions in wastewater flows from indoor water conservation, and changes in how the allocation for off-campus properties are handled. For non-residential buildings, completion dates are unknown and buildings are assumed to be phased with GSF and associated wastewater flows distributed linearly between 2022 and 2035. While it appears that flows increase over time, wastewater flows from each specific non-residential building will remain constant once a specific building is operational. Total Cal Poly annual average wastewater flows

range from 194,216 GPD in 2020 to 478,066 GPD in 2035 representing a 142% increase over the 2015 baseline conditions at full buildout of the *2035 Master Plan*.

Both a likely scenario and a worst-case scenario for the WRF being online and operational are included. In the likely scenario, the first phase of the WRF is online in 2022 and the second phase in 2028. In the worst-case scenario, the first phase of the WRF is online in 2026 and the second phase in 2028. In both scenarios, the WRF capacity is 190 AFY (169,621 GPD) in the first phase and expanded by 190 AFY (169,621 GPD) in the second phase to a total of 380 AFY (339,242 GPD). The WRF is reflected in analysis years 2025 (first phase) and 2030 (both phases online) for the likely scenario and 2030 (both phases online) for the worst-case scenario.

As shown, annual average wastewater flows from Cal Poly to the City's wastewater collection system decrease from a 2015 baseline of 197,557 GPD to 138,824 GPD at full *2035 Master Plan* buildout in 2035 in both the likely and worst-case WRF scenarios, assuming all reclaimed water treated by the WRF is used for on-campus irrigation. In the likely scenario of the WRF online in 2022, for all analysis years from 2020 to 2035, annual average wastewater flows are reduced below current levels by a high of 156,385 GPD in 2030 (implies all flow could be treated by the WRF) and a low of 3,341 GPD in 2020. The only difference between the likely and worst-case scenario related to flows into the Cal Poly system is that in 2025, the likely scenario reduces flows into the Cal Poly wastewater collection system by 65,090 GPD whereas the worst-case scenario increases flows into the Cal Poly wastewater collection system by 104,531 GPD.

Under the likely scenario of the first phase of the WRF online in 2022, the WRF capacity is adequate to fully meet Cal Poly's additional annual average wastewater flow treatment needs for all key analysis and calendar years, including those years with near-term projects slated to be online. Adequate annual average wastewater treatment capacity will be available for all residential and non-residential projects as scheduled. While not anticipated or likely even feasible, if any projects were operational prior to the first phase WRF coming online in any year, Cal Poly's annual average wastewater conveyance capacity would not be adequate as compared to 2015 baseline conditions. Under the worst-case scenario or any scenario where the WRF is delayed beyond 2023, planned residential and non-residential buildings would need to be delayed until the WRF is online to maintain annual average wastewater flows at or below 2015 baseline conditions. While Cal Poly's average monthly conveyance capacity of 0.471 MGD is adequate through 2030, the average annual wastewater flow of 0.478 MGD in 2035 without the WRF exceeds Cal Poly's 0.471 MGD capacity agreement with the City by 0.07 MGD indicating that the WRF is critical for development of the *2035 Master Plan*.

**Table 18: Summary of Annual Average Wastewater Flows in GPD**

| Wastewater Flow Source | Average Annual Wastewater Flows (GPD) 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|
| **Baseline** | 197,557 | 197,557 | 197,557 | 197,557 | 197,557 |
| Student Housing Residential Projects | | | | | |
| **2,000 beds projected for 2022 (Unnamed)** | 0 | 0 | 50,568 | 50,568 | 50,568 |
| **600 beds projected for 2024 (Unnamed)** | 0 | 0 | 15,170 | 15,170 | 15,170 |
| **1,500 beds projected for 2027 (Unnamed)** | 0 | 0 | 0 | 37,926 | 37,926 |
| **1,500 beds projected for 2031 (Unnamed)** | 0 | 0 | 0 | 0 | 37,926 |
| **1,600 beds projected for 2035 (Unnamed)** | 0 | 0 | 0 | 0 | 40,454 |
| Subtotal Student Residential Projects | **0** | **0** | **65,738** | **103,664** | **182,045** |
| Non-Student Housing Residential Projects | | | | | |
| **Slack and Grand Residential Neighborhood**[1] | 0 | 0 | 33,278 | 33,278 | 33,278 |
| **University-based Retirement Community**[1] | 0 | 0 | 0 | 21,129 | 21,129 |
| Subtotal Non-Student Residential Projects | **0** | **0** | **33,278** | **54,407** | **54,407** |
| | | | | | |
| Subtotal All Residential Projects | **0** | **0** | **99,016** | **158,071** | **236,451** |
| Non-Residential Projects | | | | | |
| **Academic Center Library Addition** | 0 | 0 | 1,710 | 3,847 | 5,984 |
| **Classroom and Offices Building** | 0 | 0 | 1,080 | 2,430 | 3,779 |
| **Beef Cattle Evaluation Center (BCEC) Expansion** | 0 | 0 | 425 | 956 | 1,487 |
| **Engineering Projects Buildings** | 0 | 0 | 1,420 | 3,194 | 4,969 |
| **Facilities Operations Complex** | 0 | 0 | 2,160 | 4,859 | 7,559 |
| **Davidson Music Center Renovation/Addition** | 0 | 0 | 339 | 763 | 1,186 |
| **Building 19 - Dining Commons Renovation and Addition** | 0 | 0 | 1,870 | 4,207 | 6,544 |
| **Operations and Farm Shop Relocation** | 0 | 0 | 2,167 | 4,876 | 7,585 |
| **IT Services Consolidation** | 0 | 0 | 225 | 506 | 787 |
| **Fermentation Building**[2] | 0 | 0 | 186 | 419 | 652 |
| **Vista Grande**[2] | 0 | 0 | 256 | 575 | 895 |
| **Health Center**[1] | 0 | 0 | 1,394 | 3,136 | 4,878 |

| Wastewater Flow Source | Average Annual Wastewater Flows (GPD) | | | | |
|---|---|---|---|---|---|
| | 2015 | 2020 | 2025 | 2030 | 2035 |
| **Tech Park Expansion[1]** | 0 | 0 | 2,187 | 4,921 | 7,655 |
| Subtotal All Non-Residential Projects | **0** | **0** | **15,417** | **34,688** | **53,960** |
| | | | | | |
| Total Increased Flow | **0** | **0** | **114,433** | **192,759** | **290,411** |
| | | | | | |
| **Reduction due to Conservation** | 0 | 2,187 | 8,747 | 8,747 | 8,747 |
| **Reduction due to Off-campus Properties** | 0 | 1,154 | 1,154 | 1,154 | 1,154 |
| **Reduction due to On-campus WRF (Likely Case)** | 0 | 0 | 169,621 | 339,242 | 339,242 |
| **Reduction due to On-campus WRF (Worst Case)** | 0 | 0 | 0 | 339,242 | 339,242 |
| Total Reduced Flow (Likely Case) | 0 | 3,341 | 179,523 | 349,144 | 349,144 |
| Total Reduced Flow (Worst Case) | 0 | 3,341 | 9,902 | 349,144 | 349,144 |
| | | | | | |
| Total Cal Poly Flow Excluding WRF | 197,557 | 194,216 | 302,088 | 380,414 | 478,066 |
| | | | | | |
| Total Cal Poly Flow to City of SLO System (Likely Case) | 197,557 | 194,216 | 132,467 | 41,172 | 138,824 |
| Total Cal Poly Flow to City of SLO System (Worst Case) | 197,557 | 194,216 | 302,088 | 41,172 | 138,824 |
| | | | | | |
| **Change in Cal Poly Flow to City of SLO System (Likely Case)** | **0** | **-3,341** | **-65,090** | **-156,385** | **-58,733** |
| **Change in Cal Poly Flow to City of SLO System (Worst Case)** | **0** | **-3,341** | **104,531** | **-156,385** | **-58,733** |

[1] These are projects with known Public Private Partnerships (PPP).

[2] This building was reviewed for CEQA under the 2001 Amendment but was not constructed by 2015, therefore it is not included in the 2015 Corrected Adjusted baseline flows. This facility is included here to incorporate the wastewater flows for this review.

## 4.10 Average Daily Dry Weather Wastewater Flows

As discussed in Section 3.9 above, ADWF is calculated as 1.44 times Cal Poly's total annual average wastewater flows. ADWF is calculated for key years 2015, 2020, 2025, 2030, and 2035 in Table 19 in Section 4.12 below and is further adapted for use in the SewerCAD modeling of the City's wastewater collection system analysis as discussed in Section 5. This table also present the ADWF used in the likely and worst-case modeling scenarios once the planned WRF capacity in a given analysis year is subtracted. For simplicity, ADWF is presented along with PDWF, and PWWF since these values are calculated for use in the SewerCAD modeling of the City's wastewater collection system.

*ADWF – average daily dry weather wastewater flows*
*PDWF – peak dry weather wastewater flows*
*PWWF – peak wet weather wastewater flows*

ADWF values for the likely case and worst-case WRF scenario are identical in all analysis years except for 2025, since the WRF is online in 2025 in the likely case scenario, but not in the worst-case scenario. ADWF into the City's wastewater collection system range from 279,671 GPD in 2020, 265,386 GPD in 2025, 208,555 GPD in 2030, and 349,173 GPD in 2035. The only difference in the worst-case scenario is that ADWF into the City's wastewater collection system increase to 435,007 GPD in 2025. ADWF into the City's wastewater collection system decreases compared to 2015 baseline for all analysis years except for an increase of 64,691 GPD in 2035 under the likely scenario of the WRF. Under the worst-case scenario of the WRF, ADWF into the City's wastewater collection system increases by 150,525 GPD as compared to the 2015 baseline. ADWF into the City's wastewater collection system is below Cal Poly's average monthly capacity of 0.471 MGD for all analysis years through 2035.

## 4.11 Peak Daily Dry Weather Wastewater Flows

As discussed in Section 3.10, a peaking factor of 2.6 is applied to Cal Pol's ADWF to estimate Cal Poly's PDWF used in the SewerCAD modeling of the City's wastewater collection system analysis. While this potentially overestimates peak dry weather flows, it is consistent with the peaking factor used by the City and provides a conservative basis for comparison. PDWF is calculated for key years 2015, 2020, 2025, 2030, and 2035 in Table 19 in Section 4.12 below. This table also presents the PDWF used in the likely and worst-case modeling scenarios once the planned WRF capacity in a given analysis year is subtracted. As indicated in Section 4.10, ADWF, PDWF, and PWWF are presented in this table for use in the SewerCAD modeling of the City's wastewater collection system.

PDWF values for the likely case and worst-case WRF scenario are identical in all analysis years except for 2025, since the WRF is online in 2025 in the likely case scenario, but not in the worst-case scenario. PDWF into the City's wastewater collection system range from 0.727 MGD in 2020, to 0.961 MGD in 2025, 1.09 MGD in 2030, and 1.45 MGD in 2035. The only difference in the worst-case scenario is that PDWF into the City's wastewater collection system in 2025 increase to 1.13 MGD. PDWF into the City's wastewater collection system decreases in 2020 by 12,510 GPD as compared to the 2015 baseline, but increases for all remaining analysis years by a high of 710,984 GPD for the likely scenario of the WRF. Under the worst-case scenario of the WRF, PDWF into the City's wastewater collection system increases by 391,365 GPD as compared to the 2015 baseline. PDWF into the City's wastewater collection system is below Cal

Poly's transmission capacity of 1.2 MGD through 2030 for both the likely and worst-case scenarios of the WRF and is 0.25 MGD higher than allotment in 2035 based on the average WRF capacity. While the WRF is likely to have peak capacity to accommodate higher than average annual flows, this should be a design consideration of the WRF or selection of the specific package plant.

## 4.12 Peak Daily Wet Weather Wastewater Flows

As discussed in Section 3.11, an I/I value of 1.399 MGD (971 GPM) is added to PDWF to obtain PWWF for the entire Cal Poly flow excluding and including the WRF. PDWF is calculated for key years 2015, 2020, 2025, 2030, and 2035 in Table 19. This table also presents the PWWF used in the likely and worst-case modeling scenarios once the planned WRF capacity in a given analysis year is subtracted. As indicated in Section 4.10, ADWF, PDWF, and PWWF are presented in this table for use in the SewerCAD modeling of the City's wastewater collection system.

PWWF values for the likely case and worst-case WRF scenario are identical in all analysis years except for 2025, since the WRF is online in 2025 in the likely case scenario, but not in the worst-case scenario. PWWF into the City's wastewater collection system range from 2.13 MGD in 2020 to 2.36 MGD in 2025, 2.48 MGD in 2030, and 2.85 MGD in 2035 for the likely case scenario. For the worst-case scenario, the only difference is that PWWF into the City's wastewater collection system in 2025 increase to 2.53 MGD. PDWF into the City's wastewater collection system decreases in 2020 by 12,510 GPD as compared to the 2015 baseline, but increases for all remaining analysis years by a high of 710,984 GPD for the likely scenario of the WRF. Under the worst-case scenario of the WRF, PDWF into the City's wastewater collection system increases by 391,365 GPD as compared to the 2015 baseline.

PWWF into the City's wastewater collection system is above Cal Poly's transmission capacity of 1.2 MGD for all analysis years through 2035, including the 2015 baseline year. While the WRF is likely to have additional peak capacity to accommodate higher than average annual flows, it may not be adequate to reduce PWWF to 1.2 MGD. In addition to water conservation measures and the on-campus WRF, Capital Improvements to Cal Poly's wastewater collection system may be needed to reduce the potential for future wet months to exceed the 0.471 MGD average daily flow and/or the 1.2 MGD conveyance capacity. Cal Poly is reviewing their wastewater conveyance system including addressing I/I as part of the *Cal Poly Draft Utility Master Plan* effort, which is expected to be completed in 2020. This effort that is currently underway will quantify I/I and identify economically viable CIP projects to reduce I/I to accommodate expansion and growth of student population as well as to replace aging wastewater infrastructure. CIP projects will likely reduce I/I and result in reductions in peak daily wet weather flows from Cal Poly. There will likely be more accurate findings from Master Utility Plan, and that we did not include any proposed (by City) improvements or maintenance by Cal Poly.

Table 19 provides a summary of the ADWF, PDWF, and PWWF used in the SewerCAD modeling of the City Wastewater System in relation to the proposed improvements for this report. A safety factor was added to the calculated I/I, which are represented in this table. For comparison, the calculated only I/I value is shown in Table 19a, where only the PWWF value changes.

**Table 19: Projected ADWF, PDWF, and PWWF for use in City Wastewater System Modeling in GPD**

| Total Cal Poly Wastewater Flows | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|
| | Average Annual Wastewater Flows (GPD) | | | | |
| Average Annual Flows | 197,557 | 194,216 | 302,088 | 380,414 | 478,066 |
| ADWF (No WRF) | 284,482 | 279,671 | 435,007 | 547,797 | 688,415 |
| PDWF (No WRF) | 739,653 | 727,144 | 1,131,019 | 1,424,272 | 1,789,880 |
| PWWF (No WRF) | 2,139,217 | 2,126,708 | 2,530,583 | 2,823,836 | 3,189,444 |
| | | | | | |
| Modeling Flow Scenario Values for Likely Case WRF Scenario | Modeling Flows (GPD) | | | | |
| ADWF (Likely Case) | 284,482 | 279,671 | 265,386 | 208,555 | 349,173 |
| PDWF (Likely Case) | 739,653 | 727,144 | 961,398 | 1,085,030 | 1,450,638 |
| PWWF (Likely Case) | 2,139,217 | 2,126,708 | 2,360,962 | 2,484,594 | 2,850,202 |
| | | | | | |
| Modeling Flow Scenario Values for Worst Case WRF Scenario | Modeling Flows (GPD) | | | | |
| ADWF (Worst Case) | 284,482 | 279,671 | 435,007 | 208,555 | 349,173 |
| PDWF (Worst Case) | 739,653 | 727,144 | 1,131,019 | 1,085,030 | 1,450,638 |
| PWWF (Worst Case) | 2,139,217 | 2,126,708 | 2,530,583 | 2,484,594 | 2,850,202 |

Note: These values are a calculated flow with an added safety factor and should not be used for design or in determining compliance with agreements and discharge limits.

**Table 19a: Projected ADWF, PDWF, and PWWF for use in City Wastewater System Modeling in GPD without safety factor**

| | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|
| **Total Cal Poly Wastewater Flows** | **Average Annual Wastewater Flows (GPD)** | | | | |
| **Average Annual Flows** | 197,557 | 194,216 | 302,088 | 380,414 | 478,066 |
| **ADWF (No WRF)** | 284,482 | 279,671 | 435,007 | 547,797 | 688,415 |
| **PDWF (No WRF)** | 739,653 | 727,144 | 1,131,019 | 1,424,272 | 1,789,880 |
| **PWWF (No WRF)** | 1,085,018 | 1,072,509 | 1,476,384 | 1,769,637 | 2,135,245 |
| | | | | | |
| **Modeling Flow Scenario Values for Likely Case WRF Scenario** | **Modeling Flows (GPD)** | | | | |
| **ADWF (Likely Case)** | 284,482 | 279,671 | 265,386 | 208,555 | 349,173 |
| **PDWF (Likely Case)** | 739,653 | 727,144 | 961,398 | 1,085,030 | 1,450,638 |
| **PWWF (Likely Case)** | 1,085,018 | 1,072,509 | 1,306,763 | 1,430,395 | 1,796,003 |
| | | | | | |
| **Modeling Flow Scenario Values for Worst Case WRF Scenario** | **Modeling Flows (GPD)** | | | | |
| **ADWF (Worst Case** | 284,482 | 279,671 | 435,007 | 208,555 | 349,173 |
| **PDWF (Worst Case)** | 739,653 | 727,144 | 1,131,019 | 1,085,030 | 1,450,638 |
| **PWWF (Worst Case)** | 1,085,018 | 1,072,509 | 1,476,384 | 1,430,395 | 1,796,003 |

## 4.13 Cal Poly Wastewater Pre-Treatment Requirements

No change to the Cal Poly's wastewater pre-treatment requirements are planned as part of the *2035 Master Plan*. However, a full discussion on permitting, monitored constituents removal, and other WRF-related items is included in Section 3.12.

# 5 City Wastewater System Conveyance Capacity

A detailed study of the Cal Poly wastewater conveyance system is currently underway as part of the *Cal Poly Utility Master Plan* but will not be available for inclusion in the *2035 Master Plan* EIR. The City expressed concern that the additional wastewater needs for the campus expansion could impact the City's wastewater systems. This section provides the results of a high-level analysis of general capacity of the City wastewater distribution system's capacity at the Cal Poly points of connection. To evaluate capacity of the City's water distribution system, Watearth obtained SewerCAD models of the City's wastewater distribution system. The City's wastewater collection connects to Cal Poly primarily through a six-inch Parshall Flume and includes 3.8 miles of VCP and PVC pipelines ranging in size from 10 to 48 inches to the City WRRF.

## 5.1 City Wastewater Collection System and SewerCAD Models

The City's wastewater node/link map is included in Appendix A. A range of modeling scenarios is included in the City's wastewater models, including: ADWF, PDWF, and PWWF at current conditions and build-out . While not tied to particular analysis years, current conditions are assumed to represent 2015 baseline conditions and build out is assumed to represent 2035 conditions.

From the City's SewerCAD node/link Node J05-7 is the Cal Poly sewer metering location near Spanos Stadium and just upstream of Cal Poly's discharge into the City's wastewater collection system at Node J06-2 and the wastewater line leaving the Cal Poly campus is Line 4296 with a 15-inch diameter. Wastewater flows from Cal Poly are conveyed to the City's WRRF through 3.8 miles of vitrified clay pipe (VCP) and polyvinyl chloride (PVC) pipelines ranging in size from 10 to 48 inches.

Cal Poly's wastewater flows in the current wastewater node map provided by the City are listed as:

- Annual Average Wastewater Flow (AAF) (assumed to correspond to ADWF) = 250 GPM (360,003 GPD);
- Ex. Peak Dry Weather Flow (PDWF) = AAF * 2.6 peaking factor = 650 GPM (936,000 GPD);
- Ex. Peak Wet Weather Flow (PWWF) = PDF + I/I at 789 GPM = 1,439 GPM (2.07 MGD).

Table 20 and Table 21 below show the AAF, PDWF, and PWWF values at Node J05-7 in the original model provided by the City in both current and build out conditions. These are similar to, but do not exactly match the values listed on the wastewater node map (Appendix A). However, the most Cal Poly wastewater flows used in this modeling effort are based on results obtained in the current study based on the *2035 Master Plan* as opposed to data currently in the City's SewerCAD model.

**Table 20: City-Provided Cal Poly Flows in City SewerCAD Models in GPM**

| | Inflow (Sanitary Loading) | | | Inflow (Wet) | Total |
|---|---|---|---|---|---|
| **Scenario** | **Pattern Load - Base Flow and Pattern (Fixed) (GPM)** | **Pattern Load - Base Flow and Pattern (Fixed) (GPM)** | **Pattern Load - Base Flow and Pattern (Fixed) (GPM)** | **Fixed Load (GPM)** | **Flow (GPM)** |
| **ADWF_Current** | 250 | 16 | 0 | 0 | 267 |
| **PDWF_Current** | 650 | - | - | 0 | 650 |
| **PWWF_Current** | 250 | 16 | 0 | 1,759 | 2,026 |
| **ADWF_BO** | 250 | 16 | 347 | 0 | 614 |
| **PDWF_BO** | 1,553 | - | - | 0 | 1,553 |
| **PWWF_BO** | 250 | 16 | 347 | 1,759 | 2,373 |

**Table 21: City-Provided Cal Poly Flows in City SewerCAD Models in GPD**

| | Inflow (Sanitary Loading) | | | Inflow (Wet) | Total |
|---|---|---|---|---|---|
| **Scenario** | **Pattern Load - Base Flow and Pattern (Fixed) (GPD)** | **Pattern Load - Base Flow and Pattern (Fixed) (GPD)** | **Pattern Load - Base Flow and Pattern (Fixed) (GPD)** | **Fixed Load (GPD)** | **Flow (GPD)** |
| **ADWF_Current** | 360,214 | 23,719 | 0 | 0 | 383,933 |
| **PDWF_Current** | 936,556 | - | - | 0 | 936,556 |
| **PWWF_Current** | 360,214 | 23,719 | 0 | 2,533,136 | 2,917,069 |
| **ADWF_BO** | 360,214 | 23,719 | 500,000 | 0 | 883,933 |
| **PDWF_BO** | 2,236,556 | - | - | 0 | 2,236,556 |
| **PWWF_BO** | 360,214 | 23,719 | 500,000 | 2,533,136 | 3,417,069 |

The model provided originally by the City had incorrect/inaccurate elevation data for various variables such as manhole rim, ground, and invert elevation. These issues either caused the model to provide incorrect/inaccurate results, or created a critical error preventing the model from running at all. In order to correct these issues, the following changes were made in consultation with Bentley Systems technical support to ensure only those revisions required to stabilize and run the models were made:

1. In the manholes FlexTable in SewerCAD, all rim elevations were set to be equal to ground elevations by checking the "Set Rim to Ground Elevation?" column for each manhole. This was done as ground elevations provided a more complete and accurate elevation data set than rim elevations, which were typically set at zero feet in the model.
2. Ground elevations were assigned to three manholes where no elevation data was included in the model. Elevations were estimated by referencing the manhole location in SewerCAD to Google Earth and taking elevations from Google Earth. Specifically;
    a. MH-13 was set to 177 feet,
    b. MH-14 was set to 319 feet, and
    c. MH-15 was set to 207 feet.
3. For the numerous manholes with invert elevations set at zero, invert elevation was set to a constant three feet below ground elevation. This is a relatively conservative assumption that may show an artificial, but consistent capacity issue in both 2015 baseline and other analysis years at some locations, since capacity data HGL is partially based on pipe invert elevations and slope.
4. In the Conduit FlexTable in SewerCAD, where the start and/or stop invert elevation was set to zero, the "set invert to start" and/or "set invert to stop" columns were marked to TRUE, indicating that the manhole elevations should be used, rather than conduit elevations.
5. Steps one through four eliminated most of the 1,000+ errors and revealed critical errors related to conduits being modeled as diversion links without an assigned upstream diversion pipe to flow to. This was corrected by transferring the diversion link properties to the nearest upstream pipe with two upstream links as follows:
    a. Diversion properties of Conduit 4357 were transferred to the adjacent upstream Conduit 3550;
    b. Diversion properties of Conduit 4221 were transferred to the second upstream Conduit 5247.

## 5.2 City Wastewater Collection System Key Analysis Points

The purpose of this evaluation of City's system is to spot check capacity within the City's wastewater conveyance system. While it is not intended to be a comprehensive evaluation of the City's wastewater conveyance system, it provides valuable information for the CEQA process based on evaluations of flow capacities of wastewater lines and an analysis of potential for impacts from changes in Cal Poly's flows at five (5) key points within the City's wastewater conveyance system.

These five key points were selected, with input provided by the City at a November 16, 2018 meeting, to encompass Cal Poly's connection point to the City's wastewater conveyance system at the Parshall Flume, the final node before the City's WRRF., (City of San Luis Obispo Sewer System Management Plan Update, 2014; Watearth, Inc., 2018). According to the City staff, the

following locations within the City's wastewater conveyance system have capacity issues during wet weather:

1. Carmel and Marsh Street;
2. Bridge Street;
3. Sana Rosa/Oak Skate Park.

Based on these items, the five key points selected for analysis include:

- Key Location 1: Cal Poly's connection to the City's system (J06-2) just downstream of Cal Poly's sewer metering location near Spanos Stadium;
- Key Location 2: Point along path between Cal Poly and the City's WRRF, and near Santa Rosa/Oak Skate Park (J07-83);
- Key Location 3: Point along path between Cal Poly and the City's WRRF, Carmel Street and Marsh Street (J10-34);
- Key Location 4: Point along path between Cal Poly and the City's WRRF, near Bridge Street and Higuera Street (J12-11);
- Key Location 5: Final node before City's WRRF (I15-9).

## 5.3 Wastewater Flows Used in City Wastewater Collection System Analysis

Table 19 summarizes the projected and estimated Cal Poly ADWF, PDWF, and PWWF used in the SewerCAD analysis of the City's wastewater collection system at the analysis years of 2015, 2020, 2025, 2030, and 2035. As discussed in Sections 4.10, 4.11, and 4.12, the average WRF treatment capacity is subtracted as appropriate for the likely and worst-case scenarios of the WRF to estimate total Cal Poly flows into the City's wastewater collection system. Note that this approach does not account for the possibility of the WRF to treat a certain level of peak flows above average annual wastewater flows.

These flows replace pattern loads in the original models (listed in Table 20 and Table 21 above), so that the total Cal Poly flow modeled in SewerCAD exactly equals the wastewater flows listed in Table 19. Note that the only model input data changed for this analysis is the City of Cal Poly's Base Sanitary and Inflow flow values at Node J05-7, which represents the Cal Poly sewer metering location near Spanos Stadium and just upstream of Cal Poly's discharge into the City's wastewater collection system at Node J06-2.

ADWF modeling runs are developed by duplicating the City's ADWF_Current and ADWF_BO and renaming them to follow the naming convention developed for this project described in Section 5.4. PDWF modeling runs are developed similarly to the ADWF modeling runs. PWWF modeling runs are developed by duplicating a scenario based on the "Static Water Infiltration and Inflow" alternative used in the City's SewerCAD model for the PWWF scenarios. This alternative is renamed "Cal Poly PWWF", and the Inflow (Additional I/I) for Manhole J05-7 is changed from 2,533,136 to 1,568,944 (1.569 MGD/1,078 GPM) and incorporated into the PDWF runs. This I/I alternative is used for all runs using the PWWF flow condition.

## 5.4 City Wastewater Collection System Analysis Modeling Scenarios

A range of modeling scenarios is analyzed, including various City and Cal Poly flows under various conditions, including: ADWF, PDWF, and PWWF. The following 30 modeling runs encompassing various timeframes and flow scenarios were evaluated:

a. **Runs 1 – 3:** ADWF, PDWF, and PWWF for Baseline (2015) City and 2015 Cal Poly flows;
b. **Runs 4 – 6:** ADWF, PDWF, and PWWF for Baseline (2015) City flows and 2020 Cal Poly flows;
c. **Runs 7 – 9:** ADWF, PDWF, and PWWF for Baseline (2015) City flows and 2025 Cal Poly flows with likely case scenario WRF flows;
d. **Runs 10 – 12:** ADWF, PDWF, and PWWF for Baseline (2015) City flows and 2025 Cal Poly flows with worst case scenario WRF flows;
e. **Runs 13 – 15:** ADWF, PDWF, and PWWF for Baseline (2015) City flows and Cal Poly flows of 0.471 MGD, 1.2 MGD, and 2.769 MGD (1.2 MGD + I/I of 1.569 MGD) for ADWF, PDWF, and PWWF, respectively;
f. **Runs 16 – 18:** ADWF, PDWF, and PWWF for 2035 City flows and 2025 Cal Poly flows with likely case scenario WRF flows;
g. **Runs 19 – 21:** ADWF, PDWF, and PWWF for 2035 City flows and 2025 Cal Poly flows with worst case scenario WRF flows;
h. **Runs 22 – 24:** ADWF, PDWF, and PWWF for 2035 City and 2030 Cal Poly flows;
i. **Runs 25 – 27:** ADWF, PDWF, and PWWF for 2035 City flows and 2035 Cal Poly flows;
j. **Runs 28 – 30:** ADWF, PDWF, and PWWF for 2035 City flows and Cal Poly flows of 0.471 MGD, 1.2MGD, and 2.769 MGD (1.2 MGD + I/I of 1.569 MGD) for ADWF, PDWF, and PWWF, respectively.

Table 22 provides an overview of the model names, run numbers, Cal Poly flow years or amount, and City flow years. Model input and output from each of these 30 runs is included in Appendix C.

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**Table 22: City's SewerCAD Modeling Runs and Names**

| Model Run Number | Model Name | Cal Poly Wastewater Flows Year or Amount | | | | | | | | | City Wastewater Flows Year | | City Wastewater Flow Condition | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2015 (Baseline) | 0.471 MGD | 1.2 MGD | 2.769 MGD | 2020 | 2025 Likely WRF | 2025 Worst-Case WRF | 2030 | 2035 | Current (2015) | BO (2035) | ADWF | PDWF | PWWF |
| **1** | CP2015-City2015-ADWF | ● | | | | | | | | | ● | | ● | | |
| **2** | CP2015-City2015-PDWF | ● | | | | | | | | | ● | | | ● | |
| **3** | CP2015-City2015-PWWF | ● | | | | | | | | | ● | | | | ● |
| **4** | CP2020-City2015-ADWF | | | | | ● | | | | | ● | | ● | | |
| **5** | CP2020-City2015-PDWF | | | | | ● | | | | | ● | | | ● | |
| **6** | CP2020-City2015-PWWF | | | | | ● | | | | | ● | | | | ● |
| **7** | CP2025LIKELY-City2015-ADWF | | | | | | ● | | | | ● | | ● | | |
| **8** | CP2025LIKELY-City2015-PDWF | | | | | | ● | | | | ● | | | ● | |
| **9** | CP2025LIKELY-City2015-PWWF | | | | | | ● | | | | ● | | | | ● |
| **10** | CP2025WORST-City2015-ADWF | | | | | | | ● | | | ● | | ● | | |
| **11** | CP2025WORST-City2015-PDWF | | | | | | | ● | | | ● | | | ● | |
| **12** | CP2025WORST-City2015-PWWF | | | | | | | ● | | | ● | | | | ● |
| **13** | CP0.471MGD-City2015-ADWF | | ● | | | | | | | | ● | | ● | | |
| **14** | CP1.2MGD-City2015-PDWF | | | ● | | | | | | | ● | | | ● | |
| **15** | CP2.769MGD-City2015-PWWF | | | | ● | | | | | | ● | | | | ● |
| **16** | CP2025LIKELY-City2035-ADWF | | | | | | ● | | | | | ● | ● | | |
| **17** | CP2025LIKELY-City2035-PDWF | | | | | | ● | | | | | ● | | ● | |

| Model Run Number | Model Name | Cal Poly Wastewater Flows Year or Amount | | | | | | | | | City Wastewater Flows Year | | City Wastewater Flow Condition | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2015 (Baseline) | 0.471 MGD | 1.2 MGD | 2.769 MGD | 2020 | 2025 Likely WRF | 2025 Worst-Case WRF | 2030 | 2035 | Current (2015) | BO (2035) | ADWF | PDWF | PWWF |
| **18** | CP2025LIKELY-City2035-PWWF | | | | | | ● | | | | | ● | | | ● |
| **19** | CP2025WORST-City2035-ADWF | | | | | | | ● | | | | ● | ● | | |
| **20** | CP2025WORST-City2035-PDWF | | | | | | | ● | | | | ● | | ● | |
| **21** | CP2025WORST-City2035-PWWF | | | | | | | ● | | | | ● | | | ● |
| **22** | CP2030-City2035-ADWF | | | | | | | | ● | | | ● | ● | | |
| **23** | CP2030-City2035-PDWF | | | | | | | | ● | | | ● | | ● | |
| **24** | CP2030-City2035-PWWF | | | | | | | | ● | | | ● | | | ● |
| **25** | CP2035-City2035-ADWF | | | | | | | | | ● | | ● | ● | | |
| **26** | CP2035-City2035-PDWF | | | | | | | | | ● | | ● | | ● | |
| **27** | CP2035-City2035-PWWF | | | | | | | | | ● | | ● | | | ● |
| **28** | CP0.471MGD-City2035-ADWF | | ● | | | | | | | | | ● | ● | | |
| **29** | CP1.2MGD-City2035-PDWF | | | ● | | | | | | | | ● | | ● | |
| **30** | CP2.769MGD-City2035-PWWF | | | | ● | | | | | | | ● | | | ● |

## 5.5 City Wastewater Collection System Analysis Modeling Results

SewerCAD input and output data is included in the series of tables in Appendix C for all nodes/links in the main lines between Cal Poly's point-of-connection and the City's WRRF. This includes 3.8 miles of vitrified clay pipe (VCP) and polyvinyl chloride (PVC) pipelines ranging in size from 10 to 48 inches. Hydraulic grade line (HGL) plots from Cal Poly's connection to the City's system through 3.8 miles of VCP and PVC pipelines ranging in size from 10 to 48 inches to the City's WRRF are included in the figures in Appendix D.

As shown in these HGL plots and detailed results in Appendix C and D, all HGL results are below natural ground in baseline City and Cal Poly 2015 conditions and remain below natural ground in all conditions for ADWF and PDWF flows. All PWWF scenarios show areas with existing severe capacity constraints (bottlenecks) as demonstrated by HGLs that spike above natural ground near:

1. Key Location 1: near Cal Poly's connection to the City's system (J06-2) just downstream of Cal Poly's sewer metering location near Spanos Stadium;
2. Key Location 3: near Carmel Street and Marsh Street (J10-34);
3. Key Location 4: near Bridge Street and Higuera Street (J12-11);
4. Key Location 5: Final node before City's WRRF (I15-9).

While existing and exacerbated capacity constraints are captured in the key location reporting tables in the following sections, the HGL graphs in Appendix D illustrate the full extent of capacity issues as selected key locations may not capture the exact point of constrictions in the City's wastewater collection system. In reviewing the detailed results, it appears that the bottle necking is likely caused by individual pipe segments of lower diameter.

For Key Location 1, the eight-inch sanitary sewer leaving Cal Poly does not have capacity for Cal Poly PWWF scenario flows. Pipe ID 3667 (second bottleneck), approximately 2,000 feet upstream of Key Location 3, is only 12 inches in diameter, but both upstream and downstream pipes are 30 inches in diameter. Additionally, Pipe 3447 (third bottle neck) between Key Location 4 and 5 is 21 inches in diameter, but both upstream and downstream and downstream pipes are 36 inches. For Key Location 5, the final three sanitary sewer segments just upstream of the City WRRF are 30 inches in diameter, while upstream pipes are 48 inches in diameter. While the HGL is below natural ground, it nearly exceeds natural ground for PWWF conditions.

Table 23 summarizes available capacity at five key points within the City's wastewater collection system as described in Section 5.3. Capacity issues are shown at Key Location 1 for PDWF and PWWF and at Key Location 5 for all flow conditions. Note that Key Locations 2 through 4 do not exactly align with locations of HGL spikes and pipe bottlenecks identified in the HGL graphs in Appendix D. Additionally, modifications required to troubleshoot and run the SewerCAD model may affect results.

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**Table 23: Summary of SewerCAD Modeling and Capacity Results At Five Key Locations In City Wastewater Collection System**

| Model Run Number | Model Name | Wastewater Flows Year/Value | | Flow Values (GPD) | | Flow Condition | Key Location 1 - J06-2 | | Key Location 2 - J07-83 | | Key Location 3 - J10-34 | | Key Location 4 - J12-11 | | Key Location 5 - I15-9 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cal Poly | City | Cal Poly | City | | Available Capacity (gpd) | HGL Distance Beneath Ground (ft) | Available Capacity | HGL Distance Beneath Ground (ft) | Available Capacity | HGL Distance Beneath Ground (ft) | Available Capacity | HGL Distance Beneath Ground (ft) | Available Capacity | HGL Distance Beneath Ground (ft) |
| | | | | | | | | | | | | | | | | |
| 1 | City_ADWF_2015 CP_2015 | 2015 | 2015 | 284,482 | 9,558,008 | ADWF | 520,677 | 5.24 | 7,403,680 | 12.43 | 29,035,516 | 8.99 | 33,116,148 | 12.61 | -7,228,896 | 4.69 |
| 2 | City_PDWF_2015 CP_2015 | 2015 | 2015 | 739,653 | 11,391,394 | PDWF | 65,506 | 5.05 | 6,756,872 | 12.26 | 27,718,716 | 8.68 | 31,572,964 | 12.39 | -9,513,044 | 4.54 |
| 3 | City_PWWF_2015 CP_2015 | 2015 | 2015 | 2,308,597 | 35,972,576 | PWWF | -1,560,362 | 4.54 | 2,552,493 | 11.59 | 14,232,470 | 6.54 | 13,325,083 | 5.56 | -35,638,454 | 2.77 |
| 4 | City_ADWF_2015 CP_2020 | 2020 | 2015 | 289,294 | 9,558,008 | ADWF | 515,865 | 5.24 | 7,398,868 | 12.43 | 29,030,704 | 8.99 | 33,111,336 | 12.61 | -7,233,708 | 4.69 |
| 5 | City_PDWF_2015 CP_2020 | 2020 | 2015 | 752,163 | 11,391,394 | PDWF | 52,996 | 5.05 | 6,744,362 | 12.26 | 27,706,206 | 8.67 | 31,560,454 | 12.38 | -9,525,554 | 4.54 |
| 6 | City_PWWF_2015 CP_2020 | 2020 | 2015 | 2,321,107 | 35,972,576 | PWWF | -1,572,872 | 4.54 | 2,539,983 | 11.59 | 14,219,960 | 6.54 | 13,312,573 | 5.55 | -35,650,964 | 2.77 |
| 7 | City_ADWF_2015 CP_2025_Likely | 2025_Likely | 2015 | 293,268 | 9,558,008 | ADWF | 511,891 | 5.24 | 7,394,894 | 12.43 | 29,026,730 | 8.99 | 33,107,362 | 12.61 | -7,237,683 | 4.69 |
| 8 | City_PDWF_2015 CP_2025_Likely | 2025_Likely | 2015 | 1,033,889 | 11,391,394 | PDWF | -228,730 | 4.96 | 6,462,636 | 12.20 | 27,424,480 | 8.62 | 31,278,728 | 12.36 | -9,807,279 | 4.52 |
| 9 | City_PWWF_2015 CP_2025_Likely | 2025_Likely | 2015 | 2,602,833 | 35,972,578 | PWWF | -1,854,598 | 4.42 | 2,258,257 | 11.56 | 13,938,235 | 6.49 | 13,030,847 | 5.29 | -35,932,689 | 2.74 |
| 10 | City_ADWF_2015 CP_2025_Worst | 2025_Worst | 2015 | 462,889 | 9,558,008 | ADWF | 342,270 | 5.16 | 7,225,273 | 12.38 | 28,857,109 | 8.94 | 32,937,741 | 12.59 | -7,407,304 | 4.68 |
| 11 | City_PDWF_2015 CP_2025_Worst | 2025_Worst | 2015 | 1,203,510 | 11,391,395 | PDWF | -398,351 | 4.92 | 6,293,015 | 12.17 | 27,254,859 | 8.59 | 31,109,107 | 12.34 | -9,976,900 | 4.51 |
| 12 | City_PWWF_2015 CP_2025_Worst | 2025_Worst | 2015 | 2,772,454 | 35,972,576 | PWWF | -2,024,220 | 4.32 | 2,088,637 | 11.55 | 13,768,613 | 6.46 | 12,861,226 | 5.13 | -36,102,311 | 2.72 |
| 13 | City_ADWF_2015 CP_0.471 MGD | 0.471 MGD | 2015 | 471,000 | 9,558,008 | ADWF | 334,159 | 5.15 | 7,217,162 | 12.38 | 28,848,998 | 8.94 | 32,929,630 | 12.59 | -7,415,415 | 4.68 |
| 14 | City_PDWF_2015 CP_1.2 MGD | 1.2 MGD | 2015 | 1,200,000 | 11,391,394 | PDWF | -394,841 | 4.92 | 6,296,525 | 12.17 | 27,258,369 | 8.59 | 31,112,617 | 12.34 | -9,973,390 | 4.51 |
| 15 | City_PWWF_2015 CP_1.2 MGD | 1.2 MGD | 2015 | 2,768,944 | 35,972,578 | PWWF | -2,020,710 | 4.32 | 2,092,146 | 11.55 | 13,772,124 | 6.46 | 12,864,737 | 5.14 | -36,098,800 | 2.72 |
| 16 | City_ADWF_2035 CP_2025_Likely | 2025_Likely | 2035 | 293,268 | 10,017,361 | ADWF | 456,891 | 5.21 | 7,334,557 | 12.41 | 28,848,055 | 8.94 | 32,889,944 | 12.56 | -7,697,035 | 4.66 |
| 17 | City_PDWF_2035 CP_2025_Likely | 2025_Likely | 2035 | 1,033,889 | 12,278,404 | PDWF | -334,935 | 4.93 | 6,346,126 | 12.18 | 27,079,459 | 8.56 | 30,858,894 | 12.29 | -10,694,290 | 4.47 |
| 18 | City_PWWF_2035 CP_2025_Likely | 2025_Likely | 2035 | 2,602,833 | 36,859,587 | PWWF | -1,960,803 | 4.36 | 2,141,747 | 11.55 | 13,544,484 | 6.42 | 12,562,283 | 4.57 | -36,819,701 | 2.64 |
| 19 | City_ADWF_2035 CP_2025_Worst | 2025_Worst | 2035 | 462,889 | 10,017,361 | ADWF | 59,407 | 5.13 | 7,164,936 | 12.36 | 28,678,434 | 8.88 | 32,720,323 | 12.54 | -7,866,656 | 4.65 |
| 20 | City_PDWF_2035 CP_2025_Worst | 2025_Worst | 2035 | 1,203,510 | 12,278,405 | PDWF | -732,419 | 4.89 | 6,176,505 | 12.15 | 26,909,838 | 8.53 | 30,689,273 | 12.28 | -10,863,911 | 4.46 |
| 21 | City_PWWF_2035 CP_2025_Worst | 2025_Worst | 2035 | 2,772,454 | 36,859,588 | PWWF | -2,358,287 | 4.19 | 1,972,126 | 11.54 | 13,374,862 | 6.39 | 12,392,662 | 4.41 | -36,989,320 | 2.62 |
| 22 | City_ADWF_2035 CP_2030 | 2030 | 2035 | 235,641 | 10,017,361 | ADWF | 286,655 | 5.24 | 7,392,184 | 12.42 | 28,905,682 | 8.96 | 32,947,571 | 12.57 | -7,639,409 | 4.67 |
| 23 | City_PDWF_2035 CP_2030 | 2030 | 2035 | 1,155,454 | 12,278,405 | PDWF | -684,363 | 4.90 | 6,224,561 | 12.16 | 26,957,894 | 8.54 | 30,737,329 | 12.28 | -10,815,855 | 4.46 |
| 24 | City_PWWF_2035 CP_2030 | 2030 | 2035 | 2,724,398 | 36,859,586 | PWWF | -2,310,231 | 4.24 | 2,020,182 | 11.54 | 13,422,919 | 6.40 | 12,440,717 | 4.46 | -36,941,265 | 2.63 |
| 25 | City_ADWF_2035 CP_2035 | 2035 | 2035 | 375,464 | 10,017,361 | ADWF | 146,832 | 5.17 | 7,252,361 | 12.38 | 28,765,859 | 8.90 | 32,807,748 | 12.55 | -7,779,232 | 4.66 |

| Model Run Number | Model Name | Wastewater Flows Year/Value | | Flow Values (GPD) | | Flow Condition | Key Location 1 - J06-2 | | Key Location 2 - J07-83 | | Key Location 3 - J10-34 | | Key Location 4 - J12-11 | | Key Location 5 - I15-9 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cal Poly | City | Cal Poly | City | | Available Capacity (gpd) | HGL Distance Beneath Ground (ft) | Available Capacity | HGL Distance Beneath Ground (ft) | Available Capacity | HGL Distance Beneath Ground (ft) | Available Capacity | HGL Distance Beneath Ground (ft) | Available Capacity | HGL Distance Beneath Ground (ft) |
| **26** | City_PDWF_2035 CP_2035 | 2035 | 2035 | 1,518,994 | 12,278,404 | PDWF | -1,047,903 | 4.81 | 5,861,021 | 12.10 | 26,594,354 | 8.47 | 30,373,789 | 12.25 | -11,179,395 | 4.44 |
| **27** | City_PWWF_2035 CP_2035 | 2035 | 2035 | 3,087,938 | 36,859,587 | PWWF | -2,673,771 | 3.90 | 1,656,642 | 11.51 | 13,059,379 | 6.34 | 12,077,178 | 4.33 | -37,304,806 | 2.59 |
| **28** | City_ADWF_2035 CP_0.471 MGD | 0.471 MGD | 2035 | 471,000 | 10,017,362 | ADWF | 51,296 | 5.13 | 7,156,825 | 12.36 | 28,670,323 | 8.88 | 32,712,212 | 12.54 | -7,874,767 | 4.65 |
| **29** | City_PDWF_2035 CP_1.2 MGD | 1.2 MGD | 2035 | 1,200,000 | 12,278,404 | PDWF | -501,046 | 4.89 | 6,180,015 | 12.15 | 26,913,348 | 8.53 | 30,692,783 | 12.28 | -10,860,401 | 4.46 |
| **30** | City_PWWF_2035 CP_1.2 MGD | 1.2 MGD | 2035 | 2,768,944 | 36,859,587 | PWWF | -2,354,777 | 4.20 | 1,975,636 | 11.54 | 13,378,373 | 6.39 | 12,396,170 | 4.41 | -36,985,812 | 2.62 |

Due to development of the *2035 Master Plan* and accounting for average WRF treatment capacity, for all flow conditions modeled, Cal Poly flows increase as follows:

1. The ADWF for Cal Poly increased from 284,482 GPD in 2015 to 375,464 GPD in 2035, or an increase of 31% over the 20-year period.
2. The PDWF increased from 739,653 GPD in 2015 to 1,518,994 GPD in 2035. This represents a 105% increase in the 20-year period.
3. The PWWF increased from 2,308,597 GPD in 2015 to 3,087,938 GPD in 2035. This represents a 33% increase in the 20-year period.
4. The ADWF for the City at Cal Poly's point-of-connection to the City's system increased from 9,558,008 GPD in 2015 to 10,017,362 GPD in 2035. This represents a 5% increase in the 20-year period.
5. The PDWF for the City at Cal Poly's point-of-connection to the City's system increased from 11,391,394 GPD in 2015 to 12,278,404 GPD in 2035. This represents a 7% increase in the 20-year period.
6. The PWWF for the City at Cal Poly's point-of-connection to the City's system increased from 35,972,576 GPD in 2015 to 36,859,587 GPD in 2035. This represents a 2% increase in the 20-year period.

Table 24 and Table 25 below shows changes in HGL elevation and capacity due to development of the *2035 Master Plan*, respectively, as under the City 2015 and City 2035 conditions. Values in red highlight indicate that the HGL elevation is above the top of pipe in Table 244, and that the flows exceed the pipe capacity calculated by SewerCAD in Table 25.

**Table 24: HGL Elevation Changes between Similar Flow Conditions**

| Scenarios Compared (City:Cal Poly) | Increase in HGL Under City 2015 Conditions (gpd) | | | | |
|---|---|---|---|---|---|
| | Key Location 1 | Key Location 2 | Key Location 3 | Key Location 4 | Key Location 5 |
| | Increase in HGL Under City 2015 Conditions (gpd) | | | | |
| ADWF 2015 to 2020 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ADWF 2015 to 2025 Likely Case | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ADWF 2015 to 2025 Worst Case | 0.08 | 0.05 | 0.05 | 0.02 | 0.00 |
| PDWF 2015 to 2020 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |
| PDWF 2015 to 2025 Likely Case | 0.09 | 0.06 | 0.06 | 0.03 | 0.02 |
| PDWF 2015 to 2025 Worst Case | 0.13 | 0.09 | 0.09 | 0.05 | 0.03 |
| PWWF 2015 to 2020 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| PWWF 2015 to 2025 Likely Case | 0.12 | 0.03 | 0.05 | 0.27 | 0.03 |

| Scenarios Compared (City:Cal Poly) | Increase in HGL Under City 2015 Conditions (gpd) | | | | |
|---|---|---|---|---|---|
| | Key Location 1 | Key Location 2 | Key Location 3 | Key Location 4 | Key Location 5 |
| PWWF 2015 to 2025 Worst Case | 0.22 | 0.04 | 0.08 | 0.43 | 0.05 |
| | Increase in HGL Under City 2035 Conditions (gpd) | | | | |
| ADWF 2025 Likely Case to 2025 Worst Case | 0.08 | 0.05 | 0.06 | 0.02 | 0.01 |
| ADWF 2025 Likely Case to 2030 | -0.03 | -0.01 | -0.02 | -0.01 | -0.01 |
| ADWF 2025 Likely Case to 2035 | 0.04 | 0.03 | 0.04 | 0.01 | 0.00 |
| PDWF 2025 Likely Case to 2025 Worst Case | 0.04 | 0.03 | 0.03 | 0.01 | 0.01 |
| PDWF 2025 Likely Case to 2030 | 0.03 | 0.02 | 0.02 | 0.01 | 0.01 |
| PDWF 2025 Likely Case to 2035 | 0.12 | 0.08 | 0.09 | 0.04 | 0.03 |
| PWWF 2025 Likely Case to 2025 Worst Case | 0.17 | 0.01 | 0.03 | 0.16 | 0.02 |
| PWWF 2025 Likely Case to 2030 | 0.12 | 0.01 | 0.02 | 0.11 | 0.01 |
| PWWF 2025 Likely Case to 2035 | 0.46 | 0.04 | 0.08 | 0.24 | 0.05 |
| | Increase in HGL at 0.471 and 1.2 MGD Cal Poly Flows for City 2015 Conditions and City 2035 Conditions (gpd) | | | | |
| 0.471 MGD Flows as ADWF 2015 to 2035 | 0.02 | 0.02 | 0.06 | 0.05 | 0.03 |
| 1.2 MGD Flows as PDWF 2015 to 2035 | 0.03 | 0.02 | 0.06 | 0.06 | 0.05 |
| 1.2 MGD Flows as PWWF 2015 to 2035 | 0.12 | 0.01 | 0.07 | 0.73 | 0.10 |

**Table 25: Capacity Changes between Similar Flow Conditions**

| Scenarios Compared (City:Cal Poly) | Decrease in Available Capacity Under City 2015 Conditions (gpd) | | | | |
|---|---|---|---|---|---|
| | Key Location 1 | Key Location 2 | Key Location 3 | Key Location 4 | Key Location 5 |
| | Decrease in Capacity Under City 2015 Conditions (gpd) | | | | |
| ADWF 2015 to 2020 | 4,812 | 4,812 | 4,812 | 4,812 | 4,812 |
| ADWF 2015 to 2025 Likely Case | 8,786 | 8,786 | 8,786 | 8,786 | 8,787 |
| ADWF 2015 to 2025 Worst Case | 178,407 | 178,407 | 178,407 | 178,407 | 178,408 |

| Scenarios Compared (City:Cal Poly) | Decrease in Available Capacity Under City 2015 Conditions (gpd) | | | | |
|---|---|---|---|---|---|
| | Key Location 1 | Key Location 2 | Key Location 3 | Key Location 4 | Key Location 5 |
| **PDWF 2015 to 2020** | 12,510 | 12,510 | 12,510 | 12,510 | 12,510 |
| **PDWF 2015 to 2025 Likely Case** | 294,236 | 294,236 | 294,236 | 294,236 | 294,235 |
| **PDWF 2015 to 2025 Worst Case** | 463,857 | 463,857 | 463,857 | 463,857 | 463,856 |
| **PWWF 2015 to 2020** | 12,510 | 12,510 | 12,510 | 12,510 | 12,510 |
| **PWWF 2015 to 2025 Likely Case** | 294,236 | 294,236 | 294,235 | 294,236 | 294,235 |
| **PWWF 2015 to 2025 Worst Case** | 463,858 | 463,856 | 463,857 | 463,857 | 463,857 |
| | **Decrease in Capacity Under City 2035 Conditions (gpd)** | | | | |
| **ADWF 2025 Likely Case to 2025 Worst Case** | 397,484 | 169,621 | 169,621 | 169,621 | 169,621 |
| **ADWF 2025 Likely Case to 2030** | 170,236 | -57,627 | -57,627 | -57,627 | -57,626 |
| **ADWF 2025 Likely Case to 2035** | 310,059 | 82,196 | 82,196 | 82,196 | 82,197 |
| **PDWF 2025 Likely Case to 2025 Worst Case** | 397,484 | 169,621 | 169,621 | 169,621 | 169,621 |
| **PDWF 2025 Likely Case to 2030** | 349,428 | 121,565 | 121,565 | 121,565 | 121,565 |
| **PDWF 2025 Likely Case to 2035** | 712,968 | 485,105 | 485,105 | 485,105 | 485,105 |
| **PWWF 2025 Likely Case to 2025 Worst Case** | 397,484 | 169,621 | 169,622 | 169,621 | 169,619 |
| **PWWF 2025 Likely Case to 2030** | 349,428 | 121,565 | 121,565 | 121,566 | 121,564 |
| **PWWF 2025 Likely Case to 2035** | 712,968 | 485,105 | 485,105 | 485,105 | 485,105 |
| | **Decrease in Capacity at 0.471 and 1.2 MGD Cal Poly Flows for City 2015 Conditions and City 2035 Conditions (gpd)** | | | | |
| **0.471 MGD Flows as ADWF 2015 to 2035** | 282,863 | 60,337 | 178,675 | 217,418 | 459,352 |
| **1.2 MGD Flows as PDWF 2015 to 2035** | 106,205 | 116,510 | 345,021 | 419,834 | 887,011 |
| **1.2 MGD Flows as PWWF 2015 to 2035** | 334,067 | 116,510 | 393,751 | 468,567 | 887,012 |

# 6. Conclusions and Recommendations

The Cal Poly *2035 Master Plan* uses year 2015 as the baseline year to identify existing conditions. The year 2015 roughly corresponds with the completion of the previous master plan effort and represents when the *2001 Master Plan* projects are generally completed or have been programed into capital improvements. Due to drought conditions and sensitivity to obtaining additional water needs, Cal Poly proposes an on-campus WRF as a near-term project to treat wastewater, which will also serve to provide reuse water for agricultural irrigation purposes. Cal Poly will receive up to 959 AFY (Whale Rock water right) via the City's potable water conveyance system to the main campus instead of a portion being conveyed through the non-potable (raw water) system for agricultural purposes. The WRF will provide approximately 380 AFY of recycled water meeting agricultural and landscape irrigation needs.

The WRF will most likely be brought online in two phases; as a result, the analysis compares the baseline year (2015) with two scenarios depending on when the WRF goes online. The first phase of the WRF would likely have 190 AFY (169,621 GPD) and come online in 2022 or under worst-case scenario in 2026. The second phase of the WRF is assumed to be online in 2028 and brings the total capacity to 380 AFY (339,242 GPD) for both scenarios. For downstream City wastewater collection capacity, the available capacity within the City's system is also considered. Below is a summary of conclusions and recommendations related to wastewater flows and potential for impacts due to development within Cal Poly through completion of the *2035 Master Plan*:

1. **Total Cal Poly Annual Average Wastewater Flows:** Total Cal Poly annual average wastewater flows range from 194,216 GPD in 2020 to 478,066 GPD in 2035 representing a 144% increase over the 2015 baseline conditions at full buildout of the *2035 Master Plan*.

2. **Wastewater Treatment Capacity Without WRF:** While not anticipated or likely even feasible, if proposed projects were operational prior to the first phase WRF coming online in any year, Cal Poly's annual average wastewater treatment capacity would not be adequate per agreements with the City. Under any scenario where the WRF is delayed beyond 2022, planned residential and non-residential buildings would need to be delayed until the WRF is online.

   Due to water conservation savings and reallocation of flows from off-campus properties, Cal Poly's 2020 flows are 3,341 GPD less than baseline conditions and thus Cal Poly's current capacity at the City's WRRF is adequate to serve the 2020 analysis year without any additional new residential or non-residential buildings.

3. **Wastewater Treatment Capacity With Likely Scenario of WRF:** As a *2035 Master Plan* element projected to be online or operational in 2022 under the likely scenario, the WRF provides adequate capacity to treat proposed additional wastewater flows from Cal Poly while maintaining wastewater discharges into the City's wastewater collection system at or below 2015 baseline conditions for analysis years 2025, 2030, and 2035. However, the WRF has no effect on Cal Poly's projected 2020 wastewater flows, since it will not be operational until 2022. The first phase of the WRF of 190 AFY (169,621 GPD) provides adequate wastewater treatment capacity to treat proposed additional annual average wastewater flow through 2027 until the second phase of the WRF is online in 2028 for a total capacity of 380 AFY (339,242 GPD). Adequate annual average

wastewater treatment capacity will be available for all residential and non-residential projects as scheduled.

Annual average wastewater flows from Cal Poly to the City's wastewater collection system decrease from a 2015 baseline of 197,557 GPD to 138,824 GPD at full *2035 Master Plan* buildout in 2035 in both the likely and worst-case WRF scenarios, assuming all reclaimed water treated by the WRF is used for on-campus irrigation, replacing or supplementing the non-potable water supplied under the existing 2015 conditions. Under the likely scenario of the WRF, Cal Poly's annual average wastewater flows into the City's system are reduced by 65,090 GPD, 156,385 GPD, and 58,733 GPD for analysis years 2025, 2030, and 2035, respectively. This excess capacity in interim analysis years provides greater flexibility if funding is made available to bring proposed residential and non-residential buildings online sooner than anticipated in the phasing used for this analysis.

3. **Wastewater Treatment Capacity With Worst-Case Scenario of WRF:** The only identified difference between the likely and worst-case scenario related to wastewater flows into the Cal Poly collection system is that in 2025, the likely scenario reduces flows into the Cal Poly wastewater collection system by 65,710 GPD whereas the worst-case scenario increases flows into the Cal Poly wastewater collection system by 104,531 GPD. Under the worst-case scenario or any scenario where the WRF is delayed beyond 2022, planned residential and non-residential buildings would need to be delayed until the first 190 AFY (169,621 GPD) phase of the WRF is online in order to avoid increasing annual average wastewater flows as compared to 2015 baseline conditions.
4. **Wastewater Treatment Capacity for Slack and Grand Residential Neighborhood:** With the WRF online, Cal Poly has adequate annual average wastewater treatment capacity for the Slack and Grand Residential Neighborhood, which is projected to contribute an annual average wastewater flow of 33,278 GPD in 2023. While not anticipated or likely even feasible, if Slack and Grand Residential Neighborhood is online prior to the WRF coming online in 2021, Cal Poly's annual average wastewater treatment capacity would not be adequate.
5. **Impacts to City's WRRF:** Potential for impacts to the City's WRRF related to average annual wastewater flows from Cal Poly to the City's wastewater collection system are consistent with likely scenario and worst-case scenario wastewater treatment capacity discussed under items two through four above. In years with significant reductions of annual average wastewater flow into the City's wastewater collection system, Cal Poly may need to operate the WRF in a manner to continue returning untreated or treated wastewater flows to the City's wastewater collection system and WRRF. We recommend Cal Poly coordinate with the City regarding minimum discharge from Cal Poly into the City's wastewater collection system given that once the WRF is online, discharges from Cal Poly are reduced by more than 30% from the baseline flow of 197,557 GPD in all analysis years and by 156,385 GPD, or 79% in 2030.
6. **City Conveyance Capacity under ADWF:** Based on the results of the SewerCAD modeling, there is adequate City wastewater conveyance capacity under ADWF for all Cal Poly flow conditions modeled to maintain HGLs below natural ground (Appendix D). Capacity issues are noted in 2015 baseline conditions and all modeled years for

ADWF at Key Location 5 near the City's WRRF with or without the WRF. Cal Poly's ADWF is estimated to increase by 31 % from 284,482 GPD in 2015 to 375,464 GPD in 2035. The ADWF for the City at Cal Poly's point-of-connection is shown to increase by 5% from 9,558,008 GPD in 2015 to 10,017,362 GPD in 2035. Cal Poly's baseline 2015 ADWF is 3% of the total ADWF and 3.7% of the total ADWF in 2035 at Cal Poly's point-of-connection to the City's system. If improvements are determined to be required by the City near Key Location 5 to avoid sanitary sewer overflows in peak conditions, Cal Poly's cost share or increased rates should be based on Cal Poly's percent of overall ADWF at the actual location of the repairs rather than at Cal Poly's point-of-connection.

7. **City Conveyance Capacity under PDWF:** Based on the results of the SewerCAD modeling, HGLs remain below ground for all conditions modeled for the flow path between Cal Poly's point-of-connection at the Parshall Flume to the City WRRF. However, Table 23 indicates capacity issues at Key Location 1 starting in 2025 with or without the WRF and at Key Location 5 (similar to ADWF). Additional capacity issues are identified at Key Location 1 starting in 2025 with or without the WRF and at both City 2015 and 2035 flow conditions. Cal Poly's PDWF is estimated to increase by 105 % from 739,653 GPD in 2015 to 1,518,994 GPD in 2035. The PDWF for the City is shown to increase by 7% from 11,391,394 GPD in 2015 to 12,278,404 GPD in 2035. Cal Poly's baseline 2015 PDWF is 6.0% of the total PDWF of 12.13 MGD and 11.0% of the total PDWF of 13.80 MGD in 2035.

   If improvements are determined to be required by the City near Key Location 1 to avoid sanitary sewer overflows in peak conditions, Cal Poly's cost share or increased rates should be limited. For improvements further downstream or near Key Location 5, Cal Poly's cost share or rate increase should be based on Cal Poly's percent of overall PDWF at the actual location of the repairs rather than at Cal Poly's point-of-connection.

8. **City Conveyance Capacity under PWWF:** Based on the results of the SewerCAD modeling, HGLs (Appendix D) spike above ground at four locations for all PWWF modeling runs. Table 23 also indicates capacity issues at Key Locations 1 and 5 for all PWWF modeling runs. Additional capacity issues likely exist at the other two bottleneck locations discussed in Section 5.4. Cal Poly's PDWF is estimated to increase by 33 % from 2.31 MGD in 2015 to 3.09 MGD in 2035. The PDWF for the City is shown to increase by 7% from 35.97 MGD in 2015 to 36.86 MGD in 2035. Cal Poly's baseline 2015 PDWF is 6.0% of the total PWWF of 38.28 MGD and 7.7% of the total PWWF of 39.95 MGD in 2035.

   If improvements are determined to be required by the City near Key Location 1 to avoid sanitary sewer overflows in peak conditions, Cal Poly's cost share or increased rates should be limited to no more than 6% to 7.7%. For improvements further downstream or near Key Location 5, Cal Poly's cost share or rate increase should be based on Cal Poly's percent of overall PDWF at the actual location of the repairs rather than at Cal Poly's point-of-connection.

9. **City Capacity Agreement:** Using peaking factors estimated from metered data with an applied safety factor and with the WRF online in either the likely or worst-case scenario, Cal Poly's annual average wastewater flows do not exceed the 0.471 MGD average monthly treatment capacity. However, capacity for conveyance of PWWF appears to be

an issue in 2015 baseline conditions through 2035. Increases in PWWF from Cal Poly due to build-out of the *2035 Master Plan* exacerbates existing capacity issues in peak conditions and the 1.2 MGD transmission capacity is likely to be exceeded as new residential and non-residential buildings are brought online even if there are no historical exceedances. Given that estimated 2015 baseline PWWF exceed the PWWF, even accounting for peak treatment capacity of the WRF will likely still result in additional PWWF capacity issues and the 1.2 MGD transmission capacity being exceeded.

10. **Environmental Impacts of WRF:** Implementation of the WRF does not affect the concentrations of monitored constituents in Cal Poly's untreated wastewater effluent and thus does not impact the City's WRRF. For wastewater treated by tertiary treatment (membrane filtration and UV disinfection) by the WRF, the effluent will be significantly cleaner and, other than TTO (unless specifically targeted or RO is used), all constituents will be below Cal Poly's permitted concentration limits.

    Since this reclaimed wastewater will primarily be used for agricultural irrigation on campus as opposed to discharging to the City's wastewater collection and treatment system, much of this cleaner effluent will not enter the City's wastewater collection system nor is it intended to be discharged to local streams. Depending on associated infrastructure being in place, implementation of the WRF does provide opportunities for operational flexibility and mixing of tertiary treated wastewater with Cal Poly's raw wastewater effluent if needed to return lower levels of monitored constituents to the City's WRRF.

11. **Inflow & Infiltration (I/I):** Existing I/I of 1,568,944 GPD (1,089 GPM) is accounted for in the 2015 baseline PWWF and the projected PWWF for the analysis periods between 2020 and 2035. We understand that the *Cal Poly Utility Master Plan* is anticipated to include CIP projects targeted to reduce I/I into Cal Poly's wastewater conveyance system and thus PWWFs. While estimates of I/I reduction are not part of this study, PWWFs are likely to decrease beyond those presented due to future CIP and I/I reduction projects. Without replacement or repair of wastewater collection infrastructure as the Cal Poly system ages, the I/I could worsen over time. However, development of the *2035 Master Plan* will not result in either an increase or a decrease in I/I.

12. **Future WRF Expansion:** The planned 380 AFY (0.34 MGD) WRF is adequate to maintain wastewater flows from Cal Poly into the City's system at or below existing levels once it is online through the full buildout of the *2035 Master Plan*. At the 2035 analysis year, there is a projected excess treatment capacity of 63,831 GPD. While this provides an excess capacity of 13%, it is unlikely to be adequate for significant additional development beyond that included in the *2035 Master Plan*. Additional capacity may also be desired to better buffer peak flows being discharged into the City's wastewater collection system. As such, future expansion of the WRF is an option to provide wastewater treatment capacity for future development (post 2035). Because of the modular nature of package treatment plants, the WRF can be readily expanded if needed in the future provided adjacent land space is available at the time.

13. **Additional Water Conservation:** While Cal Poly has already implemented and plans to progressively implement water conservation measures as part of the *2035 Master Plan* and ongoing sustainability and potable water use reduction measures, we recommend Cal

Poly continue to evaluate opportunities to further apply advanced indoor water conservation measures and process measures to reduce water demands and associated wastewater flows from both residential and non-residential buildings.

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# 7 Exhibits

1 – Vicinity Map

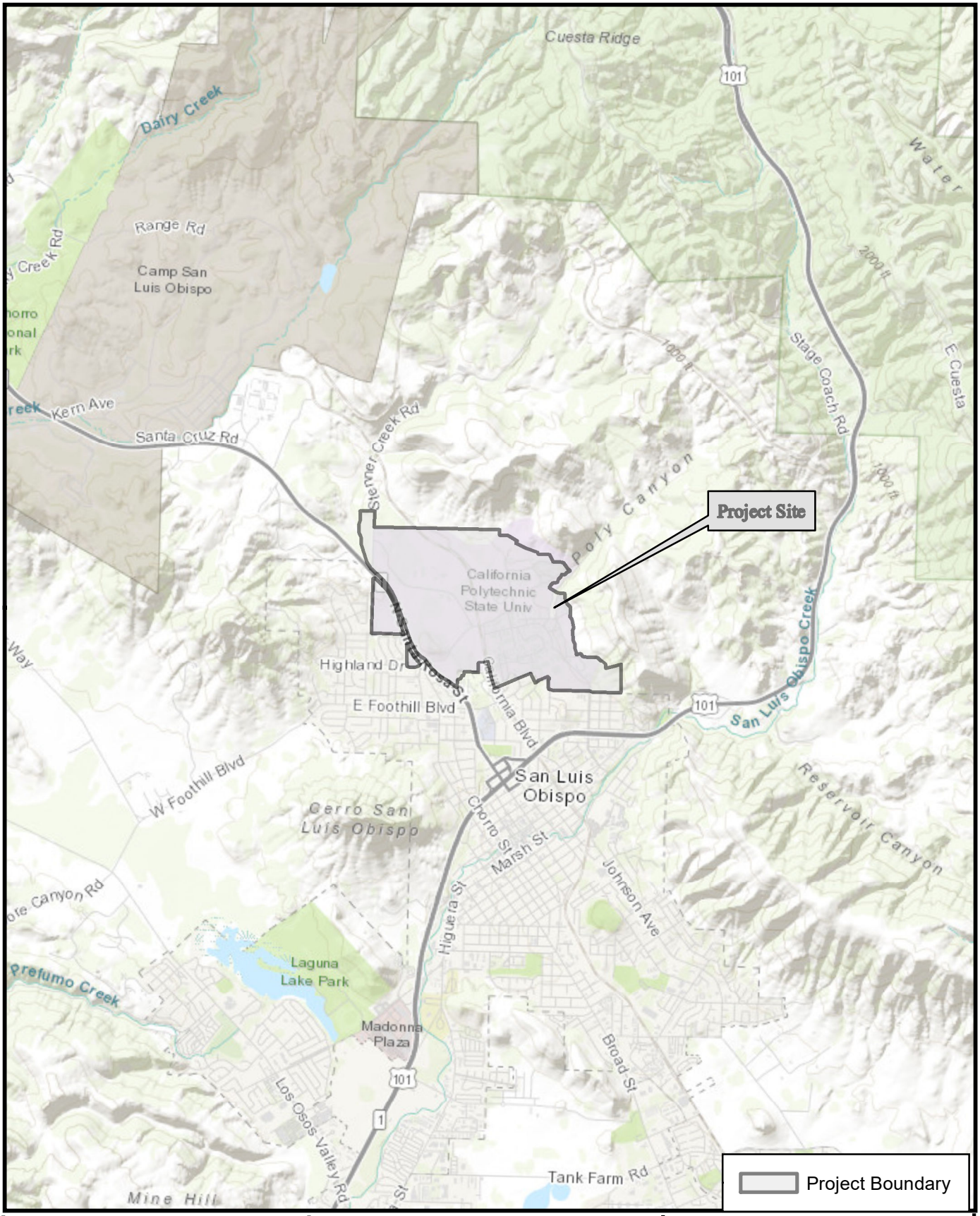
2 – Aerial Photograph

3 – Topographic Map

4 – Cal Poly Campus Wastewater System Map and Connections to City

5 – Existing Land Use

6 – Proposed Land Use




1 " = 5,000 '

0 5,000

Feet

Datum: NAD83
Units: US Feet

**CALIFORNIA POLYTECHNIC STATE UNIVERSITY**
**SAN LUIS OBISPO 2035 MASTER PLAN**
**WASTEWATER ANALYSIS**

## VICINITY MAP

Watearth™
Water Resources + Green Infrastructure

Date: Aug 13, 2019

**Exhibit 1**

1 " = 1,500 '
0 1,500
Feet

Datum: NAD83
Units: US Feet

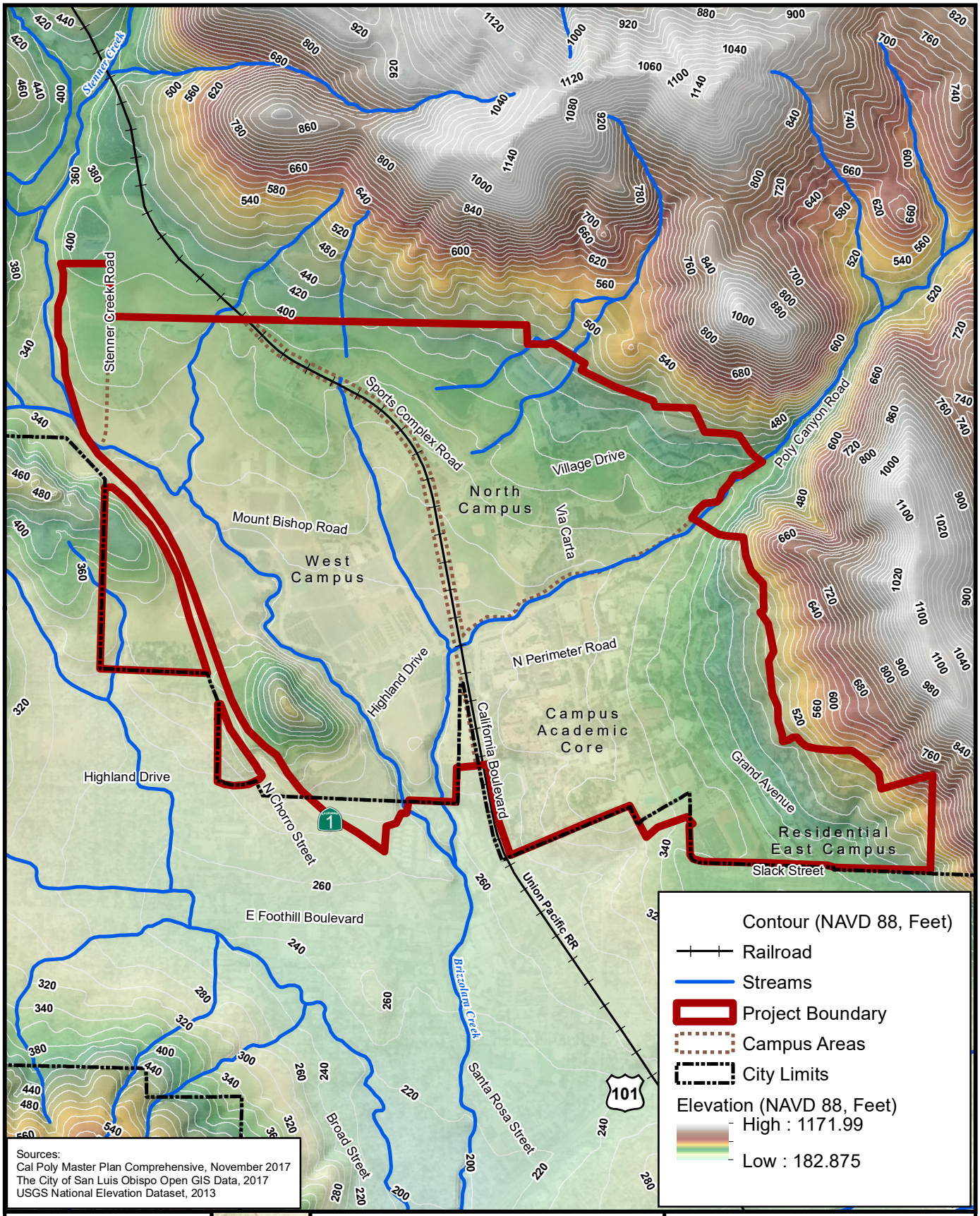
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
SAN LUIS OBISPO 2035 MASTER PLAN
WASTEWATER ANALYSIS

## AERIAL MAP

Watearth™
Water Resources + Green Infrastructure

Date: Aug 13, 2019

**Exhibit 2**



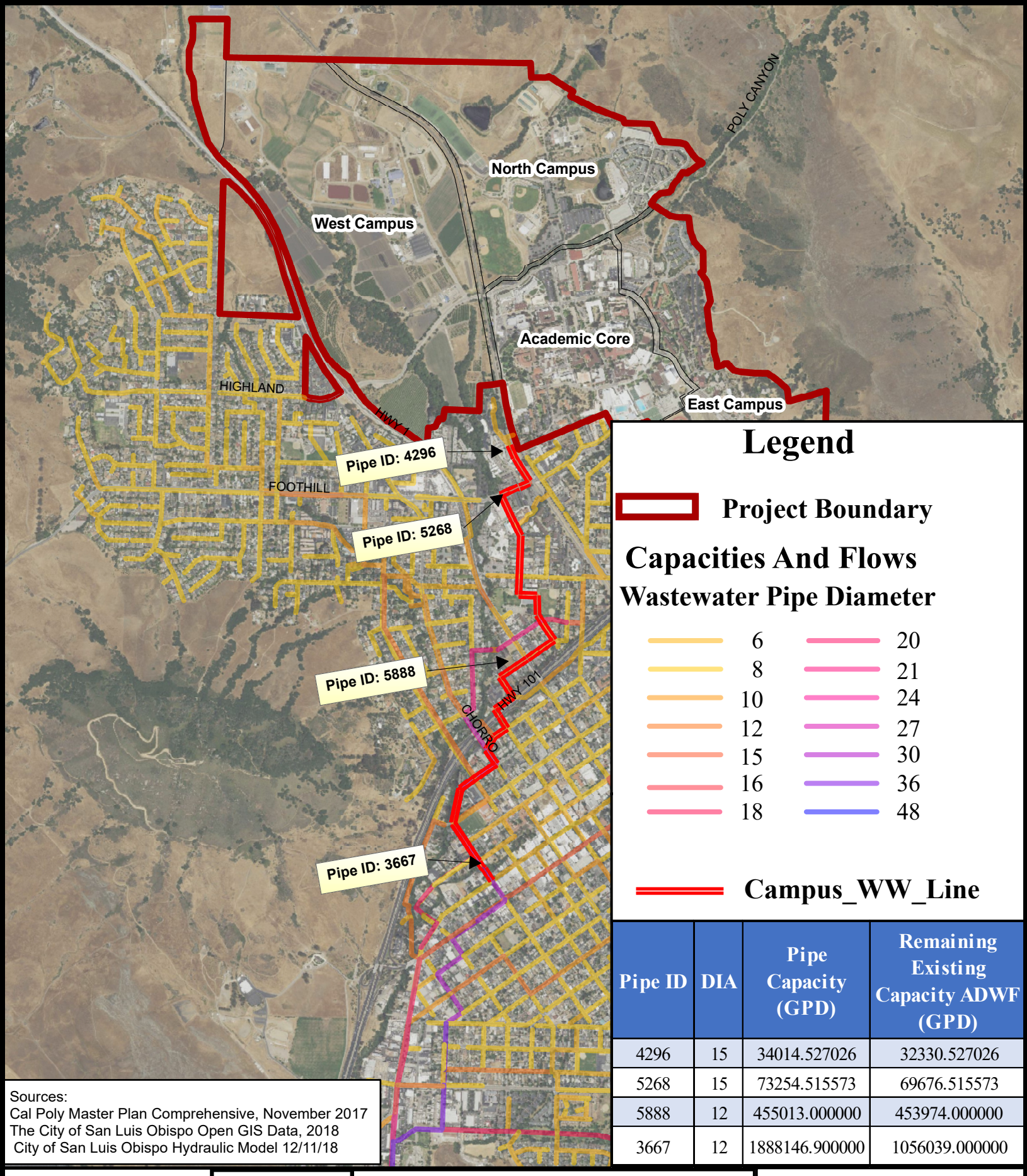

**CALIFORNIA POLYTECHNIC STATE UNIVERSITY**
**SAN LUIS OBISPO 2035 MASTER PLAN**
**WASTEWATER ANALYSIS**

## TOPOGRAPHIC MAP

Watearth™
Water Resources + Green Infrastructure

Date: Aug 13, 2019

**Exhibit 3**




# Legend

**Project Boundary**

## Capacities And Flows

### Wastewater Pipe Diameter

| | |
|---|---|
| 6 | 20 |
| 8 | 21 |
| 10 | 24 |
| 12 | 27 |
| 15 | 30 |
| 16 | 36 |
| 18 | 48 |

**Campus_WW_Line**

| Pipe ID | DIA | Pipe Capacity (GPD) | Remaining Existing Capacity ADWF (GPD) |
|---|---|---|---|
| 4296 | 15 | 34014.527026 | 32330.527026 |
| 5268 | 15 | 73254.515573 | 69676.515573 |
| 5888 | 12 | 455013.000000 | 453974.000000 |
| 3667 | 12 | 1888146.900000 | 1056039.000000 |

Sources:
Cal Poly Master Plan Comprehensive, November 2017
The City of San Luis Obispo Open GIS Data, 2018
City of San Luis Obispo Hydraulic Model 12/11/18

1" = 1500'
0 1,500
Feet

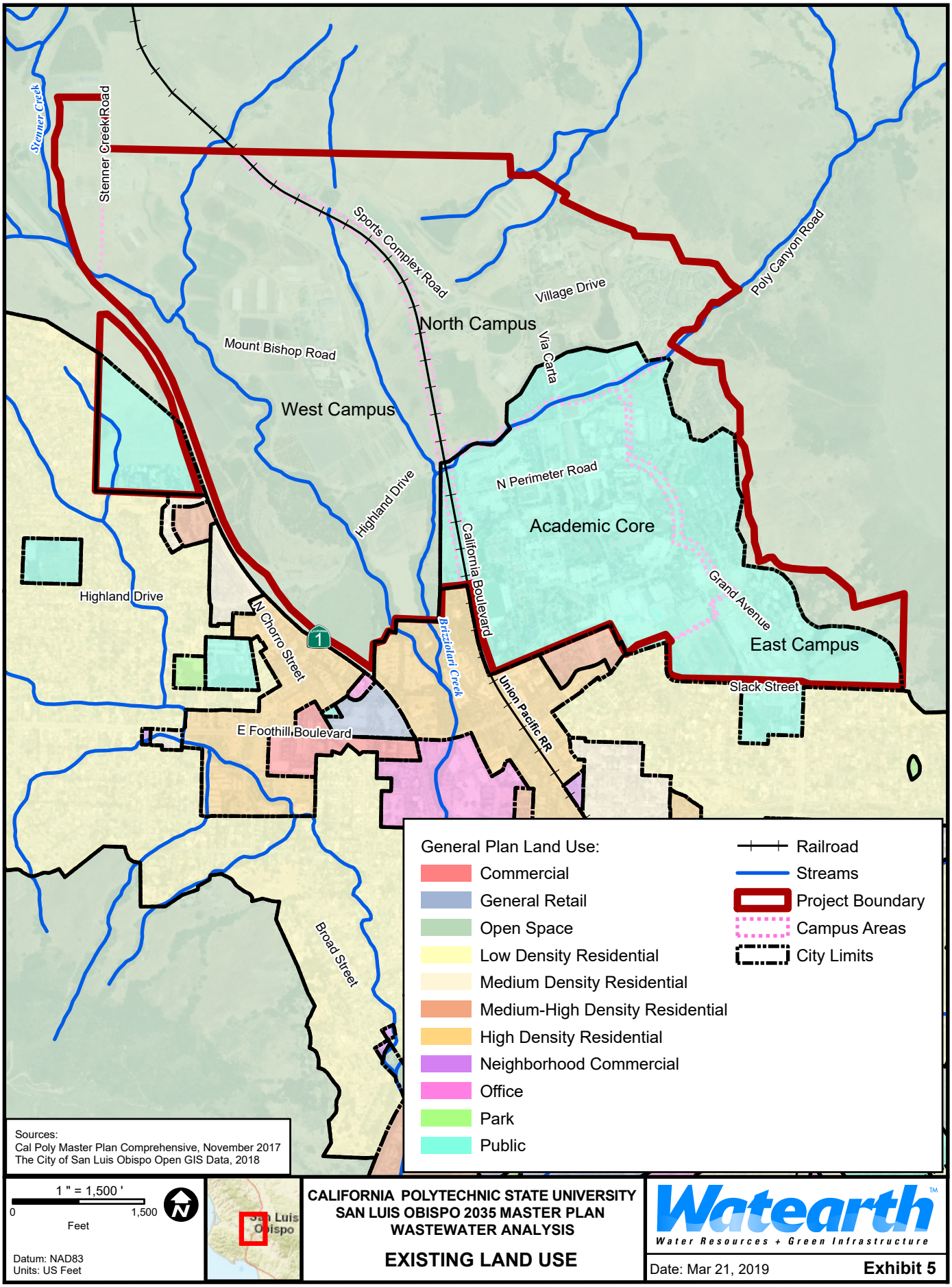
Datum: NAD83
Units: US Feet

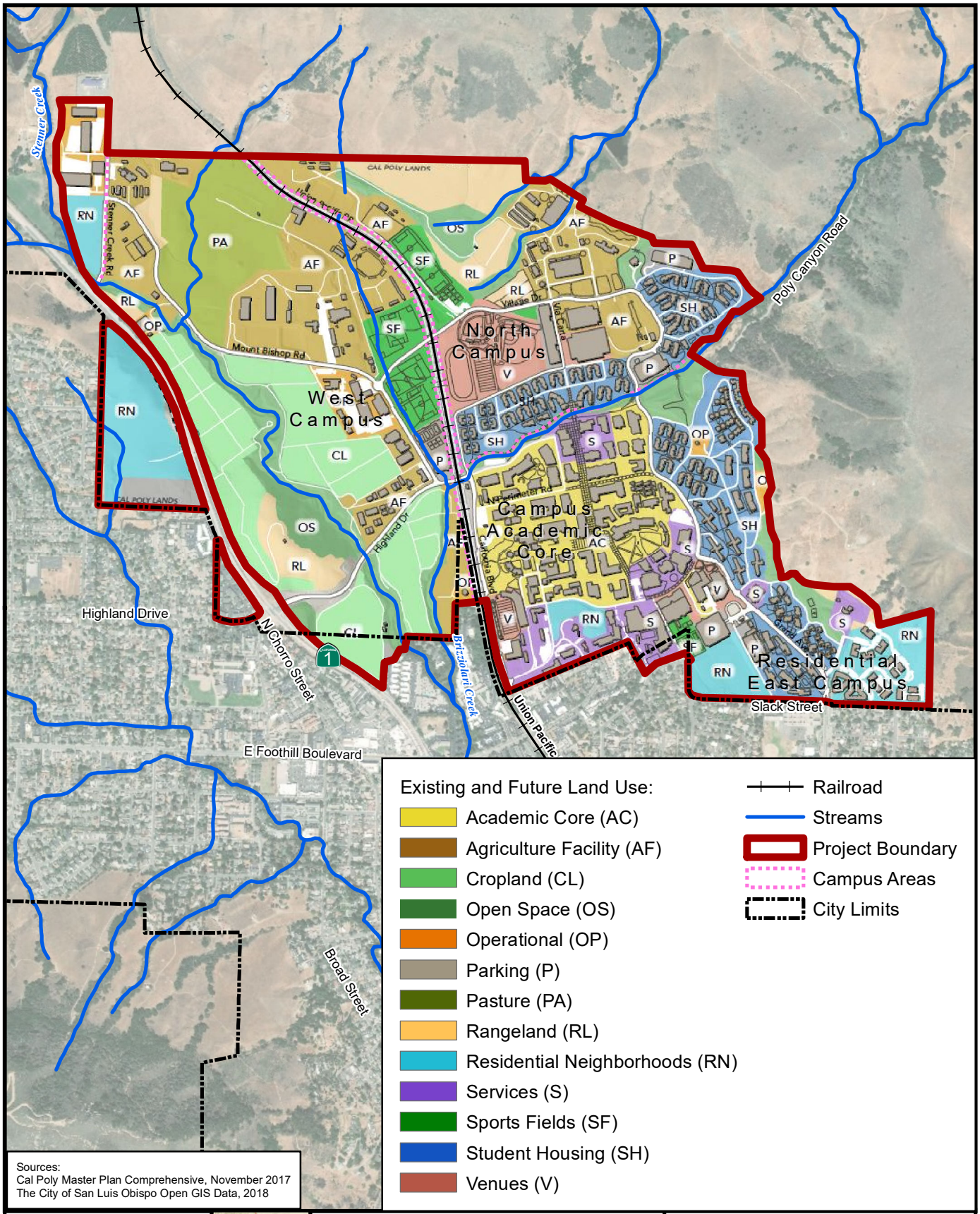
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
SAN LUIS OBISPO 2035 MASTER PLAN
WASTEWATER ANALYSIS

# CAL POLY CAMPUS WASTEWATER CONNECTION TO CITY

Watearth
Water Resources + Green Infrastructure

Date: March 25, 2019 **Exhibit 4**


Stenner Creek
Stenner Creek Road
Sports Complex Road
Village Drive
Poly Canyon Road
North Campus
Mount Bishop Road
Via Carta
West Campus
Highland Drive
N Perimeter Road
Academic Core
California Boulevard
Grand Avenue
East Campus
Highland Drive
N Chorro Street
Brizziolari Creek
Union Pacific RR
Slack Street
E Foothill Boulevard
Broad Street
General Plan Land Use:
Commercial
General Retail
Open Space
Low Density Residential
Medium Density Residential
Medium-High Density Residential
High Density Residential
Neighborhood Commercial
Office
Park
Public
Railroad
Streams
Project Boundary
Campus Areas
City Limits
Sources:
Cal Poly Master Plan Comprehensive, November 2017
The City of San Luis Obispo Open GIS Data, 2018
1 " = 1,500 '
0
1,500
Feet
Datum: NAD83
Units: US Feet
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
SAN LUIS OBISPO 2035 MASTER PLAN
WASTEWATER ANALYSIS
EXISTING LAND USE
Watearth
Water Resources + Green Infrastructure
Date: Mar 21, 2019
Exhibit 5




Sources:
Cal Poly Master Plan Comprehensive, November 2017
The City of San Luis Obispo Open GIS Data, 2018

1 " = 1,500 '
0 1,500
Feet

Datum: NAD83
Units: US Feet

**CALIFORNIA POLYTECHNIC STATE UNIVERSITY**
**SAN LUIS OBISPO 2035 MASTER PLAN**
**WASTEWATER ANALYSIS**

## PROPOSED LAND USE

Watearth™
Water Resources + Green Infrastructure

Date: Aug 13, 2019

**Exhibit 6**

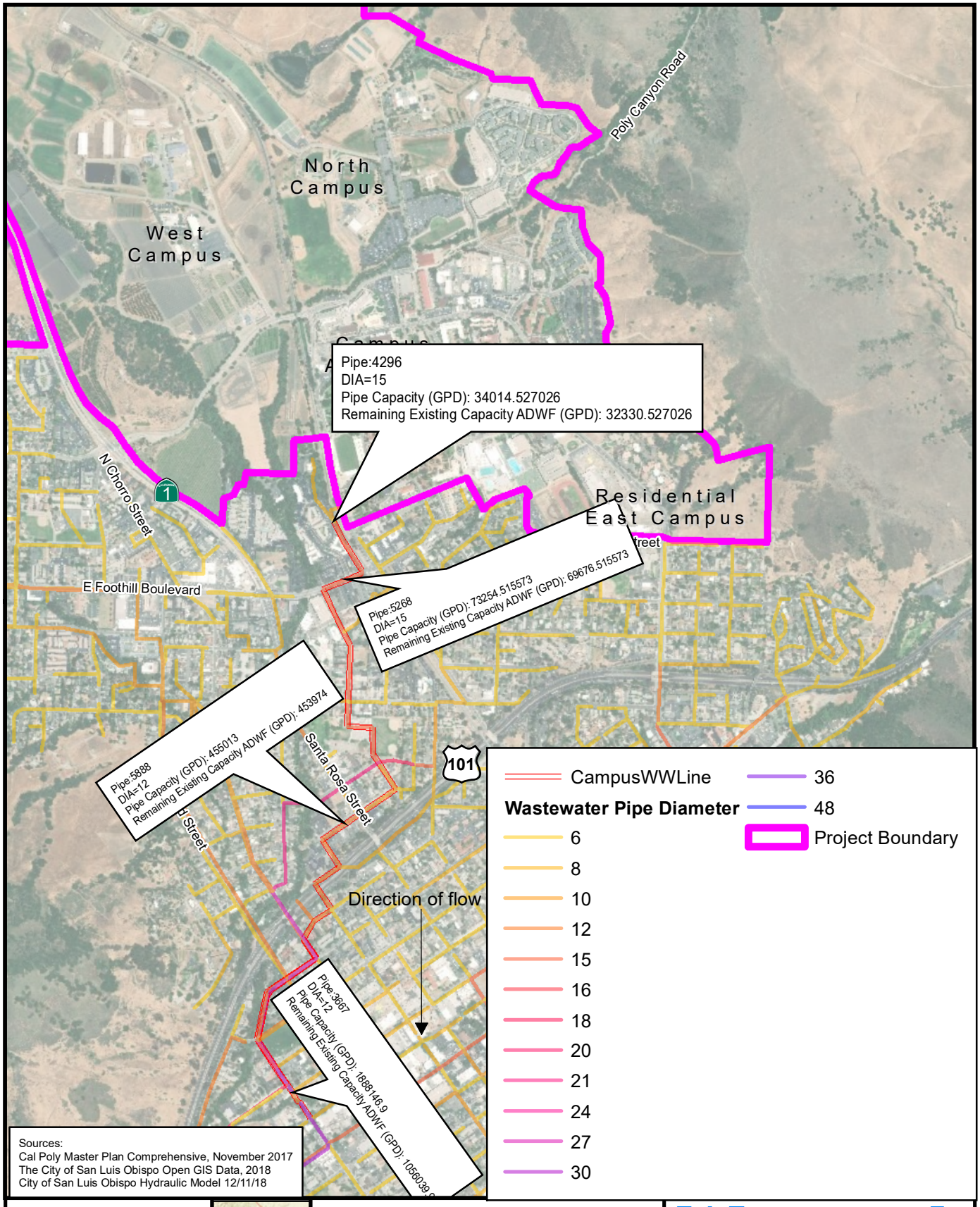
# 8 Appendices

A - City of San Luis Obispo SewerCAD Node Map

B – Proposed Development

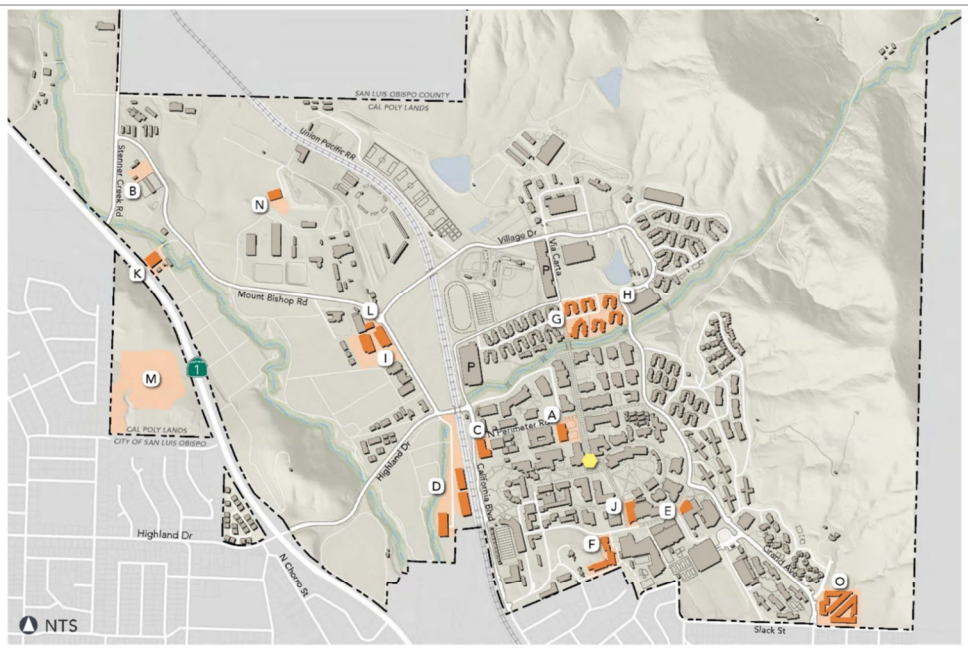
C – SewerCAD Model Output Data

D – SewerCAD Hydraulic Grade Line Figures


North Campus
West Campus
Residential East Campus
Poly Canyon Road
N Chorro Street
E Foothill Boulevard
Santa Rosa Street
101
Direction of flow
Pipe:4296
DIA=15
Pipe Capacity (GPD): 34014.527026
Remaining Existing Capacity ADWF (GPD): 32330.527026
Pipe:5268
DIA=15
Pipe Capacity (GPD): 73254.515573
Remaining Existing Capacity ADWF (GPD): 69676.515573
Pipe:5888
DIA=12
Pipe Capacity (GPD): 455013
Remaining Existing Capacity ADWF (GPD): 453974
Pipe:3667
DIA=12
Pipe Capacity (GPD): 1888146.9
Remaining Existing Capacity ADWF (GPD): 1056039
CampusWWLine
Wastewater Pipe Diameter
6
8
10
12
15
16
18
20
21
24
27
30
36
48
Project Boundary
Sources:
Cal Poly Master Plan Comprehensive, November 2017
The City of San Luis Obispo Open GIS Data, 2018
City of San Luis Obispo Hydraulic Model 12/11/18
1 " = 1,500 '
0
1,500
Feet
Datum: NAD83
Units: US Feet
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
SAN LUIS OBISPO MASTER PLAN
WATER SUPPLY ASSESSMENT
DRAFT SLO MODEL - WASTEWATER
Watearth
Water Resources + Green Infrastructure
Date: Dec 13, 2018

# Appendix B

## Proposed Development and Near-Term Projects




Potential Near-Term Project: **Building**

Potential Near-Term Project: **Area**

Note: All site locations and building outlines are approximate

A - Academic Center Library Addition
B - Beef Cattle Evaluation Center (BCEC) Expansion
C - Engineering Projects Building
D - Facilities Operations Complex
E - Davidson Music Center Renovation and Addition
F - Health Center
G - Student Housing
H - Student Housing
I - Technology Park Expansion
J - Building 19A - Dining Commons Addition
K - Operations and Farm Shop Relocation
L - IT Services Consolidation
M - University-based Retirement Community
N - Water Reclamation Facility (WRF)
O - Faculty and Staff Workforce Housing
Classroom and Offices Building (specific site in Academic Core to be determined)

Data Source: Cal Poly Master Plan 2035

SWCA ENVIRONMENTAL CONSULTANTS

**Near-Term Projects**

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 1 (City_ADWF_2015 CP_2015)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 284,482 | 284,482 | 0 | 811,300 | 526,818 | PVC | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 3.28 | 273.31 | 272.05 | 276 | 274.78 | 0.36 | 0.4 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 284,482 | 284,482 | 0 | 3,430,204 | 3,145,722 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 5.89 | 272.07 | 265.89 | 274.78 | 271.46 | 0.54 | 0.49 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 284,482 | 284,482 | 0 | 805,159 | 520,677 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 2.09 | 265.89 | 265.74 | 271.46 | 270.98 | 0.49 | 0.54 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 285,613 | 284,482 | 1,131 | 2,566,826 | 2,281,213 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 2.14 | 265.73 | 264.92 | 270.98 | 269.39 | 0.97 | 0.98 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 304,372 | 284,482 | 19,890 | 4,834,667 | 4,530,295 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 3.4 | 264.92 | 259.36 | 269.39 | 268.74 | 0.98 | 0.97 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 323,131 | 284,482 | 38,649 | 8,688,008 | 8,364,877 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 5.23 | 259.36 | 258.13 | 268.74 | 268.74 | 0.97 | 0.97 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 323,855 | 284,482 | 39,373 | 3,996,050 | 3,672,195 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 3.03 | 258.13 | 256.6 | 268.74 | 263.77 | 0.97 | 0.97 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 325,210 | 284,482 | 40,728 | 4,717,610 | 4,392,400 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 3.41 | 256.6 | 252.73 | 263.77 | 260.51 | 0.97 | 0.97 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 326,867 | 284,482 | 42,385 | 4,079,514 | 3,752,647 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 3.08 | 252.73 | 249.17 | 260.51 | 254.58 | 0.97 | 0.97 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 329,038 | 284,482 | 44,556 | 3,118,540 | 2,789,502 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 2.55 | 249.17 | 248.35 | 254.58 | 253.74 | 0.97 | 0.96 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 368,253 | 284,482 | 83,771 | 3,888,589 | 3,520,336 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 3.09 | 248.35 | 246.91 | 253.74 | 254.51 | 0.96 | 0.96 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 369,213 | 284,482 | 84,731 | 7,526,611 | 7,157,398 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 4.92 | 246.91 | 234.93 | 254.51 | 243 | 0.96 | 0.95 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 370,088 | 284,482 | 85,606 | 6,405,009 | 6,034,921 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 4.39 | 234.93 | 229.15 | 243 | 243 | 0.95 | 0.79 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 429,371 | 284,482 | 144,889 | 1,501,102 | 1,071,731 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 1.63 | 229.15 | 228.65 | 243 | 242 | 0.79 | 0.93 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 429,371 | 284,482 | 144,889 | 3,345,571 | 2,916,200 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 2.9 | 228.65 | 226.93 | 242 | 241.27 | 0.93 | 0.85 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 429,371 | 284,482 | 144,889 | 1,905,990 | 1,476,619 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 1.94 | 226.93 | 226.23 | 241.27 | 235.52 | 0.85 | 0.93 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 429,371 | 284,482 | 144,889 | 7,497,885 | 7,068,514 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 5.13 | 226.23 | 222.73 | 235.52 | 234.49 | 0.93 | 1.05 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 506,512 | 284,482 | 222,030 | 7,910,192 | 7,403,680 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 2.86 | 222.85 | 219.83 | 234.49 | 232.26 | 1.43 | 1.42 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 557,287 | 284,482 | 272,805 | 13,565,858 | 13,008,571 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 4.29 | 219.83 | 214.79 | 232.26 | 223.14 | 1.42 | 1.51 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 557,577 | 284,482 | 273,095 | 10,436,597 | 9,879,020 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 5.46 | 214.82 | 208.94 | 223.14 | 216 | 0.73 | 0.67 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 557,840 | 284,482 | 273,358 | 10,468,942 | 9,911,102 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 3.58 | 208.94 | 205.94 | 216 | 215.87 | 1.42 | 1.41 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 571,113 | 284,482 | 286,631 | 12,098,686 | 11,527,573 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 3.99 | 205.94 | 199.84 | 215.87 | 208.82 | 1.41 | 1.41 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 573,238 | 284,482 | 288,756 | 11,807,931 | 11,234,693 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 3.92 | 199.84 | 193.84 | 208.82 | 204.07 | 1.41 | 1.49 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 574,849 | 284,482 | 290,367 | 11,904,542 | 11,329,693 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 3.02 | 193.9 | 192.77 | 204.07 | 200.58 | 1.68 | 1.67 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 643,156 | 284,482 | 358,674 | 25,483,412 | 24,840,256 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 4.21 | 192.77 | 182.56 | 200.58 | 197 | 1.92 | 1.85 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 714,207 | 284,482 | 429,725 | 10,620,231 | 9,906,024 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 2.35 | 182.56 | 181.81 | 197 | 198.97 | 1.85 | 1.86 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 715,733 | 284,482 | 431,251 | 10,925,568 | 10,209,835 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 2.4 | 181.81 | 180.62 | 198.97 | 192.83 | 1.86 | 1.85 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 719,751 | 284,482 | 435,269 | 10,554,288 | 9,834,537 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 2.35 | 180.62 | 179.83 | 192.83 | 190 | 1.85 | 1.85 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 719,751 | 284,482 | 435,269 | 10,350,223 | 9,630,472 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 2.32 | 179.83 | 178.54 | 190 | 186.72 | 1.85 | 1.83 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 723,987 | 284,482 | 439,505 | 9,083,654 | 8,359,667 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 2.11 | 178.54 | 178.47 | 186.72 | 187.21 | 1.83 | 1.85 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 727,375 | 284,482 | 442,893 | 13,091,690 | 12,364,315 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.22 | 178.47 | 177.62 | 187.21 | 188.86 | 2.1 | 2.09 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 755,704 | 284,482 | 471,222 | 12,945,046 | 12,189,342 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.23 | 177.62 | 176.88 | 188.86 | 192.02 | 2.09 | 2.04 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 756,993 | 284,482 | 472,511 | 2,097,941 | 1,340,948 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 3.8 | 176.88 | 175.62 | 192.02 | 190.18 | 0.54 | 0.58 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 758,085 | 284,482 | 473,603 | 14,804,664 | 14,046,579 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 2.45 | 175.58 | 174.94 | 190.18 | 193.17 | 2.12 | 2.09 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 805,002 | 284,482 | 520,520 | 13,885,589 | 13,080,587 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 2.38 | 174.94 | 174.47 | 193.17 | 190 | 2.09 | 1.62 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 1,278,352 | 284,482 | 993,870 | 3,242,470 | 1,964,118 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 0.96 | 174.47 | 173.97 | 190 | 184 | 1.62 | 2.04 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 1,281,483 | 284,482 | 997,001 | 30,316,999 | 29,035,516 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 4.73 | 173.97 | 168.95 | 184 | 177.94 | 2.04 | 0.62 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 1,283,937 | 284,482 | 999,455 | 16,547,967 | 15,264,030 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.4 | 168.95 | 168.69 | 177.94 | 178.87 | 0.62 | 2.04 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 1,293,342 | 284,482 | 1,008,860 | 31,703,658 | 30,410,316 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 4.9 | 168.69 | 161.87 | 178.87 | 173.01 | 2.04 | 2.03 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 1,294,092 | 284,482 | 1,009,610 | 16,871,263 | 15,577,171 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 3.15 | 161.87 | 160.48 | 173.01 | 172.44 | 2.03 | 2.02 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 1,408,482 | 284,482 | 1,124,000 | 21,975,368 | 20,566,886 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 3.89 | 160.48 | 158.28 | 172.44 | 171 | 2.02 | 2.02 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 1,408,843 | 284,482 | 1,124,361 | 20,565,867 | 19,157,024 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 3.71 | 158.28 | 156.54 | 171 | 170.85 | 2.02 | 1.87 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 1,429,510 | 284,482 | 1,145,028 | 15,002,227 | 13,572,717 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.07 | 156.54 | 156.03 | 170.85 | 167.67 | 2.37 | 2.45 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 1,431,654 | 284,482 | 1,147,172 | 19,181,160 | 17,749,506 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 2.46 | 156.03 | 155.38 | 167.67 | 169.54 | 2.45 | 2.42 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 1,523,121 | 284,482 | 1,238,639 | 18,895,751 | 17,372,630 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 2.48 | 155.38 | 154.82 | 169.54 | 168.44 | 2.42 | 2.52 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 1,525,015 | 284,482 | 1,240,533 | 34,641,163 | 33,116,148 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 3.8 | 154.82 | 150.42 | 168.44 | 163.03 | 2.52 | 2.45 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 1,992,518 | 284,482 | 1,708,036 | 27,412,575 | 25,420,057 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 3.49 | 150.42 | 148.85 | 163.03 | 157.11 | 2.45 | 2.45 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 1,993,609 | 284,482 | 1,709,127 | 26,953,521 | 24,959,912 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 3.45 | 148.85 | 147.37 | 157.11 | 157 | 2.45 | 2.38 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 2,552,861 | 284,482 | 2,268,379 | 35,454,075 | 32,901,214 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 4.51 | 147.37 | 143.33 | 157 | 155.42 | 2.38 | 2.38 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 2,553,374 | 284,482 | 2,268,892 | 29,311,144 | 26,757,770 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 3.94 | 143.33 | 140.4 | 155.42 | 155.66 | 2.38 | 2.26 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 2,553,374 | 284,482 | 2,268,892 | 19,102,000 | 16,548,626 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 2.91 | 140.4 | 139.71 | 155.66 | 151 | 2.26 | 2.3 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 2,553,374 | 284,482 | 2,268,892 | 21,549,863 | 18,996,489 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.17 | 139.71 | 138.13 | 151 | 144.74 | 2.3 | 2.27 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 2,553,374 | 284,482 | 2,268,892 | 19,647,126 | 17,093,752 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 8.72 | 138.13 | 134.24 | 144.74 | 139.73 | 1.02 | 0.64 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 2,554,979 | 284,482 | 2,270,497 | 6,124,076 | 3,569,097 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.28 | 134.24 | 133.64 | 139.73 | 142.95 | 1.89 | 2.38 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 2,556,584 | 284,482 | 2,272,102 | 30,407,121 | 27,850,537 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.04 | 133.64 | 130.97 | 142.95 | 138 | 2.38 | 2.41 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 2,556,584 | 284,482 | 2,272,102 | 42,793,558 | 40,236,974 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 5.14 | 131 | 127.24 | 138 | 138 | 2.38 | 0.95 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 2,556,584 | 284,482 | 2,272,102 | 21,484,290 | 18,927,706 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 3.16 | 127.24 | 127.24 | 138 | 138 | 0.95 | 0.66 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 2,557,176 | 284,482 | 2,272,694 | 26,071,121 | 23,513,945 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.04 | 127.24 | 127.23 | 138 | 138 | 1.66 | 1.03 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 2,557,768 | 284,482 | 2,273,286 | 60,681,535 | 58,123,767 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.31 | 127.23 | 127.17 | 138 | 131.44 | 1.03 | 2.94 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 2,557,768 | 284,482 | 2,273,286 | 33,047,844 | 30,490,076 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 2.41 | 127.17 | 127.16 | 131.44 | 131.37 | 2.94 | 2.93 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 6,667,976 | 284,482 | 6,383,494 | 33,686,043 | 27,018,067 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 8.27 | 127.16 | 126.73 | 131.37 | 131.41 | 1.43 | 1.64 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 6,667,976 | 284,482 | 6,383,494 | 38,080,441 | 31,412,465 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.02 | 126.94 | 126.84 | 131.41 | 131.36 | 1.43 | 0.66 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 9,837,754 | 284,482 | 9,553,272 | 2,608,858 | -7,228,896 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.1 | 126.84 | 126.31 | 131.36 | 131 | 0.66 | 1.18 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 9,842,490 | 284,482 | 9,558,008 | 30,788,053 | 20,945,563 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 5.99 | 126.23 | 125.17 | 131 | 131 | 1.76 | 1.83 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 2 (City_PDWF_2015 CP_2015)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 739,653 | 739,653 | 0 | 811,300 | 71,647 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 4.08 | 273.51 | 272.28 | 276 | 274.78 | 0.16 | 0.17 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 739,653 | 739,653 | 0 | 3,430,204 | 2,690,551 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 7.76 | 272.26 | 266.14 | 274.78 | 271.46 | 0.35 | 0.24 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 739,653 | 739,653 | 0 | 805,159 | 65,506 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 2.59 | 266.14 | 265.93 | 271.46 | 270.98 | 0.24 | 0.35 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 741,731 | 739,653 | 2,078 | 2,566,826 | 1,825,095 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 2.8 | 265.91 | 265.08 | 270.98 | 269.39 | 0.79 | 0.82 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 776,179 | 739,653 | 36,526 | 4,834,667 | 4,058,488 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 4.47 | 265.08 | 259.52 | 269.39 | 268.74 | 0.82 | 0.81 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 810,628 | 739,653 | 70,975 | 8,688,008 | 7,877,380 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 6.86 | 259.52 | 258.29 | 268.74 | 268.74 | 0.81 | 0.81 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 811,957 | 739,653 | 72,304 | 3,996,050 | 3,184,093 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 3.95 | 258.29 | 256.76 | 268.74 | 263.77 | 0.81 | 0.81 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 814,445 | 739,653 | 74,792 | 4,717,610 | 3,903,165 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 4.46 | 256.76 | 252.89 | 263.77 | 260.51 | 0.81 | 0.81 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 817,489 | 739,653 | 77,836 | 4,079,514 | 3,262,025 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 4.02 | 252.89 | 249.34 | 260.51 | 254.58 | 0.81 | 0.8 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 821,475 | 739,653 | 81,822 | 3,118,540 | 2,297,065 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 3.32 | 249.34 | 248.52 | 254.58 | 253.74 | 0.8 | 0.79 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 893,489 | 739,653 | 153,836 | 3,888,589 | 2,995,100 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 3.98 | 248.52 | 247.09 | 253.74 | 254.51 | 0.79 | 0.78 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 895,252 | 739,653 | 155,599 | 7,526,611 | 6,631,359 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 6.39 | 247.09 | 235.1 | 254.51 | 243 | 0.78 | 0.78 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 896,859 | 739,653 | 157,206 | 6,405,009 | 5,508,150 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 5.69 | 235.1 | 229.43 | 243 | 243 | 0.78 | 0.51 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 1,005,725 | 739,653 | 266,072 | 1,501,102 | 495,377 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 2.03 | 229.43 | 228.82 | 243 | 242 | 0.51 | 0.76 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 1,005,725 | 739,653 | 266,072 | 3,345,571 | 2,339,846 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 3.69 | 228.82 | 227.18 | 242 | 241.27 | 0.76 | 0.6 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 1,005,725 | 739,653 | 266,072 | 1,905,990 | 900,265 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.43 | 227.18 | 226.4 | 241.27 | 235.52 | 0.6 | 0.76 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 1,005,725 | 739,653 | 266,072 | 7,497,885 | 6,492,160 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 6.58 | 226.4 | 222.84 | 235.52 | 234.49 | 0.76 | 0.94 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 1,153,320 | 739,653 | 413,667 | 7,910,192 | 6,756,872 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 3.63 | 223.01 | 220 | 234.49 | 232.26 | 1.27 | 1.25 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 1,246,360 | 739,653 | 506,707 | 13,565,858 | 12,319,498 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 5.44 | 220 | 214.91 | 232.26 | 223.14 | 1.25 | 1.39 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 1,246,891 | 739,653 | 507,238 | 10,436,597 | 9,189,706 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 6.93 | 214.96 | 209.11 | 223.14 | 216 | 0.59 | 0.5 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 1,247,374 | 739,653 | 507,721 | 10,468,942 | 9,221,568 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 4.54 | 209.11 | 206.11 | 216 | 215.87 | 1.25 | 1.24 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 1,272,883 | 739,653 | 533,230 | 12,098,686 | 10,825,803 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 5.05 | 206.11 | 200.01 | 215.87 | 208.82 | 1.24 | 1.24 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 1,276,986 | 739,653 | 537,333 | 11,807,931 | 10,530,945 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 4.97 | 200.01 | 193.97 | 208.82 | 204.07 | 1.24 | 1.36 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 1,280,099 | 739,653 | 540,446 | 11,904,542 | 10,624,443 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 3.83 | 194.07 | 192.94 | 204.07 | 200.58 | 1.51 | 1.5 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 1,412,111 | 739,653 | 672,458 | 25,483,412 | 24,071,301 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 5.33 | 192.94 | 182.74 | 200.58 | 197 | 1.75 | 1.67 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 1,539,066 | 739,653 | 799,413 | 10,620,231 | 9,081,165 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 2.94 | 182.74 | 181.99 | 197 | 198.97 | 1.67 | 1.68 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 1,542,013 | 739,653 | 802,360 | 10,925,568 | 9,383,555 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3 | 181.99 | 180.8 | 198.97 | 192.83 | 1.68 | 1.67 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 1,549,775 | 739,653 | 810,122 | 10,554,288 | 9,004,513 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 2.94 | 180.8 | 180.02 | 192.83 | 190 | 1.67 | 1.66 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 1,549,775 | 739,653 | 810,122 | 10,350,223 | 8,800,448 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 2.9 | 180.02 | 178.73 | 190 | 186.72 | 1.66 | 1.64 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 1,557,955 | 739,653 | 818,302 | 9,083,654 | 7,525,699 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 2.64 | 178.73 | 178.65 | 186.72 | 187.21 | 1.64 | 1.67 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 1,564,497 | 739,653 | 824,844 | 13,091,690 | 11,527,193 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.78 | 178.65 | 177.81 | 187.21 | 188.86 | 1.92 | 1.9 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 1,619,797 | 739,653 | 880,144 | 12,945,046 | 11,325,249 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.79 | 177.81 | 177.1 | 188.86 | 192.02 | 1.9 | 1.82 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 1,622,286 | 739,653 | 882,633 | 2,097,941 | 475,655 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.56 | 177.1 | 175.86 | 192.02 | 190.18 | 0.32 | 0.34 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 1,624,395 | 739,653 | 884,742 | 14,804,664 | 13,180,269 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.07 | 175.76 | 175.12 | 190.18 | 193.17 | 1.94 | 1.91 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 1,716,117 | 739,653 | 976,464 | 13,885,589 | 12,169,472 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 2.98 | 175.12 | 174.81 | 193.17 | 190 | 1.91 | 1.28 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 2,592,237 | 739,653 | 1,852,584 | 3,242,470 | 650,233 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1.14 | 174.81 | 174.17 | 190 | 184 | 1.28 | 1.84 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 2,598,283 | 739,653 | 1,858,630 | 30,316,999 | 27,718,716 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 5.84 | 174.17 | 169.26 | 184 | 177.94 | 1.84 | 0.31 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 2,603,022 | 739,653 | 1,863,369 | 16,547,967 | 13,944,945 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.82 | 169.26 | 168.89 | 177.94 | 178.87 | 0.31 | 1.84 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 2,621,187 | 739,653 | 1,881,534 | 31,703,658 | 29,082,471 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 6.04 | 168.89 | 162.07 | 178.87 | 173.01 | 1.84 | 1.83 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 2,622,635 | 739,653 | 1,882,982 | 16,871,263 | 14,248,628 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 3.86 | 162.07 | 160.69 | 173.01 | 172.44 | 1.83 | 1.81 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 2,855,125 | 739,653 | 2,115,472 | 21,975,368 | 19,120,243 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 4.78 | 160.69 | 158.49 | 172.44 | 171 | 1.81 | 1.81 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 2,855,823 | 739,653 | 2,116,170 | 20,565,867 | 17,710,044 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 4.56 | 158.49 | 156.8 | 171 | 170.85 | 1.81 | 1.61 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 2,895,690 | 739,653 | 2,156,037 | 15,002,227 | 12,106,537 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.54 | 156.8 | 156.27 | 170.85 | 167.67 | 2.11 | 2.21 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 2,899,831 | 739,653 | 2,160,178 | 19,181,160 | 16,281,329 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.03 | 156.27 | 155.62 | 167.67 | 169.54 | 2.21 | 2.18 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 3,064,541 | 739,653 | 2,324,888 | 18,895,751 | 15,831,210 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 3.04 | 155.62 | 155.02 | 169.54 | 168.44 | 2.18 | 2.32 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 3,068,199 | 739,653 | 2,328,546 | 34,641,163 | 31,572,964 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.68 | 155.02 | 150.64 | 168.44 | 163.03 | 2.32 | 2.23 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 3,927,093 | 739,653 | 3,187,440 | 27,412,575 | 23,485,482 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 4.26 | 150.64 | 149.07 | 163.03 | 157.11 | 2.23 | 2.23 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 3,929,202 | 739,653 | 3,189,549 | 26,953,521 | 23,024,319 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 4.21 | 149.07 | 147.59 | 157.11 | 157 | 2.23 | 2.16 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 4,630,787 | 739,653 | 3,891,134 | 35,454,075 | 30,823,288 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 5.36 | 147.59 | 143.55 | 157 | 155.42 | 2.16 | 2.16 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 4,631,778 | 739,653 | 3,892,125 | 29,311,144 | 24,679,366 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 4.68 | 143.55 | 140.67 | 155.42 | 155.66 | 2.16 | 1.99 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 4,631,778 | 739,653 | 3,892,125 | 19,102,000 | 14,470,222 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.45 | 140.67 | 139.95 | 155.66 | 151 | 1.99 | 2.06 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 4,631,778 | 739,653 | 3,892,125 | 21,549,863 | 16,918,085 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.76 | 139.95 | 138.39 | 151 | 144.74 | 2.06 | 2.01 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 4,631,778 | 739,653 | 3,892,125 | 19,647,126 | 15,015,348 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 10.34 | 138.39 | 134.6 | 144.74 | 139.73 | 0.76 | 0.28 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 4,634,877 | 739,653 | 3,895,224 | 6,124,076 | 1,489,199 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.47 | 134.6 | 133.86 | 139.73 | 142.95 | 1.53 | 2.16 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 4,637,976 | 739,653 | 3,898,323 | 30,407,121 | 25,769,145 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.81 | 133.86 | 131.17 | 142.95 | 138 | 2.16 | 2.21 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 4,637,976 | 739,653 | 3,898,323 | 42,793,558 | 38,155,582 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.13 | 131.22 | 127.5 | 138 | 138 | 2.16 | 0.69 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 4,637,976 | 739,653 | 3,898,323 | 21,484,290 | 16,846,314 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 3.75 | 127.5 | 127.5 | 138 | 138 | 0.69 | 0.4 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 4,639,120 | 739,653 | 3,899,467 | 26,071,121 | 21,432,001 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.42 | 127.5 | 127.47 | 138 | 138 | 1.4 | 0.79 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 4,640,263 | 739,653 | 3,900,610 | 60,681,535 | 56,041,272 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.57 | 127.47 | 127.35 | 138 | 131.44 | 0.79 | 2.76 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 4,640,263 | 739,653 | 3,900,610 | 33,047,844 | 28,407,581 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 2.87 | 127.35 | 127.34 | 131.44 | 131.37 | 2.76 | 2.75 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 8,952,123 | 739,653 | 8,212,470 | 33,686,043 | 24,733,920 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 8.98 | 127.34 | 126.89 | 131.37 | 131.41 | 1.25 | 1.48 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 8,952,123 | 739,653 | 8,212,470 | 38,080,441 | 29,128,318 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.81 | 127.12 | 127.05 | 131.41 | 131.36 | 1.25 | 0.45 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 12,121,902 | 739,653 | 11,382,249 | 2,608,858 | -9,513,044 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.82 | 127.05 | 126.46 | 131.36 | 131 | 0.45 | 1.03 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 12,131,047 | 739,653 | 11,391,394 | 30,788,053 | 18,657,006 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.34 | 126.38 | 125.31 | 131 | 131 | 1.61 | 1.69 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 3 (City_PWWF_2015 CP_2015)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 2,308,597 | 2,308,597 | 0 | 811,300 | -1,497,297 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 10.23 | 282.45 | 272.57 | 276 | 274.78 | -8.78 | -0.12 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 2,337,059 | 2,308,597 | 28,462 | 3,430,204 | 1,093,145 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 10.47 | 272.57 | 267.3 | 274.78 | 271.46 | 0.04 | -0.92 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 2,365,521 | 2,308,597 | 56,924 | 805,159 | -1,560,362 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 6.71 | 267.3 | 266.44 | 271.46 | 270.98 | -0.92 | -0.16 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 2,481,448 | 2,308,597 | 172,851 | 2,566,826 | 85,378 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.69 | 266.44 | 265.45 | 270.98 | 269.39 | 0.26 | 0.45 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 2,544,359 | 2,308,597 | 235,762 | 4,834,667 | 2,290,308 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 6.17 | 265.45 | 259.89 | 269.39 | 268.74 | 0.45 | 0.44 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 2,607,270 | 2,308,597 | 298,673 | 8,688,008 | 6,080,738 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 9.58 | 259.89 | 258.67 | 268.74 | 268.74 | 0.44 | 0.43 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 2,637,061 | 2,308,597 | 328,464 | 3,996,050 | 1,358,989 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 5.38 | 258.67 | 257.14 | 268.74 | 263.77 | 0.43 | 0.43 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 2,668,011 | 2,308,597 | 359,414 | 4,717,610 | 2,049,599 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 6.13 | 257.14 | 253.28 | 263.77 | 260.51 | 0.43 | 0.42 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 2,699,517 | 2,308,597 | 390,920 | 4,079,514 | 1,379,997 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 5.5 | 253.28 | 249.8 | 260.51 | 254.58 | 0.42 | 0.34 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 2,731,965 | 2,308,597 | 423,368 | 3,118,540 | 386,575 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 4.43 | 249.8 | 249.01 | 254.58 | 253.74 | 0.34 | 0.3 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 3,572,459 | 2,308,597 | 1,263,862 | 3,888,589 | 316,130 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 5.56 | 249.01 | 247.58 | 253.74 | 254.51 | 0.3 | 0.29 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 3,602,685 | 2,308,597 | 1,294,088 | 7,526,611 | 3,923,926 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 9.39 | 247.58 | 236.69 | 254.51 | 243 | 0.29 | -0.81 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 3,632,753 | 2,308,597 | 1,324,156 | 6,405,009 | 2,772,256 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 4.58 | 236.69 | 234.78 | 243 | 243 | -0.81 | -4.84 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 3,940,855 | 2,308,597 | 1,632,258 | 1,501,102 | -2,439,753 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 4.97 | 234.78 | 232.3 | 243 | 242 | -4.84 | -2.72 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 3,969,317 | 2,308,597 | 1,660,720 | 3,345,571 | -623,746 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 5 | 232.3 | 229.76 | 242 | 241.27 | -2.72 | -1.98 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 3,997,780 | 2,308,597 | 1,689,183 | 1,905,990 | -2,091,790 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 5.04 | 229.76 | 226.92 | 241.27 | 235.52 | -1.98 | 0.24 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 4,026,242 | 2,308,597 | 1,717,645 | 7,497,885 | 3,471,643 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 9.62 | 226.92 | 223.6 | 235.52 | 234.49 | 0.24 | 0.18 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 5,357,699 | 2,308,597 | 3,049,102 | 7,910,192 | 2,552,493 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 5.47 | 223.6 | 220.67 | 234.49 | 232.26 | 0.68 | 0.58 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 6,393,081 | 2,308,597 | 4,084,484 | 13,565,858 | 7,172,777 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 8.59 | 220.67 | 215.4 | 232.26 | 223.14 | 0.58 | 0.9 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 6,422,074 | 2,308,597 | 4,113,477 | 10,436,597 | 4,014,523 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 10.81 | 215.47 | 209.79 | 223.14 | 216 | 0.08 | -0.18 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 6,451,019 | 2,308,597 | 4,142,422 | 10,468,942 | 4,017,923 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 7.08 | 209.79 | 206.8 | 216 | 215.87 | 0.57 | 0.55 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 6,730,662 | 2,308,597 | 4,422,065 | 12,098,686 | 5,368,024 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 7.99 | 206.8 | 200.7 | 215.87 | 208.82 | 0.55 | 0.55 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 6,740,945 | 2,308,597 | 4,432,348 | 11,807,931 | 5,066,986 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 7.85 | 200.7 | 194.53 | 208.82 | 204.07 | 0.55 | 0.8 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 6,750,236 | 2,308,597 | 4,441,639 | 11,904,542 | 5,154,306 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 6.05 | 194.74 | 193.61 | 204.07 | 200.58 | 0.84 | 0.83 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 7,324,623 | 2,308,597 | 5,016,026 | 25,483,412 | 18,158,789 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 8.57 | 193.61 | 189.06 | 200.58 | 197 | 1.08 | -4.65 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 8,048,821 | 2,308,597 | 5,740,224 | 10,620,231 | 2,571,410 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.13 | 189.06 | 188.64 | 197 | 198.97 | -4.65 | -4.97 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 8,064,126 | 2,308,597 | 5,755,529 | 10,925,568 | 2,861,442 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.14 | 188.64 | 187.98 | 198.97 | 192.83 | -4.97 | -5.51 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 8,093,514 | 2,308,597 | 5,784,917 | 10,554,288 | 2,460,774 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.15 | 187.98 | 187.52 | 192.83 | 190 | -5.51 | -5.84 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 8,099,693 | 2,308,597 | 5,791,096 | 10,350,223 | 2,250,530 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.15 | 187.52 | 186.72 | 190 | 186.72 | -5.84 | -6.35 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 8,120,232 | 2,308,597 | 5,811,635 | 9,083,654 | 963,422 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 3.16 | 187.25 | 187.21 | 186.72 | 187.21 | -6.88 | -6.89 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 10,300,047 | 2,308,597 | 7,991,450 | 13,091,690 | 2,791,643 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.25 | 189.39 | 188.86 | 187.21 | 188.86 | -8.82 | -9.15 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 10,891,315 | 2,308,597 | 8,582,718 | 12,945,046 | 2,053,731 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.43 | 192.58 | 192.02 | 188.86 | 192.02 | -12.87 | -13.1 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 10,924,700 | 2,308,597 | 8,616,103 | 2,097,941 | -8,826,759 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 21.52 | 211.58 | 178.5 | 192.02 | 190.18 | -34.16 | -2.3 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 10,932,988 | 2,308,597 | 8,624,391 | 14,804,664 | 3,871,676 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.45 | 178.5 | 178.13 | 190.18 | 193.17 | -0.8 | -1.1 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 11,178,924 | 2,308,597 | 8,870,327 | 13,885,589 | 2,706,665 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.52 | 178.13 | 177.52 | 193.17 | 190 | -1.1 | -1.43 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 16,072,302 | 2,308,597 | 13,763,705 | 3,242,470 | -12,829,832 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 5.07 | 177.52 | 175.21 | 190 | 184 | -1.43 | 0.8 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 16,084,529 | 2,308,597 | 13,775,932 | 30,316,999 | 14,232,470 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 9.7 | 175.21 | 171.4 | 184 | 177.94 | 0.8 | -1.83 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 16,095,446 | 2,308,597 | 13,786,849 | 16,547,967 | 452,521 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 5.07 | 171.4 | 169.93 | 177.94 | 178.87 | -1.83 | 0.8 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 16,150,684 | 2,308,597 | 13,842,087 | 31,703,658 | 15,552,974 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 10.04 | 169.93 | 164.69 | 178.87 | 173.01 | 0.8 | -0.79 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 16,158,313 | 2,308,597 | 13,849,716 | 16,871,263 | 712,950 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 5.09 | 164.69 | 163.41 | 173.01 | 172.44 | -0.79 | -0.91 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 16,694,974 | 2,308,597 | 14,386,377 | 21,975,368 | 5,280,394 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.26 | 163.41 | 162.14 | 172.44 | 171 | -0.91 | -1.84 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 16,701,851 | 2,308,597 | 14,393,254 | 20,565,867 | 3,864,016 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 5.26 | 162.14 | 160.89 | 171 | 170.85 | -1.84 | -2.48 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 17,432,739 | 2,308,597 | 15,124,142 | 15,002,227 | -2,430,512 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 3.82 | 160.89 | 160.31 | 170.85 | 167.67 | -1.98 | -1.83 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 17,455,416 | 2,308,597 | 15,146,819 | 19,181,160 | 1,725,744 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.82 | 160.31 | 159.75 | 167.67 | 169.54 | -1.83 | -1.95 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 21,293,885 | 2,308,597 | 18,985,288 | 18,895,751 | -2,398,134 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 4.66 | 159.75 | 159.16 | 169.54 | 168.44 | -1.95 | -1.82 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 21,316,080 | 2,308,597 | 19,007,483 | 34,641,163 | 13,325,083 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.67 | 159.16 | 157.47 | 168.44 | 163.03 | -1.82 | -4.6 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 26,091,037 | 2,308,597 | 23,782,440 | 27,412,575 | 1,321,538 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 5.71 | 157.47 | 156.05 | 163.03 | 157.11 | -4.6 | -4.75 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 26,099,324 | 2,308,597 | 23,790,727 | 26,953,521 | 854,197 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 5.71 | 156.05 | 154.6 | 157.11 | 157 | -4.75 | -4.85 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 28,627,167 | 2,308,597 | 26,318,570 | 35,454,075 | 6,826,908 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 6.27 | 154.6 | 151.96 | 157 | 155.42 | -4.85 | -6.25 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 28,634,337 | 2,308,597 | 26,325,740 | 29,311,144 | 676,807 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 6.27 | 151.96 | 149.05 | 155.42 | 155.66 | -6.25 | -6.39 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 28,640,516 | 2,308,597 | 26,331,919 | 19,102,000 | -9,538,516 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 6.27 | 149.05 | 147.59 | 155.66 | 151 | -6.39 | -5.58 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 28,646,697 | 2,308,597 | 26,338,100 | 21,549,863 | -7,096,834 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 6.27 | 147.59 | 144.74 | 151 | 144.74 | -5.58 | -4.34 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 28,652,875 | 2,308,597 | 26,344,278 | 19,647,126 | -9,005,749 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 18.43 | 148.81 | 139.73 | 144.74 | 139.73 | -9.66 | -4.85 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 28,662,153 | 2,308,597 | 26,353,556 | 6,124,076 | -22,538,077 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 6.27 | 140.16 | 137.75 | 139.73 | 142.95 | -4.03 | -1.73 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 28,671,430 | 2,308,597 | 26,362,833 | 30,407,121 | 1,735,691 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 6.28 | 137.75 | 135.41 | 142.95 | 138 | -1.73 | -2.03 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 28,677,611 | 2,308,597 | 26,369,014 | 42,793,558 | 14,115,947 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.28 | 135.41 | 133.08 | 138 | 138 | -2.03 | -4.89 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 28,683,790 | 2,308,597 | 26,375,193 | 21,484,290 | -7,199,500 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 6.28 | 133.08 | 132.56 | 138 | 138 | -4.89 | -4.66 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 28,691,113 | 2,308,597 | 26,382,516 | 26,071,121 | -2,619,992 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 3.53 | 132.56 | 131.78 | 138 | 138 | -3.66 | -3.52 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 28,698,435 | 2,308,597 | 26,389,838 | 60,681,535 | 31,983,100 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 3.53 | 131.78 | 131.37 | 138 | 131.44 | -3.52 | -1.26 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 28,704,614 | 2,308,597 | 26,396,017 | 33,047,844 | 4,343,230 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 3.53 | 131.37 | 131.36 | 131.44 | 131.37 | -1.26 | -1.27 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 35,071,354 | 2,308,597 | 32,762,757 | 33,686,043 | -1,385,311 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 11.05 | 131.36 | 131.12 | 131.37 | 131.41 | -2.77 | -2.75 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 35,077,535 | 2,308,597 | 32,768,938 | 38,080,441 | 3,002,906 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 11.06 | 131.12 | 130.38 | 131.41 | 131.36 | -2.75 | -2.88 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 38,247,312 | 2,308,597 | 35,938,715 | 2,608,858 | -35,638,454 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 12.06 | 130.38 | 128.23 | 131.36 | 131 | -2.88 | -0.74 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 38,281,173 | 2,308,597 | 35,972,576 | 30,788,053 | -7,493,120 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 8.38 | 128.23 | 126.49 | 131 | 131 | -0.24 | 0.51 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 4 (City_ADWF_2015 CP_2020)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 289,294 | 289,294 | 0 | 811,300 | 522,006 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 3.3 | 273.31 | 272.05 | 276 | 274.78 | 0.36 | 0.4 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 289,294 | 289,294 | 0 | 3,430,204 | 3,140,910 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 5.92 | 272.07 | 265.89 | 274.78 | 271.46 | 0.54 | 0.49 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 289,294 | 289,294 | 0 | 805,159 | 515,865 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 2.1 | 265.89 | 265.74 | 271.46 | 270.98 | 0.49 | 0.54 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 290,425 | 289,294 | 1,131 | 2,566,826 | 2,276,401 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 2.15 | 265.73 | 264.92 | 270.98 | 269.39 | 0.97 | 0.98 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 309,184 | 289,294 | 19,890 | 4,834,667 | 4,525,483 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 3.42 | 264.92 | 259.36 | 269.39 | 268.74 | 0.98 | 0.97 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 327,943 | 289,294 | 38,649 | 8,688,008 | 8,360,065 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 5.25 | 259.36 | 258.13 | 268.74 | 268.74 | 0.97 | 0.97 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 328,667 | 289,294 | 39,373 | 3,996,050 | 3,667,383 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 3.04 | 258.13 | 256.6 | 268.74 | 263.77 | 0.97 | 0.97 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 330,022 | 289,294 | 40,728 | 4,717,610 | 4,387,588 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 3.42 | 256.6 | 252.73 | 263.77 | 260.51 | 0.97 | 0.97 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 331,679 | 289,294 | 42,385 | 4,079,514 | 3,747,835 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 3.1 | 252.73 | 249.17 | 260.51 | 254.58 | 0.97 | 0.97 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 333,850 | 289,294 | 44,556 | 3,118,540 | 2,784,690 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 2.57 | 249.17 | 248.36 | 254.58 | 253.74 | 0.97 | 0.95 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 373,065 | 289,294 | 83,771 | 3,888,589 | 3,515,524 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 3.1 | 248.36 | 246.92 | 253.74 | 254.51 | 0.95 | 0.95 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 374,025 | 289,294 | 84,731 | 7,526,611 | 7,152,586 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 4.94 | 246.92 | 234.93 | 254.51 | 243 | 0.95 | 0.95 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 374,900 | 289,294 | 85,606 | 6,405,009 | 6,030,109 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 4.41 | 234.93 | 229.15 | 243 | 243 | 0.95 | 0.79 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 434,183 | 289,294 | 144,889 | 1,501,102 | 1,066,919 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 1.64 | 229.15 | 228.65 | 243 | 242 | 0.79 | 0.93 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 434,183 | 289,294 | 144,889 | 3,345,571 | 2,911,388 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 2.91 | 228.65 | 226.94 | 242 | 241.27 | 0.93 | 0.84 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 434,183 | 289,294 | 144,889 | 1,905,990 | 1,471,807 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 1.94 | 226.94 | 226.23 | 241.27 | 235.52 | 0.84 | 0.93 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 434,183 | 289,294 | 144,889 | 7,497,885 | 7,063,702 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 5.15 | 226.23 | 222.73 | 235.52 | 234.49 | 0.93 | 1.05 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 511,324 | 289,294 | 222,030 | 7,910,192 | 7,398,868 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 2.86 | 222.85 | 219.83 | 234.49 | 232.26 | 1.43 | 1.42 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 562,099 | 289,294 | 272,805 | 13,565,858 | 13,003,759 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 4.3 | 219.83 | 214.79 | 232.26 | 223.14 | 1.42 | 1.51 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 562,389 | 289,294 | 273,095 | 10,436,597 | 9,874,208 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 5.48 | 214.82 | 208.94 | 223.14 | 216 | 0.73 | 0.67 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 562,652 | 289,294 | 273,358 | 10,468,942 | 9,906,290 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 3.59 | 208.94 | 205.94 | 216 | 215.87 | 1.42 | 1.41 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 575,925 | 289,294 | 286,631 | 12,098,686 | 11,522,761 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 4 | 205.94 | 199.84 | 215.87 | 208.82 | 1.41 | 1.41 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 578,050 | 289,294 | 288,756 | 11,807,931 | 11,229,881 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 3.93 | 199.84 | 193.84 | 208.82 | 204.07 | 1.41 | 1.49 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 579,661 | 289,294 | 290,367 | 11,904,542 | 11,324,881 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 3.03 | 193.91 | 192.77 | 204.07 | 200.58 | 1.67 | 1.67 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 647,968 | 289,294 | 358,674 | 25,483,412 | 24,835,444 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 4.22 | 192.77 | 182.56 | 200.58 | 197 | 1.92 | 1.85 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 719,019 | 289,294 | 429,725 | 10,620,231 | 9,901,212 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 2.36 | 182.56 | 181.81 | 197 | 198.97 | 1.85 | 1.86 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 720,545 | 289,294 | 431,251 | 10,925,568 | 10,205,023 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 2.41 | 181.81 | 180.62 | 198.97 | 192.83 | 1.86 | 1.85 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 724,563 | 289,294 | 435,269 | 10,554,288 | 9,829,725 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 2.35 | 180.62 | 179.83 | 192.83 | 190 | 1.85 | 1.85 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 724,563 | 289,294 | 435,269 | 10,350,223 | 9,625,660 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 2.32 | 179.83 | 178.54 | 190 | 186.72 | 1.85 | 1.83 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 728,799 | 289,294 | 439,505 | 9,083,654 | 8,354,855 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 2.12 | 178.54 | 178.47 | 186.72 | 187.21 | 1.83 | 1.85 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 732,187 | 289,294 | 442,893 | 13,091,690 | 12,359,503 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.22 | 178.47 | 177.62 | 187.21 | 188.86 | 2.1 | 2.09 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 760,516 | 289,294 | 471,222 | 12,945,046 | 12,184,530 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.23 | 177.62 | 176.88 | 188.86 | 192.02 | 2.09 | 2.04 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 761,805 | 289,294 | 472,511 | 2,097,941 | 1,336,136 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 3.81 | 176.88 | 175.62 | 192.02 | 190.18 | 0.54 | 0.58 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 762,897 | 289,294 | 473,603 | 14,804,664 | 14,041,767 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 2.45 | 175.59 | 174.94 | 190.18 | 193.17 | 2.11 | 2.09 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 809,814 | 289,294 | 520,520 | 13,885,589 | 13,075,775 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 2.39 | 174.94 | 174.47 | 193.17 | 190 | 2.09 | 1.62 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 1,283,164 | 289,294 | 993,870 | 3,242,470 | 1,959,306 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 0.96 | 174.47 | 173.97 | 190 | 184 | 1.62 | 2.04 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 1,286,295 | 289,294 | 997,001 | 30,316,999 | 29,030,704 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 4.74 | 173.97 | 168.95 | 184 | 177.94 | 2.04 | 0.62 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 1,288,749 | 289,294 | 999,455 | 16,547,967 | 15,259,218 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.41 | 168.95 | 168.69 | 177.94 | 178.87 | 0.62 | 2.04 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 1,298,154 | 289,294 | 1,008,860 | 31,703,658 | 30,405,504 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 4.91 | 168.69 | 161.87 | 178.87 | 173.01 | 2.04 | 2.03 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 1,298,904 | 289,294 | 1,009,610 | 16,871,263 | 15,572,359 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 3.15 | 161.87 | 160.48 | 173.01 | 172.44 | 2.03 | 2.02 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 1,413,293 | 289,294 | 1,123,999 | 21,975,368 | 20,562,075 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 3.89 | 160.48 | 158.28 | 172.44 | 171 | 2.02 | 2.02 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 1,413,655 | 289,294 | 1,124,361 | 20,565,867 | 19,152,212 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 3.71 | 158.28 | 156.54 | 171 | 170.85 | 2.02 | 1.87 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 1,434,322 | 289,294 | 1,145,028 | 15,002,227 | 13,567,905 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.07 | 156.54 | 156.04 | 170.85 | 167.67 | 2.37 | 2.44 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 1,436,466 | 289,294 | 1,147,172 | 19,181,160 | 17,744,694 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 2.47 | 156.04 | 155.38 | 167.67 | 169.54 | 2.44 | 2.42 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 1,527,933 | 289,294 | 1,238,639 | 18,895,751 | 17,367,818 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 2.49 | 155.38 | 154.82 | 169.54 | 168.44 | 2.42 | 2.52 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 1,529,827 | 289,294 | 1,240,533 | 34,641,163 | 33,111,336 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 3.81 | 154.82 | 150.42 | 168.44 | 163.03 | 2.52 | 2.45 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 1,997,330 | 289,294 | 1,708,036 | 27,412,575 | 25,415,245 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 3.5 | 150.42 | 148.85 | 163.03 | 157.11 | 2.45 | 2.45 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 1,998,421 | 289,294 | 1,709,127 | 26,953,521 | 24,955,100 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 3.46 | 148.85 | 147.37 | 157.11 | 157 | 2.45 | 2.38 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 2,557,673 | 289,294 | 2,268,379 | 35,454,075 | 32,896,402 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 4.51 | 147.37 | 143.33 | 157 | 155.42 | 2.38 | 2.38 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 2,558,186 | 289,294 | 2,268,892 | 29,311,144 | 26,752,958 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 3.94 | 143.33 | 140.4 | 155.42 | 155.66 | 2.38 | 2.26 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 2,558,186 | 289,294 | 2,268,892 | 19,102,000 | 16,543,814 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 2.91 | 140.4 | 139.71 | 155.66 | 151 | 2.26 | 2.3 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 2,558,186 | 289,294 | 2,268,892 | 21,549,863 | 18,991,677 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.17 | 139.71 | 138.13 | 151 | 144.74 | 2.3 | 2.27 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 2,558,186 | 289,294 | 2,268,892 | 19,647,126 | 17,088,940 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 8.73 | 138.13 | 134.24 | 144.74 | 139.73 | 1.02 | 0.64 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 2,559,791 | 289,294 | 2,270,497 | 6,124,076 | 3,564,285 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.28 | 134.24 | 133.64 | 139.73 | 142.95 | 1.89 | 2.38 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 2,561,396 | 289,294 | 2,272,102 | 30,407,121 | 27,845,725 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.05 | 133.64 | 130.97 | 142.95 | 138 | 2.38 | 2.41 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 2,561,396 | 289,294 | 2,272,102 | 42,793,558 | 40,232,162 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 5.15 | 131 | 127.24 | 138 | 138 | 2.38 | 0.95 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 2,561,396 | 289,294 | 2,272,102 | 21,484,290 | 18,922,894 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 3.16 | 127.24 | 127.24 | 138 | 138 | 0.95 | 0.66 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 2,561,988 | 289,294 | 2,272,694 | 26,071,121 | 23,509,133 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.04 | 127.24 | 127.23 | 138 | 138 | 1.66 | 1.03 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 2,562,580 | 289,294 | 2,273,286 | 60,681,535 | 58,118,955 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.32 | 127.23 | 127.17 | 138 | 131.44 | 1.03 | 2.94 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 2,562,580 | 289,294 | 2,273,286 | 33,047,844 | 30,485,264 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 2.41 | 127.17 | 127.16 | 131.44 | 131.37 | 2.94 | 2.93 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 6,672,788 | 289,294 | 6,383,494 | 33,686,043 | 27,013,255 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 8.27 | 127.16 | 126.73 | 131.37 | 131.41 | 1.43 | 1.64 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 6,672,788 | 289,294 | 6,383,494 | 38,080,441 | 31,407,653 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.02 | 126.94 | 126.84 | 131.41 | 131.36 | 1.43 | 0.66 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 9,842,566 | 289,294 | 9,553,272 | 2,608,858 | -7,233,708 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.1 | 126.84 | 126.31 | 131.36 | 131 | 0.66 | 1.18 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 9,847,302 | 289,294 | 9,558,008 | 30,788,053 | 20,940,751 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 5.99 | 126.24 | 125.17 | 131 | 131 | 1.75 | 1.83 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 5 (City_PDWF_2015 CP_2020)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 752,163 | 752,163 | 0 | 811,300 | 59,137 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 4.08 | 273.51 | 272.29 | 276 | 274.78 | 0.16 | 0.16 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 752,163 | 752,163 | 0 | 3,430,204 | 2,678,041 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 7.79 | 272.26 | 266.15 | 274.78 | 271.46 | 0.35 | 0.23 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 752,163 | 752,163 | 0 | 805,159 | 52,996 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 2.6 | 266.15 | 265.93 | 271.46 | 270.98 | 0.23 | 0.35 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 754,241 | 752,163 | 2,078 | 2,566,826 | 1,812,585 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 2.81 | 265.91 | 265.09 | 270.98 | 269.39 | 0.79 | 0.81 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 788,689 | 752,163 | 36,526 | 4,834,667 | 4,045,978 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 4.49 | 265.09 | 259.53 | 269.39 | 268.74 | 0.81 | 0.8 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 823,138 | 752,163 | 70,975 | 8,688,008 | 7,864,870 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 6.89 | 259.53 | 258.3 | 268.74 | 268.74 | 0.8 | 0.8 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 824,467 | 752,163 | 72,304 | 3,996,050 | 3,171,583 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 3.97 | 258.3 | 256.77 | 268.74 | 263.77 | 0.8 | 0.8 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 826,955 | 752,163 | 74,792 | 4,717,610 | 3,890,655 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 4.48 | 256.77 | 252.9 | 263.77 | 260.51 | 0.8 | 0.8 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 829,999 | 752,163 | 77,836 | 4,079,514 | 3,249,515 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 4.04 | 252.9 | 249.34 | 260.51 | 254.58 | 0.8 | 0.8 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 833,985 | 752,163 | 81,822 | 3,118,540 | 2,284,555 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 3.33 | 249.34 | 248.53 | 254.58 | 253.74 | 0.8 | 0.78 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 905,999 | 752,163 | 153,836 | 3,888,589 | 2,982,590 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 4 | 248.53 | 247.09 | 253.74 | 254.51 | 0.78 | 0.78 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 907,762 | 752,163 | 155,599 | 7,526,611 | 6,618,849 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 6.41 | 247.09 | 235.1 | 254.51 | 243 | 0.78 | 0.78 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 909,369 | 752,163 | 157,206 | 6,405,009 | 5,495,640 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 5.72 | 235.1 | 229.44 | 243 | 243 | 0.78 | 0.5 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 1,018,235 | 752,163 | 266,072 | 1,501,102 | 482,867 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 2.03 | 229.44 | 228.83 | 243 | 242 | 0.5 | 0.75 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 1,018,235 | 752,163 | 266,072 | 3,345,571 | 2,327,336 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 3.7 | 228.83 | 227.18 | 242 | 241.27 | 0.75 | 0.6 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 1,018,235 | 752,163 | 266,072 | 1,905,990 | 887,755 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.44 | 227.18 | 226.41 | 241.27 | 235.52 | 0.6 | 0.75 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 1,018,235 | 752,163 | 266,072 | 7,497,885 | 6,479,650 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 6.61 | 226.41 | 222.84 | 235.52 | 234.49 | 0.75 | 0.94 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 1,165,830 | 752,163 | 413,667 | 7,910,192 | 6,744,362 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 3.64 | 223.01 | 220 | 234.49 | 232.26 | 1.27 | 1.25 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 1,258,870 | 752,163 | 506,707 | 13,565,858 | 12,306,988 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 5.46 | 220 | 214.91 | 232.26 | 223.14 | 1.25 | 1.39 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 1,259,401 | 752,163 | 507,238 | 10,436,597 | 9,177,196 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 6.95 | 214.96 | 209.11 | 223.14 | 216 | 0.59 | 0.5 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 1,259,884 | 752,163 | 507,721 | 10,468,942 | 9,209,058 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 4.55 | 209.11 | 206.11 | 216 | 215.87 | 1.25 | 1.24 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 1,285,393 | 752,163 | 533,230 | 12,098,686 | 10,813,293 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 5.07 | 206.11 | 200.01 | 215.87 | 208.82 | 1.24 | 1.24 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 1,289,496 | 752,163 | 537,333 | 11,807,931 | 10,518,435 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 4.98 | 200.01 | 193.97 | 208.82 | 204.07 | 1.24 | 1.36 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 1,292,609 | 752,163 | 540,446 | 11,904,542 | 10,611,933 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 3.84 | 194.07 | 192.94 | 204.07 | 200.58 | 1.51 | 1.5 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 1,424,621 | 752,163 | 672,458 | 25,483,412 | 24,058,791 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 5.34 | 192.94 | 182.74 | 200.58 | 197 | 1.75 | 1.67 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 1,551,576 | 752,163 | 799,413 | 10,620,231 | 9,068,655 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 2.95 | 182.74 | 181.99 | 197 | 198.97 | 1.67 | 1.68 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 1,554,523 | 752,163 | 802,360 | 10,925,568 | 9,371,045 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.01 | 181.99 | 180.8 | 198.97 | 192.83 | 1.68 | 1.67 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 1,562,285 | 752,163 | 810,122 | 10,554,288 | 8,992,003 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 2.94 | 180.8 | 180.02 | 192.83 | 190 | 1.67 | 1.66 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 1,562,285 | 752,163 | 810,122 | 10,350,223 | 8,787,938 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 2.9 | 180.02 | 178.73 | 190 | 186.72 | 1.66 | 1.64 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 1,570,465 | 752,163 | 818,302 | 9,083,654 | 7,513,189 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 2.65 | 178.73 | 178.66 | 186.72 | 187.21 | 1.64 | 1.66 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 1,577,007 | 752,163 | 824,844 | 13,091,690 | 11,514,683 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.79 | 178.66 | 177.81 | 187.21 | 188.86 | 1.91 | 1.9 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 1,632,307 | 752,163 | 880,144 | 12,945,046 | 11,312,739 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.79 | 177.81 | 177.1 | 188.86 | 192.02 | 1.9 | 1.82 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 1,634,797 | 752,163 | 882,634 | 2,097,941 | 463,144 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.57 | 177.1 | 175.86 | 192.02 | 190.18 | 0.32 | 0.34 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 1,636,905 | 752,163 | 884,742 | 14,804,664 | 13,167,759 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.07 | 175.76 | 175.13 | 190.18 | 193.17 | 1.94 | 1.9 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 1,728,627 | 752,163 | 976,464 | 13,885,589 | 12,156,962 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 2.98 | 175.13 | 174.81 | 193.17 | 190 | 1.9 | 1.28 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 2,604,747 | 752,163 | 1,852,584 | 3,242,470 | 637,723 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1.14 | 174.81 | 174.17 | 190 | 184 | 1.28 | 1.84 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 2,610,793 | 752,163 | 1,858,630 | 30,316,999 | 27,706,206 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 5.85 | 174.17 | 169.27 | 184 | 177.94 | 1.84 | 0.3 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 2,615,532 | 752,163 | 1,863,369 | 16,547,967 | 13,932,435 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.82 | 169.27 | 168.89 | 177.94 | 178.87 | 0.3 | 1.84 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 2,633,697 | 752,163 | 1,881,534 | 31,703,658 | 29,069,961 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 6.05 | 168.89 | 162.07 | 178.87 | 173.01 | 1.84 | 1.83 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 2,635,145 | 752,163 | 1,882,982 | 16,871,263 | 14,236,118 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 3.87 | 162.07 | 160.69 | 173.01 | 172.44 | 1.83 | 1.81 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 2,867,635 | 752,163 | 2,115,472 | 21,975,368 | 19,107,733 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 4.79 | 160.69 | 158.49 | 172.44 | 171 | 1.81 | 1.81 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 2,868,334 | 752,163 | 2,116,171 | 20,565,867 | 17,697,533 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 4.57 | 158.49 | 156.8 | 171 | 170.85 | 1.81 | 1.61 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 2,908,200 | 752,163 | 2,156,037 | 15,002,227 | 12,094,027 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.54 | 156.8 | 156.27 | 170.85 | 167.67 | 2.11 | 2.21 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 2,912,341 | 752,163 | 2,160,178 | 19,181,160 | 16,268,819 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.03 | 156.27 | 155.62 | 167.67 | 169.54 | 2.21 | 2.18 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 3,077,051 | 752,163 | 2,324,888 | 18,895,751 | 15,818,700 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 3.05 | 155.62 | 155.02 | 169.54 | 168.44 | 2.18 | 2.32 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 3,080,709 | 752,163 | 2,328,546 | 34,641,163 | 31,560,454 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.68 | 155.02 | 150.65 | 168.44 | 163.03 | 2.32 | 2.22 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 3,939,603 | 752,163 | 3,187,440 | 27,412,575 | 23,472,972 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 4.26 | 150.65 | 149.08 | 163.03 | 157.11 | 2.22 | 2.22 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 3,941,712 | 752,163 | 3,189,549 | 26,953,521 | 23,011,809 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 4.21 | 149.08 | 147.59 | 157.11 | 157 | 2.22 | 2.16 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 4,643,297 | 752,163 | 3,891,134 | 35,454,075 | 30,810,778 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 5.37 | 147.59 | 143.55 | 157 | 155.42 | 2.16 | 2.16 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 4,644,287 | 752,163 | 3,892,124 | 29,311,144 | 24,666,857 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 4.69 | 143.55 | 140.67 | 155.42 | 155.66 | 2.16 | 1.99 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 4,644,287 | 752,163 | 3,892,124 | 19,102,000 | 14,457,713 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.45 | 140.67 | 139.96 | 155.66 | 151 | 1.99 | 2.05 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 4,644,287 | 752,163 | 3,892,124 | 21,549,863 | 16,905,576 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.76 | 139.96 | 138.39 | 151 | 144.74 | 2.05 | 2.01 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 4,644,287 | 752,163 | 3,892,124 | 19,647,126 | 15,002,839 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 10.35 | 138.39 | 134.6 | 144.74 | 139.73 | 0.76 | 0.28 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 4,647,387 | 752,163 | 3,895,224 | 6,124,076 | 1,476,689 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.47 | 134.6 | 133.86 | 139.73 | 142.95 | 1.53 | 2.16 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 4,650,487 | 752,163 | 3,898,324 | 30,407,121 | 25,756,634 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.81 | 133.86 | 131.17 | 142.95 | 138 | 2.16 | 2.21 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 4,650,487 | 752,163 | 3,898,324 | 42,793,558 | 38,143,071 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.14 | 131.22 | 127.51 | 138 | 138 | 2.16 | 0.68 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 4,650,487 | 752,163 | 3,898,324 | 21,484,290 | 16,833,803 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 3.75 | 127.51 | 127.5 | 138 | 138 | 0.68 | 0.4 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 4,651,630 | 752,163 | 3,899,467 | 26,071,121 | 21,419,491 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.43 | 127.5 | 127.47 | 138 | 138 | 1.4 | 0.79 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 4,652,773 | 752,163 | 3,900,610 | 60,681,535 | 56,028,762 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.57 | 127.47 | 127.35 | 138 | 131.44 | 0.79 | 2.76 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 4,652,773 | 752,163 | 3,900,610 | 33,047,844 | 28,395,071 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 2.87 | 127.35 | 127.34 | 131.44 | 131.37 | 2.76 | 2.75 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 8,964,633 | 752,163 | 8,212,470 | 33,686,043 | 24,721,410 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 8.98 | 127.34 | 126.89 | 131.37 | 131.41 | 1.25 | 1.48 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 8,964,633 | 752,163 | 8,212,470 | 38,080,441 | 29,115,808 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.81 | 127.12 | 127.06 | 131.41 | 131.36 | 1.25 | 0.44 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 12,134,412 | 752,163 | 11,382,249 | 2,608,858 | -9,525,554 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.82 | 127.06 | 126.46 | 131.36 | 131 | 0.44 | 1.03 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 12,143,557 | 752,163 | 11,391,394 | 30,788,053 | 18,644,496 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.34 | 126.38 | 125.31 | 131 | 131 | 1.61 | 1.69 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

**TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 6 (City_PWWF_2015 CP_2020)**

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 2,321,107 | 2,321,107 | 0 | 811,300 | -1,509,807 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 10.29 | 282.56 | 272.57 | 276 | 274.78 | -8.89 | -0.12 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 2,349,569 | 2,321,107 | 28,462 | 3,430,204 | 1,080,635 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 10.48 | 272.57 | 267.32 | 274.78 | 271.46 | 0.04 | -0.94 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 2,378,031 | 2,321,107 | 56,924 | 805,159 | -1,572,872 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 6.75 | 267.32 | 266.44 | 271.46 | 270.98 | -0.94 | -0.16 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 2,493,958 | 2,321,107 | 172,851 | 2,566,826 | 72,868 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.69 | 266.44 | 265.45 | 270.98 | 269.39 | 0.26 | 0.45 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 2,556,869 | 2,321,107 | 235,762 | 4,834,667 | 2,277,798 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 6.18 | 265.45 | 259.89 | 269.39 | 268.74 | 0.45 | 0.44 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 2,619,780 | 2,321,107 | 298,673 | 8,688,008 | 6,068,228 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 9.59 | 259.89 | 258.67 | 268.74 | 268.74 | 0.44 | 0.43 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 2,649,571 | 2,321,107 | 328,464 | 3,996,050 | 1,346,479 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 5.39 | 258.67 | 257.14 | 268.74 | 263.77 | 0.43 | 0.43 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 2,680,521 | 2,321,107 | 359,414 | 4,717,610 | 2,037,089 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 6.14 | 257.14 | 253.28 | 263.77 | 260.51 | 0.43 | 0.42 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 2,712,027 | 2,321,107 | 390,920 | 4,079,514 | 1,367,487 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 5.5 | 253.28 | 249.8 | 260.51 | 254.58 | 0.42 | 0.34 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 2,744,476 | 2,321,107 | 423,369 | 3,118,540 | 374,064 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 4.44 | 249.8 | 249.01 | 254.58 | 253.74 | 0.34 | 0.3 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 3,584,969 | 2,321,107 | 1,263,862 | 3,888,589 | 303,620 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 5.56 | 249.01 | 247.58 | 253.74 | 254.51 | 0.3 | 0.29 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 3,615,194 | 2,321,107 | 1,294,087 | 7,526,611 | 3,911,417 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 9.4 | 247.58 | 236.75 | 254.51 | 243 | 0.29 | -0.87 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 3,645,263 | 2,321,107 | 1,324,156 | 6,405,009 | 2,759,746 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 4.6 | 236.75 | 234.83 | 243 | 243 | -0.87 | -4.89 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 3,953,365 | 2,321,107 | 1,632,258 | 1,501,102 | -2,452,263 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 4.98 | 234.83 | 232.33 | 243 | 242 | -4.89 | -2.75 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 3,981,827 | 2,321,107 | 1,660,720 | 3,345,571 | -636,256 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 5.02 | 232.33 | 229.78 | 242 | 241.27 | -2.75 | -2 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 4,010,290 | 2,321,107 | 1,689,183 | 1,905,990 | -2,104,300 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 5.06 | 229.78 | 226.92 | 241.27 | 235.52 | -2 | 0.24 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 4,038,752 | 2,321,107 | 1,717,645 | 7,497,885 | 3,459,133 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 9.63 | 226.92 | 223.6 | 235.52 | 234.49 | 0.24 | 0.18 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 5,370,209 | 2,321,107 | 3,049,102 | 7,910,192 | 2,539,983 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 5.47 | 223.6 | 220.67 | 234.49 | 232.26 | 0.68 | 0.58 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 6,405,591 | 2,321,107 | 4,084,484 | 13,565,858 | 7,160,267 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 8.6 | 220.67 | 215.4 | 232.26 | 223.14 | 0.58 | 0.9 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 6,434,584 | 2,321,107 | 4,113,477 | 10,436,597 | 4,002,013 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 10.81 | 215.47 | 209.79 | 223.14 | 216 | 0.08 | -0.18 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 6,463,529 | 2,321,107 | 4,142,422 | 10,468,942 | 4,005,413 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 7.09 | 209.79 | 206.8 | 216 | 215.87 | 0.57 | 0.55 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 6,743,172 | 2,321,107 | 4,422,065 | 12,098,686 | 5,355,514 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 7.99 | 206.8 | 200.7 | 215.87 | 208.82 | 0.55 | 0.55 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 6,753,455 | 2,321,107 | 4,432,348 | 11,807,931 | 5,054,476 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 7.85 | 200.7 | 194.53 | 208.82 | 204.07 | 0.55 | 0.8 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 6,762,746 | 2,321,107 | 4,441,639 | 11,904,542 | 5,141,796 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 6.05 | 194.74 | 193.61 | 204.07 | 200.58 | 0.84 | 0.83 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 7,337,133 | 2,321,107 | 5,016,026 | 25,483,412 | 18,146,279 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 8.57 | 193.61 | 189.07 | 200.58 | 197 | 1.08 | -4.66 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 8,061,331 | 2,321,107 | 5,740,224 | 10,620,231 | 2,558,900 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.14 | 189.07 | 188.64 | 197 | 198.97 | -4.66 | -4.97 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 8,076,637 | 2,321,107 | 5,755,530 | 10,925,568 | 2,848,931 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.14 | 188.64 | 187.99 | 198.97 | 192.83 | -4.97 | -5.52 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 8,106,024 | 2,321,107 | 5,784,917 | 10,554,288 | 2,448,264 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.15 | 187.99 | 187.52 | 192.83 | 190 | -5.52 | -5.84 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 8,112,203 | 2,321,107 | 5,791,096 | 10,350,223 | 2,238,020 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.16 | 187.52 | 186.72 | 190 | 186.72 | -5.84 | -6.35 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 8,132,742 | 2,321,107 | 5,811,635 | 9,083,654 | 950,912 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 3.16 | 187.25 | 187.21 | 186.72 | 187.21 | -6.88 | -6.89 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 10,312,557 | 2,321,107 | 7,991,450 | 13,091,690 | 2,779,133 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.25 | 189.4 | 188.86 | 187.21 | 188.86 | -8.83 | -9.15 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 10,903,825 | 2,321,107 | 8,582,718 | 12,945,046 | 2,041,221 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.44 | 192.58 | 192.02 | 188.86 | 192.02 | -12.87 | -13.1 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 10,937,210 | 2,321,107 | 8,616,103 | 2,097,941 | -8,839,269 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 21.55 | 211.66 | 178.5 | 192.02 | 190.18 | -34.24 | -2.3 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 10,945,498 | 2,321,107 | 8,624,391 | 14,804,664 | 3,859,166 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.45 | 178.5 | 178.14 | 190.18 | 193.17 | -0.8 | -1.11 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 11,191,434 | 2,321,107 | 8,870,327 | 13,885,589 | 2,694,155 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.53 | 178.14 | 177.53 | 193.17 | 190 | -1.11 | -1.44 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 16,084,812 | 2,321,107 | 13,763,705 | 3,242,470 | -12,842,342 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 5.07 | 177.53 | 175.21 | 190 | 184 | -1.44 | 0.8 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 16,097,039 | 2,321,107 | 13,775,932 | 30,316,999 | 14,219,960 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 9.7 | 175.21 | 171.4 | 184 | 177.94 | 0.8 | -1.83 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 16,107,956 | 2,321,107 | 13,786,849 | 16,547,967 | 440,011 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 5.08 | 171.4 | 169.93 | 177.94 | 178.87 | -1.83 | 0.8 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 16,163,194 | 2,321,107 | 13,842,087 | 31,703,658 | 15,540,464 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 10.04 | 169.93 | 164.71 | 178.87 | 173.01 | 0.8 | -0.81 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 16,170,823 | 2,321,107 | 13,849,716 | 16,871,263 | 700,440 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 5.1 | 164.71 | 163.43 | 173.01 | 172.44 | -0.81 | -0.93 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 16,707,484 | 2,321,107 | 14,386,377 | 21,975,368 | 5,267,884 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.27 | 163.43 | 162.16 | 172.44 | 171 | -0.93 | -1.86 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 16,714,361 | 2,321,107 | 14,393,254 | 20,565,867 | 3,851,506 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 5.27 | 162.16 | 160.91 | 171 | 170.85 | -1.86 | -2.5 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 17,445,249 | 2,321,107 | 15,124,142 | 15,002,227 | -2,443,022 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 3.82 | 160.91 | 160.33 | 170.85 | 167.67 | -2 | -1.85 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 17,467,926 | 2,321,107 | 15,146,819 | 19,181,160 | 1,713,234 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.82 | 160.33 | 159.76 | 167.67 | 169.54 | -1.85 | -1.96 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 21,306,395 | 2,321,107 | 18,985,288 | 18,895,751 | -2,410,644 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 4.66 | 159.76 | 159.18 | 169.54 | 168.44 | -1.96 | -1.84 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 21,328,590 | 2,321,107 | 19,007,483 | 34,641,163 | 13,312,573 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.67 | 159.18 | 157.48 | 168.44 | 163.03 | -1.84 | -4.61 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 26,103,547 | 2,321,107 | 23,782,440 | 27,412,575 | 1,309,028 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 5.71 | 157.48 | 156.06 | 163.03 | 157.11 | -4.61 | -4.76 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 26,111,834 | 2,321,107 | 23,790,727 | 26,953,521 | 841,687 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 5.72 | 156.06 | 154.6 | 157.11 | 157 | -4.76 | -4.85 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 28,639,677 | 2,321,107 | 26,318,570 | 35,454,075 | 6,814,398 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 6.27 | 154.6 | 151.97 | 157 | 155.42 | -4.85 | -6.26 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 28,646,847 | 2,321,107 | 26,325,740 | 29,311,144 | 664,297 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 6.27 | 151.97 | 149.05 | 155.42 | 155.66 | -6.26 | -6.39 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 28,653,025 | 2,321,107 | 26,331,918 | 19,102,000 | -9,551,025 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 6.27 | 149.05 | 147.59 | 155.66 | 151 | -6.39 | -5.58 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 28,659,206 | 2,321,107 | 26,338,099 | 21,549,863 | -7,109,343 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 6.27 | 147.59 | 144.74 | 151 | 144.74 | -5.58 | -4.34 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 28,665,385 | 2,321,107 | 26,344,278 | 19,647,126 | -9,018,259 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 18.44 | 148.82 | 139.73 | 144.74 | 139.73 | -9.67 | -4.85 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 28,674,663 | 2,321,107 | 26,353,556 | 6,124,076 | -22,550,587 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 6.28 | 140.18 | 137.76 | 139.73 | 142.95 | -4.05 | -1.74 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 28,683,940 | 2,321,107 | 26,362,833 | 30,407,121 | 1,723,181 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 6.28 | 137.76 | 135.41 | 142.95 | 138 | -1.74 | -2.03 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 28,690,121 | 2,321,107 | 26,369,014 | 42,793,558 | 14,103,437 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.28 | 135.41 | 133.08 | 138 | 138 | -2.03 | -4.89 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 28,696,300 | 2,321,107 | 26,375,193 | 21,484,290 | -7,212,010 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 6.28 | 133.08 | 132.56 | 138 | 138 | -4.89 | -4.66 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 28,703,623 | 2,321,107 | 26,382,516 | 26,071,121 | -2,632,502 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 3.53 | 132.56 | 131.79 | 138 | 138 | -3.66 | -3.53 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 28,710,945 | 2,321,107 | 26,389,838 | 60,681,535 | 31,970,590 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 3.54 | 131.79 | 131.37 | 138 | 131.44 | -3.53 | -1.26 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 28,717,124 | 2,321,107 | 26,396,017 | 33,047,844 | 4,330,720 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 3.54 | 131.37 | 131.36 | 131.44 | 131.37 | -1.26 | -1.27 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 35,083,864 | 2,321,107 | 32,762,757 | 33,686,043 | -1,397,821 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 11.06 | 131.36 | 131.12 | 131.37 | 131.41 | -2.77 | -2.75 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 35,090,045 | 2,321,107 | 32,768,938 | 38,080,441 | 2,990,396 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 11.06 | 131.12 | 130.38 | 131.41 | 131.36 | -2.75 | -2.88 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 38,259,822 | 2,321,107 | 35,938,715 | 2,608,858 | -35,650,964 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 12.06 | 130.38 | 128.23 | 131.36 | 131 | -2.88 | -0.74 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 38,293,683 | 2,321,107 | 35,972,576 | 30,788,053 | -7,505,630 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 8.38 | 128.23 | 126.49 | 131 | 131 | -0.24 | 0.51 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 7 (City_ADWF_2015 CP_2025_Likely)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 293,268 | 293,268 | 0 | 811,300 | 518,032 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 3.31 | 273.31 | 272.06 | 276 | 274.78 | 0.36 | 0.39 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 293,268 | 293,268 | 0 | 3,430,204 | 3,136,936 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 5.94 | 272.07 | 265.9 | 274.78 | 271.46 | 0.54 | 0.48 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 293,268 | 293,268 | 0 | 805,159 | 511,891 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 2.1 | 265.9 | 265.74 | 271.46 | 270.98 | 0.48 | 0.54 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 294,399 | 293,268 | 1,131 | 2,566,826 | 2,272,427 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 2.15 | 265.74 | 264.92 | 270.98 | 269.39 | 0.96 | 0.98 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 313,158 | 293,268 | 19,890 | 4,834,667 | 4,521,509 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 3.43 | 264.92 | 259.36 | 269.39 | 268.74 | 0.98 | 0.97 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 331,917 | 293,268 | 38,649 | 8,688,008 | 8,356,091 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 5.27 | 259.36 | 258.13 | 268.74 | 268.74 | 0.97 | 0.97 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 332,641 | 293,268 | 39,373 | 3,996,050 | 3,663,409 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 3.05 | 258.13 | 256.6 | 268.74 | 263.77 | 0.97 | 0.97 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 333,996 | 293,268 | 40,728 | 4,717,610 | 4,383,614 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 3.44 | 256.6 | 252.73 | 263.77 | 260.51 | 0.97 | 0.97 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 335,653 | 293,268 | 42,385 | 4,079,514 | 3,743,861 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 3.11 | 252.73 | 249.17 | 260.51 | 254.58 | 0.97 | 0.97 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 337,824 | 293,268 | 44,556 | 3,118,540 | 2,780,716 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 2.57 | 249.17 | 248.36 | 254.58 | 253.74 | 0.97 | 0.95 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 377,039 | 293,268 | 83,771 | 3,888,589 | 3,511,550 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 3.11 | 248.36 | 246.92 | 253.74 | 254.51 | 0.95 | 0.95 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 377,999 | 293,268 | 84,731 | 7,526,611 | 7,148,612 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 4.95 | 246.92 | 234.93 | 254.51 | 243 | 0.95 | 0.95 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 378,874 | 293,268 | 85,606 | 6,405,009 | 6,026,135 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 4.42 | 234.93 | 229.15 | 243 | 243 | 0.95 | 0.79 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 438,157 | 293,268 | 144,889 | 1,501,102 | 1,062,945 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 1.64 | 229.15 | 228.65 | 243 | 242 | 0.79 | 0.93 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 438,157 | 293,268 | 144,889 | 3,345,571 | 2,907,414 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 2.92 | 228.65 | 226.94 | 242 | 241.27 | 0.93 | 0.84 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 438,157 | 293,268 | 144,889 | 1,905,990 | 1,467,833 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 1.95 | 226.94 | 226.23 | 241.27 | 235.52 | 0.84 | 0.93 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 438,157 | 293,268 | 144,889 | 7,497,885 | 7,059,728 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 5.16 | 226.23 | 222.74 | 235.52 | 234.49 | 0.93 | 1.04 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 515,298 | 293,268 | 222,030 | 7,910,192 | 7,394,894 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 2.87 | 222.85 | 219.83 | 234.49 | 232.26 | 1.43 | 1.42 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 566,073 | 293,268 | 272,805 | 13,565,858 | 12,999,785 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 4.31 | 219.83 | 214.79 | 232.26 | 223.14 | 1.42 | 1.51 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 566,363 | 293,268 | 273,095 | 10,436,597 | 9,870,234 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 5.49 | 214.82 | 208.94 | 223.14 | 216 | 0.73 | 0.67 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 566,626 | 293,268 | 273,358 | 10,468,942 | 9,902,316 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 3.59 | 208.94 | 205.94 | 216 | 215.87 | 1.42 | 1.41 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 579,899 | 293,268 | 286,631 | 12,098,686 | 11,518,787 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 4 | 205.94 | 199.84 | 215.87 | 208.82 | 1.41 | 1.41 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 582,024 | 293,268 | 288,756 | 11,807,931 | 11,225,907 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 3.94 | 199.84 | 193.84 | 208.82 | 204.07 | 1.41 | 1.49 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 583,635 | 293,268 | 290,367 | 11,904,542 | 11,320,907 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 3.04 | 193.91 | 192.78 | 204.07 | 200.58 | 1.67 | 1.66 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 651,942 | 293,268 | 358,674 | 25,483,412 | 24,831,470 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 4.23 | 192.78 | 182.56 | 200.58 | 197 | 1.91 | 1.85 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 722,993 | 293,268 | 429,725 | 10,620,231 | 9,897,238 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 2.36 | 182.56 | 181.81 | 197 | 198.97 | 1.85 | 1.86 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 724,519 | 293,268 | 431,251 | 10,925,568 | 10,201,049 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 2.41 | 181.81 | 180.62 | 198.97 | 192.83 | 1.86 | 1.85 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 728,537 | 293,268 | 435,269 | 10,554,288 | 9,825,751 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 2.36 | 180.62 | 179.83 | 192.83 | 190 | 1.85 | 1.85 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 728,537 | 293,268 | 435,269 | 10,350,223 | 9,621,686 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 2.32 | 179.83 | 178.54 | 190 | 186.72 | 1.85 | 1.83 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 732,773 | 293,268 | 439,505 | 9,083,654 | 8,350,881 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 2.12 | 178.54 | 178.47 | 186.72 | 187.21 | 1.83 | 1.85 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 736,161 | 293,268 | 442,893 | 13,091,690 | 12,355,529 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.23 | 178.47 | 177.62 | 187.21 | 188.86 | 2.1 | 2.09 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 764,490 | 293,268 | 471,222 | 12,945,046 | 12,180,556 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.23 | 177.62 | 176.88 | 188.86 | 192.02 | 2.09 | 2.04 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 765,779 | 293,268 | 472,511 | 2,097,941 | 1,332,162 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 3.81 | 176.88 | 175.62 | 192.02 | 190.18 | 0.54 | 0.58 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 766,871 | 293,268 | 473,603 | 14,804,664 | 14,037,793 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 2.46 | 175.59 | 174.94 | 190.18 | 193.17 | 2.11 | 2.09 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 813,788 | 293,268 | 520,520 | 13,885,589 | 13,071,801 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 2.39 | 174.94 | 174.47 | 193.17 | 190 | 2.09 | 1.62 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 1,287,138 | 293,268 | 993,870 | 3,242,470 | 1,955,332 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 0.96 | 174.47 | 173.97 | 190 | 184 | 1.62 | 2.04 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 1,290,269 | 293,268 | 997,001 | 30,316,999 | 29,026,730 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 4.74 | 173.97 | 168.95 | 184 | 177.94 | 2.04 | 0.62 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 1,292,723 | 293,268 | 999,455 | 16,547,967 | 15,255,244 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.41 | 168.95 | 168.69 | 177.94 | 178.87 | 0.62 | 2.04 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 1,302,128 | 293,268 | 1,008,860 | 31,703,658 | 30,401,530 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 4.91 | 168.69 | 161.87 | 178.87 | 173.01 | 2.04 | 2.03 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 1,302,878 | 293,268 | 1,009,610 | 16,871,263 | 15,568,385 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 3.15 | 161.87 | 160.48 | 173.01 | 172.44 | 2.03 | 2.02 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 1,417,268 | 293,268 | 1,124,000 | 21,975,368 | 20,558,100 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 3.89 | 160.48 | 158.28 | 172.44 | 171 | 2.02 | 2.02 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 1,417,629 | 293,268 | 1,124,361 | 20,565,867 | 19,148,238 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 3.72 | 158.28 | 156.54 | 171 | 170.85 | 2.02 | 1.87 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 1,438,296 | 293,268 | 1,145,028 | 15,002,227 | 13,563,931 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.07 | 156.54 | 156.04 | 170.85 | 167.67 | 2.37 | 2.44 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 1,440,440 | 293,268 | 1,147,172 | 19,181,160 | 17,740,720 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 2.47 | 156.04 | 155.38 | 167.67 | 169.54 | 2.44 | 2.42 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 1,531,907 | 293,268 | 1,238,639 | 18,895,751 | 17,363,844 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 2.49 | 155.38 | 154.82 | 169.54 | 168.44 | 2.42 | 2.52 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 1,533,801 | 293,268 | 1,240,533 | 34,641,163 | 33,107,362 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 3.81 | 154.82 | 150.42 | 168.44 | 163.03 | 2.52 | 2.45 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 2,001,304 | 293,268 | 1,708,036 | 27,412,575 | 25,411,271 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 3.5 | 150.42 | 148.85 | 163.03 | 157.11 | 2.45 | 2.45 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 2,002,395 | 293,268 | 1,709,127 | 26,953,521 | 24,951,126 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 3.46 | 148.85 | 147.37 | 157.11 | 157 | 2.45 | 2.38 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 2,561,647 | 293,268 | 2,268,379 | 35,454,075 | 32,892,428 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 4.51 | 147.37 | 143.33 | 157 | 155.42 | 2.38 | 2.38 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 2,562,160 | 293,268 | 2,268,892 | 29,311,144 | 26,748,984 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 3.94 | 143.33 | 140.4 | 155.42 | 155.66 | 2.38 | 2.26 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 2,562,160 | 293,268 | 2,268,892 | 19,102,000 | 16,539,840 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 2.91 | 140.4 | 139.71 | 155.66 | 151 | 2.26 | 2.3 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 2,562,160 | 293,268 | 2,268,892 | 21,549,863 | 18,987,703 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.17 | 139.71 | 138.13 | 151 | 144.74 | 2.3 | 2.27 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 2,562,160 | 293,268 | 2,268,892 | 19,647,126 | 17,084,966 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 8.73 | 138.13 | 134.24 | 144.74 | 139.73 | 1.02 | 0.64 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 2,563,765 | 293,268 | 2,270,497 | 6,124,076 | 3,560,311 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.28 | 134.24 | 133.64 | 139.73 | 142.95 | 1.89 | 2.38 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 2,565,370 | 293,268 | 2,272,102 | 30,407,121 | 27,841,751 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.05 | 133.64 | 130.97 | 142.95 | 138 | 2.38 | 2.41 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 2,565,370 | 293,268 | 2,272,102 | 42,793,558 | 40,228,188 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 5.15 | 131 | 127.24 | 138 | 138 | 2.38 | 0.95 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 2,565,370 | 293,268 | 2,272,102 | 21,484,290 | 18,918,920 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 3.17 | 127.24 | 127.24 | 138 | 138 | 0.95 | 0.66 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 2,565,962 | 293,268 | 2,272,694 | 26,071,121 | 23,505,159 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.04 | 127.24 | 127.23 | 138 | 138 | 1.66 | 1.03 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 2,566,554 | 293,268 | 2,273,286 | 60,681,535 | 58,114,981 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.32 | 127.23 | 127.17 | 138 | 131.44 | 1.03 | 2.94 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 2,566,554 | 293,268 | 2,273,286 | 33,047,844 | 30,481,290 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 2.42 | 127.17 | 127.16 | 131.44 | 131.37 | 2.94 | 2.93 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 6,676,763 | 293,268 | 6,383,495 | 33,686,043 | 27,009,280 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 8.27 | 127.16 | 126.73 | 131.37 | 131.41 | 1.43 | 1.64 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 6,676,763 | 293,268 | 6,383,495 | 38,080,441 | 31,403,678 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.02 | 126.94 | 126.84 | 131.41 | 131.36 | 1.43 | 0.66 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 9,846,541 | 293,268 | 9,553,273 | 2,608,858 | -7,237,683 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.1 | 126.84 | 126.31 | 131.36 | 131 | 0.66 | 1.18 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 9,851,276 | 293,268 | 9,558,008 | 30,788,053 | 20,936,777 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6 | 126.24 | 125.17 | 131 | 131 | 1.75 | 1.83 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

**TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 8 (City_PDWF_2015 CP_2025_Likely)**

| | | | | | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Link | ID | Link Name | US Node | DS Node | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 1,033,889 | 1,033,889 | 0 | 811,300 | -222,589 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 4.58 | 274.39 | 272.37 | 276 | 274.78 | -0.72 | 0.08 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 1,033,889 | 1,033,889 | 0 | 3,430,204 | 2,396,315 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 8.52 | 272.35 | 266.29 | 274.78 | 271.46 | 0.26 | 0.09 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 1,033,889 | 1,033,889 | 0 | 805,159 | -228,730 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 2.93 | 266.29 | 266.02 | 271.46 | 270.98 | 0.09 | 0.26 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 1,035,967 | 1,033,889 | 2,078 | 2,566,826 | 1,530,859 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.06 | 266 | 265.16 | 270.98 | 269.39 | 0.7 | 0.74 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 1,070,415 | 1,033,889 | 36,526 | 4,834,667 | 3,764,252 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 4.9 | 265.16 | 259.6 | 269.39 | 268.74 | 0.74 | 0.73 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 1,104,864 | 1,033,889 | 70,975 | 8,688,008 | 7,583,144 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 7.51 | 259.6 | 258.37 | 268.74 | 268.74 | 0.73 | 0.73 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 1,106,193 | 1,033,889 | 72,304 | 3,996,050 | 2,889,857 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 4.31 | 258.37 | 256.84 | 268.74 | 263.77 | 0.73 | 0.73 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 1,108,681 | 1,033,889 | 74,792 | 4,717,610 | 3,608,929 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 4.86 | 256.84 | 252.97 | 263.77 | 260.51 | 0.73 | 0.73 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 1,111,725 | 1,033,889 | 77,836 | 4,079,514 | 2,967,789 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 4.38 | 252.97 | 249.41 | 260.51 | 254.58 | 0.73 | 0.73 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 1,115,711 | 1,033,889 | 81,822 | 3,118,540 | 2,002,829 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 3.6 | 249.41 | 248.6 | 254.58 | 253.74 | 0.73 | 0.71 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 1,187,725 | 1,033,889 | 153,836 | 3,888,589 | 2,700,864 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 4.31 | 248.6 | 247.16 | 253.74 | 254.51 | 0.71 | 0.71 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 1,189,488 | 1,033,889 | 155,599 | 7,526,611 | 6,337,123 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 6.93 | 247.16 | 235.17 | 254.51 | 243 | 0.71 | 0.71 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 1,191,095 | 1,033,889 | 157,206 | 6,405,009 | 5,213,914 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 6.18 | 235.17 | 229.56 | 243 | 243 | 0.71 | 0.38 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 1,299,962 | 1,033,889 | 266,073 | 1,501,102 | 201,140 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 2.13 | 229.56 | 228.9 | 243 | 242 | 0.38 | 0.68 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 1,299,962 | 1,033,889 | 266,073 | 3,345,571 | 2,045,609 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 3.95 | 228.9 | 227.29 | 242 | 241.27 | 0.68 | 0.49 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 1,299,962 | 1,033,889 | 266,073 | 1,905,990 | 606,028 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.59 | 227.29 | 226.48 | 241.27 | 235.52 | 0.49 | 0.68 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 1,299,962 | 1,033,889 | 266,073 | 7,497,885 | 6,197,923 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 7.09 | 226.48 | 222.88 | 235.52 | 234.49 | 0.68 | 0.9 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 1,447,556 | 1,033,889 | 413,667 | 7,910,192 | 6,462,636 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 3.87 | 223.07 | 220.06 | 234.49 | 232.26 | 1.21 | 1.19 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 1,540,596 | 1,033,889 | 506,707 | 13,565,858 | 12,025,262 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 5.79 | 220.06 | 214.95 | 232.26 | 223.14 | 1.19 | 1.35 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 1,541,127 | 1,033,889 | 507,238 | 10,436,597 | 8,895,470 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 7.36 | 215.01 | 209.17 | 223.14 | 216 | 0.54 | 0.44 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 1,541,610 | 1,033,889 | 507,721 | 10,468,942 | 8,927,332 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 4.82 | 209.17 | 206.16 | 216 | 215.87 | 1.19 | 1.19 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 1,567,119 | 1,033,889 | 533,230 | 12,098,686 | 10,531,567 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 5.37 | 206.16 | 200.06 | 215.87 | 208.82 | 1.19 | 1.19 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 1,571,222 | 1,033,889 | 537,333 | 11,807,931 | 10,236,709 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 5.28 | 200.06 | 194.01 | 208.82 | 204.07 | 1.19 | 1.32 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 1,574,335 | 1,033,889 | 540,446 | 11,904,542 | 10,330,207 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 4.07 | 194.12 | 192.99 | 204.07 | 200.58 | 1.46 | 1.45 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 1,706,347 | 1,033,889 | 672,458 | 25,483,412 | 23,777,065 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 5.64 | 192.99 | 182.79 | 200.58 | 197 | 1.7 | 1.62 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 1,833,302 | 1,033,889 | 799,413 | 10,620,231 | 8,786,929 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.09 | 182.79 | 182.04 | 197 | 198.97 | 1.62 | 1.63 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 1,836,249 | 1,033,889 | 802,360 | 10,925,568 | 9,089,319 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.16 | 182.04 | 180.86 | 198.97 | 192.83 | 1.63 | 1.61 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 1,844,011 | 1,033,889 | 810,122 | 10,554,288 | 8,710,277 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.09 | 180.86 | 180.07 | 192.83 | 190 | 1.61 | 1.61 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 1,844,011 | 1,033,889 | 810,122 | 10,350,223 | 8,506,212 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.04 | 180.07 | 178.79 | 190 | 186.72 | 1.61 | 1.58 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 1,852,191 | 1,033,889 | 818,302 | 9,083,654 | 7,231,463 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 2.78 | 178.79 | 178.71 | 186.72 | 187.21 | 1.58 | 1.61 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 1,858,733 | 1,033,889 | 824,844 | 13,091,690 | 11,232,957 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.92 | 178.71 | 177.86 | 187.21 | 188.86 | 1.86 | 1.85 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 1,914,033 | 1,033,889 | 880,144 | 12,945,046 | 11,031,013 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.92 | 177.86 | 177.17 | 188.86 | 192.02 | 1.85 | 1.75 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 1,916,523 | 1,033,889 | 882,634 | 2,097,941 | 181,418 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.69 | 177.17 | 175.94 | 192.02 | 190.18 | 0.25 | 0.26 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 1,918,631 | 1,033,889 | 884,742 | 14,804,664 | 12,886,033 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.22 | 175.81 | 175.17 | 190.18 | 193.17 | 1.89 | 1.86 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 2,010,353 | 1,033,889 | 976,464 | 13,885,589 | 11,875,236 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.12 | 175.17 | 174.87 | 193.17 | 190 | 1.86 | 1.22 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 2,886,473 | 1,033,889 | 1,852,584 | 3,242,470 | 355,997 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1.15 | 174.87 | 174.21 | 190 | 184 | 1.22 | 1.8 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 2,892,519 | 1,033,889 | 1,858,630 | 30,316,999 | 27,424,480 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 6.03 | 174.21 | 169.32 | 184 | 177.94 | 1.8 | 0.25 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 2,897,258 | 1,033,889 | 1,863,369 | 16,547,967 | 13,650,709 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.91 | 169.32 | 168.93 | 177.94 | 178.87 | 0.25 | 1.8 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 2,915,423 | 1,033,889 | 1,881,534 | 31,703,658 | 28,788,235 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 6.23 | 168.93 | 162.1 | 178.87 | 173.01 | 1.8 | 1.8 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 2,916,871 | 1,033,889 | 1,882,982 | 16,871,263 | 13,954,392 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 3.98 | 162.1 | 160.73 | 173.01 | 172.44 | 1.8 | 1.77 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 3,149,361 | 1,033,889 | 2,115,472 | 21,975,368 | 18,826,007 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 4.92 | 160.73 | 158.53 | 172.44 | 171 | 1.77 | 1.77 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 3,150,060 | 1,033,889 | 2,116,171 | 20,565,867 | 17,415,807 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 4.69 | 158.53 | 156.85 | 171 | 170.85 | 1.77 | 1.56 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 3,189,926 | 1,033,889 | 2,156,037 | 15,002,227 | 11,812,301 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.61 | 156.85 | 156.31 | 170.85 | 167.67 | 2.06 | 2.17 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 3,194,067 | 1,033,889 | 2,160,178 | 19,181,160 | 15,987,093 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.11 | 156.31 | 155.66 | 167.67 | 169.54 | 2.17 | 2.14 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 3,358,777 | 1,033,889 | 2,324,888 | 18,895,751 | 15,536,974 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 3.12 | 155.66 | 155.05 | 169.54 | 168.44 | 2.14 | 2.29 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 3,362,435 | 1,033,889 | 2,328,546 | 34,641,163 | 31,278,728 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.81 | 155.05 | 150.67 | 168.44 | 163.03 | 2.29 | 2.2 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 4,221,329 | 1,033,889 | 3,187,440 | 27,412,575 | 23,191,246 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 4.35 | 150.67 | 149.1 | 163.03 | 157.11 | 2.2 | 2.2 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 4,223,438 | 1,033,889 | 3,189,549 | 26,953,521 | 22,730,083 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 4.3 | 149.1 | 147.62 | 157.11 | 157 | 2.2 | 2.13 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 4,925,023 | 1,033,889 | 3,891,134 | 35,454,075 | 30,529,052 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 5.46 | 147.62 | 143.58 | 157 | 155.42 | 2.13 | 2.13 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 4,926,013 | 1,033,889 | 3,892,124 | 29,311,144 | 24,385,131 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 4.77 | 143.58 | 140.7 | 155.42 | 155.66 | 2.13 | 1.96 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 4,926,013 | 1,033,889 | 3,892,124 | 19,102,000 | 14,175,987 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.51 | 140.7 | 139.99 | 155.66 | 151 | 1.96 | 2.02 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 4,926,013 | 1,033,889 | 3,892,124 | 21,549,863 | 16,623,850 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.82 | 139.99 | 138.42 | 151 | 144.74 | 2.02 | 1.98 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 4,926,013 | 1,033,889 | 3,892,124 | 19,647,126 | 14,721,113 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 10.51 | 138.42 | 134.64 | 144.74 | 139.73 | 0.73 | 0.24 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 4,929,113 | 1,033,889 | 3,895,224 | 6,124,076 | 1,194,963 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.49 | 134.64 | 133.89 | 139.73 | 142.95 | 1.49 | 2.13 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 4,932,213 | 1,033,889 | 3,898,324 | 30,407,121 | 25,474,908 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.9 | 133.89 | 131.2 | 142.95 | 138 | 2.13 | 2.18 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 4,932,213 | 1,033,889 | 3,898,324 | 42,793,558 | 37,861,345 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.24 | 131.25 | 127.54 | 138 | 138 | 2.13 | 0.65 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 4,932,213 | 1,033,889 | 3,898,324 | 21,484,290 | 16,552,077 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 3.82 | 127.54 | 127.53 | 138 | 138 | 0.65 | 0.37 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 4,933,356 | 1,033,889 | 3,899,467 | 26,071,121 | 21,137,765 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.47 | 127.53 | 127.5 | 138 | 138 | 1.37 | 0.76 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 4,934,499 | 1,033,889 | 3,900,610 | 60,681,535 | 55,747,036 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.61 | 127.5 | 127.37 | 138 | 131.44 | 0.76 | 2.74 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 4,934,499 | 1,033,889 | 3,900,610 | 33,047,844 | 28,113,345 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 2.92 | 127.37 | 127.36 | 131.44 | 131.37 | 2.74 | 2.73 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 9,246,359 | 1,033,889 | 8,212,470 | 33,686,043 | 24,439,684 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 9.06 | 127.36 | 126.91 | 131.37 | 131.41 | 1.23 | 1.46 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 9,246,359 | 1,033,889 | 8,212,470 | 38,080,441 | 28,834,082 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.9 | 127.14 | 127.08 | 131.41 | 131.36 | 1.23 | 0.42 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 12,416,137 | 1,033,889 | 11,382,248 | 2,608,858 | -9,807,279 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.91 | 127.08 | 126.48 | 131.36 | 131 | 0.42 | 1.01 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 12,425,283 | 1,033,889 | 11,391,394 | 30,788,053 | 18,362,770 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.38 | 126.4 | 125.33 | 131 | 131 | 1.59 | 1.67 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 9 (City_PWWF_2015 CP_2025_Likely)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 2,602,833 | 2,602,833 | 0 | 811,300 | -1,791,533 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 11.54 | 285.14 | 272.58 | 276 | 274.78 | -11.47 | -0.13 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 2,631,295 | 2,602,833 | 28,462 | 3,430,204 | 798,909 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 10.72 | 272.58 | 267.65 | 274.78 | 271.46 | 0.03 | -1.27 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 2,659,757 | 2,602,833 | 56,924 | 805,159 | -1,854,598 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 7.55 | 267.65 | 266.56 | 271.46 | 270.98 | -1.27 | -0.28 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 2,775,684 | 2,602,833 | 172,851 | 2,566,826 | -208,858 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.5 | 266.56 | 265.5 | 270.98 | 269.39 | 0.14 | 0.4 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 2,838,595 | 2,602,833 | 235,762 | 4,834,667 | 1,996,072 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 6.34 | 265.5 | 259.94 | 269.39 | 268.74 | 0.4 | 0.39 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 2,901,506 | 2,602,833 | 298,673 | 8,688,008 | 5,786,502 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 9.86 | 259.94 | 258.71 | 268.74 | 268.74 | 0.39 | 0.39 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 2,931,297 | 2,602,833 | 328,464 | 3,996,050 | 1,064,753 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 5.5 | 258.71 | 257.19 | 268.74 | 263.77 | 0.39 | 0.38 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 2,962,247 | 2,602,833 | 359,414 | 4,717,610 | 1,755,363 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 6.28 | 257.19 | 253.32 | 263.77 | 260.51 | 0.38 | 0.38 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 2,993,753 | 2,602,833 | 390,920 | 4,079,514 | 1,085,761 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 5.62 | 253.32 | 249.88 | 260.51 | 254.58 | 0.38 | 0.26 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 3,026,201 | 2,602,833 | 423,368 | 3,118,540 | 92,339 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 4.48 | 249.88 | 249.08 | 254.58 | 253.74 | 0.26 | 0.23 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 3,866,695 | 2,602,833 | 1,263,862 | 3,888,589 | 21,894 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 5.59 | 249.08 | 247.61 | 253.74 | 254.51 | 0.23 | 0.26 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 3,896,920 | 2,602,833 | 1,294,087 | 7,526,611 | 3,629,691 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 9.57 | 247.61 | 238.22 | 254.51 | 243 | 0.26 | -2.34 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 3,926,989 | 2,602,833 | 1,324,156 | 6,405,009 | 2,478,020 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 4.95 | 238.22 | 235.99 | 243 | 243 | -2.34 | -6.05 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 4,235,091 | 2,602,833 | 1,632,258 | 1,501,102 | -2,733,989 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 5.34 | 235.99 | 233.13 | 243 | 242 | -6.05 | -3.55 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 4,263,553 | 2,602,833 | 1,660,720 | 3,345,571 | -917,982 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 5.38 | 233.13 | 230.2 | 242 | 241.27 | -3.55 | -2.42 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 4,292,015 | 2,602,833 | 1,689,182 | 1,905,990 | -2,386,025 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 5.41 | 230.2 | 226.95 | 241.27 | 235.52 | -2.42 | 0.21 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 4,320,478 | 2,602,833 | 1,717,645 | 7,497,885 | 3,177,407 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 9.79 | 226.95 | 223.63 | 235.52 | 234.49 | 0.21 | 0.15 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 5,651,935 | 2,602,833 | 3,049,102 | 7,910,192 | 2,258,257 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 5.53 | 223.63 | 220.7 | 234.49 | 232.26 | 0.65 | 0.55 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 6,687,316 | 2,602,833 | 4,084,483 | 13,565,858 | 6,878,542 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 8.69 | 220.7 | 215.42 | 232.26 | 223.14 | 0.55 | 0.88 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 6,716,310 | 2,602,833 | 4,113,477 | 10,436,597 | 3,720,287 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 10.92 | 215.48 | 209.81 | 223.14 | 216 | 0.07 | -0.2 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 6,745,256 | 2,602,833 | 4,142,423 | 10,468,942 | 3,723,686 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 7.15 | 209.81 | 206.83 | 216 | 215.87 | 0.55 | 0.52 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 7,024,898 | 2,602,833 | 4,422,065 | 12,098,686 | 5,073,788 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 8.07 | 206.83 | 200.73 | 215.87 | 208.82 | 0.52 | 0.52 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 7,035,180 | 2,602,833 | 4,432,347 | 11,807,931 | 4,772,751 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 7.93 | 200.73 | 194.55 | 208.82 | 204.07 | 0.52 | 0.78 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 7,044,472 | 2,602,833 | 4,441,639 | 11,904,542 | 4,860,070 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 6.11 | 194.76 | 193.63 | 204.07 | 200.58 | 0.82 | 0.81 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 7,618,859 | 2,602,833 | 5,016,026 | 25,483,412 | 17,864,553 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 8.66 | 193.63 | 189.24 | 200.58 | 197 | 1.06 | -4.83 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 8,343,057 | 2,602,833 | 5,740,224 | 10,620,231 | 2,277,174 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.25 | 189.24 | 188.78 | 197 | 198.97 | -4.83 | -5.11 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 8,358,362 | 2,602,833 | 5,755,529 | 10,925,568 | 2,567,206 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.25 | 188.78 | 188.08 | 198.97 | 192.83 | -5.11 | -5.61 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 8,387,750 | 2,602,833 | 5,784,917 | 10,554,288 | 2,166,538 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.26 | 188.08 | 187.58 | 192.83 | 190 | -5.61 | -5.9 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 8,393,930 | 2,602,833 | 5,791,097 | 10,350,223 | 1,956,293 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.27 | 187.58 | 186.72 | 190 | 186.72 | -5.9 | -6.35 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 8,414,468 | 2,602,833 | 5,811,635 | 9,083,654 | 669,186 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 3.27 | 187.25 | 187.21 | 186.72 | 187.21 | -6.88 | -6.89 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 10,594,283 | 2,602,833 | 7,991,450 | 13,091,690 | 2,497,407 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.34 | 189.42 | 188.86 | 187.21 | 188.86 | -8.85 | -9.15 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 11,185,550 | 2,602,833 | 8,582,717 | 12,945,046 | 1,759,496 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.53 | 192.61 | 192.02 | 188.86 | 192.02 | -12.9 | -13.1 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 11,218,936 | 2,602,833 | 8,616,103 | 2,097,941 | -9,120,995 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 22.1 | 213.52 | 178.63 | 192.02 | 190.18 | -36.1 | -2.43 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 11,227,224 | 2,602,833 | 8,624,391 | 14,804,664 | 3,577,440 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.54 | 178.63 | 178.25 | 190.18 | 193.17 | -0.93 | -1.22 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 11,473,160 | 2,602,833 | 8,870,327 | 13,885,589 | 2,412,429 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.62 | 178.25 | 177.61 | 193.17 | 190 | -1.22 | -1.52 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 16,366,539 | 2,602,833 | 13,763,706 | 3,242,470 | -13,124,069 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 5.16 | 177.61 | 175.23 | 190 | 184 | -1.52 | 0.78 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 16,378,764 | 2,602,833 | 13,775,931 | 30,316,999 | 13,938,235 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 9.74 | 175.23 | 171.45 | 184 | 177.94 | 0.78 | -1.88 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 16,389,682 | 2,602,833 | 13,786,849 | 16,547,967 | 158,285 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 5.17 | 171.45 | 169.95 | 177.94 | 178.87 | -1.88 | 0.78 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 16,444,921 | 2,602,833 | 13,842,088 | 31,703,658 | 15,258,737 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 10.09 | 169.95 | 165.2 | 178.87 | 173.01 | 0.78 | -1.3 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 16,452,548 | 2,602,833 | 13,849,715 | 16,871,263 | 418,715 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 5.19 | 165.2 | 163.87 | 173.01 | 172.44 | -1.3 | -1.37 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 16,989,211 | 2,602,833 | 14,386,378 | 21,975,368 | 4,986,157 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.35 | 163.87 | 162.55 | 172.44 | 171 | -1.37 | -2.25 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 16,996,088 | 2,602,833 | 14,393,255 | 20,565,867 | 3,569,779 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 5.36 | 162.55 | 161.26 | 171 | 170.85 | -2.25 | -2.85 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 17,726,974 | 2,602,833 | 15,124,141 | 15,002,227 | -2,724,747 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 3.88 | 161.26 | 160.66 | 170.85 | 167.67 | -2.35 | -2.18 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 17,749,652 | 2,602,833 | 15,146,819 | 19,181,160 | 1,431,508 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.89 | 160.66 | 160.08 | 167.67 | 169.54 | -2.18 | -2.28 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 21,588,121 | 2,602,833 | 18,985,288 | 18,895,751 | -2,692,370 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 4.73 | 160.08 | 159.48 | 169.54 | 168.44 | -2.28 | -2.14 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 21,610,316 | 2,602,833 | 19,007,483 | 34,641,163 | 13,030,847 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.73 | 159.48 | 157.74 | 168.44 | 163.03 | -2.14 | -4.87 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 26,385,273 | 2,602,833 | 23,782,440 | 27,412,575 | 1,027,302 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 5.78 | 157.74 | 156.29 | 163.03 | 157.11 | -4.87 | -4.99 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 26,393,559 | 2,602,833 | 23,790,726 | 26,953,521 | 559,962 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 5.78 | 156.29 | 154.8 | 157.11 | 157 | -4.99 | -5.05 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 28,921,403 | 2,602,833 | 26,318,570 | 35,454,075 | 6,532,672 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 6.33 | 154.8 | 152.11 | 157 | 155.42 | -5.05 | -6.4 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 28,928,573 | 2,602,833 | 26,325,740 | 29,311,144 | 382,571 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 6.33 | 152.11 | 149.14 | 155.42 | 155.66 | -6.4 | -6.48 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 28,934,754 | 2,602,833 | 26,331,921 | 19,102,000 | -9,832,754 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 6.33 | 149.14 | 147.65 | 155.66 | 151 | -6.48 | -5.64 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 28,940,932 | 2,602,833 | 26,338,099 | 21,549,863 | -7,391,069 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 6.33 | 147.65 | 144.74 | 151 | 144.74 | -5.64 | -4.34 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 28,947,111 | 2,602,833 | 26,344,278 | 19,647,126 | -9,299,985 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 18.62 | 149 | 139.73 | 144.74 | 139.73 | -9.85 | -4.85 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 28,956,388 | 2,602,833 | 26,353,555 | 6,124,076 | -22,832,312 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 6.34 | 140.36 | 137.9 | 139.73 | 142.95 | -4.23 | -1.88 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 28,965,669 | 2,602,833 | 26,362,836 | 30,407,121 | 1,441,452 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 6.34 | 137.9 | 135.5 | 142.95 | 138 | -1.88 | -2.12 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 28,971,847 | 2,602,833 | 26,369,014 | 42,793,558 | 13,821,711 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.34 | 135.5 | 133.12 | 138 | 138 | -2.12 | -4.93 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 28,978,026 | 2,602,833 | 26,375,193 | 21,484,290 | -7,493,736 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 6.34 | 133.12 | 132.6 | 138 | 138 | -4.93 | -4.7 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 28,985,348 | 2,602,833 | 26,382,515 | 26,071,121 | -2,914,227 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 3.57 | 132.6 | 131.81 | 138 | 138 | -3.7 | -3.55 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 28,992,671 | 2,602,833 | 26,389,838 | 60,681,535 | 31,688,864 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 3.57 | 131.81 | 131.38 | 138 | 131.44 | -3.55 | -1.27 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 28,998,849 | 2,602,833 | 26,396,016 | 33,047,844 | 4,048,995 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 3.57 | 131.38 | 131.37 | 131.44 | 131.37 | -1.27 | -1.28 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 35,365,590 | 2,602,833 | 32,762,757 | 33,686,043 | -1,679,547 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 11.15 | 131.44 | 131.2 | 131.37 | 131.41 | -2.85 | -2.83 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 35,371,771 | 2,602,833 | 32,768,938 | 38,080,441 | 2,708,670 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 11.15 | 131.2 | 130.44 | 131.41 | 131.36 | -2.83 | -2.94 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 38,541,547 | 2,602,833 | 35,938,714 | 2,608,858 | -35,932,689 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 12.15 | 130.44 | 128.26 | 131.36 | 131 | -2.94 | -0.77 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 38,575,411 | 2,602,833 | 35,972,578 | 30,788,053 | -7,787,358 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 8.44 | 128.26 | 126.5 | 131 | 131 | -0.27 | 0.5 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 10 (City_ADWF_2015 CP_2025_Worst)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 462,889 | 462,889 | 0 | 811,300 | 348,411 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 3.71 | 273.4 | 272.14 | 276 | 274.78 | 0.27 | 0.31 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 462,889 | 462,889 | 0 | 3,430,204 | 2,967,315 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 6.79 | 272.15 | 266 | 274.78 | 271.46 | 0.46 | 0.38 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 462,889 | 462,889 | 0 | 805,159 | 342,270 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 2.36 | 266 | 265.82 | 271.46 | 270.98 | 0.38 | 0.46 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 464,020 | 462,889 | 1,131 | 2,566,826 | 2,102,806 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 2.45 | 265.81 | 264.99 | 270.98 | 269.39 | 0.89 | 0.91 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 482,779 | 462,889 | 19,890 | 4,834,667 | 4,351,888 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 3.9 | 264.99 | 259.42 | 269.39 | 268.74 | 0.91 | 0.91 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 501,538 | 462,889 | 38,649 | 8,688,008 | 8,186,470 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 5.96 | 259.42 | 258.2 | 268.74 | 268.74 | 0.91 | 0.9 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 502,262 | 462,889 | 39,373 | 3,996,050 | 3,493,788 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 3.44 | 258.2 | 256.67 | 268.74 | 263.77 | 0.9 | 0.9 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 503,617 | 462,889 | 40,728 | 4,717,610 | 4,213,993 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 3.88 | 256.67 | 252.8 | 263.77 | 260.51 | 0.9 | 0.9 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 505,274 | 462,889 | 42,385 | 4,079,514 | 3,574,240 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 3.5 | 252.8 | 249.24 | 260.51 | 254.58 | 0.9 | 0.9 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 507,445 | 462,889 | 44,556 | 3,118,540 | 2,611,095 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 2.89 | 249.24 | 248.42 | 254.58 | 253.74 | 0.9 | 0.89 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 546,660 | 462,889 | 83,771 | 3,888,589 | 3,341,929 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 3.46 | 248.42 | 246.98 | 253.74 | 254.51 | 0.89 | 0.89 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 547,620 | 462,889 | 84,731 | 7,526,611 | 6,978,991 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 5.53 | 246.98 | 234.99 | 254.51 | 243 | 0.89 | 0.89 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 548,495 | 462,889 | 85,606 | 6,405,009 | 5,856,514 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 4.93 | 234.99 | 229.24 | 243 | 243 | 0.89 | 0.7 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 607,778 | 462,889 | 144,889 | 1,501,102 | 893,324 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 1.79 | 229.24 | 228.71 | 243 | 242 | 0.7 | 0.87 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 607,778 | 462,889 | 144,889 | 3,345,571 | 2,737,793 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 3.2 | 228.71 | 227.02 | 242 | 241.27 | 0.87 | 0.76 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 607,778 | 462,889 | 144,889 | 1,905,990 | 1,298,212 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.14 | 227.02 | 226.29 | 241.27 | 235.52 | 0.76 | 0.87 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 607,778 | 462,889 | 144,889 | 7,497,885 | 6,890,107 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 5.68 | 226.29 | 222.77 | 235.52 | 234.49 | 0.87 | 1.01 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 684,919 | 462,889 | 222,030 | 7,910,192 | 7,225,273 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 3.12 | 222.9 | 219.88 | 234.49 | 232.26 | 1.38 | 1.37 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 735,694 | 462,889 | 272,805 | 13,565,858 | 12,830,164 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 4.66 | 219.88 | 214.83 | 232.26 | 223.14 | 1.37 | 1.47 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 735,984 | 462,889 | 273,095 | 10,436,597 | 9,700,613 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 5.93 | 214.86 | 208.99 | 223.14 | 216 | 0.69 | 0.62 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 736,247 | 462,889 | 273,358 | 10,468,942 | 9,732,695 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 3.88 | 208.99 | 205.99 | 216 | 215.87 | 1.37 | 1.36 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 749,520 | 462,889 | 286,631 | 12,098,686 | 11,349,166 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 4.33 | 205.99 | 199.89 | 215.87 | 208.82 | 1.36 | 1.36 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 751,645 | 462,889 | 288,756 | 11,807,931 | 11,056,286 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 4.25 | 199.89 | 193.88 | 208.82 | 204.07 | 1.36 | 1.45 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 753,256 | 462,889 | 290,367 | 11,904,542 | 11,151,286 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 3.28 | 193.95 | 192.82 | 204.07 | 200.58 | 1.63 | 1.62 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 821,563 | 462,889 | 358,674 | 25,483,412 | 24,661,849 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 4.53 | 192.82 | 182.6 | 200.58 | 197 | 1.87 | 1.81 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 892,614 | 462,889 | 429,725 | 10,620,231 | 9,727,617 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 2.51 | 182.6 | 181.86 | 197 | 198.97 | 1.81 | 1.81 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 894,140 | 462,889 | 431,251 | 10,925,568 | 10,031,428 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 2.56 | 181.86 | 180.66 | 198.97 | 192.83 | 1.81 | 1.81 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 898,158 | 462,889 | 435,269 | 10,554,288 | 9,656,130 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 2.5 | 180.66 | 179.88 | 192.83 | 190 | 1.81 | 1.8 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 898,158 | 462,889 | 435,269 | 10,350,223 | 9,452,065 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 2.47 | 179.88 | 178.59 | 190 | 186.72 | 1.8 | 1.78 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 902,394 | 462,889 | 439,505 | 9,083,654 | 8,181,260 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 2.26 | 178.59 | 178.52 | 186.72 | 187.21 | 1.78 | 1.8 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 905,782 | 462,889 | 442,893 | 13,091,690 | 12,185,908 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.37 | 178.52 | 177.66 | 187.21 | 188.86 | 2.05 | 2.05 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 934,111 | 462,889 | 471,222 | 12,945,046 | 12,010,935 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.37 | 177.66 | 176.93 | 188.86 | 192.02 | 2.05 | 1.99 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 935,400 | 462,889 | 472,511 | 2,097,941 | 1,162,541 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.01 | 176.93 | 175.67 | 192.02 | 190.18 | 0.49 | 0.53 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 936,492 | 462,889 | 473,603 | 14,804,664 | 13,868,172 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 2.61 | 175.63 | 174.98 | 190.18 | 193.17 | 2.07 | 2.05 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 983,409 | 462,889 | 520,520 | 13,885,589 | 12,902,180 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 2.53 | 174.98 | 174.52 | 193.17 | 190 | 2.05 | 1.57 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 1,456,759 | 462,889 | 993,870 | 3,242,470 | 1,785,711 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 0.99 | 174.52 | 174 | 190 | 184 | 1.57 | 2.01 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 1,459,890 | 462,889 | 997,001 | 30,316,999 | 28,857,109 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 4.92 | 174 | 169 | 184 | 177.94 | 2.01 | 0.57 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 1,462,344 | 462,889 | 999,455 | 16,547,967 | 15,085,623 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.46 | 169 | 168.72 | 177.94 | 178.87 | 0.57 | 2.01 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 1,471,749 | 462,889 | 1,008,860 | 31,703,658 | 30,231,909 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 5.09 | 168.72 | 161.9 | 178.87 | 173.01 | 2.01 | 2 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 1,472,499 | 462,889 | 1,009,610 | 16,871,263 | 15,398,764 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 3.27 | 161.9 | 160.51 | 173.01 | 172.44 | 2 | 1.99 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 1,586,888 | 462,889 | 1,123,999 | 21,975,368 | 20,388,480 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 4.03 | 160.51 | 158.31 | 172.44 | 171 | 1.99 | 1.99 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 1,587,250 | 462,889 | 1,124,361 | 20,565,867 | 18,978,617 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 3.84 | 158.31 | 156.57 | 171 | 170.85 | 1.99 | 1.84 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 1,607,917 | 462,889 | 1,145,028 | 15,002,227 | 13,394,310 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.14 | 156.57 | 156.07 | 170.85 | 167.67 | 2.34 | 2.41 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 1,610,061 | 462,889 | 1,147,172 | 19,181,160 | 17,571,099 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 2.55 | 156.07 | 155.41 | 167.67 | 169.54 | 2.41 | 2.39 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 1,701,528 | 462,889 | 1,238,639 | 18,895,751 | 17,194,223 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 2.56 | 155.41 | 154.84 | 169.54 | 168.44 | 2.39 | 2.5 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 1,703,422 | 462,889 | 1,240,533 | 34,641,163 | 32,937,741 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 3.93 | 154.84 | 150.44 | 168.44 | 163.03 | 2.5 | 2.43 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 2,170,925 | 462,889 | 1,708,036 | 27,412,575 | 25,241,650 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 3.58 | 150.44 | 148.88 | 163.03 | 157.11 | 2.43 | 2.42 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 2,172,016 | 462,889 | 1,709,127 | 26,953,521 | 24,781,505 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 3.54 | 148.88 | 147.39 | 157.11 | 157 | 2.42 | 2.36 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 2,731,268 | 462,889 | 2,268,379 | 35,454,075 | 32,722,807 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 4.6 | 147.39 | 143.35 | 157 | 155.42 | 2.36 | 2.36 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 2,731,781 | 462,889 | 2,268,892 | 29,311,144 | 26,579,363 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 4.02 | 143.35 | 140.43 | 155.42 | 155.66 | 2.36 | 2.23 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 2,731,781 | 462,889 | 2,268,892 | 19,102,000 | 16,370,219 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 2.97 | 140.43 | 139.73 | 155.66 | 151 | 2.23 | 2.28 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 2,731,781 | 462,889 | 2,268,892 | 21,549,863 | 18,818,082 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.23 | 139.73 | 138.15 | 151 | 144.74 | 2.28 | 2.25 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 2,731,781 | 462,889 | 2,268,892 | 19,647,126 | 16,915,345 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 8.89 | 138.15 | 134.28 | 144.74 | 139.73 | 1 | 0.6 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 2,733,386 | 462,889 | 2,270,497 | 6,124,076 | 3,390,690 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.3 | 134.28 | 133.66 | 139.73 | 142.95 | 1.85 | 2.36 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 2,734,991 | 462,889 | 2,272,102 | 30,407,121 | 27,672,130 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.13 | 133.66 | 130.99 | 142.95 | 138 | 2.36 | 2.39 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 2,734,991 | 462,889 | 2,272,102 | 42,793,558 | 40,058,567 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 5.25 | 131.02 | 127.26 | 138 | 138 | 2.36 | 0.93 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 2,734,991 | 462,889 | 2,272,102 | 21,484,290 | 18,749,299 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 3.23 | 127.26 | 127.26 | 138 | 138 | 0.93 | 0.64 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 2,735,583 | 462,889 | 2,272,694 | 26,071,121 | 23,335,538 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.08 | 127.26 | 127.25 | 138 | 138 | 1.64 | 1.01 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 2,736,175 | 462,889 | 2,273,286 | 60,681,535 | 57,945,360 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.34 | 127.25 | 127.18 | 138 | 131.44 | 1.01 | 2.93 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 2,736,175 | 462,889 | 2,273,286 | 33,047,844 | 30,311,669 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 2.46 | 127.18 | 127.18 | 131.44 | 131.37 | 2.93 | 2.91 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 6,846,384 | 462,889 | 6,383,495 | 33,686,043 | 26,839,659 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 8.33 | 127.18 | 126.75 | 131.37 | 131.41 | 1.41 | 1.62 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 6,846,384 | 462,889 | 6,383,495 | 38,080,441 | 31,234,057 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.09 | 126.96 | 126.86 | 131.41 | 131.36 | 1.41 | 0.64 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 10,016,162 | 462,889 | 9,553,273 | 2,608,858 | -7,407,304 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.16 | 126.86 | 126.32 | 131.36 | 131 | 0.64 | 1.17 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 10,020,897 | 462,889 | 9,558,008 | 30,788,053 | 20,767,156 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.02 | 126.25 | 125.18 | 131 | 131 | 1.74 | 1.82 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 11 (City_PDWF_2015 CP_2025_Worst)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 1,203,510 | 1,203,510 | 0 | 811,300 | -392,210 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 5.33 | 275.11 | 272.4 | 276 | 274.78 | -1.44 | 0.05 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 1,203,510 | 1,203,510 | 0 | 3,430,204 | 2,226,694 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 8.87 | 272.39 | 266.38 | 274.78 | 271.46 | 0.22 | 0 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 1,203,510 | 1,203,510 | 0 | 805,159 | -398,351 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 3.41 | 266.38 | 266.06 | 271.46 | 270.98 | 0 | 0.22 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 1,205,588 | 1,203,510 | 2,078 | 2,566,826 | 1,361,238 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.19 | 266.05 | 265.2 | 270.98 | 269.39 | 0.65 | 0.7 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 1,240,036 | 1,203,510 | 36,526 | 4,834,667 | 3,594,631 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 5.1 | 265.2 | 259.64 | 269.39 | 268.74 | 0.7 | 0.69 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 1,274,485 | 1,203,510 | 70,975 | 8,688,008 | 7,413,523 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 7.83 | 259.64 | 258.41 | 268.74 | 268.74 | 0.69 | 0.69 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 1,275,814 | 1,203,510 | 72,304 | 3,996,050 | 2,720,236 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 4.48 | 258.41 | 256.88 | 268.74 | 263.77 | 0.69 | 0.69 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 1,278,302 | 1,203,510 | 74,792 | 4,717,610 | 3,439,308 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 5.06 | 256.88 | 253.01 | 263.77 | 260.51 | 0.69 | 0.69 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 1,281,346 | 1,203,510 | 77,836 | 4,079,514 | 2,798,168 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 4.55 | 253.01 | 249.45 | 260.51 | 254.58 | 0.69 | 0.69 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 1,285,332 | 1,203,510 | 81,822 | 3,118,540 | 1,833,208 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 3.74 | 249.45 | 248.64 | 254.58 | 253.74 | 0.69 | 0.67 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 1,357,346 | 1,203,510 | 153,836 | 3,888,589 | 2,531,243 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 4.46 | 248.64 | 247.2 | 253.74 | 254.51 | 0.67 | 0.67 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 1,359,109 | 1,203,510 | 155,599 | 7,526,611 | 6,167,502 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 7.2 | 247.2 | 235.21 | 254.51 | 243 | 0.67 | 0.67 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 1,360,716 | 1,203,510 | 157,206 | 6,405,009 | 5,044,293 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 6.41 | 235.21 | 229.63 | 243 | 243 | 0.67 | 0.31 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 1,469,582 | 1,203,510 | 266,072 | 1,501,102 | 31,520 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 2.16 | 229.63 | 228.93 | 243 | 242 | 0.31 | 0.65 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 1,469,582 | 1,203,510 | 266,072 | 3,345,571 | 1,875,989 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 4.08 | 228.93 | 227.35 | 242 | 241.27 | 0.65 | 0.43 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 1,469,582 | 1,203,510 | 266,072 | 1,905,990 | 436,408 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.65 | 227.35 | 226.51 | 241.27 | 235.52 | 0.43 | 0.65 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 1,469,582 | 1,203,510 | 266,072 | 7,497,885 | 6,028,303 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 7.34 | 226.51 | 222.91 | 235.52 | 234.49 | 0.65 | 0.87 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 1,617,177 | 1,203,510 | 413,667 | 7,910,192 | 6,293,015 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 4 | 223.1 | 220.09 | 234.49 | 232.26 | 1.18 | 1.16 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 1,710,217 | 1,203,510 | 506,707 | 13,565,858 | 11,855,641 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 5.97 | 220.09 | 214.97 | 232.26 | 223.14 | 1.16 | 1.33 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 1,710,748 | 1,203,510 | 507,238 | 10,436,597 | 8,725,849 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 7.58 | 215.04 | 209.2 | 223.14 | 216 | 0.51 | 0.41 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 1,711,231 | 1,203,510 | 507,721 | 10,468,942 | 8,757,711 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 4.96 | 209.2 | 206.19 | 216 | 215.87 | 1.16 | 1.16 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 1,736,740 | 1,203,510 | 533,230 | 12,098,686 | 10,361,946 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 5.53 | 206.19 | 200.09 | 215.87 | 208.82 | 1.16 | 1.16 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 1,740,843 | 1,203,510 | 537,333 | 11,807,931 | 10,067,088 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 5.44 | 200.09 | 194.03 | 208.82 | 204.07 | 1.16 | 1.3 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 1,743,956 | 1,203,510 | 540,446 | 11,904,542 | 10,160,586 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 4.19 | 194.15 | 193.01 | 204.07 | 200.58 | 1.43 | 1.43 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 1,875,968 | 1,203,510 | 672,458 | 25,483,412 | 23,607,444 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 5.8 | 193.01 | 182.82 | 200.58 | 197 | 1.68 | 1.59 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 2,002,923 | 1,203,510 | 799,413 | 10,620,231 | 8,617,308 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.17 | 182.82 | 182.07 | 197 | 198.97 | 1.59 | 1.6 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 2,005,870 | 1,203,510 | 802,360 | 10,925,568 | 8,919,698 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.24 | 182.07 | 180.89 | 198.97 | 192.83 | 1.6 | 1.58 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 2,013,632 | 1,203,510 | 810,122 | 10,554,288 | 8,540,656 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.16 | 180.89 | 180.1 | 192.83 | 190 | 1.58 | 1.58 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 2,013,632 | 1,203,510 | 810,122 | 10,350,223 | 8,336,591 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.12 | 180.1 | 178.82 | 190 | 186.72 | 1.58 | 1.55 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 2,021,812 | 1,203,510 | 818,302 | 9,083,654 | 7,061,842 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 2.84 | 178.82 | 178.74 | 186.72 | 187.21 | 1.55 | 1.58 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 2,028,354 | 1,203,510 | 824,844 | 13,091,690 | 11,063,336 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3 | 178.74 | 177.89 | 187.21 | 188.86 | 1.83 | 1.82 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 2,083,654 | 1,203,510 | 880,144 | 12,945,046 | 10,861,392 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.99 | 177.89 | 177.23 | 188.86 | 192.02 | 1.82 | 1.69 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 2,086,143 | 1,203,510 | 882,633 | 2,097,941 | 11,798 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.71 | 177.23 | 175.97 | 192.02 | 190.18 | 0.19 | 0.23 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 2,088,252 | 1,203,510 | 884,742 | 14,804,664 | 12,716,412 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.3 | 175.83 | 175.2 | 190.18 | 193.17 | 1.87 | 1.83 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 2,179,974 | 1,203,510 | 976,464 | 13,885,589 | 11,705,615 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.19 | 175.2 | 174.91 | 193.17 | 190 | 1.83 | 1.18 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 3,056,094 | 1,203,510 | 1,852,584 | 3,242,470 | 186,376 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1.16 | 174.91 | 174.23 | 190 | 184 | 1.18 | 1.78 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 3,062,140 | 1,203,510 | 1,858,630 | 30,316,999 | 27,254,859 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 6.13 | 174.23 | 169.35 | 184 | 177.94 | 1.78 | 0.22 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 3,066,879 | 1,203,510 | 1,863,369 | 16,547,967 | 13,481,088 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.97 | 169.35 | 168.95 | 177.94 | 178.87 | 0.22 | 1.78 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 3,085,044 | 1,203,510 | 1,881,534 | 31,703,658 | 28,618,614 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 6.34 | 168.95 | 162.12 | 178.87 | 173.01 | 1.78 | 1.78 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 3,086,492 | 1,203,510 | 1,882,982 | 16,871,263 | 13,784,771 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 4.05 | 162.12 | 160.75 | 173.01 | 172.44 | 1.78 | 1.75 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 3,318,982 | 1,203,510 | 2,115,472 | 21,975,368 | 18,656,386 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 4.99 | 160.75 | 158.55 | 172.44 | 171 | 1.75 | 1.75 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 3,319,680 | 1,203,510 | 2,116,170 | 20,565,867 | 17,246,187 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 4.76 | 158.55 | 156.87 | 171 | 170.85 | 1.75 | 1.54 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 3,359,547 | 1,203,510 | 2,156,037 | 15,002,227 | 11,642,680 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.65 | 156.87 | 156.33 | 170.85 | 167.67 | 2.04 | 2.15 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 3,363,688 | 1,203,510 | 2,160,178 | 19,181,160 | 15,817,472 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.16 | 156.33 | 155.68 | 167.67 | 169.54 | 2.15 | 2.12 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 3,528,398 | 1,203,510 | 2,324,888 | 18,895,751 | 15,367,353 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 3.17 | 155.68 | 155.07 | 169.54 | 168.44 | 2.12 | 2.27 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 3,532,056 | 1,203,510 | 2,328,546 | 34,641,163 | 31,109,107 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.88 | 155.07 | 150.69 | 168.44 | 163.03 | 2.27 | 2.18 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 4,390,950 | 1,203,510 | 3,187,440 | 27,412,575 | 23,021,625 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 4.4 | 150.69 | 149.12 | 163.03 | 157.11 | 2.18 | 2.18 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 4,393,059 | 1,203,510 | 3,189,549 | 26,953,521 | 22,560,462 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 4.35 | 149.12 | 147.63 | 157.11 | 157 | 2.18 | 2.12 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 5,094,644 | 1,203,510 | 3,891,134 | 35,454,075 | 30,359,431 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 5.51 | 147.63 | 143.59 | 157 | 155.42 | 2.12 | 2.12 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 5,095,635 | 1,203,510 | 3,892,125 | 29,311,144 | 24,215,509 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 4.81 | 143.59 | 140.72 | 155.42 | 155.66 | 2.12 | 1.94 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 5,095,635 | 1,203,510 | 3,892,125 | 19,102,000 | 14,006,365 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.54 | 140.72 | 140 | 155.66 | 151 | 1.94 | 2.01 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 5,095,635 | 1,203,510 | 3,892,125 | 21,549,863 | 16,454,228 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.86 | 140 | 138.44 | 151 | 144.74 | 2.01 | 1.96 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 5,095,635 | 1,203,510 | 3,892,125 | 19,647,126 | 14,551,491 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 10.61 | 138.44 | 134.67 | 144.74 | 139.73 | 0.71 | 0.21 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 5,098,734 | 1,203,510 | 3,895,224 | 6,124,076 | 1,025,342 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.5 | 134.67 | 133.91 | 139.73 | 142.95 | 1.46 | 2.11 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 5,101,833 | 1,203,510 | 3,898,323 | 30,407,121 | 25,305,288 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.94 | 133.91 | 131.21 | 142.95 | 138 | 2.11 | 2.17 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 5,101,833 | 1,203,510 | 3,898,323 | 42,793,558 | 37,691,725 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.3 | 131.27 | 127.56 | 138 | 138 | 2.11 | 0.63 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 5,101,833 | 1,203,510 | 3,898,323 | 21,484,290 | 16,382,457 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 3.85 | 127.56 | 127.55 | 138 | 138 | 0.63 | 0.35 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 5,102,977 | 1,203,510 | 3,899,467 | 26,071,121 | 20,968,144 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.49 | 127.55 | 127.52 | 138 | 138 | 1.35 | 0.74 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 5,104,120 | 1,203,510 | 3,900,610 | 60,681,535 | 55,577,415 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.63 | 127.52 | 127.38 | 138 | 131.44 | 0.74 | 2.73 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 5,104,120 | 1,203,510 | 3,900,610 | 33,047,844 | 27,943,724 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 2.95 | 127.38 | 127.38 | 131.44 | 131.37 | 2.73 | 2.71 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 9,415,980 | 1,203,510 | 8,212,470 | 33,686,043 | 24,270,063 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 9.1 | 127.38 | 126.92 | 131.37 | 131.41 | 1.21 | 1.45 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 9,415,980 | 1,203,510 | 8,212,470 | 38,080,441 | 28,664,461 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.95 | 127.16 | 127.1 | 131.41 | 131.36 | 1.21 | 0.4 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 12,585,758 | 1,203,510 | 11,382,248 | 2,608,858 | -9,976,900 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.97 | 127.1 | 126.49 | 131.36 | 131 | 0.4 | 1 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 12,594,905 | 1,203,510 | 11,391,395 | 30,788,053 | 18,193,148 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.4 | 126.41 | 125.34 | 131 | 131 | 1.58 | 1.66 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 12 (City_PWWF_2015 CP_2025_Worst)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 2,772,454 | 2,772,454 | 0 | 811,300 | -1,961,154 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 12.29 | 286.84 | 272.59 | 276 | 274.78 | -13.17 | -0.14 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 2,800,916 | 2,772,454 | 28,462 | 3,430,204 | 629,288 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 10.85 | 272.59 | 267.9 | 274.78 | 271.46 | 0.02 | -1.52 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 2,829,379 | 2,772,454 | 56,925 | 805,159 | -2,024,220 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 8.03 | 267.9 | 266.66 | 271.46 | 270.98 | -1.52 | -0.38 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 2,945,305 | 2,772,454 | 172,851 | 2,566,826 | -378,479 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.71 | 266.66 | 265.52 | 270.98 | 269.39 | 0.04 | 0.38 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 3,008,216 | 2,772,454 | 235,762 | 4,834,667 | 1,826,451 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 6.42 | 265.52 | 259.96 | 269.39 | 268.74 | 0.38 | 0.37 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 3,071,127 | 2,772,454 | 298,673 | 8,688,008 | 5,616,881 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 10.01 | 259.96 | 258.74 | 268.74 | 268.74 | 0.37 | 0.36 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 3,100,918 | 2,772,454 | 328,464 | 3,996,050 | 895,132 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 5.56 | 258.74 | 257.21 | 268.74 | 263.77 | 0.36 | 0.36 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 3,131,868 | 2,772,454 | 359,414 | 4,717,610 | 1,585,742 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 6.36 | 257.21 | 253.35 | 263.77 | 260.51 | 0.36 | 0.35 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 3,163,374 | 2,772,454 | 390,920 | 4,079,514 | 916,140 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 5.68 | 253.35 | 249.95 | 260.51 | 254.58 | 0.35 | 0.19 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 3,195,822 | 2,772,454 | 423,368 | 3,118,540 | -77,282 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 4.48 | 249.95 | 249.13 | 254.58 | 253.74 | 0.19 | 0.18 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 4,036,316 | 2,772,454 | 1,263,862 | 3,888,589 | -147,727 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 5.57 | 249.13 | 247.63 | 253.74 | 254.51 | 0.18 | 0.24 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 4,066,542 | 2,772,454 | 1,294,088 | 7,526,611 | 3,460,069 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 9.67 | 247.63 | 239.16 | 254.51 | 243 | 0.24 | -3.28 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 4,096,610 | 2,772,454 | 1,324,156 | 6,405,009 | 2,308,399 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 5.16 | 239.16 | 236.73 | 243 | 243 | -3.28 | -6.79 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 4,404,712 | 2,772,454 | 1,632,258 | 1,501,102 | -2,903,610 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 5.55 | 236.73 | 233.63 | 243 | 242 | -6.79 | -4.05 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 4,433,174 | 2,772,454 | 1,660,720 | 3,345,571 | -1,087,603 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 5.59 | 233.63 | 230.47 | 242 | 241.27 | -4.05 | -2.69 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 4,461,637 | 2,772,454 | 1,689,183 | 1,905,990 | -2,555,647 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 5.63 | 230.47 | 226.97 | 241.27 | 235.52 | -2.69 | 0.19 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 4,490,099 | 2,772,454 | 1,717,645 | 7,497,885 | 3,007,786 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 9.88 | 226.97 | 223.65 | 235.52 | 234.49 | 0.19 | 0.13 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 5,821,555 | 2,772,454 | 3,049,101 | 7,910,192 | 2,088,637 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 5.56 | 223.65 | 220.71 | 234.49 | 232.26 | 0.63 | 0.54 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 6,856,937 | 2,772,454 | 4,084,483 | 13,565,858 | 6,708,921 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 8.75 | 220.71 | 215.43 | 232.26 | 223.14 | 0.54 | 0.87 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 6,885,931 | 2,772,454 | 4,113,477 | 10,436,597 | 3,550,666 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 10.98 | 215.48 | 209.83 | 223.14 | 216 | 0.07 | -0.22 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 6,914,877 | 2,772,454 | 4,142,423 | 10,468,942 | 3,554,065 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 7.19 | 209.83 | 206.84 | 216 | 215.87 | 0.53 | 0.51 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 7,194,520 | 2,772,454 | 4,422,066 | 12,098,686 | 4,904,166 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 8.12 | 206.84 | 200.74 | 215.87 | 208.82 | 0.51 | 0.51 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 7,204,801 | 2,772,454 | 4,432,347 | 11,807,931 | 4,603,130 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 7.97 | 200.74 | 194.57 | 208.82 | 204.07 | 0.51 | 0.76 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 7,214,093 | 2,772,454 | 4,441,639 | 11,904,542 | 4,690,449 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 6.14 | 194.78 | 193.64 | 204.07 | 200.58 | 0.8 | 0.8 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 7,788,480 | 2,772,454 | 5,016,026 | 25,483,412 | 17,694,932 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 8.71 | 193.64 | 189.34 | 200.58 | 197 | 1.05 | -4.93 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 8,512,678 | 2,772,454 | 5,740,224 | 10,620,231 | 2,107,553 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.31 | 189.34 | 188.86 | 197 | 198.97 | -4.93 | -5.19 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 8,527,983 | 2,772,454 | 5,755,529 | 10,925,568 | 2,397,585 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.32 | 188.86 | 188.13 | 198.97 | 192.83 | -5.19 | -5.66 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 8,557,371 | 2,772,454 | 5,784,917 | 10,554,288 | 1,996,917 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.33 | 188.13 | 187.61 | 192.83 | 190 | -5.66 | -5.93 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 8,563,550 | 2,772,454 | 5,791,096 | 10,350,223 | 1,786,673 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.33 | 187.61 | 186.72 | 190 | 186.72 | -5.93 | -6.35 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 8,584,089 | 2,772,454 | 5,811,635 | 9,083,654 | 499,565 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 3.34 | 187.25 | 187.21 | 186.72 | 187.21 | -6.88 | -6.89 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 10,763,904 | 2,772,454 | 7,991,450 | 13,091,690 | 2,327,786 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.39 | 189.44 | 188.86 | 187.21 | 188.86 | -8.87 | -9.15 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 11,355,172 | 2,772,454 | 8,582,718 | 12,945,046 | 1,589,874 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.58 | 192.63 | 192.02 | 188.86 | 192.02 | -12.92 | -13.1 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 11,388,556 | 2,772,454 | 8,616,102 | 2,097,941 | -9,290,615 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 22.44 | 214.67 | 178.71 | 192.02 | 190.18 | -37.25 | -2.51 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 11,396,844 | 2,772,454 | 8,624,390 | 14,804,664 | 3,407,820 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.59 | 178.71 | 178.32 | 190.18 | 193.17 | -1.01 | -1.29 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 11,642,780 | 2,772,454 | 8,870,326 | 13,885,589 | 2,242,809 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.67 | 178.32 | 177.66 | 193.17 | 190 | -1.29 | -1.57 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 16,536,160 | 2,772,454 | 13,763,706 | 3,242,470 | -13,293,690 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 5.21 | 177.66 | 175.23 | 190 | 184 | -1.57 | 0.78 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 16,548,386 | 2,772,454 | 13,775,932 | 30,316,999 | 13,768,613 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 9.77 | 175.23 | 171.48 | 184 | 177.94 | 0.78 | -1.91 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 16,559,303 | 2,772,454 | 13,786,849 | 16,547,967 | -11,336 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 5.22 | 171.48 | 169.96 | 177.94 | 178.87 | -1.91 | 0.77 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 16,614,542 | 2,772,454 | 13,842,088 | 31,703,658 | 15,089,116 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 10.11 | 169.96 | 165.49 | 178.87 | 173.01 | 0.77 | -1.59 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 16,622,169 | 2,772,454 | 13,849,715 | 16,871,263 | 249,094 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 5.24 | 165.49 | 164.14 | 173.01 | 172.44 | -1.59 | -1.64 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 17,158,831 | 2,772,454 | 14,386,377 | 21,975,368 | 4,816,537 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.41 | 164.14 | 162.79 | 172.44 | 171 | -1.64 | -2.49 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 17,165,709 | 2,772,454 | 14,393,255 | 20,565,867 | 3,400,158 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 5.41 | 162.79 | 161.48 | 171 | 170.85 | -2.49 | -3.07 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 17,896,595 | 2,772,454 | 15,124,141 | 15,002,227 | -2,894,368 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 3.92 | 161.48 | 160.87 | 170.85 | 167.67 | -2.57 | -2.39 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 17,919,274 | 2,772,454 | 15,146,820 | 19,181,160 | 1,261,886 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.92 | 160.87 | 160.27 | 167.67 | 169.54 | -2.39 | -2.47 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 21,757,743 | 2,772,454 | 18,985,289 | 18,895,751 | -2,861,992 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 4.76 | 160.27 | 159.66 | 169.54 | 168.44 | -2.47 | -2.32 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 21,779,937 | 2,772,454 | 19,007,483 | 34,641,163 | 12,861,226 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.77 | 159.66 | 157.9 | 168.44 | 163.03 | -2.32 | -5.03 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 26,554,895 | 2,772,454 | 23,782,441 | 27,412,575 | 857,680 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 5.81 | 157.9 | 156.42 | 163.03 | 157.11 | -5.03 | -5.12 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 26,563,181 | 2,772,454 | 23,790,727 | 26,953,521 | 390,340 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 5.81 | 156.42 | 154.92 | 157.11 | 157 | -5.12 | -5.17 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 29,091,025 | 2,772,454 | 26,318,571 | 35,454,075 | 6,363,050 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 6.37 | 154.92 | 152.2 | 157 | 155.42 | -5.17 | -6.49 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 29,098,194 | 2,772,454 | 26,325,740 | 29,311,144 | 212,950 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 6.37 | 152.2 | 149.19 | 155.42 | 155.66 | -6.49 | -6.53 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 29,104,373 | 2,772,454 | 26,331,919 | 19,102,000 | -10,002,373 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 6.37 | 149.19 | 147.68 | 155.66 | 151 | -6.53 | -5.67 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 29,110,551 | 2,772,454 | 26,338,097 | 21,549,863 | -7,560,688 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 6.37 | 147.68 | 144.74 | 151 | 144.74 | -5.67 | -4.34 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 29,116,732 | 2,772,454 | 26,344,278 | 19,647,126 | -9,469,606 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 18.73 | 149.11 | 139.73 | 144.74 | 139.73 | -9.96 | -4.85 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 29,126,010 | 2,772,454 | 26,353,556 | 6,124,076 | -23,001,934 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 6.38 | 140.46 | 137.97 | 139.73 | 142.95 | -4.33 | -1.95 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 29,135,288 | 2,772,454 | 26,362,834 | 30,407,121 | 1,271,833 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 6.38 | 137.97 | 135.55 | 142.95 | 138 | -1.95 | -2.17 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 29,141,466 | 2,772,454 | 26,369,012 | 42,793,558 | 13,652,092 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.38 | 135.55 | 133.14 | 138 | 138 | -2.17 | -4.95 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 29,147,647 | 2,772,454 | 26,375,193 | 21,484,290 | -7,663,357 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 6.38 | 133.14 | 132.61 | 138 | 138 | -4.95 | -4.71 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 29,154,970 | 2,772,454 | 26,382,516 | 26,071,121 | -3,083,849 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 3.59 | 132.61 | 131.81 | 138 | 138 | -3.71 | -3.55 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 29,162,290 | 2,772,454 | 26,389,836 | 60,681,535 | 31,519,245 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 3.59 | 131.81 | 131.38 | 138 | 131.44 | -3.55 | -1.27 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 29,168,471 | 2,772,454 | 26,396,017 | 33,047,844 | 3,879,373 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 3.59 | 131.38 | 131.37 | 131.44 | 131.37 | -1.27 | -1.28 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 35,535,211 | 2,772,454 | 32,762,757 | 33,686,043 | -1,849,168 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 11.2 | 131.49 | 131.24 | 131.37 | 131.41 | -2.9 | -2.87 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 35,541,390 | 2,772,454 | 32,768,936 | 38,080,441 | 2,539,051 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 11.2 | 131.24 | 130.48 | 131.41 | 131.36 | -2.87 | -2.98 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 38,711,169 | 2,772,454 | 35,938,715 | 2,608,858 | -36,102,311 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 12.2 | 130.48 | 128.28 | 131.36 | 131 | -2.98 | -0.79 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 38,745,030 | 2,772,454 | 35,972,576 | 30,788,053 | -7,956,977 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 8.48 | 128.28 | 126.5 | 131 | 131 | -0.29 | 0.5 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 13 (City_ADWF_2015 CP_0.471 MGD)

| | | | | | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Link | ID | Link Name | US Node | DS Node | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 471,000 | 471,000 | 0 | 811,300 | 340,300 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 3.73 | 273.4 | 272.14 | 276 | 274.78 | 0.27 | 0.31 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 471,000 | 471,000 | 0 | 3,430,204 | 2,959,204 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 6.82 | 272.16 | 266 | 274.78 | 271.46 | 0.45 | 0.38 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 471,000 | 471,000 | 0 | 805,159 | 334,159 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 2.37 | 266 | 265.83 | 271.46 | 270.98 | 0.38 | 0.45 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 472,131 | 471,000 | 1,131 | 2,566,826 | 2,094,695 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 2.47 | 265.81 | 264.99 | 270.98 | 269.39 | 0.89 | 0.91 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 490,890 | 471,000 | 19,890 | 4,834,667 | 4,343,777 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 3.92 | 264.99 | 259.43 | 269.39 | 268.74 | 0.91 | 0.9 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 509,649 | 471,000 | 38,649 | 8,688,008 | 8,178,359 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 5.98 | 259.43 | 258.2 | 268.74 | 268.74 | 0.9 | 0.9 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 510,373 | 471,000 | 39,373 | 3,996,050 | 3,485,677 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 3.46 | 258.2 | 256.67 | 268.74 | 263.77 | 0.9 | 0.9 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 511,728 | 471,000 | 40,728 | 4,717,610 | 4,205,882 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 3.9 | 256.67 | 252.8 | 263.77 | 260.51 | 0.9 | 0.9 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 513,385 | 471,000 | 42,385 | 4,079,514 | 3,566,129 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 3.52 | 252.8 | 249.24 | 260.51 | 254.58 | 0.9 | 0.9 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 515,556 | 471,000 | 44,556 | 3,118,540 | 2,602,984 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 2.91 | 249.24 | 248.42 | 254.58 | 253.74 | 0.9 | 0.89 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 554,771 | 471,000 | 83,771 | 3,888,589 | 3,333,818 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 3.48 | 248.42 | 246.98 | 253.74 | 254.51 | 0.89 | 0.89 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 555,731 | 471,000 | 84,731 | 7,526,611 | 6,970,880 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 5.55 | 246.98 | 234.99 | 254.51 | 243 | 0.89 | 0.89 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 556,606 | 471,000 | 85,606 | 6,405,009 | 5,848,403 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 4.96 | 234.99 | 229.25 | 243 | 243 | 0.89 | 0.69 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 615,889 | 471,000 | 144,889 | 1,501,102 | 885,213 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 1.8 | 229.25 | 228.71 | 243 | 242 | 0.69 | 0.87 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 615,889 | 471,000 | 144,889 | 3,345,571 | 2,729,682 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 3.22 | 228.71 | 227.02 | 242 | 241.27 | 0.87 | 0.76 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 615,889 | 471,000 | 144,889 | 1,905,990 | 1,290,101 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.14 | 227.02 | 226.29 | 241.27 | 235.52 | 0.76 | 0.87 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 615,889 | 471,000 | 144,889 | 7,497,885 | 6,881,996 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 5.71 | 226.29 | 222.77 | 235.52 | 234.49 | 0.87 | 1.01 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 693,030 | 471,000 | 222,030 | 7,910,192 | 7,217,162 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 3.13 | 222.9 | 219.88 | 234.49 | 232.26 | 1.38 | 1.37 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 743,805 | 471,000 | 272,805 | 13,565,858 | 12,822,053 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 4.67 | 219.88 | 214.83 | 232.26 | 223.14 | 1.37 | 1.47 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 744,095 | 471,000 | 273,095 | 10,436,597 | 9,692,502 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 5.95 | 214.87 | 208.99 | 223.14 | 216 | 0.68 | 0.62 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 744,358 | 471,000 | 273,358 | 10,468,942 | 9,724,584 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 3.9 | 208.99 | 205.99 | 216 | 215.87 | 1.37 | 1.36 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 757,631 | 471,000 | 286,631 | 12,098,686 | 11,341,055 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 4.34 | 205.99 | 199.89 | 215.87 | 208.82 | 1.36 | 1.36 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 759,756 | 471,000 | 288,756 | 11,807,931 | 11,048,175 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 4.27 | 199.89 | 193.88 | 208.82 | 204.07 | 1.36 | 1.45 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 761,367 | 471,000 | 290,367 | 11,904,542 | 11,143,175 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 3.29 | 193.95 | 192.82 | 204.07 | 200.58 | 1.63 | 1.62 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 829,674 | 471,000 | 358,674 | 25,483,412 | 24,653,738 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 4.54 | 192.82 | 182.6 | 200.58 | 197 | 1.87 | 1.81 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 900,725 | 471,000 | 429,725 | 10,620,231 | 9,719,506 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 2.52 | 182.6 | 181.86 | 197 | 198.97 | 1.81 | 1.81 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 902,251 | 471,000 | 431,251 | 10,925,568 | 10,023,317 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 2.57 | 181.86 | 180.67 | 198.97 | 192.83 | 1.81 | 1.8 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 906,269 | 471,000 | 435,269 | 10,554,288 | 9,648,019 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 2.51 | 180.67 | 179.88 | 192.83 | 190 | 1.8 | 1.8 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 906,269 | 471,000 | 435,269 | 10,350,223 | 9,443,954 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 2.48 | 179.88 | 178.59 | 190 | 186.72 | 1.8 | 1.78 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 910,505 | 471,000 | 439,505 | 9,083,654 | 8,173,149 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 2.26 | 178.59 | 178.52 | 186.72 | 187.21 | 1.78 | 1.8 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 913,893 | 471,000 | 442,893 | 13,091,690 | 12,177,797 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.37 | 178.52 | 177.67 | 187.21 | 188.86 | 2.05 | 2.04 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 942,222 | 471,000 | 471,222 | 12,945,046 | 12,002,824 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.38 | 177.67 | 176.93 | 188.86 | 192.02 | 2.04 | 1.99 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 943,511 | 471,000 | 472,511 | 2,097,941 | 1,154,430 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.02 | 176.93 | 175.67 | 192.02 | 190.18 | 0.49 | 0.53 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 944,603 | 471,000 | 473,603 | 14,804,664 | 13,860,061 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 2.62 | 175.63 | 174.98 | 190.18 | 193.17 | 2.07 | 2.05 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 991,520 | 471,000 | 520,520 | 13,885,589 | 12,894,069 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 2.54 | 174.98 | 174.52 | 193.17 | 190 | 2.05 | 1.57 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 1,464,870 | 471,000 | 993,870 | 3,242,470 | 1,777,600 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1 | 174.52 | 174 | 190 | 184 | 1.57 | 2.01 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 1,468,001 | 471,000 | 997,001 | 30,316,999 | 28,848,998 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 4.93 | 174 | 169 | 184 | 177.94 | 2.01 | 0.57 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 1,470,454 | 471,000 | 999,454 | 16,547,967 | 15,077,513 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.46 | 169 | 168.72 | 177.94 | 178.87 | 0.57 | 2.01 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 1,479,860 | 471,000 | 1,008,860 | 31,703,658 | 30,223,798 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 5.1 | 168.72 | 161.9 | 178.87 | 173.01 | 2.01 | 2 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 1,480,610 | 471,000 | 1,009,610 | 16,871,263 | 15,390,653 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 3.27 | 161.9 | 160.51 | 173.01 | 172.44 | 2 | 1.99 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 1,595,000 | 471,000 | 1,124,000 | 21,975,368 | 20,380,368 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 4.03 | 160.51 | 158.31 | 172.44 | 171 | 1.99 | 1.99 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 1,595,361 | 471,000 | 1,124,361 | 20,565,867 | 18,970,506 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 3.85 | 158.31 | 156.57 | 171 | 170.85 | 1.99 | 1.84 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 1,616,028 | 471,000 | 1,145,028 | 15,002,227 | 13,386,199 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.15 | 156.57 | 156.07 | 170.85 | 167.67 | 2.34 | 2.41 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 1,618,172 | 471,000 | 1,147,172 | 19,181,160 | 17,562,988 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 2.55 | 156.07 | 155.41 | 167.67 | 169.54 | 2.41 | 2.39 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 1,709,639 | 471,000 | 1,238,639 | 18,895,751 | 17,186,112 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 2.57 | 155.41 | 154.85 | 169.54 | 168.44 | 2.39 | 2.49 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 1,711,533 | 471,000 | 1,240,533 | 34,641,163 | 32,929,630 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 3.94 | 154.85 | 150.44 | 168.44 | 163.03 | 2.49 | 2.43 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 2,179,036 | 471,000 | 1,708,036 | 27,412,575 | 25,233,539 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 3.59 | 150.44 | 148.88 | 163.03 | 157.11 | 2.43 | 2.42 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 2,180,127 | 471,000 | 1,709,127 | 26,953,521 | 24,773,394 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 3.54 | 148.88 | 147.39 | 157.11 | 157 | 2.42 | 2.36 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 2,739,379 | 471,000 | 2,268,379 | 35,454,075 | 32,714,696 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 4.6 | 147.39 | 143.35 | 157 | 155.42 | 2.36 | 2.36 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 2,739,892 | 471,000 | 2,268,892 | 29,311,144 | 26,571,252 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 4.02 | 143.35 | 140.43 | 155.42 | 155.66 | 2.36 | 2.23 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 2,739,892 | 471,000 | 2,268,892 | 19,102,000 | 16,362,108 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 2.97 | 140.43 | 139.73 | 155.66 | 151 | 2.23 | 2.28 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 2,739,892 | 471,000 | 2,268,892 | 21,549,863 | 18,809,971 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.23 | 139.73 | 138.15 | 151 | 144.74 | 2.28 | 2.25 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 2,739,892 | 471,000 | 2,268,892 | 19,647,126 | 16,907,234 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 8.9 | 138.15 | 134.28 | 144.74 | 139.73 | 1 | 0.6 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 2,741,497 | 471,000 | 2,270,497 | 6,124,076 | 3,382,579 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.3 | 134.28 | 133.66 | 139.73 | 142.95 | 1.85 | 2.36 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 2,743,102 | 471,000 | 2,272,102 | 30,407,121 | 27,664,019 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.13 | 133.66 | 130.99 | 142.95 | 138 | 2.36 | 2.39 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 2,743,102 | 471,000 | 2,272,102 | 42,793,558 | 40,050,456 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 5.26 | 131.02 | 127.26 | 138 | 138 | 2.36 | 0.93 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 2,743,102 | 471,000 | 2,272,102 | 21,484,290 | 18,741,188 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 3.23 | 127.26 | 127.26 | 138 | 138 | 0.93 | 0.64 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 2,743,694 | 471,000 | 2,272,694 | 26,071,121 | 23,327,427 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.08 | 127.26 | 127.25 | 138 | 138 | 1.64 | 1.01 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 2,744,286 | 471,000 | 2,273,286 | 60,681,535 | 57,937,249 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.34 | 127.25 | 127.18 | 138 | 131.44 | 1.01 | 2.93 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 2,744,286 | 471,000 | 2,273,286 | 33,047,844 | 30,303,558 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 2.46 | 127.18 | 127.18 | 131.44 | 131.37 | 2.93 | 2.91 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 6,854,495 | 471,000 | 6,383,495 | 33,686,043 | 26,831,548 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 8.33 | 127.18 | 126.75 | 131.37 | 131.41 | 1.41 | 1.62 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 6,854,495 | 471,000 | 6,383,495 | 38,080,441 | 31,225,946 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.1 | 126.96 | 126.86 | 131.41 | 131.36 | 1.41 | 0.64 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 10,024,273 | 471,000 | 9,553,273 | 2,608,858 | -7,415,415 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.16 | 126.86 | 126.32 | 131.36 | 131 | 0.64 | 1.17 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 10,029,008 | 471,000 | 9,558,008 | 30,788,053 | 20,759,045 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.02 | 126.25 | 125.18 | 131 | 131 | 1.74 | 1.82 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 14 (City_PDWF_2015 CP_1.2 MGD)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 1,200,000 | 1,200,000 | 0 | 811,300 | -388,700 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 5.32 | 275.09 | 272.4 | 276 | 274.78 | -1.42 | 0.05 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 1,200,000 | 1,200,000 | 0 | 3,430,204 | 2,230,204 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 8.86 | 272.39 | 266.38 | 274.78 | 271.46 | 0.22 | 0 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 1,200,000 | 1,200,000 | 0 | 805,159 | -394,841 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 3.4 | 266.38 | 266.06 | 271.46 | 270.98 | 0 | 0.22 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 1,202,078 | 1,200,000 | 2,078 | 2,566,826 | 1,364,748 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.18 | 266.05 | 265.2 | 270.98 | 269.39 | 0.65 | 0.7 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 1,236,526 | 1,200,000 | 36,526 | 4,834,667 | 3,598,141 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 5.1 | 265.2 | 259.64 | 269.39 | 268.74 | 0.7 | 0.69 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 1,270,975 | 1,200,000 | 70,975 | 8,688,008 | 7,417,033 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 7.82 | 259.64 | 258.41 | 268.74 | 268.74 | 0.69 | 0.69 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 1,272,304 | 1,200,000 | 72,304 | 3,996,050 | 2,723,746 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 4.47 | 258.41 | 256.88 | 268.74 | 263.77 | 0.69 | 0.69 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 1,274,792 | 1,200,000 | 74,792 | 4,717,610 | 3,442,818 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 5.05 | 256.88 | 253.01 | 263.77 | 260.51 | 0.69 | 0.69 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 1,277,836 | 1,200,000 | 77,836 | 4,079,514 | 2,801,678 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 4.55 | 253.01 | 249.45 | 260.51 | 254.58 | 0.69 | 0.69 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 1,281,822 | 1,200,000 | 81,822 | 3,118,540 | 1,836,718 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 3.74 | 249.45 | 248.64 | 254.58 | 253.74 | 0.69 | 0.67 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 1,353,836 | 1,200,000 | 153,836 | 3,888,589 | 2,534,753 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 4.46 | 248.64 | 247.2 | 253.74 | 254.51 | 0.67 | 0.67 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 1,355,599 | 1,200,000 | 155,599 | 7,526,611 | 6,171,012 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 7.19 | 247.2 | 235.21 | 254.51 | 243 | 0.67 | 0.67 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 1,357,206 | 1,200,000 | 157,206 | 6,405,009 | 5,047,803 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 6.41 | 235.21 | 229.63 | 243 | 243 | 0.67 | 0.31 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 1,466,072 | 1,200,000 | 266,072 | 1,501,102 | 35,030 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 2.16 | 229.63 | 228.93 | 243 | 242 | 0.31 | 0.65 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 1,466,072 | 1,200,000 | 266,072 | 3,345,571 | 1,879,499 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 4.08 | 228.93 | 227.35 | 242 | 241.27 | 0.65 | 0.43 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 1,466,072 | 1,200,000 | 266,072 | 1,905,990 | 439,918 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.65 | 227.35 | 226.51 | 241.27 | 235.52 | 0.43 | 0.65 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 1,466,072 | 1,200,000 | 266,072 | 7,497,885 | 6,031,813 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 7.33 | 226.51 | 222.9 | 235.52 | 234.49 | 0.65 | 0.88 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 1,613,667 | 1,200,000 | 413,667 | 7,910,192 | 6,296,525 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 4 | 223.1 | 220.09 | 234.49 | 232.26 | 1.18 | 1.16 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 1,706,707 | 1,200,000 | 506,707 | 13,565,858 | 11,859,151 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 5.97 | 220.09 | 214.97 | 232.26 | 223.14 | 1.16 | 1.33 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 1,707,238 | 1,200,000 | 507,238 | 10,436,597 | 8,729,359 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 7.58 | 215.04 | 209.2 | 223.14 | 216 | 0.51 | 0.41 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 1,707,721 | 1,200,000 | 507,721 | 10,468,942 | 8,761,221 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 4.96 | 209.2 | 206.19 | 216 | 215.87 | 1.16 | 1.16 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 1,733,230 | 1,200,000 | 533,230 | 12,098,686 | 10,365,456 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 5.52 | 206.19 | 200.09 | 215.87 | 208.82 | 1.16 | 1.16 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 1,737,333 | 1,200,000 | 537,333 | 11,807,931 | 10,070,598 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 5.43 | 200.09 | 194.03 | 208.82 | 204.07 | 1.16 | 1.3 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 1,740,446 | 1,200,000 | 540,446 | 11,904,542 | 10,164,096 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 4.19 | 194.15 | 193.01 | 204.07 | 200.58 | 1.43 | 1.43 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 1,872,458 | 1,200,000 | 672,458 | 25,483,412 | 23,610,954 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 5.79 | 193.01 | 182.82 | 200.58 | 197 | 1.68 | 1.59 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 1,999,413 | 1,200,000 | 799,413 | 10,620,231 | 8,620,818 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.17 | 182.82 | 182.07 | 197 | 198.97 | 1.59 | 1.6 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 2,002,360 | 1,200,000 | 802,360 | 10,925,568 | 8,923,208 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.24 | 182.07 | 180.89 | 198.97 | 192.83 | 1.6 | 1.58 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 2,010,122 | 1,200,000 | 810,122 | 10,554,288 | 8,544,166 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.16 | 180.89 | 180.1 | 192.83 | 190 | 1.58 | 1.58 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 2,010,122 | 1,200,000 | 810,122 | 10,350,223 | 8,340,101 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.12 | 180.1 | 178.81 | 190 | 186.72 | 1.58 | 1.56 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 2,018,302 | 1,200,000 | 818,302 | 9,083,654 | 7,065,352 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 2.84 | 178.81 | 178.73 | 186.72 | 187.21 | 1.56 | 1.59 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 2,024,844 | 1,200,000 | 824,844 | 13,091,690 | 11,066,846 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.99 | 178.73 | 177.89 | 187.21 | 188.86 | 1.84 | 1.82 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 2,080,144 | 1,200,000 | 880,144 | 12,945,046 | 10,864,902 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.99 | 177.89 | 177.23 | 188.86 | 192.02 | 1.82 | 1.69 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 2,082,634 | 1,200,000 | 882,634 | 2,097,941 | 15,307 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.71 | 177.23 | 175.97 | 192.02 | 190.18 | 0.19 | 0.23 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 2,084,742 | 1,200,000 | 884,742 | 14,804,664 | 12,719,922 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.3 | 175.83 | 175.2 | 190.18 | 193.17 | 1.87 | 1.83 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 2,176,464 | 1,200,000 | 976,464 | 13,885,589 | 11,709,125 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.19 | 175.2 | 174.91 | 193.17 | 190 | 1.83 | 1.18 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 3,052,584 | 1,200,000 | 1,852,584 | 3,242,470 | 189,886 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1.16 | 174.91 | 174.23 | 190 | 184 | 1.18 | 1.78 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 3,058,630 | 1,200,000 | 1,858,630 | 30,316,999 | 27,258,369 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 6.13 | 174.23 | 169.35 | 184 | 177.94 | 1.78 | 0.22 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 3,063,369 | 1,200,000 | 1,863,369 | 16,547,967 | 13,484,598 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.97 | 169.35 | 168.95 | 177.94 | 178.87 | 0.22 | 1.78 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 3,081,534 | 1,200,000 | 1,881,534 | 31,703,658 | 28,622,124 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 6.34 | 168.95 | 162.12 | 178.87 | 173.01 | 1.78 | 1.78 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 3,082,982 | 1,200,000 | 1,882,982 | 16,871,263 | 13,788,281 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 4.05 | 162.12 | 160.75 | 173.01 | 172.44 | 1.78 | 1.75 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 3,315,472 | 1,200,000 | 2,115,472 | 21,975,368 | 18,659,896 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 4.99 | 160.75 | 158.55 | 172.44 | 171 | 1.75 | 1.75 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 3,316,171 | 1,200,000 | 2,116,171 | 20,565,867 | 17,249,696 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 4.76 | 158.55 | 156.87 | 171 | 170.85 | 1.75 | 1.54 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 3,356,037 | 1,200,000 | 2,156,037 | 15,002,227 | 11,646,190 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.65 | 156.87 | 156.33 | 170.85 | 167.67 | 2.04 | 2.15 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 3,360,178 | 1,200,000 | 2,160,178 | 19,181,160 | 15,820,982 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.16 | 156.33 | 155.68 | 167.67 | 169.54 | 2.15 | 2.12 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 3,524,888 | 1,200,000 | 2,324,888 | 18,895,751 | 15,370,863 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 3.17 | 155.68 | 155.07 | 169.54 | 168.44 | 2.12 | 2.27 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 3,528,546 | 1,200,000 | 2,328,546 | 34,641,163 | 31,112,617 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.88 | 155.07 | 150.69 | 168.44 | 163.03 | 2.27 | 2.18 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 4,387,440 | 1,200,000 | 3,187,440 | 27,412,575 | 23,025,135 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 4.4 | 150.69 | 149.12 | 163.03 | 157.11 | 2.18 | 2.18 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 4,389,549 | 1,200,000 | 3,189,549 | 26,953,521 | 22,563,972 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 4.34 | 149.12 | 147.63 | 157.11 | 157 | 2.18 | 2.12 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 5,091,134 | 1,200,000 | 3,891,134 | 35,454,075 | 30,362,941 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 5.51 | 147.63 | 143.59 | 157 | 155.42 | 2.12 | 2.12 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 5,092,125 | 1,200,000 | 3,892,125 | 29,311,144 | 24,219,019 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 4.81 | 143.59 | 140.72 | 155.42 | 155.66 | 2.12 | 1.94 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 5,092,125 | 1,200,000 | 3,892,125 | 19,102,000 | 14,009,875 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.54 | 140.72 | 140 | 155.66 | 151 | 1.94 | 2.01 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 5,092,125 | 1,200,000 | 3,892,125 | 21,549,863 | 16,457,738 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.86 | 140 | 138.44 | 151 | 144.74 | 2.01 | 1.96 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 5,092,125 | 1,200,000 | 3,892,125 | 19,647,126 | 14,555,001 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 10.61 | 138.44 | 134.67 | 144.74 | 139.73 | 0.71 | 0.21 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 5,095,224 | 1,200,000 | 3,895,224 | 6,124,076 | 1,028,852 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.5 | 134.67 | 133.91 | 139.73 | 142.95 | 1.46 | 2.11 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 5,098,323 | 1,200,000 | 3,898,323 | 30,407,121 | 25,308,798 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.94 | 133.91 | 131.21 | 142.95 | 138 | 2.11 | 2.17 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 5,098,323 | 1,200,000 | 3,898,323 | 42,793,558 | 37,695,235 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.3 | 131.27 | 127.56 | 138 | 138 | 2.11 | 0.63 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 5,098,323 | 1,200,000 | 3,898,323 | 21,484,290 | 16,385,967 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 3.85 | 127.56 | 127.55 | 138 | 138 | 0.63 | 0.35 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 5,099,467 | 1,200,000 | 3,899,467 | 26,071,121 | 20,971,654 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.49 | 127.55 | 127.52 | 138 | 138 | 1.35 | 0.74 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 5,100,610 | 1,200,000 | 3,900,610 | 60,681,535 | 55,580,925 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.63 | 127.52 | 127.38 | 138 | 131.44 | 0.74 | 2.73 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 5,100,610 | 1,200,000 | 3,900,610 | 33,047,844 | 27,947,234 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 2.95 | 127.38 | 127.38 | 131.44 | 131.37 | 2.73 | 2.71 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 9,412,470 | 1,200,000 | 8,212,470 | 33,686,043 | 24,273,573 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 9.1 | 127.38 | 126.92 | 131.37 | 131.41 | 1.21 | 1.45 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 9,412,470 | 1,200,000 | 8,212,470 | 38,080,441 | 28,667,971 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.95 | 127.16 | 127.1 | 131.41 | 131.36 | 1.21 | 0.4 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 12,582,248 | 1,200,000 | 11,382,248 | 2,608,858 | -9,973,390 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.97 | 127.1 | 126.49 | 131.36 | 131 | 0.4 | 1 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 12,591,394 | 1,200,000 | 11,391,394 | 30,788,053 | 18,196,659 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.4 | 126.41 | 125.34 | 131 | 131 | 1.58 | 1.66 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 15 (City_PWWF_2015 CP_1.2 MGD)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 2,768,944 | 2,768,944 | 0 | 811,300 | -1,957,644 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 12.27 | 286.8 | 272.59 | 276 | 274.78 | -13.13 | -0.14 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 2,797,406 | 2,768,944 | 28,462 | 3,430,204 | 632,798 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 10.85 | 272.59 | 267.89 | 274.78 | 271.46 | 0.02 | -1.51 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 2,825,869 | 2,768,944 | 56,925 | 805,159 | -2,020,710 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 8.02 | 267.89 | 266.66 | 271.46 | 270.98 | -1.51 | -0.38 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 2,941,795 | 2,768,944 | 172,851 | 2,566,826 | -374,969 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.71 | 266.66 | 265.52 | 270.98 | 269.39 | 0.04 | 0.38 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 3,004,706 | 2,768,944 | 235,762 | 4,834,667 | 1,829,961 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 6.42 | 265.52 | 259.96 | 269.39 | 268.74 | 0.38 | 0.37 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 3,067,617 | 2,768,944 | 298,673 | 8,688,008 | 5,620,391 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 10 | 259.96 | 258.74 | 268.74 | 268.74 | 0.37 | 0.36 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 3,097,408 | 2,768,944 | 328,464 | 3,996,050 | 898,642 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 5.56 | 258.74 | 257.21 | 268.74 | 263.77 | 0.36 | 0.36 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 3,128,358 | 2,768,944 | 359,414 | 4,717,610 | 1,589,252 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 6.36 | 257.21 | 253.35 | 263.77 | 260.51 | 0.36 | 0.35 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 3,159,864 | 2,768,944 | 390,920 | 4,079,514 | 919,650 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 5.68 | 253.35 | 249.94 | 260.51 | 254.58 | 0.35 | 0.2 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 3,192,312 | 2,768,944 | 423,368 | 3,118,540 | -73,772 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 4.48 | 249.94 | 249.13 | 254.58 | 253.74 | 0.2 | 0.18 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 4,032,806 | 2,768,944 | 1,263,862 | 3,888,589 | -144,217 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 5.57 | 249.13 | 247.63 | 253.74 | 254.51 | 0.18 | 0.24 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 4,063,032 | 2,768,944 | 1,294,088 | 7,526,611 | 3,463,579 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 9.67 | 247.63 | 239.14 | 254.51 | 243 | 0.24 | -3.26 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 4,093,100 | 2,768,944 | 1,324,156 | 6,405,009 | 2,311,909 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 5.16 | 239.14 | 236.71 | 243 | 243 | -3.26 | -6.77 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 4,401,202 | 2,768,944 | 1,632,258 | 1,501,102 | -2,900,100 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 5.55 | 236.71 | 233.62 | 243 | 242 | -6.77 | -4.04 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 4,429,664 | 2,768,944 | 1,660,720 | 3,345,571 | -1,084,093 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 5.58 | 233.62 | 230.46 | 242 | 241.27 | -4.04 | -2.68 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 4,458,127 | 2,768,944 | 1,689,183 | 1,905,990 | -2,552,137 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 5.62 | 230.46 | 226.97 | 241.27 | 235.52 | -2.68 | 0.19 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 4,486,589 | 2,768,944 | 1,717,645 | 7,497,885 | 3,011,296 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 9.87 | 226.97 | 223.65 | 235.52 | 234.49 | 0.19 | 0.13 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 5,818,046 | 2,768,944 | 3,049,102 | 7,910,192 | 2,092,146 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 5.56 | 223.65 | 220.71 | 234.49 | 232.26 | 0.63 | 0.54 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 6,853,428 | 2,768,944 | 4,084,484 | 13,565,858 | 6,712,430 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 8.75 | 220.71 | 215.43 | 232.26 | 223.14 | 0.54 | 0.87 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 6,882,421 | 2,768,944 | 4,113,477 | 10,436,597 | 3,554,176 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 10.98 | 215.48 | 209.83 | 223.14 | 216 | 0.07 | -0.22 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 6,911,366 | 2,768,944 | 4,142,422 | 10,468,942 | 3,557,576 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 7.19 | 209.83 | 206.84 | 216 | 215.87 | 0.53 | 0.51 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 7,191,009 | 2,768,944 | 4,422,065 | 12,098,686 | 4,907,677 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 8.12 | 206.84 | 200.74 | 215.87 | 208.82 | 0.51 | 0.51 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 7,201,292 | 2,768,944 | 4,432,348 | 11,807,931 | 4,606,639 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 7.97 | 200.74 | 194.57 | 208.82 | 204.07 | 0.51 | 0.76 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 7,210,583 | 2,768,944 | 4,441,639 | 11,904,542 | 4,693,959 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 6.14 | 194.78 | 193.64 | 204.07 | 200.58 | 0.8 | 0.8 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 7,784,970 | 2,768,944 | 5,016,026 | 25,483,412 | 17,698,442 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 8.71 | 193.64 | 189.34 | 200.58 | 197 | 1.05 | -4.93 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 8,509,168 | 2,768,944 | 5,740,224 | 10,620,231 | 2,111,063 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.31 | 189.34 | 188.86 | 197 | 198.97 | -4.93 | -5.19 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 8,524,473 | 2,768,944 | 5,755,529 | 10,925,568 | 2,401,095 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.32 | 188.86 | 188.13 | 198.97 | 192.83 | -5.19 | -5.66 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 8,553,861 | 2,768,944 | 5,784,917 | 10,554,288 | 2,000,427 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.33 | 188.13 | 187.61 | 192.83 | 190 | -5.66 | -5.93 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 8,560,040 | 2,768,944 | 5,791,096 | 10,350,223 | 1,790,183 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.33 | 187.61 | 186.72 | 190 | 186.72 | -5.93 | -6.35 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 8,580,579 | 2,768,944 | 5,811,635 | 9,083,654 | 503,075 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 3.34 | 187.25 | 187.21 | 186.72 | 187.21 | -6.88 | -6.89 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 10,760,394 | 2,768,944 | 7,991,450 | 13,091,690 | 2,331,296 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.39 | 189.44 | 188.86 | 187.21 | 188.86 | -8.87 | -9.15 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 11,351,662 | 2,768,944 | 8,582,718 | 12,945,046 | 1,593,384 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.58 | 192.63 | 192.02 | 188.86 | 192.02 | -12.92 | -13.1 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 11,385,047 | 2,768,944 | 8,616,103 | 2,097,941 | -9,287,106 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 22.43 | 214.64 | 178.71 | 192.02 | 190.18 | -37.22 | -2.51 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 11,393,334 | 2,768,944 | 8,624,390 | 14,804,664 | 3,411,330 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.59 | 178.71 | 178.32 | 190.18 | 193.17 | -1.01 | -1.29 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 11,639,271 | 2,768,944 | 8,870,327 | 13,885,589 | 2,246,318 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.67 | 178.32 | 177.66 | 193.17 | 190 | -1.29 | -1.57 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 16,532,650 | 2,768,944 | 13,763,706 | 3,242,470 | -13,290,180 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 5.21 | 177.66 | 175.23 | 190 | 184 | -1.57 | 0.78 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 16,544,875 | 2,768,944 | 13,775,931 | 30,316,999 | 13,772,124 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 9.77 | 175.23 | 171.48 | 184 | 177.94 | 0.78 | -1.91 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 16,555,792 | 2,768,944 | 13,786,848 | 16,547,967 | -7,825 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 5.22 | 171.48 | 169.96 | 177.94 | 178.87 | -1.91 | 0.77 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 16,611,032 | 2,768,944 | 13,842,088 | 31,703,658 | 15,092,626 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 10.11 | 169.96 | 165.49 | 178.87 | 173.01 | 0.77 | -1.59 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 16,618,659 | 2,768,944 | 13,849,715 | 16,871,263 | 252,604 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 5.24 | 165.49 | 164.13 | 173.01 | 172.44 | -1.59 | -1.63 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 17,155,321 | 2,768,944 | 14,386,377 | 21,975,368 | 4,820,047 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.41 | 164.13 | 162.79 | 172.44 | 171 | -1.63 | -2.49 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 17,162,199 | 2,768,944 | 14,393,255 | 20,565,867 | 3,403,668 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 5.41 | 162.79 | 161.47 | 171 | 170.85 | -2.49 | -3.06 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 17,893,085 | 2,768,944 | 15,124,141 | 15,002,227 | -2,890,858 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 3.92 | 161.47 | 160.86 | 170.85 | 167.67 | -2.56 | -2.38 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 17,915,763 | 2,768,944 | 15,146,819 | 19,181,160 | 1,265,397 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.92 | 160.86 | 160.27 | 167.67 | 169.54 | -2.38 | -2.47 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 21,754,232 | 2,768,944 | 18,985,288 | 18,895,751 | -2,858,481 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 4.76 | 160.27 | 159.66 | 169.54 | 168.44 | -2.47 | -2.32 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 21,776,426 | 2,768,944 | 19,007,482 | 34,641,163 | 12,864,737 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.77 | 159.66 | 157.89 | 168.44 | 163.03 | -2.32 | -5.02 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 26,551,384 | 2,768,944 | 23,782,440 | 27,412,575 | 861,191 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 5.81 | 157.89 | 156.42 | 163.03 | 157.11 | -5.02 | -5.12 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 26,559,670 | 2,768,944 | 23,790,726 | 26,953,521 | 393,851 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 5.81 | 156.42 | 154.91 | 157.11 | 157 | -5.12 | -5.16 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 29,087,514 | 2,768,944 | 26,318,570 | 35,454,075 | 6,366,561 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 6.37 | 154.91 | 152.2 | 157 | 155.42 | -5.16 | -6.49 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 29,094,683 | 2,768,944 | 26,325,739 | 29,311,144 | 216,461 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 6.37 | 152.2 | 149.19 | 155.42 | 155.66 | -6.49 | -6.53 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 29,100,864 | 2,768,944 | 26,331,920 | 19,102,000 | -9,998,864 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 6.37 | 149.19 | 147.68 | 155.66 | 151 | -6.53 | -5.67 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 29,107,043 | 2,768,944 | 26,338,099 | 21,549,863 | -7,557,180 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 6.37 | 147.68 | 144.74 | 151 | 144.74 | -5.67 | -4.34 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 29,113,222 | 2,768,944 | 26,344,278 | 19,647,126 | -9,466,096 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 18.73 | 149.11 | 139.73 | 144.74 | 139.73 | -9.96 | -4.85 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 29,122,499 | 2,768,944 | 26,353,555 | 6,124,076 | -22,998,423 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 6.37 | 140.46 | 137.97 | 139.73 | 142.95 | -4.33 | -1.95 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 29,131,779 | 2,768,944 | 26,362,835 | 30,407,121 | 1,275,342 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 6.38 | 137.97 | 135.55 | 142.95 | 138 | -1.95 | -2.17 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 29,137,958 | 2,768,944 | 26,369,014 | 42,793,558 | 13,655,600 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.38 | 135.55 | 133.14 | 138 | 138 | -2.17 | -4.95 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 29,144,136 | 2,768,944 | 26,375,192 | 21,484,290 | -7,659,846 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 6.38 | 133.14 | 132.61 | 138 | 138 | -4.95 | -4.71 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 29,151,459 | 2,768,944 | 26,382,515 | 26,071,121 | -3,080,338 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 3.59 | 132.61 | 131.81 | 138 | 138 | -3.71 | -3.55 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 29,158,782 | 2,768,944 | 26,389,838 | 60,681,535 | 31,522,753 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 3.59 | 131.81 | 131.38 | 138 | 131.44 | -3.55 | -1.27 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 29,164,960 | 2,768,944 | 26,396,016 | 33,047,844 | 3,882,884 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 3.59 | 131.38 | 131.37 | 131.44 | 131.37 | -1.27 | -1.28 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 35,531,703 | 2,768,944 | 32,762,759 | 33,686,043 | -1,845,660 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 11.2 | 131.48 | 131.24 | 131.37 | 131.41 | -2.89 | -2.87 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 35,537,882 | 2,768,944 | 32,768,938 | 38,080,441 | 2,542,559 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 11.2 | 131.24 | 130.48 | 131.41 | 131.36 | -2.87 | -2.98 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 38,707,658 | 2,768,944 | 35,938,714 | 2,608,858 | -36,098,800 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 12.2 | 130.48 | 128.28 | 131.36 | 131 | -2.98 | -0.79 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 38,741,522 | 2,768,944 | 35,972,578 | 30,788,053 | -7,953,469 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 8.48 | 128.28 | 126.5 | 131 | 131 | -0.29 | 0.5 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 16 (City_ADWF_2035 CP_2025_Likely)

| | | | | | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Link | ID | Link Name | US Node | DS Node | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 293,268 | 293,268 | 0 | 811,300 | 518,032 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 3.31 | 273.31 | 272.1 | 276 | 274.78 | 0.36 | 0.35 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 348,268 | 293,268 | 55,000 | 3,430,204 | 3,081,936 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 6.25 | 272.1 | 265.93 | 274.78 | 271.46 | 0.51 | 0.45 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 348,268 | 293,268 | 55,000 | 805,159 | 456,891 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 2.2 | 265.93 | 265.77 | 271.46 | 270.98 | 0.45 | 0.51 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 350,443 | 293,268 | 57,175 | 2,566,826 | 2,216,383 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 2.27 | 265.76 | 264.94 | 270.98 | 269.39 | 0.94 | 0.96 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 369,215 | 293,268 | 75,947 | 4,834,667 | 4,465,452 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 3.6 | 264.94 | 259.38 | 269.39 | 268.74 | 0.96 | 0.95 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 387,987 | 293,268 | 94,719 | 8,688,008 | 8,300,021 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 5.52 | 259.38 | 258.15 | 268.74 | 268.74 | 0.95 | 0.95 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 388,711 | 293,268 | 95,443 | 3,996,050 | 3,607,339 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 3.2 | 258.15 | 256.62 | 268.74 | 263.77 | 0.95 | 0.95 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 390,066 | 293,268 | 96,798 | 4,717,610 | 4,327,544 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 3.6 | 256.62 | 252.75 | 263.77 | 260.51 | 0.95 | 0.95 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 391,723 | 293,268 | 98,455 | 4,079,514 | 3,687,791 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 3.25 | 252.75 | 249.19 | 260.51 | 254.58 | 0.95 | 0.95 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 393,894 | 293,268 | 100,626 | 3,118,540 | 2,724,646 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 2.69 | 249.19 | 248.38 | 254.58 | 253.74 | 0.95 | 0.93 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 434,234 | 293,268 | 140,966 | 3,888,589 | 3,454,355 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 3.24 | 248.38 | 246.94 | 253.74 | 254.51 | 0.93 | 0.93 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 435,680 | 293,268 | 142,412 | 7,526,611 | 7,090,931 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 5.16 | 246.94 | 234.95 | 254.51 | 243 | 0.93 | 0.93 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 437,041 | 293,268 | 143,773 | 6,405,009 | 5,967,968 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 4.62 | 234.95 | 229.18 | 243 | 243 | 0.93 | 0.76 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 496,324 | 293,268 | 203,056 | 1,501,102 | 1,004,778 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 1.7 | 229.18 | 228.67 | 243 | 242 | 0.76 | 0.91 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 496,324 | 293,268 | 203,056 | 3,345,571 | 2,849,247 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 3.02 | 228.67 | 226.97 | 242 | 241.27 | 0.91 | 0.81 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 496,324 | 293,268 | 203,056 | 1,905,990 | 1,409,666 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.02 | 226.97 | 226.25 | 241.27 | 235.52 | 0.81 | 0.91 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 496,324 | 293,268 | 203,056 | 7,497,885 | 7,001,561 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 5.36 | 226.25 | 222.75 | 235.52 | 234.49 | 0.91 | 1.03 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 575,635 | 293,268 | 282,367 | 7,910,192 | 7,334,557 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 2.96 | 222.87 | 219.85 | 234.49 | 232.26 | 1.41 | 1.4 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 629,159 | 293,268 | 335,891 | 13,565,858 | 12,936,699 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 4.45 | 219.85 | 214.81 | 232.26 | 223.14 | 1.4 | 1.49 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 629,524 | 293,268 | 336,256 | 10,436,597 | 9,807,073 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 5.67 | 214.84 | 208.96 | 223.14 | 216 | 0.71 | 0.65 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 629,787 | 293,268 | 336,519 | 10,468,942 | 9,839,155 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 3.71 | 208.96 | 205.96 | 216 | 215.87 | 1.4 | 1.39 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 643,168 | 293,268 | 349,900 | 12,098,686 | 11,455,518 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 4.13 | 205.96 | 199.86 | 215.87 | 208.82 | 1.39 | 1.39 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 645,292 | 293,268 | 352,024 | 11,807,931 | 11,162,639 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 4.06 | 199.86 | 193.86 | 208.82 | 204.07 | 1.39 | 1.47 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 646,904 | 293,268 | 353,636 | 11,904,542 | 11,257,638 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 3.13 | 193.92 | 192.79 | 204.07 | 200.58 | 1.66 | 1.65 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 719,241 | 293,268 | 425,973 | 25,483,412 | 24,764,171 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 4.35 | 192.79 | 182.58 | 200.58 | 197 | 1.9 | 1.83 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 792,020 | 293,268 | 498,752 | 10,620,231 | 9,828,211 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 2.42 | 182.58 | 181.83 | 197 | 198.97 | 1.83 | 1.84 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 793,546 | 293,268 | 500,278 | 10,925,568 | 10,132,022 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 2.48 | 181.83 | 180.64 | 198.97 | 192.83 | 1.84 | 1.83 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 797,757 | 293,268 | 504,489 | 10,554,288 | 9,756,531 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 2.42 | 180.64 | 179.85 | 192.83 | 190 | 1.83 | 1.83 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 797,992 | 293,268 | 504,724 | 10,350,223 | 9,552,231 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 2.39 | 179.85 | 178.56 | 190 | 186.72 | 1.83 | 1.81 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 803,252 | 293,268 | 509,984 | 9,083,654 | 8,280,402 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 2.18 | 178.56 | 178.49 | 186.72 | 187.21 | 1.81 | 1.83 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 806,819 | 293,268 | 513,551 | 13,091,690 | 12,284,871 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.29 | 178.49 | 177.64 | 187.21 | 188.86 | 2.08 | 2.07 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 842,952 | 293,268 | 549,684 | 12,945,046 | 12,102,094 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.3 | 177.64 | 176.9 | 188.86 | 192.02 | 2.07 | 2.02 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 847,683 | 293,268 | 554,415 | 2,097,941 | 1,250,258 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 3.91 | 176.9 | 175.64 | 192.02 | 190.18 | 0.52 | 0.56 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 849,058 | 293,268 | 555,790 | 14,804,664 | 13,955,606 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 2.53 | 175.61 | 174.96 | 190.18 | 193.17 | 2.09 | 2.07 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 901,247 | 293,268 | 607,979 | 13,885,589 | 12,984,342 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 2.47 | 174.96 | 174.52 | 193.17 | 190 | 2.07 | 1.57 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 1,465,792 | 293,268 | 1,172,524 | 3,242,470 | 1,776,678 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1 | 174.52 | 174 | 190 | 184 | 1.57 | 2.01 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 1,468,944 | 293,268 | 1,175,676 | 30,316,999 | 28,848,055 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 4.93 | 174 | 169 | 184 | 177.94 | 2.01 | 0.57 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 1,471,397 | 293,268 | 1,178,129 | 16,547,967 | 15,076,570 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.46 | 169 | 168.72 | 177.94 | 178.87 | 0.57 | 2.01 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 1,480,977 | 293,268 | 1,187,709 | 31,703,658 | 30,222,681 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 5.1 | 168.72 | 161.9 | 178.87 | 173.01 | 2.01 | 2 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 1,481,727 | 293,268 | 1,188,459 | 16,871,263 | 15,389,536 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 3.27 | 161.9 | 160.52 | 173.01 | 172.44 | 2 | 1.98 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 1,618,636 | 293,268 | 1,325,368 | 21,975,368 | 20,356,732 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 4.05 | 160.52 | 158.32 | 172.44 | 171 | 1.98 | 1.98 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 1,619,923 | 293,268 | 1,326,655 | 20,565,867 | 18,945,944 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 3.86 | 158.32 | 156.58 | 171 | 170.85 | 1.98 | 1.83 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 1,642,705 | 293,268 | 1,349,437 | 15,002,227 | 13,359,522 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.16 | 156.58 | 156.07 | 170.85 | 167.67 | 2.33 | 2.41 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 1,644,849 | 293,268 | 1,351,581 | 19,181,160 | 17,536,311 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 2.57 | 156.07 | 155.42 | 167.67 | 169.54 | 2.41 | 2.38 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 1,745,058 | 293,268 | 1,451,790 | 18,895,751 | 17,150,693 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 2.58 | 155.42 | 154.85 | 169.54 | 168.44 | 2.38 | 2.49 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 1,751,219 | 293,268 | 1,457,951 | 34,641,163 | 32,889,944 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 3.96 | 154.85 | 150.47 | 168.44 | 163.03 | 2.49 | 2.4 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 2,359,965 | 293,268 | 2,066,697 | 27,412,575 | 25,052,610 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 3.67 | 150.47 | 148.9 | 163.03 | 157.11 | 2.4 | 2.4 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 2,362,570 | 293,268 | 2,069,302 | 26,953,521 | 24,590,951 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 3.63 | 148.9 | 147.42 | 157.11 | 157 | 2.4 | 2.33 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 2,954,309 | 293,268 | 2,661,041 | 35,454,075 | 32,499,766 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 4.7 | 147.42 | 143.38 | 157 | 155.42 | 2.33 | 2.33 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 2,955,253 | 293,268 | 2,661,985 | 29,311,144 | 26,355,891 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 4.11 | 143.38 | 140.46 | 155.42 | 155.66 | 2.33 | 2.2 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 2,955,683 | 293,268 | 2,662,415 | 19,102,000 | 16,146,317 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.03 | 140.46 | 139.76 | 155.66 | 151 | 2.2 | 2.25 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 2,955,683 | 293,268 | 2,662,415 | 21,549,863 | 18,594,180 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.31 | 139.76 | 138.18 | 151 | 144.74 | 2.25 | 2.22 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 2,955,683 | 293,268 | 2,662,415 | 19,647,126 | 16,691,443 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 9.1 | 138.18 | 134.32 | 144.74 | 139.73 | 0.97 | 0.56 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 2,957,289 | 293,268 | 2,664,021 | 6,124,076 | 3,166,787 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.33 | 134.32 | 133.69 | 139.73 | 142.95 | 1.81 | 2.33 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 2,963,603 | 293,268 | 2,670,335 | 30,407,121 | 27,443,518 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.22 | 133.69 | 131.05 | 142.95 | 138 | 2.33 | 2.33 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 2,970,548 | 293,268 | 2,677,280 | 42,793,558 | 39,823,010 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 5.38 | 131.05 | 127.3 | 138 | 138 | 2.33 | 0.89 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 2,972,785 | 293,268 | 2,679,517 | 21,484,290 | 18,511,505 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 3.3 | 127.3 | 127.29 | 138 | 138 | 0.89 | 0.61 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 2,973,377 | 293,268 | 2,680,109 | 26,071,121 | 23,097,744 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.13 | 127.29 | 127.28 | 138 | 138 | 1.61 | 0.98 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 2,973,969 | 293,268 | 2,680,701 | 60,681,535 | 57,707,566 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.37 | 127.28 | 127.21 | 138 | 131.44 | 0.98 | 2.9 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 2,973,969 | 293,268 | 2,680,701 | 33,047,844 | 30,073,875 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 2.52 | 127.21 | 127.2 | 131.44 | 131.37 | 2.9 | 2.89 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 7,136,115 | 293,268 | 6,842,847 | 33,686,043 | 26,549,928 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 8.43 | 127.2 | 126.77 | 131.37 | 131.41 | 1.39 | 1.6 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 7,136,115 | 293,268 | 6,842,847 | 38,080,441 | 30,944,326 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.2 | 126.98 | 126.89 | 131.41 | 131.36 | 1.39 | 0.61 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 10,305,893 | 293,268 | 10,012,625 | 2,608,858 | -7,697,035 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.25 | 126.89 | 126.34 | 131.36 | 131 | 0.61 | 1.15 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 10,310,629 | 293,268 | 10,017,361 | 30,788,053 | 20,477,424 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.07 | 126.27 | 125.2 | 131 | 131 | 1.72 | 1.8 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 17 (City_PDWF_2035 CP_2025_Likely)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 1,033,889 | 1,033,889 | 0 | 811,300 | -222,589 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 4.58 | 274.39 | 272.38 | 276 | 274.78 | -0.72 | 0.07 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 1,140,094 | 1,033,889 | 106,205 | 3,430,204 | 2,290,110 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 8.74 | 272.38 | 266.34 | 274.78 | 271.46 | 0.23 | 0.04 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 1,140,094 | 1,033,889 | 106,205 | 805,159 | -334,935 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 3.23 | 266.34 | 266.05 | 271.46 | 270.98 | 0.04 | 0.23 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 1,144,187 | 1,033,889 | 110,298 | 2,566,826 | 1,422,639 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.14 | 266.03 | 265.19 | 270.98 | 269.39 | 0.67 | 0.71 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 1,178,661 | 1,033,889 | 144,772 | 4,834,667 | 3,656,006 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 5.03 | 265.19 | 259.63 | 269.39 | 268.74 | 0.71 | 0.7 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 1,213,135 | 1,033,889 | 179,246 | 8,688,008 | 7,474,873 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 7.72 | 259.63 | 258.4 | 268.74 | 268.74 | 0.7 | 0.7 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 1,214,464 | 1,033,889 | 180,575 | 3,996,050 | 2,781,586 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 4.42 | 258.4 | 256.87 | 268.74 | 263.77 | 0.7 | 0.7 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 1,216,952 | 1,033,889 | 183,063 | 4,717,610 | 3,500,658 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 4.99 | 256.87 | 253 | 263.77 | 260.51 | 0.7 | 0.7 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 1,219,996 | 1,033,889 | 186,107 | 4,079,514 | 2,859,518 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 4.49 | 253 | 249.44 | 260.51 | 254.58 | 0.7 | 0.7 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 1,223,982 | 1,033,889 | 190,093 | 3,118,540 | 1,894,558 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 3.69 | 249.44 | 248.62 | 254.58 | 253.74 | 0.7 | 0.69 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 1,298,169 | 1,033,889 | 264,280 | 3,888,589 | 2,590,420 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 4.41 | 248.62 | 247.19 | 253.74 | 254.51 | 0.69 | 0.68 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 1,300,871 | 1,033,889 | 266,982 | 7,526,611 | 6,225,740 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 7.11 | 247.19 | 235.2 | 254.51 | 243 | 0.68 | 0.68 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 1,303,416 | 1,033,889 | 269,527 | 6,405,009 | 5,101,593 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 6.34 | 235.2 | 229.6 | 243 | 243 | 0.68 | 0.34 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 1,412,282 | 1,033,889 | 378,393 | 1,501,102 | 88,820 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 2.15 | 229.6 | 228.92 | 243 | 242 | 0.34 | 0.66 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 1,412,282 | 1,033,889 | 378,393 | 3,345,571 | 1,933,289 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 4.04 | 228.92 | 227.33 | 242 | 241.27 | 0.66 | 0.45 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 1,412,282 | 1,033,889 | 378,393 | 1,905,990 | 493,708 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.63 | 227.33 | 226.5 | 241.27 | 235.52 | 0.45 | 0.66 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 1,412,282 | 1,033,889 | 378,393 | 7,497,885 | 6,085,603 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 7.26 | 226.5 | 222.9 | 235.52 | 234.49 | 0.66 | 0.88 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 1,564,066 | 1,033,889 | 530,177 | 7,910,192 | 6,346,126 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 3.96 | 223.09 | 220.08 | 234.49 | 232.26 | 1.19 | 1.17 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 1,662,415 | 1,033,889 | 628,526 | 13,565,858 | 11,903,443 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 5.92 | 220.08 | 214.96 | 232.26 | 223.14 | 1.17 | 1.34 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 1,663,091 | 1,033,889 | 629,202 | 10,436,597 | 8,773,506 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 7.52 | 215.03 | 209.19 | 223.14 | 216 | 0.52 | 0.42 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 1,663,575 | 1,033,889 | 629,686 | 10,468,942 | 8,805,367 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 4.92 | 209.19 | 206.19 | 216 | 215.87 | 1.17 | 1.16 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 1,689,291 | 1,033,889 | 655,402 | 12,098,686 | 10,409,395 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 5.48 | 206.19 | 200.09 | 215.87 | 208.82 | 1.16 | 1.16 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 1,693,394 | 1,033,889 | 659,505 | 11,807,931 | 10,114,537 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 5.39 | 200.09 | 194.03 | 208.82 | 204.07 | 1.16 | 1.3 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 1,696,507 | 1,033,889 | 662,618 | 11,904,542 | 10,208,035 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 4.16 | 194.14 | 193.01 | 204.07 | 200.58 | 1.44 | 1.43 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 1,836,300 | 1,033,889 | 802,411 | 25,483,412 | 23,647,112 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 5.76 | 193.01 | 182.82 | 200.58 | 197 | 1.68 | 1.59 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 1,966,594 | 1,033,889 | 932,705 | 10,620,231 | 8,653,637 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.16 | 182.82 | 182.07 | 197 | 198.97 | 1.59 | 1.6 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 1,969,541 | 1,033,889 | 935,652 | 10,925,568 | 8,956,027 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.22 | 182.07 | 180.88 | 198.97 | 192.83 | 1.6 | 1.59 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 1,977,674 | 1,033,889 | 943,785 | 10,554,288 | 8,576,614 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.15 | 180.88 | 180.1 | 192.83 | 190 | 1.59 | 1.58 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 1,978,128 | 1,033,889 | 944,239 | 10,350,223 | 8,372,095 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.1 | 180.1 | 178.81 | 190 | 186.72 | 1.58 | 1.56 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 1,988,286 | 1,033,889 | 954,397 | 9,083,654 | 7,095,368 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 2.83 | 178.81 | 178.73 | 186.72 | 187.21 | 1.56 | 1.59 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 1,995,175 | 1,033,889 | 961,286 | 13,091,690 | 11,096,515 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.98 | 178.73 | 177.89 | 187.21 | 188.86 | 1.84 | 1.82 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 2,065,544 | 1,033,889 | 1,031,655 | 12,945,046 | 10,879,502 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.99 | 177.89 | 177.23 | 188.86 | 192.02 | 1.82 | 1.69 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 2,074,678 | 1,033,889 | 1,040,789 | 2,097,941 | 23,263 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.71 | 177.23 | 175.97 | 192.02 | 190.18 | 0.19 | 0.23 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 2,077,334 | 1,033,889 | 1,043,445 | 14,804,664 | 12,727,330 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.29 | 175.83 | 175.2 | 190.18 | 193.17 | 1.87 | 1.83 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 2,179,236 | 1,033,889 | 1,145,347 | 13,885,589 | 11,706,353 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.19 | 175.2 | 174.94 | 193.17 | 190 | 1.83 | 1.15 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 3,231,453 | 1,033,889 | 2,197,564 | 3,242,470 | 11,017 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1.17 | 174.94 | 174.25 | 190 | 184 | 1.15 | 1.76 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 3,237,540 | 1,033,889 | 2,203,651 | 30,316,999 | 27,079,459 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 6.23 | 174.25 | 169.38 | 184 | 177.94 | 1.76 | 0.19 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 3,242,278 | 1,033,889 | 2,208,389 | 16,547,967 | 13,305,689 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 1.02 | 169.38 | 168.97 | 177.94 | 178.87 | 0.19 | 1.76 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 3,260,780 | 1,033,889 | 2,226,891 | 31,703,658 | 28,442,878 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 6.44 | 168.97 | 162.15 | 178.87 | 173.01 | 1.76 | 1.75 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 3,262,228 | 1,033,889 | 2,228,339 | 16,871,263 | 13,609,035 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 4.11 | 162.15 | 160.77 | 173.01 | 172.44 | 1.75 | 1.73 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 3,538,204 | 1,033,889 | 2,504,315 | 21,975,368 | 18,437,164 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.08 | 160.77 | 158.57 | 172.44 | 171 | 1.73 | 1.73 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 3,540,689 | 1,033,889 | 2,506,800 | 20,565,867 | 17,025,178 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 4.85 | 158.57 | 156.9 | 171 | 170.85 | 1.73 | 1.51 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 3,584,639 | 1,033,889 | 2,550,750 | 15,002,227 | 11,417,588 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.7 | 156.9 | 156.36 | 170.85 | 167.67 | 2.01 | 2.12 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 3,588,781 | 1,033,889 | 2,554,892 | 19,181,160 | 15,592,379 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.22 | 156.36 | 155.71 | 167.67 | 169.54 | 2.12 | 2.09 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 3,770,372 | 1,033,889 | 2,736,483 | 18,895,751 | 15,125,379 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 3.23 | 155.71 | 155.1 | 169.54 | 168.44 | 2.09 | 2.24 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 3,782,269 | 1,033,889 | 2,748,380 | 34,641,163 | 30,858,894 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.98 | 155.1 | 150.74 | 168.44 | 163.03 | 2.24 | 2.13 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 4,913,905 | 1,033,889 | 3,880,016 | 27,412,575 | 22,498,670 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 4.54 | 150.74 | 149.17 | 163.03 | 157.11 | 2.13 | 2.13 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 4,918,936 | 1,033,889 | 3,885,047 | 26,953,521 | 22,034,585 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 4.49 | 149.17 | 147.69 | 157.11 | 157 | 2.13 | 2.06 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 5,683,252 | 1,033,889 | 4,649,363 | 35,454,075 | 29,770,823 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 5.69 | 147.69 | 143.65 | 157 | 155.42 | 2.06 | 2.06 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 5,685,075 | 1,033,889 | 4,651,186 | 29,311,144 | 23,626,069 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 4.97 | 143.65 | 140.78 | 155.42 | 155.66 | 2.06 | 1.88 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 5,685,907 | 1,033,889 | 4,652,018 | 19,102,000 | 13,416,093 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.65 | 140.78 | 140.06 | 155.66 | 151 | 1.88 | 1.95 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 5,685,907 | 1,033,889 | 4,652,018 | 21,549,863 | 15,863,956 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.98 | 140.06 | 138.5 | 151 | 144.74 | 1.95 | 1.9 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 5,685,907 | 1,033,889 | 4,652,018 | 19,647,126 | 13,961,219 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 10.94 | 138.5 | 134.75 | 144.74 | 139.73 | 0.65 | 0.13 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 5,689,006 | 1,033,889 | 4,655,117 | 6,124,076 | 435,070 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.52 | 134.75 | 133.96 | 139.73 | 142.95 | 1.38 | 2.06 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 5,701,199 | 1,033,889 | 4,667,310 | 30,407,121 | 24,705,922 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 5.1 | 133.96 | 131.32 | 142.95 | 138 | 2.06 | 2.06 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 5,714,612 | 1,033,889 | 4,680,723 | 42,793,558 | 37,078,946 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.52 | 131.32 | 127.63 | 138 | 138 | 2.06 | 0.56 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 5,718,930 | 1,033,889 | 4,685,041 | 21,484,290 | 15,765,360 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 3.98 | 127.63 | 127.62 | 138 | 138 | 0.56 | 0.28 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 5,720,073 | 1,033,889 | 4,686,184 | 26,071,121 | 20,351,048 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.57 | 127.62 | 127.59 | 138 | 138 | 1.28 | 0.67 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 5,721,217 | 1,033,889 | 4,687,328 | 60,681,535 | 54,960,318 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.7 | 127.59 | 127.44 | 138 | 131.44 | 0.67 | 2.67 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 5,721,217 | 1,033,889 | 4,687,328 | 33,047,844 | 27,326,627 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 3.05 | 127.44 | 127.43 | 131.44 | 131.37 | 2.67 | 2.66 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 10,133,370 | 1,033,889 | 9,099,481 | 33,686,043 | 23,552,673 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 9.29 | 127.43 | 126.96 | 131.37 | 131.41 | 1.16 | 1.41 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 10,133,370 | 1,033,889 | 9,099,481 | 38,080,441 | 27,947,071 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 10.15 | 127.21 | 127.16 | 131.41 | 131.36 | 1.16 | 0.34 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 13,303,148 | 1,033,889 | 12,269,259 | 2,608,858 | -10,694,290 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 4.19 | 127.16 | 126.53 | 131.36 | 131 | 0.34 | 0.96 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 13,312,293 | 1,033,889 | 12,278,404 | 30,788,053 | 17,475,760 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.49 | 126.45 | 125.38 | 131 | 131 | 1.54 | 1.62 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 18 (City_PWWF_2035 CP_2025_Likely)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 2,602,833 | 2,602,833 | 0 | 811,300 | -1,791,533 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 11.54 | 285.15 | 272.59 | 276 | 274.78 | -11.48 | -0.14 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 2,737,500 | 2,602,833 | 134,667 | 3,430,204 | 692,704 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 10.81 | 272.59 | 267.8 | 274.78 | 271.46 | 0.02 | -1.42 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 2,765,962 | 2,602,833 | 163,129 | 805,159 | -1,960,803 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 7.85 | 267.8 | 266.62 | 271.46 | 270.98 | -1.42 | -0.34 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 2,883,904 | 2,602,833 | 281,071 | 2,566,826 | -317,078 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.64 | 266.62 | 265.52 | 270.98 | 269.39 | 0.08 | 0.38 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 2,946,841 | 2,602,833 | 344,008 | 4,834,667 | 1,887,826 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 6.39 | 265.52 | 259.95 | 269.39 | 268.74 | 0.38 | 0.38 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 3,009,777 | 2,602,833 | 406,944 | 8,688,008 | 5,678,231 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 9.95 | 259.95 | 258.73 | 268.74 | 268.74 | 0.38 | 0.37 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 3,039,568 | 2,602,833 | 436,735 | 3,996,050 | 956,482 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 5.54 | 258.73 | 257.2 | 268.74 | 263.77 | 0.37 | 0.37 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 3,070,518 | 2,602,833 | 467,685 | 4,717,610 | 1,647,092 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 6.33 | 257.2 | 253.34 | 263.77 | 260.51 | 0.37 | 0.36 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 3,102,024 | 2,602,833 | 499,191 | 4,079,514 | 977,490 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 5.66 | 253.34 | 249.92 | 260.51 | 254.58 | 0.36 | 0.22 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 3,134,473 | 2,602,833 | 531,640 | 3,118,540 | -15,933 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 4.48 | 249.92 | 249.11 | 254.58 | 253.74 | 0.22 | 0.2 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 3,977,139 | 2,602,833 | 1,374,306 | 3,888,589 | -88,550 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 5.58 | 249.11 | 247.63 | 253.74 | 254.51 | 0.2 | 0.24 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 4,008,303 | 2,602,833 | 1,405,470 | 7,526,611 | 3,518,308 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 9.64 | 247.63 | 238.84 | 254.51 | 243 | 0.24 | -2.96 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 4,039,310 | 2,602,833 | 1,436,477 | 6,405,009 | 2,365,699 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 5.09 | 238.84 | 236.47 | 243 | 243 | -2.96 | -6.53 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 4,347,412 | 2,602,833 | 1,744,579 | 1,501,102 | -2,846,310 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 5.48 | 236.47 | 233.46 | 243 | 242 | -6.53 | -3.88 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 4,375,874 | 2,602,833 | 1,773,041 | 3,345,571 | -1,030,303 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 5.52 | 233.46 | 230.38 | 242 | 241.27 | -3.88 | -2.6 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 4,404,336 | 2,602,833 | 1,801,503 | 1,905,990 | -2,498,346 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 5.55 | 230.38 | 226.96 | 241.27 | 235.52 | -2.6 | 0.2 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 4,432,798 | 2,602,833 | 1,829,965 | 7,497,885 | 3,065,087 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 9.85 | 226.96 | 223.64 | 235.52 | 234.49 | 0.2 | 0.14 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 5,768,445 | 2,602,833 | 3,165,612 | 7,910,192 | 2,141,747 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 5.55 | 223.64 | 220.71 | 234.49 | 232.26 | 0.64 | 0.54 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 6,809,136 | 2,602,833 | 4,206,303 | 13,565,858 | 6,756,722 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 8.74 | 220.71 | 215.43 | 232.26 | 223.14 | 0.54 | 0.87 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 6,838,275 | 2,602,833 | 4,235,442 | 10,436,597 | 3,598,322 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 10.96 | 215.48 | 209.82 | 223.14 | 216 | 0.07 | -0.21 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 6,867,220 | 2,602,833 | 4,264,387 | 10,468,942 | 3,601,722 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 7.18 | 209.82 | 206.84 | 216 | 215.87 | 0.54 | 0.51 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 7,147,070 | 2,602,833 | 4,544,237 | 12,098,686 | 4,951,616 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 8.11 | 206.84 | 200.74 | 215.87 | 208.82 | 0.51 | 0.51 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 7,157,353 | 2,602,833 | 4,554,520 | 11,807,931 | 4,650,578 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 7.96 | 200.74 | 194.56 | 208.82 | 204.07 | 0.51 | 0.77 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 7,166,644 | 2,602,833 | 4,563,811 | 11,904,542 | 4,737,898 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 6.13 | 194.77 | 193.64 | 204.07 | 200.58 | 0.81 | 0.8 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 7,748,813 | 2,602,833 | 5,145,980 | 25,483,412 | 17,734,599 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 8.7 | 193.64 | 189.32 | 200.58 | 197 | 1.05 | -4.91 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 8,476,349 | 2,602,833 | 5,873,516 | 10,620,231 | 2,143,882 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.3 | 189.32 | 188.85 | 197 | 198.97 | -4.91 | -5.18 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 8,491,654 | 2,602,833 | 5,888,821 | 10,925,568 | 2,433,914 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.3 | 188.85 | 188.12 | 198.97 | 192.83 | -5.18 | -5.65 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 8,521,413 | 2,602,833 | 5,918,580 | 10,554,288 | 2,032,875 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.32 | 188.12 | 187.61 | 192.83 | 190 | -5.65 | -5.93 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 8,528,047 | 2,602,833 | 5,925,214 | 10,350,223 | 1,822,176 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.32 | 187.61 | 186.72 | 190 | 186.72 | -5.93 | -6.35 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 8,550,562 | 2,602,833 | 5,947,729 | 9,083,654 | 533,092 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 3.33 | 187.25 | 187.21 | 186.72 | 187.21 | -6.88 | -6.89 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 10,778,998 | 2,602,833 | 8,176,165 | 13,091,690 | 2,312,692 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.4 | 189.44 | 188.86 | 187.21 | 188.86 | -8.87 | -9.15 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 11,385,792 | 2,602,833 | 8,782,959 | 12,945,046 | 1,559,254 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.59 | 192.63 | 192.02 | 188.86 | 192.02 | -12.92 | -13.1 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 11,425,822 | 2,602,833 | 8,822,989 | 2,097,941 | -9,327,881 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 22.51 | 214.97 | 178.79 | 192.02 | 190.18 | -37.55 | -2.59 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 11,434,656 | 2,602,833 | 8,831,823 | 14,804,664 | 3,370,008 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.6 | 178.79 | 178.39 | 190.18 | 193.17 | -1.09 | -1.36 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 11,690,773 | 2,602,833 | 9,087,940 | 13,885,589 | 2,194,816 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.68 | 178.39 | 177.72 | 193.17 | 190 | -1.36 | -1.63 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 16,760,249 | 2,602,833 | 14,157,416 | 3,242,470 | -13,517,779 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 5.28 | 177.72 | 175.25 | 190 | 184 | -1.63 | 0.76 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 16,772,515 | 2,602,833 | 14,169,682 | 30,316,999 | 13,544,484 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 9.8 | 175.25 | 171.52 | 184 | 177.94 | 0.76 | -1.95 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 16,783,432 | 2,602,833 | 14,180,599 | 16,547,967 | -235,465 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 5.29 | 171.52 | 169.97 | 177.94 | 178.87 | -1.95 | 0.76 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 16,839,008 | 2,602,833 | 14,236,175 | 31,703,658 | 14,864,650 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 10.14 | 169.97 | 166.27 | 178.87 | 173.01 | 0.76 | -2.37 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 16,846,635 | 2,602,833 | 14,243,802 | 16,871,263 | 24,628 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 5.31 | 166.27 | 164.87 | 173.01 | 172.44 | -2.37 | -2.37 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 17,384,729 | 2,602,833 | 14,781,896 | 21,975,368 | 4,590,639 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.48 | 164.87 | 163.5 | 172.44 | 171 | -2.37 | -3.2 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 17,393,394 | 2,602,833 | 14,790,561 | 20,565,867 | 3,172,473 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 5.48 | 163.5 | 162.14 | 171 | 170.85 | -3.2 | -3.73 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 18,170,418 | 2,602,833 | 15,567,585 | 15,002,227 | -3,168,191 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 3.98 | 162.14 | 161.51 | 170.85 | 167.67 | -3.23 | -3.03 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 18,193,096 | 2,602,833 | 15,590,263 | 19,181,160 | 988,064 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.98 | 161.51 | 160.9 | 167.67 | 169.54 | -3.03 | -3.1 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 22,048,448 | 2,602,833 | 19,445,615 | 18,895,751 | -3,152,697 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 4.83 | 160.9 | 160.28 | 169.54 | 168.44 | -3.1 | -2.94 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 22,078,880 | 2,602,833 | 19,476,047 | 34,641,163 | 12,562,283 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.83 | 160.28 | 158.46 | 168.44 | 163.03 | -2.94 | -5.59 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 27,126,578 | 2,602,833 | 24,523,745 | 27,412,575 | 285,997 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 5.94 | 158.46 | 156.92 | 163.03 | 157.11 | -5.59 | -5.62 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 27,137,789 | 2,602,833 | 24,534,956 | 26,953,521 | -184,268 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 5.94 | 156.92 | 155.35 | 157.11 | 157 | -5.62 | -5.6 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 29,703,998 | 2,602,833 | 27,101,165 | 35,454,075 | 5,750,077 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 6.5 | 155.35 | 152.51 | 157 | 155.42 | -5.6 | -6.8 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 29,712,001 | 2,602,833 | 27,109,168 | 29,311,144 | -400,857 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 6.5 | 152.51 | 149.38 | 155.42 | 155.66 | -6.8 | -6.72 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 29,719,010 | 2,602,833 | 27,116,177 | 19,102,000 | -10,617,010 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 6.51 | 149.38 | 147.81 | 155.66 | 151 | -6.72 | -5.8 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 29,725,189 | 2,602,833 | 27,122,356 | 21,549,863 | -8,175,326 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 6.51 | 147.81 | 144.74 | 151 | 144.74 | -5.8 | -4.34 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 29,731,370 | 2,602,833 | 27,128,537 | 19,647,126 | -10,084,244 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 19.13 | 149.51 | 139.73 | 144.74 | 139.73 | -10.36 | -4.85 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 29,740,648 | 2,602,833 | 27,137,815 | 6,124,076 | -23,616,572 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 6.51 | 140.86 | 138.27 | 139.73 | 142.95 | -4.73 | -2.25 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 29,759,021 | 2,602,833 | 27,156,188 | 30,407,121 | 648,100 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 6.51 | 138.27 | 135.74 | 142.95 | 138 | -2.25 | -2.36 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 29,778,612 | 2,602,833 | 27,175,779 | 42,793,558 | 13,014,946 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.52 | 135.74 | 133.22 | 138 | 138 | -2.36 | -5.03 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 29,789,107 | 2,602,833 | 27,186,274 | 21,484,290 | -8,304,817 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 6.52 | 133.22 | 132.67 | 138 | 138 | -5.03 | -4.77 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 29,796,430 | 2,602,833 | 27,193,597 | 26,071,121 | -3,725,309 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 3.67 | 132.67 | 131.83 | 138 | 138 | -3.77 | -3.57 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 29,803,752 | 2,602,833 | 27,200,919 | 60,681,535 | 30,877,783 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 3.67 | 131.83 | 131.38 | 138 | 131.44 | -3.57 | -1.27 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 29,809,931 | 2,602,833 | 27,207,098 | 33,047,844 | 3,237,913 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 3.67 | 131.38 | 131.37 | 131.44 | 131.37 | -1.27 | -1.28 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 36,252,601 | 2,602,833 | 33,649,768 | 33,686,043 | -2,566,558 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 11.43 | 131.67 | 131.41 | 131.37 | 131.41 | -3.08 | -3.04 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 36,258,780 | 2,602,833 | 33,655,947 | 38,080,441 | 1,821,661 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 11.43 | 131.43 | 130.64 | 131.41 | 131.36 | -3.06 | -3.14 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 39,428,559 | 2,602,833 | 36,825,726 | 2,608,858 | -36,819,701 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 12.43 | 130.64 | 128.36 | 131.36 | 131 | -3.14 | -0.87 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 39,462,420 | 2,602,833 | 36,859,587 | 30,788,053 | -8,674,367 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 8.64 | 128.36 | 126.52 | 131 | 131 | -0.37 | 0.48 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 19 (City_ADWF_2035 CP_2025_Worst)

| | | | | | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Link | ID | Link Name | US Node | DS Node | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | L13-7-L13-5 | _J05-7 | J05-8 | 462,889 | 462,889 | 0 | 811,300 | 348,411 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 3.71 | 273.4 | 272.14 | 276 | 274.78 | 0.27 | 0.31 | 113.1 | 0 | 113.1 |
| 2 | 3353 | M12-26-M12-21 | J05-8 | PolyVault | 517,889 | 462,889 | 55,000 | 878,463 | 360,574 | 0 | 6 | 271.78 | 265.55 | 272.28 | 266.05 | 0.05868 | 0.013 | 7.01 | 272.18 | 266.03 | 274.78 | 271.46 | 0.1 | 0.02 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | K08-33-K08-37 | PolyVault | J06-2 | 517,889 | 462,889 | 55,000 | 577,296 | 59,407 | PVC | 8 | 265.55 | 265.45 | 266.22 | 266.12 | 0.00323 | 0.01 | 2.43 | 266.03 | 265.85 | 271.46 | 270.98 | 0.19 | 0.27 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 520,064 | 462,889 | 57,175 | 2,566,826 | 2,046,762 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 2.54 | 265.83 | 265.01 | 270.98 | 269.39 | 0.87 | 0.89 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 538,836 | 462,889 | 75,947 | 4,834,667 | 4,295,831 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 4.02 | 265.01 | 259.44 | 269.39 | 268.74 | 0.89 | 0.89 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | H15-1-H15-3 | J06-14 | J06-16 | 557,608 | 462,889 | 94,719 | 8,688,008 | 8,130,400 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 6.15 | 259.44 | 258.21 | 268.74 | 268.74 | 0.89 | 0.89 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 558,332 | 462,889 | 95,443 | 3,996,050 | 3,437,718 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 3.55 | 258.21 | 256.68 | 268.74 | 263.77 | 0.89 | 0.89 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 559,687 | 462,889 | 96,798 | 4,717,610 | 4,157,923 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 4 | 256.68 | 252.82 | 263.77 | 260.51 | 0.89 | 0.88 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 561,344 | 462,889 | 98,455 | 4,079,514 | 3,518,170 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 3.61 | 252.82 | 249.26 | 260.51 | 254.58 | 0.88 | 0.88 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 563,515 | 462,889 | 100,626 | 3,118,540 | 2,555,025 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 2.98 | 249.26 | 248.44 | 254.58 | 253.74 | 0.88 | 0.87 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 603,855 | 462,889 | 140,966 | 3,888,589 | 3,284,734 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 3.56 | 248.44 | 247 | 253.74 | 254.51 | 0.87 | 0.87 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 605,301 | 462,889 | 142,412 | 7,526,611 | 6,921,310 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 5.69 | 247 | 235.01 | 254.51 | 243 | 0.87 | 0.87 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 606,662 | 462,889 | 143,773 | 6,405,009 | 5,798,347 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 5.08 | 235.01 | 229.27 | 243 | 243 | 0.87 | 0.67 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 665,945 | 462,889 | 203,056 | 1,501,102 | 835,157 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 1.84 | 229.27 | 228.73 | 243 | 242 | 0.67 | 0.85 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 665,945 | 462,889 | 203,056 | 3,345,571 | 2,679,626 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 3.29 | 228.73 | 227.04 | 242 | 241.27 | 0.85 | 0.74 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 665,945 | 462,889 | 203,056 | 1,905,990 | 1,240,045 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.19 | 227.04 | 226.31 | 241.27 | 235.52 | 0.74 | 0.85 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | M06-7-M06-6 | K07-69 | K07-28 | 665,945 | 462,889 | 203,056 | 651,277 | -14,668 | 0 | 6 | 225.91 | 222.53 | 226.41 | 223.03 | 0.03225 | 0.013 | 5.84 | 226.31 | 222.78 | 235.52 | 234.49 | 0.1 | 0.25 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 745,256 | 462,889 | 282,367 | 7,910,192 | 7,164,936 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 3.2 | 222.91 | 219.9 | 234.49 | 232.26 | 1.37 | 1.35 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 798,780 | 462,889 | 335,891 | 13,565,858 | 12,767,078 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 4.77 | 219.9 | 214.84 | 232.26 | 223.14 | 1.35 | 1.46 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | H04-20-H04-22 | J07-89 | J07-90 | 799,145 | 462,889 | 336,256 | 1,643,661 | 844,516 | PVC | 6 | 214.55 | 208.61 | 215.05 | 209.11 | 0.05136 | 0.013 | 6.08 | 214.88 | 209.01 | 223.14 | 216 | 0.17 | 0.1 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 799,408 | 462,889 | 336,519 | 10,468,942 | 9,669,534 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 3.98 | 209.01 | 206 | 216 | 215.87 | 1.35 | 1.35 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 812,789 | 462,889 | 349,900 | 12,098,686 | 11,285,897 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 4.43 | 206 | 199.9 | 215.87 | 208.82 | 1.35 | 1.35 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 814,913 | 462,889 | 352,024 | 11,807,931 | 10,993,018 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 4.36 | 199.9 | 193.89 | 208.82 | 204.07 | 1.35 | 1.44 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 816,525 | 462,889 | 353,636 | 11,904,542 | 11,088,017 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 3.36 | 193.97 | 192.83 | 204.07 | 200.58 | 1.61 | 1.61 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 888,862 | 462,889 | 425,973 | 25,483,412 | 24,594,550 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 4.65 | 192.83 | 182.62 | 200.58 | 197 | 1.86 | 1.79 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 961,641 | 462,889 | 498,752 | 10,620,231 | 9,658,590 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 2.57 | 182.62 | 181.87 | 197 | 198.97 | 1.79 | 1.8 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 963,167 | 462,889 | 500,278 | 10,925,568 | 9,962,401 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 2.62 | 181.87 | 180.68 | 198.97 | 192.83 | 1.8 | 1.79 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 967,378 | 462,889 | 504,489 | 10,554,288 | 9,586,910 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 2.56 | 180.68 | 179.89 | 192.83 | 190 | 1.79 | 1.79 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 967,613 | 462,889 | 504,724 | 10,350,223 | 9,382,610 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 2.53 | 179.89 | 178.6 | 190 | 186.72 | 1.79 | 1.77 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | K10-46-K10-44 | J09-22 | J09-24 | 972,873 | 462,889 | 509,984 | 164,574 | -808,299 | PVC | 6 | 178.12 | 178.07 | 178.62 | 178.57 | 0.00206 | 0.013 | 2.31 | 178.6 | 178.53 | 186.72 | 187.21 | 0.02 | 0.04 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 976,440 | 462,889 | 513,551 | 13,091,690 | 12,115,250 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.42 | 178.53 | 177.68 | 187.21 | 188.86 | 2.04 | 2.03 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 1,012,573 | 462,889 | 549,684 | 12,945,046 | 11,932,473 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.43 | 177.68 | 176.95 | 188.86 | 192.02 | 2.03 | 1.97 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 1,017,304 | 462,889 | 554,415 | 2,097,941 | 1,080,637 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.1 | 176.95 | 175.69 | 192.02 | 190.18 | 0.47 | 0.51 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 1,018,679 | 462,889 | 555,790 | 14,804,664 | 13,785,985 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 2.67 | 175.64 | 175 | 190.18 | 193.17 | 2.06 | 2.03 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 1,070,868 | 462,889 | 607,979 | 13,885,589 | 12,814,721 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 2.59 | 175 | 174.57 | 193.17 | 190 | 2.03 | 1.52 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 1,635,413 | 462,889 | 1,172,524 | 3,242,470 | 1,607,057 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1.02 | 174.57 | 174.03 | 190 | 184 | 1.52 | 1.98 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 1,638,565 | 462,889 | 1,175,676 | 30,316,999 | 28,678,434 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 5.1 | 174.03 | 169.06 | 184 | 177.94 | 1.98 | 0.51 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 1,641,018 | 462,889 | 1,178,129 | 16,547,967 | 14,906,949 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.52 | 169.06 | 168.75 | 177.94 | 178.87 | 0.51 | 1.98 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 1,650,598 | 462,889 | 1,187,709 | 31,703,658 | 30,053,060 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 5.27 | 168.75 | 161.93 | 178.87 | 173.01 | 1.98 | 1.97 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 1,651,348 | 462,889 | 1,188,459 | 16,871,263 | 15,219,915 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 3.38 | 161.93 | 160.54 | 173.01 | 172.44 | 1.97 | 1.96 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 1,788,257 | 462,889 | 1,325,368 | 21,975,368 | 20,187,111 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 4.17 | 160.54 | 158.34 | 172.44 | 171 | 1.96 | 1.96 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 1,789,544 | 462,889 | 1,326,655 | 20,565,867 | 18,776,323 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 3.98 | 158.34 | 156.61 | 171 | 170.85 | 1.96 | 1.8 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 1,812,326 | 462,889 | 1,349,437 | 15,002,227 | 13,189,901 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.22 | 156.61 | 156.1 | 170.85 | 167.67 | 2.3 | 2.38 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 1,814,470 | 462,889 | 1,351,581 | 19,181,160 | 17,366,690 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 2.64 | 156.1 | 155.44 | 167.67 | 169.54 | 2.38 | 2.36 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 1,914,679 | 462,889 | 1,451,790 | 18,895,751 | 16,981,072 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 2.66 | 155.44 | 154.88 | 169.54 | 168.44 | 2.36 | 2.46 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 1,920,840 | 462,889 | 1,457,951 | 34,641,163 | 32,720,323 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.07 | 154.88 | 150.49 | 168.44 | 163.03 | 2.46 | 2.38 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 2,529,586 | 462,889 | 2,066,697 | 27,412,575 | 24,882,989 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 3.75 | 150.49 | 148.92 | 163.03 | 157.11 | 2.38 | 2.38 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 2,532,191 | 462,889 | 2,069,302 | 26,953,521 | 24,421,330 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 3.7 | 148.92 | 147.44 | 157.11 | 157 | 2.38 | 2.31 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 3,123,930 | 462,889 | 2,661,041 | 35,454,075 | 32,330,145 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 4.78 | 147.44 | 143.4 | 157 | 155.42 | 2.31 | 2.31 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 3,124,874 | 462,889 | 2,661,985 | 29,311,144 | 26,186,270 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 4.18 | 143.4 | 140.48 | 155.42 | 155.66 | 2.31 | 2.18 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 3,125,305 | 462,889 | 2,662,416 | 19,102,000 | 15,976,695 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.08 | 140.48 | 139.78 | 155.66 | 151 | 2.18 | 2.23 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 3,125,305 | 462,889 | 2,662,416 | 21,549,863 | 18,424,558 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.36 | 139.78 | 138.21 | 151 | 144.74 | 2.23 | 2.19 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I07-33-I07-31 | I13-10 | I13-11 | 3,125,305 | 462,889 | 2,662,416 | 695,746 | -2,429,559 | PVC | 6 | 137.4 | 133.13 | 137.9 | 133.63 | 0.03681 | 0.013 | 9.25 | 138.21 | 134.35 | 144.74 | 139.73 | -0.31 | -0.72 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 3,126,910 | 462,889 | 2,664,021 | 6,124,076 | 2,997,166 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.35 | 134.35 | 133.71 | 139.73 | 142.95 | 1.78 | 2.31 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 3,133,224 | 462,889 | 2,670,335 | 30,407,121 | 27,273,897 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.29 | 133.71 | 131.07 | 142.95 | 138 | 2.31 | 2.31 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 3,140,169 | 462,889 | 2,677,280 | 42,793,558 | 39,653,389 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 5.47 | 131.07 | 127.32 | 138 | 138 | 2.31 | 0.87 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | M07-25-M07-8 | I14-3 | I14-5 | 3,142,406 | 462,889 | 2,679,517 | 180,739 | -2,961,667 | PVC | 6 | 125.19 | 124.9 | 125.69 | 125.4 | 0.00248 | 0.013 | 3.36 | 127.32 | 127.31 | 138 | 138 | -1.63 | -1.91 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 3,142,998 | 462,889 | 2,680,109 | 26,071,121 | 22,928,123 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.17 | 127.31 | 127.3 | 138 | 138 | 1.59 | 0.96 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 3,143,590 | 462,889 | 2,680,701 | 60,681,535 | 57,537,945 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.39 | 127.3 | 127.22 | 138 | 131.44 | 0.96 | 2.89 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | K10-7-K10-10 | I15-5 | I15-7 | 3,143,590 | 462,889 | 2,680,701 | 361,424 | -2,782,166 | PVC | 8 | 126.11 | 126.09 | 126.78 | 126.76 | 0.00127 | 0.01 | 2.56 | 127.22 | 127.22 | 131.44 | 131.37 | -0.44 | -0.46 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 7,305,737 | 462,889 | 6,842,848 | 33,686,043 | 26,380,306 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 8.48 | 127.22 | 126.78 | 131.37 | 131.41 | 1.37 | 1.59 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 7,305,737 | 462,889 | 6,842,848 | 38,080,441 | 30,774,704 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.26 | 127 | 126.9 | 131.41 | 131.36 | 1.37 | 0.6 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 10,475,514 | 462,889 | 10,012,625 | 2,608,858 | -7,866,656 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.3 | 126.9 | 126.35 | 131.36 | 131 | 0.6 | 1.14 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 10,480,250 | 462,889 | 10,017,361 | 30,788,053 | 20,307,803 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.1 | 126.28 | 125.21 | 131 | 131 | 1.71 | 1.79 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 20 (City_PDWF_2035 CP_2025_Worst)

| | | | | | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Link | ID | Link Name | US Node | DS Node | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | L13-7-L13-5 | _J05-7 | J05-8 | 1,203,510 | 1,203,510 | 0 | 811,300 | -392,210 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 5.33 | 275.11 | 272.42 | 276 | 274.78 | -1.44 | 0.03 | 113.1 | 0 | 113.1 |
| 2 | 3353 | M12-26-M12-21 | J05-8 | PolyVault | 1,309,715 | 1,203,510 | 106,205 | 878,463 | -431,252 | 0 | 6 | 271.78 | 265.55 | 272.28 | 266.05 | 0.05868 | 0.013 | 9.08 | 272.42 | 266.44 | 274.78 | 271.46 | -0.14 | -0.39 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | K08-33-K08-37 | PolyVault | J06-2 | 1,309,715 | 1,203,510 | 106,205 | 577,296 | -732,419 | PVC | 8 | 265.55 | 265.45 | 266.22 | 266.12 | 0.00323 | 0.01 | 3.72 | 266.44 | 266.09 | 271.46 | 270.98 | -0.22 | 0.03 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 1,313,808 | 1,203,510 | 110,298 | 2,566,826 | 1,253,018 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.26 | 266.08 | 265.23 | 270.98 | 269.39 | 0.62 | 0.67 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 1,348,282 | 1,203,510 | 144,772 | 4,834,667 | 3,486,385 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 5.22 | 265.23 | 259.66 | 269.39 | 268.74 | 0.67 | 0.67 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | H15-1-H15-3 | J06-14 | J06-16 | 1,382,756 | 1,203,510 | 179,246 | 8,688,008 | 7,305,252 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 8.01 | 259.66 | 258.43 | 268.74 | 268.74 | 0.67 | 0.67 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 1,384,085 | 1,203,510 | 180,575 | 3,996,050 | 2,611,965 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 4.58 | 258.43 | 256.9 | 268.74 | 263.77 | 0.67 | 0.67 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 1,386,573 | 1,203,510 | 183,063 | 4,717,610 | 3,331,037 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 5.17 | 256.9 | 253.04 | 263.77 | 260.51 | 0.67 | 0.66 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 1,389,617 | 1,203,510 | 186,107 | 4,079,514 | 2,689,897 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 4.65 | 253.04 | 249.48 | 260.51 | 254.58 | 0.66 | 0.66 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 1,393,603 | 1,203,510 | 190,093 | 3,118,540 | 1,724,937 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 3.82 | 249.48 | 248.66 | 254.58 | 253.74 | 0.66 | 0.65 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 1,467,790 | 1,203,510 | 264,280 | 3,888,589 | 2,420,799 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 4.56 | 248.66 | 247.22 | 253.74 | 254.51 | 0.65 | 0.65 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 1,470,492 | 1,203,510 | 266,982 | 7,526,611 | 6,056,119 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 7.36 | 247.22 | 235.23 | 254.51 | 243 | 0.65 | 0.65 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 1,473,037 | 1,203,510 | 269,527 | 6,405,009 | 4,931,972 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 6.56 | 235.23 | 229.68 | 243 | 243 | 0.65 | 0.26 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 1,581,903 | 1,203,510 | 378,393 | 1,501,102 | -80,801 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 2.14 | 229.68 | 228.96 | 243 | 242 | 0.26 | 0.62 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 1,581,903 | 1,203,510 | 378,393 | 3,345,571 | 1,763,668 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 4.16 | 228.96 | 227.4 | 242 | 241.27 | 0.62 | 0.38 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 1,581,903 | 1,203,510 | 378,393 | 1,905,990 | 324,087 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.69 | 227.4 | 226.54 | 241.27 | 235.52 | 0.38 | 0.62 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | M06-7-M06-6 | K07-69 | K07-28 | 1,581,903 | 1,203,510 | 378,393 | 651,277 | -930,626 | 0 | 6 | 225.91 | 222.53 | 226.41 | 223.03 | 0.03225 | 0.013 | 7.49 | 226.54 | 222.92 | 235.52 | 234.49 | -0.13 | 0.11 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 1,733,687 | 1,203,510 | 530,177 | 7,910,192 | 6,176,505 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 4.08 | 223.12 | 220.11 | 234.49 | 232.26 | 1.16 | 1.14 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 1,832,036 | 1,203,510 | 628,526 | 13,565,858 | 11,733,822 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 6.09 | 220.11 | 214.98 | 232.26 | 223.14 | 1.14 | 1.32 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | H04-20-H04-22 | J07-89 | J07-90 | 1,832,713 | 1,203,510 | 629,203 | 1,643,661 | -189,052 | PVC | 6 | 214.55 | 208.61 | 215.05 | 209.11 | 0.05136 | 0.013 | 7.74 | 215.05 | 209.22 | 223.14 | 216 | 0 | -0.11 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 1,833,196 | 1,203,510 | 629,686 | 10,468,942 | 8,635,746 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 5.07 | 209.22 | 206.22 | 216 | 215.87 | 1.14 | 1.13 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 1,858,912 | 1,203,510 | 655,402 | 12,098,686 | 10,239,774 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 5.64 | 206.22 | 200.12 | 215.87 | 208.82 | 1.13 | 1.13 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 1,863,015 | 1,203,510 | 659,505 | 11,807,931 | 9,944,916 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 5.54 | 200.12 | 194.05 | 208.82 | 204.07 | 1.13 | 1.28 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 1,866,128 | 1,203,510 | 662,618 | 11,904,542 | 10,038,414 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 4.27 | 194.17 | 193.03 | 204.07 | 200.58 | 1.41 | 1.41 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 2,005,921 | 1,203,510 | 802,411 | 25,483,412 | 23,477,491 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 5.91 | 193.03 | 182.84 | 200.58 | 197 | 1.66 | 1.57 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 2,136,215 | 1,203,510 | 932,705 | 10,620,231 | 8,484,016 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.23 | 182.84 | 182.09 | 197 | 198.97 | 1.57 | 1.58 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 2,139,162 | 1,203,510 | 935,652 | 10,925,568 | 8,786,406 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.3 | 182.09 | 180.91 | 198.97 | 192.83 | 1.58 | 1.56 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 2,147,295 | 1,203,510 | 943,785 | 10,554,288 | 8,406,993 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.22 | 180.91 | 180.13 | 192.83 | 190 | 1.56 | 1.55 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 2,147,749 | 1,203,510 | 944,239 | 10,350,223 | 8,202,474 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.18 | 180.13 | 178.84 | 190 | 186.72 | 1.55 | 1.53 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | K10-46-K10-44 | J09-22 | J09-24 | 2,157,907 | 1,203,510 | 954,397 | 164,574 | -1,993,333 | PVC | 6 | 178.12 | 178.07 | 178.62 | 178.57 | 0.00206 | 0.013 | 2.9 | 178.84 | 178.76 | 186.72 | 187.21 | -0.22 | -0.19 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 2,164,796 | 1,203,510 | 961,286 | 13,091,690 | 10,926,894 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.05 | 178.76 | 177.91 | 187.21 | 188.86 | 1.81 | 1.8 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 2,235,165 | 1,203,510 | 1,031,655 | 12,945,046 | 10,709,881 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.06 | 177.91 | 177.33 | 188.86 | 192.02 | 1.8 | 1.59 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 2,244,299 | 1,203,510 | 1,040,789 | 2,097,941 | -146,358 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.63 | 177.33 | 176 | 192.02 | 190.18 | 0.09 | 0.2 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 2,246,955 | 1,203,510 | 1,043,445 | 14,804,664 | 12,557,709 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.37 | 175.86 | 175.23 | 190.18 | 193.17 | 1.84 | 1.8 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 2,348,857 | 1,203,510 | 1,145,347 | 13,885,589 | 11,536,732 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.26 | 175.23 | 174.98 | 193.17 | 190 | 1.8 | 1.11 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 3,401,074 | 1,203,510 | 2,197,564 | 3,242,470 | -158,604 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1.16 | 174.98 | 174.27 | 190 | 184 | 1.11 | 1.74 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 3,407,161 | 1,203,510 | 2,203,651 | 30,316,999 | 26,909,838 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 6.32 | 174.27 | 169.41 | 184 | 177.94 | 1.74 | 0.16 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 3,411,899 | 1,203,510 | 2,208,389 | 16,547,967 | 13,136,068 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 1.08 | 169.41 | 168.99 | 177.94 | 178.87 | 0.16 | 1.74 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 3,430,401 | 1,203,510 | 2,226,891 | 31,703,658 | 28,273,257 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 6.54 | 168.99 | 162.16 | 178.87 | 173.01 | 1.74 | 1.74 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 3,431,849 | 1,203,510 | 2,228,339 | 16,871,263 | 13,439,414 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 4.17 | 162.16 | 160.79 | 173.01 | 172.44 | 1.74 | 1.71 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 3,707,824 | 1,203,510 | 2,504,314 | 21,975,368 | 18,267,544 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.15 | 160.79 | 158.59 | 172.44 | 171 | 1.71 | 1.71 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 3,710,310 | 1,203,510 | 2,506,800 | 20,565,867 | 16,855,557 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 4.92 | 158.59 | 156.93 | 171 | 170.85 | 1.71 | 1.48 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 3,754,261 | 1,203,510 | 2,550,751 | 15,002,227 | 11,247,966 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.73 | 156.93 | 156.38 | 170.85 | 167.67 | 1.98 | 2.1 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 3,758,402 | 1,203,510 | 2,554,892 | 19,181,160 | 15,422,758 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.26 | 156.38 | 155.73 | 167.67 | 169.54 | 2.1 | 2.07 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 3,939,993 | 1,203,510 | 2,736,483 | 18,895,751 | 14,955,758 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 3.27 | 155.73 | 155.12 | 169.54 | 168.44 | 2.07 | 2.22 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 3,951,890 | 1,203,510 | 2,748,380 | 34,641,163 | 30,689,273 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 5.04 | 155.12 | 150.75 | 168.44 | 163.03 | 2.22 | 2.12 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 5,083,526 | 1,203,510 | 3,880,016 | 27,412,575 | 22,329,049 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 4.59 | 150.75 | 149.18 | 163.03 | 157.11 | 2.12 | 2.12 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 5,088,557 | 1,203,510 | 3,885,047 | 26,953,521 | 21,864,964 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 4.53 | 149.18 | 147.7 | 157.11 | 157 | 2.12 | 2.05 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 5,852,873 | 1,203,510 | 4,649,363 | 35,454,075 | 29,601,202 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 5.74 | 147.7 | 143.66 | 157 | 155.42 | 2.05 | 2.05 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 5,854,696 | 1,203,510 | 4,651,186 | 29,311,144 | 23,456,448 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 5.01 | 143.66 | 140.8 | 155.42 | 155.66 | 2.05 | 1.86 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 5,855,528 | 1,203,510 | 4,652,018 | 19,102,000 | 13,246,472 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.68 | 140.8 | 140.08 | 155.66 | 151 | 1.86 | 1.93 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 5,855,528 | 1,203,510 | 4,652,018 | 21,549,863 | 15,694,335 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 4.01 | 140.08 | 138.52 | 151 | 144.74 | 1.93 | 1.88 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I07-33-I07-31 | I13-10 | I13-11 | 5,855,528 | 1,203,510 | 4,652,018 | 695,746 | -5,159,782 | PVC | 6 | 137.4 | 133.13 | 137.9 | 133.63 | 0.03681 | 0.013 | 11.03 | 138.52 | 134.78 | 144.74 | 139.73 | -0.62 | -1.15 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 5,858,627 | 1,203,510 | 4,655,117 | 6,124,076 | 265,449 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.53 | 134.78 | 133.97 | 139.73 | 142.95 | 1.35 | 2.05 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 5,870,820 | 1,203,510 | 4,667,310 | 30,407,121 | 24,536,301 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 5.15 | 133.97 | 131.33 | 142.95 | 138 | 2.05 | 2.05 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 5,884,233 | 1,203,510 | 4,680,723 | 42,793,558 | 36,909,325 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.57 | 131.33 | 127.65 | 138 | 138 | 2.05 | 0.54 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | M07-25-M07-8 | I14-3 | I14-5 | 5,888,551 | 1,203,510 | 4,685,041 | 180,739 | -5,707,812 | PVC | 6 | 125.19 | 124.9 | 125.69 | 125.4 | 0.00248 | 0.013 | 4.01 | 127.65 | 127.64 | 138 | 138 | -1.96 | -2.24 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 5,889,695 | 1,203,510 | 4,686,185 | 26,071,121 | 20,181,426 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.59 | 127.64 | 127.6 | 138 | 138 | 1.26 | 0.66 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 5,890,838 | 1,203,510 | 4,687,328 | 60,681,535 | 54,790,697 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.73 | 127.6 | 127.45 | 138 | 131.44 | 0.66 | 2.66 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | K10-7-K10-10 | I15-5 | I15-7 | 5,890,838 | 1,203,510 | 4,687,328 | 361,424 | -5,529,414 | PVC | 8 | 126.11 | 126.09 | 126.78 | 126.76 | 0.00127 | 0.01 | 3.07 | 127.45 | 127.44 | 131.44 | 131.37 | -0.67 | -0.68 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 10,302,991 | 1,203,510 | 9,099,481 | 33,686,043 | 23,383,052 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 9.33 | 127.44 | 126.97 | 131.37 | 131.41 | 1.15 | 1.4 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 10,302,991 | 1,203,510 | 9,099,481 | 38,080,441 | 27,777,450 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 10.2 | 127.22 | 127.18 | 131.41 | 131.36 | 1.15 | 0.32 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 13,472,769 | 1,203,510 | 12,269,259 | 2,608,858 | -10,863,911 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 4.25 | 127.18 | 126.54 | 131.36 | 131 | 0.32 | 0.95 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 13,481,915 | 1,203,510 | 12,278,405 | 30,788,053 | 17,306,138 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.51 | 126.46 | 125.39 | 131 | 131 | 1.53 | 1.61 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 21 (City_PWWF_2035 CP_2025_Worst)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | L13-7-L13-5 | _J05-7 | J05-8 | 2,772,454 | 2,772,454 | 0 | 811,300 | -1,961,154 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 12.29 | 286.84 | 272.59 | 276 | 274.78 | -13.17 | -0.14 | 113.1 | 0 | 113.1 |
| 2 | 3353 | M12-26-M12-21 | J05-8 | PolyVault | 2,907,121 | 2,772,454 | 134,667 | 878,463 | -2,028,658 | 0 | 6 | 271.78 | 265.55 | 272.28 | 266.05 | 0.05868 | 0.013 | 10.92 | 272.59 | 268.11 | 274.78 | 271.46 | -0.31 | -2.06 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | K08-33-K08-37 | PolyVault | J06-2 | 2,935,583 | 2,772,454 | 163,129 | 577,296 | -2,358,287 | PVC | 8 | 265.55 | 265.45 | 266.22 | 266.12 | 0.00323 | 0.01 | 8.33 | 268.11 | 266.79 | 271.46 | 270.98 | -1.89 | -0.67 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 3,053,525 | 2,772,454 | 281,071 | 2,566,826 | -486,699 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.85 | 266.79 | 265.54 | 270.98 | 269.39 | -0.09 | 0.36 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 3,116,462 | 2,772,454 | 344,008 | 4,834,667 | 1,718,205 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 6.48 | 265.54 | 259.98 | 269.39 | 268.74 | 0.36 | 0.35 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | H15-1-H15-3 | J06-14 | J06-16 | 3,179,398 | 2,772,454 | 406,944 | 8,688,008 | 5,508,610 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 10.11 | 259.98 | 258.75 | 268.74 | 268.74 | 0.35 | 0.35 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 3,209,189 | 2,772,454 | 436,735 | 3,996,050 | 786,861 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 5.6 | 258.75 | 257.23 | 268.74 | 263.77 | 0.35 | 0.34 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 3,240,139 | 2,772,454 | 467,685 | 4,717,610 | 1,477,471 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 6.41 | 257.23 | 253.36 | 263.77 | 260.51 | 0.34 | 0.34 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 3,271,645 | 2,772,454 | 499,191 | 4,079,514 | 807,869 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 5.72 | 253.36 | 250.01 | 260.51 | 254.58 | 0.34 | 0.13 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 3,304,094 | 2,772,454 | 531,640 | 3,118,540 | -185,554 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 4.44 | 250.01 | 249.19 | 254.58 | 253.74 | 0.13 | 0.12 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 4,146,759 | 2,772,454 | 1,374,305 | 3,888,589 | -258,170 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 5.51 | 249.19 | 247.64 | 253.74 | 254.51 | 0.12 | 0.23 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 4,177,924 | 2,772,454 | 1,405,470 | 7,526,611 | 3,348,687 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 9.74 | 247.64 | 239.79 | 254.51 | 243 | 0.23 | -3.91 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 4,208,931 | 2,772,454 | 1,436,477 | 6,405,009 | 2,196,078 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 5.31 | 239.79 | 237.23 | 243 | 243 | -3.91 | -7.29 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 4,517,033 | 2,772,454 | 1,744,579 | 1,501,102 | -3,015,931 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 5.7 | 237.23 | 233.97 | 243 | 242 | -7.29 | -4.39 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 4,545,495 | 2,772,454 | 1,773,041 | 3,345,571 | -1,199,924 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 5.73 | 233.97 | 230.65 | 242 | 241.27 | -4.39 | -2.87 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 4,573,957 | 2,772,454 | 1,801,503 | 1,905,990 | -2,667,967 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 5.77 | 230.65 | 226.98 | 241.27 | 235.52 | -2.87 | 0.18 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | M06-7-M06-6 | K07-69 | K07-28 | 4,602,419 | 2,772,454 | 1,829,965 | 651,277 | -3,951,142 | 0 | 6 | 225.91 | 222.53 | 226.41 | 223.03 | 0.03225 | 0.013 | 9.93 | 226.98 | 223.66 | 235.52 | 234.49 | -0.57 | -0.63 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 5,938,066 | 2,772,454 | 3,165,612 | 7,910,192 | 1,972,126 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 5.58 | 223.66 | 220.72 | 234.49 | 232.26 | 0.62 | 0.53 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 6,978,757 | 2,772,454 | 4,206,303 | 13,565,858 | 6,587,101 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 8.79 | 220.72 | 215.44 | 232.26 | 223.14 | 0.53 | 0.86 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | H04-20-H04-22 | J07-89 | J07-90 | 7,007,895 | 2,772,454 | 4,235,441 | 1,643,661 | -5,364,234 | PVC | 6 | 214.55 | 208.61 | 215.05 | 209.11 | 0.05136 | 0.013 | 11.02 | 215.49 | 209.84 | 223.14 | 216 | -0.44 | -0.73 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 7,036,841 | 2,772,454 | 4,264,387 | 10,468,942 | 3,432,101 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 7.22 | 209.84 | 206.85 | 216 | 215.87 | 0.52 | 0.5 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 7,316,691 | 2,772,454 | 4,544,237 | 12,098,686 | 4,781,995 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 8.15 | 206.85 | 200.76 | 215.87 | 208.82 | 0.5 | 0.49 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 7,326,974 | 2,772,454 | 4,554,520 | 11,807,931 | 4,480,957 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 8 | 200.76 | 194.58 | 208.82 | 204.07 | 0.49 | 0.75 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 7,336,264 | 2,772,454 | 4,563,810 | 11,904,542 | 4,568,278 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 6.17 | 194.79 | 193.65 | 204.07 | 200.58 | 0.79 | 0.79 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 7,918,433 | 2,772,454 | 5,145,979 | 25,483,412 | 17,564,979 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 8.75 | 193.65 | 189.42 | 200.58 | 197 | 1.04 | -5.01 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 8,645,971 | 2,772,454 | 5,873,517 | 10,620,231 | 1,974,260 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.36 | 189.42 | 188.93 | 197 | 198.97 | -5.01 | -5.26 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 8,661,275 | 2,772,454 | 5,888,821 | 10,925,568 | 2,264,293 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.37 | 188.93 | 188.18 | 198.97 | 192.83 | -5.26 | -5.71 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 8,691,034 | 2,772,454 | 5,918,580 | 10,554,288 | 1,863,254 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.38 | 188.18 | 187.64 | 192.83 | 190 | -5.71 | -5.96 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 8,697,667 | 2,772,454 | 5,925,213 | 10,350,223 | 1,652,556 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.38 | 187.64 | 186.72 | 190 | 186.72 | -5.96 | -6.35 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | K10-46-K10-44 | J09-22 | J09-24 | 8,720,183 | 2,772,454 | 5,947,729 | 164,574 | -8,555,609 | PVC | 6 | 178.12 | 178.07 | 178.62 | 178.57 | 0.00206 | 0.013 | 3.39 | 187.25 | 187.21 | 186.72 | 187.21 | -8.63 | -8.64 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 10,948,619 | 2,772,454 | 8,176,165 | 13,091,690 | 2,143,071 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.45 | 189.46 | 188.86 | 187.21 | 188.86 | -8.89 | -9.15 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 11,555,413 | 2,772,454 | 8,782,959 | 12,945,046 | 1,389,633 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.64 | 192.65 | 192.02 | 188.86 | 192.02 | -12.94 | -13.1 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 11,595,443 | 2,772,454 | 8,822,989 | 2,097,941 | -9,497,502 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 22.84 | 216.14 | 178.87 | 192.02 | 190.18 | -38.72 | -2.67 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 11,604,278 | 2,772,454 | 8,831,824 | 14,804,664 | 3,200,386 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.66 | 178.87 | 178.46 | 190.18 | 193.17 | -1.17 | -1.43 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 11,860,394 | 2,772,454 | 9,087,940 | 13,885,589 | 2,025,195 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.74 | 178.46 | 177.77 | 193.17 | 190 | -1.43 | -1.68 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 16,929,870 | 2,772,454 | 14,157,416 | 3,242,470 | -13,687,400 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 5.34 | 177.77 | 175.26 | 190 | 184 | -1.68 | 0.75 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 16,942,137 | 2,772,454 | 14,169,683 | 30,316,999 | 13,374,862 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 9.82 | 175.26 | 171.55 | 184 | 177.94 | 0.75 | -1.98 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 16,953,053 | 2,772,454 | 14,180,599 | 16,547,967 | -405,086 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 5.34 | 171.55 | 169.98 | 177.94 | 178.87 | -1.98 | 0.75 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 17,008,630 | 2,772,454 | 14,236,176 | 31,703,658 | 14,695,028 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 10.17 | 169.98 | 166.57 | 178.87 | 173.01 | 0.75 | -2.67 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 17,016,257 | 2,772,454 | 14,243,803 | 16,871,263 | -144,994 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 5.36 | 166.57 | 165.15 | 173.01 | 172.44 | -2.67 | -2.65 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 17,554,350 | 2,772,454 | 14,781,896 | 21,975,368 | 4,421,018 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.53 | 165.15 | 163.74 | 172.44 | 171 | -2.65 | -3.44 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 17,563,015 | 2,772,454 | 14,790,561 | 20,565,867 | 3,002,852 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 5.54 | 163.74 | 162.37 | 171 | 170.85 | -3.44 | -3.96 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 18,340,039 | 2,772,454 | 15,567,585 | 15,002,227 | -3,337,812 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 4.01 | 162.37 | 161.72 | 170.85 | 167.67 | -3.46 | -3.24 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 18,362,717 | 2,772,454 | 15,590,263 | 19,181,160 | 818,443 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 4.02 | 161.72 | 161.1 | 167.67 | 169.54 | -3.24 | -3.3 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 22,218,067 | 2,772,454 | 19,445,613 | 18,895,751 | -3,322,316 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 4.86 | 161.1 | 160.46 | 169.54 | 168.44 | -3.3 | -3.12 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 22,248,501 | 2,772,454 | 19,476,047 | 34,641,163 | 12,392,662 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.87 | 160.46 | 158.62 | 168.44 | 163.03 | -3.12 | -5.75 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 27,296,200 | 2,772,454 | 24,523,746 | 27,412,575 | 116,375 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 5.97 | 158.62 | 157.06 | 163.03 | 157.11 | -5.75 | -5.76 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 27,307,408 | 2,772,454 | 24,534,954 | 26,953,521 | -353,887 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 5.98 | 157.06 | 155.47 | 157.11 | 157 | -5.76 | -5.72 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 29,873,620 | 2,772,454 | 27,101,166 | 35,454,075 | 5,580,455 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 6.54 | 155.47 | 152.6 | 157 | 155.42 | -5.72 | -6.89 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 29,881,620 | 2,772,454 | 27,109,166 | 29,311,144 | -570,476 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 6.54 | 152.6 | 149.43 | 155.42 | 155.66 | -6.89 | -6.77 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 29,888,632 | 2,772,454 | 27,116,178 | 19,102,000 | -10,786,632 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 6.54 | 149.43 | 147.84 | 155.66 | 151 | -6.77 | -5.83 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 29,894,811 | 2,772,454 | 27,122,357 | 21,549,863 | -8,344,948 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 6.54 | 147.84 | 144.74 | 151 | 144.74 | -5.83 | -4.34 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I07-33-I07-31 | I13-10 | I13-11 | 29,900,989 | 2,772,454 | 27,128,535 | 695,746 | -29,205,243 | PVC | 6 | 137.4 | 133.13 | 137.9 | 133.63 | 0.03681 | 0.013 | 19.23 | 149.62 | 139.73 | 144.74 | 139.73 | -11.72 | -6.1 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 29,910,269 | 2,772,454 | 27,137,815 | 6,124,076 | -23,786,193 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 6.55 | 140.97 | 138.34 | 139.73 | 142.95 | -4.84 | -2.32 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 29,928,640 | 2,772,454 | 27,156,186 | 30,407,121 | 478,481 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 6.55 | 138.34 | 135.79 | 142.95 | 138 | -2.32 | -2.41 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 29,948,231 | 2,772,454 | 27,175,777 | 42,793,558 | 12,845,327 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.56 | 135.79 | 133.24 | 138 | 138 | -2.41 | -5.05 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | M07-25-M07-8 | I14-3 | I14-5 | 29,958,729 | 2,772,454 | 27,186,275 | 180,739 | -29,777,990 | PVC | 6 | 125.19 | 124.9 | 125.69 | 125.4 | 0.00248 | 0.013 | 6.56 | 133.24 | 132.68 | 138 | 138 | -7.55 | -7.28 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 29,966,051 | 2,772,454 | 27,193,597 | 26,071,121 | -3,894,930 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 3.69 | 132.68 | 131.84 | 138 | 138 | -3.78 | -3.58 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 29,973,374 | 2,772,454 | 27,200,920 | 60,681,535 | 30,708,161 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 3.69 | 131.84 | 131.38 | 138 | 131.44 | -3.58 | -1.27 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | K10-7-K10-10 | I15-5 | I15-7 | 29,979,552 | 2,772,454 | 27,207,098 | 361,424 | -29,618,128 | PVC | 8 | 126.11 | 126.09 | 126.78 | 126.76 | 0.00127 | 0.01 | 3.69 | 131.38 | 131.37 | 131.44 | 131.37 | -4.6 | -4.61 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 36,422,223 | 2,772,454 | 33,649,769 | 33,686,043 | -2,736,180 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 11.48 | 131.67 | 131.41 | 131.37 | 131.41 | -3.08 | -3.04 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 36,428,402 | 2,772,454 | 33,655,948 | 38,080,441 | 1,652,039 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 11.48 | 131.48 | 130.68 | 131.41 | 131.36 | -3.11 | -3.18 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 39,598,178 | 2,772,454 | 36,825,724 | 2,608,858 | -36,989,320 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 12.48 | 130.68 | 128.38 | 131.36 | 131 | -3.18 | -0.89 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 39,632,042 | 2,772,454 | 36,859,588 | 30,788,053 | -8,843,989 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 8.67 | 128.38 | 126.53 | 131 | 131 | -0.39 | 0.47 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 22 (City_ADWF_2035 CP_2030)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | L13-7-L13-5 | _J05-7 | J05-8 | 235,641 | 235,641 | 0 | 811,300 | 575,659 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 3.12 | 273.28 | 272.07 | 276 | 274.78 | 0.39 | 0.38 | 113.1 | 0 | 113.1 |
| 2 | 3353 | M12-26-M12-21 | J05-8 | PolyVault | 290,641 | 235,641 | 55,000 | 878,463 | 587,822 | 0 | 6 | 271.78 | 265.55 | 272.28 | 266.05 | 0.05868 | 0.013 | 5.93 | 272.07 | 265.9 | 274.78 | 271.46 | 0.21 | 0.15 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | K08-33-K08-37 | PolyVault | J06-2 | 290,641 | 235,641 | 55,000 | 577,296 | 286,655 | PVC | 8 | 265.55 | 265.45 | 266.22 | 266.12 | 0.00323 | 0.01 | 2.1 | 265.9 | 265.74 | 271.46 | 270.98 | 0.32 | 0.38 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 292,816 | 235,641 | 57,175 | 2,566,826 | 2,274,010 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 2.15 | 265.74 | 264.92 | 270.98 | 269.39 | 0.96 | 0.98 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 311,588 | 235,641 | 75,947 | 4,834,667 | 4,523,079 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 3.43 | 264.92 | 259.36 | 269.39 | 268.74 | 0.98 | 0.97 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | H15-1-H15-3 | J06-14 | J06-16 | 330,360 | 235,641 | 94,719 | 8,688,008 | 8,357,648 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 5.26 | 259.36 | 258.13 | 268.74 | 268.74 | 0.97 | 0.97 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 331,084 | 235,641 | 95,443 | 3,996,050 | 3,664,966 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 3.05 | 258.13 | 256.6 | 268.74 | 263.77 | 0.97 | 0.97 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 332,439 | 235,641 | 96,798 | 4,717,610 | 4,385,171 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 3.43 | 256.6 | 252.73 | 263.77 | 260.51 | 0.97 | 0.97 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 334,096 | 235,641 | 98,455 | 4,079,514 | 3,745,418 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 3.1 | 252.73 | 249.17 | 260.51 | 254.58 | 0.97 | 0.97 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 336,267 | 235,641 | 100,626 | 3,118,540 | 2,782,273 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 2.57 | 249.17 | 248.36 | 254.58 | 253.74 | 0.97 | 0.95 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 376,607 | 235,641 | 140,966 | 3,888,589 | 3,511,982 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 3.11 | 248.36 | 246.92 | 253.74 | 254.51 | 0.95 | 0.95 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 378,053 | 235,641 | 142,412 | 7,526,611 | 7,148,558 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 4.95 | 246.92 | 234.93 | 254.51 | 243 | 0.95 | 0.95 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 379,414 | 235,641 | 143,773 | 6,405,009 | 6,025,595 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 4.43 | 234.93 | 229.15 | 243 | 243 | 0.95 | 0.79 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 438,697 | 235,641 | 203,056 | 1,501,102 | 1,062,405 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 1.64 | 229.15 | 228.65 | 243 | 242 | 0.79 | 0.93 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 438,697 | 235,641 | 203,056 | 3,345,571 | 2,906,874 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 2.92 | 228.65 | 226.94 | 242 | 241.27 | 0.93 | 0.84 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 438,697 | 235,641 | 203,056 | 1,905,990 | 1,467,293 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 1.95 | 226.94 | 226.23 | 241.27 | 235.52 | 0.84 | 0.93 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | M06-7-M06-6 | K07-69 | K07-28 | 438,697 | 235,641 | 203,056 | 651,277 | 212,580 | 0 | 6 | 225.91 | 222.53 | 226.41 | 223.03 | 0.03225 | 0.013 | 5.16 | 226.23 | 222.74 | 235.52 | 234.49 | 0.18 | 0.29 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 518,008 | 235,641 | 282,367 | 7,910,192 | 7,392,184 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 2.87 | 222.85 | 219.84 | 234.49 | 232.26 | 1.43 | 1.41 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 571,532 | 235,641 | 335,891 | 13,565,858 | 12,994,326 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 4.32 | 219.84 | 214.8 | 232.26 | 223.14 | 1.41 | 1.5 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | H04-20-H04-22 | J07-89 | J07-90 | 571,897 | 235,641 | 336,256 | 1,643,661 | 1,071,764 | PVC | 6 | 214.55 | 208.61 | 215.05 | 209.11 | 0.05136 | 0.013 | 5.5 | 214.83 | 208.95 | 223.14 | 216 | 0.22 | 0.16 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 572,160 | 235,641 | 336,519 | 10,468,942 | 9,896,782 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 3.6 | 208.95 | 205.94 | 216 | 215.87 | 1.41 | 1.41 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 585,541 | 235,641 | 349,900 | 12,098,686 | 11,513,145 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 4.02 | 205.94 | 199.84 | 215.87 | 208.82 | 1.41 | 1.41 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 587,665 | 235,641 | 352,024 | 11,807,931 | 11,220,266 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 3.95 | 199.84 | 193.85 | 208.82 | 204.07 | 1.41 | 1.48 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 589,277 | 235,641 | 353,636 | 11,904,542 | 11,315,265 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 3.05 | 193.91 | 192.78 | 204.07 | 200.58 | 1.67 | 1.66 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 661,614 | 235,641 | 425,973 | 25,483,412 | 24,821,798 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 4.24 | 192.78 | 182.56 | 200.58 | 197 | 1.91 | 1.85 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 734,393 | 235,641 | 498,752 | 10,620,231 | 9,885,838 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 2.37 | 182.56 | 181.82 | 197 | 198.97 | 1.85 | 1.85 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 735,919 | 235,641 | 500,278 | 10,925,568 | 10,189,649 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 2.42 | 181.82 | 180.62 | 198.97 | 192.83 | 1.85 | 1.85 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 740,130 | 235,641 | 504,489 | 10,554,288 | 9,814,158 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 2.37 | 180.62 | 179.84 | 192.83 | 190 | 1.85 | 1.84 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 740,365 | 235,641 | 504,724 | 10,350,223 | 9,609,858 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 2.33 | 179.84 | 178.55 | 190 | 186.72 | 1.84 | 1.82 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | K10-46-K10-44 | J09-22 | J09-24 | 745,625 | 235,641 | 509,984 | 164,574 | -581,051 | PVC | 6 | 178.12 | 178.07 | 178.62 | 178.57 | 0.00206 | 0.013 | 2.13 | 178.55 | 178.48 | 186.72 | 187.21 | 0.07 | 0.09 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 749,192 | 235,641 | 513,551 | 13,091,690 | 12,342,498 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.24 | 178.48 | 177.63 | 187.21 | 188.86 | 2.09 | 2.08 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 785,325 | 235,641 | 549,684 | 12,945,046 | 12,159,721 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.25 | 177.63 | 176.89 | 188.86 | 192.02 | 2.08 | 2.03 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 790,056 | 235,641 | 554,415 | 2,097,941 | 1,307,885 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 3.84 | 176.89 | 175.63 | 192.02 | 190.18 | 0.53 | 0.57 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 791,431 | 235,641 | 555,790 | 14,804,664 | 14,013,233 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 2.48 | 175.59 | 174.95 | 190.18 | 193.17 | 2.11 | 2.08 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 843,620 | 235,641 | 607,979 | 13,885,589 | 13,041,969 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 2.42 | 174.95 | 174.51 | 193.17 | 190 | 2.08 | 1.58 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 1,408,165 | 235,641 | 1,172,524 | 3,242,470 | 1,834,305 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 0.99 | 174.51 | 173.99 | 190 | 184 | 1.58 | 2.02 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 1,411,317 | 235,641 | 1,175,676 | 30,316,999 | 28,905,682 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 4.87 | 173.99 | 168.98 | 184 | 177.94 | 2.02 | 0.59 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 1,413,770 | 235,641 | 1,178,129 | 16,547,967 | 15,134,197 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.45 | 168.98 | 168.71 | 177.94 | 178.87 | 0.59 | 2.02 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 1,423,350 | 235,641 | 1,187,709 | 31,703,658 | 30,280,308 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 5.04 | 168.71 | 161.89 | 178.87 | 173.01 | 2.02 | 2.01 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 1,424,100 | 235,641 | 1,188,459 | 16,871,263 | 15,447,163 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 3.24 | 161.89 | 160.51 | 173.01 | 172.44 | 2.01 | 1.99 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 1,561,009 | 235,641 | 1,325,368 | 21,975,368 | 20,414,359 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 4.01 | 160.51 | 158.31 | 172.44 | 171 | 1.99 | 1.99 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 1,562,296 | 235,641 | 1,326,655 | 20,565,867 | 19,003,571 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 3.82 | 158.31 | 156.57 | 171 | 170.85 | 1.99 | 1.84 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 1,585,078 | 235,641 | 1,349,437 | 15,002,227 | 13,417,149 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.13 | 156.57 | 156.06 | 170.85 | 167.67 | 2.34 | 2.42 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 1,587,222 | 235,641 | 1,351,581 | 19,181,160 | 17,593,938 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 2.54 | 156.06 | 155.41 | 167.67 | 169.54 | 2.42 | 2.39 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 1,687,431 | 235,641 | 1,451,790 | 18,895,751 | 17,208,320 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 2.56 | 155.41 | 154.84 | 169.54 | 168.44 | 2.39 | 2.5 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 1,693,592 | 235,641 | 1,457,951 | 34,641,163 | 32,947,571 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 3.92 | 154.84 | 150.46 | 168.44 | 163.03 | 2.5 | 2.41 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 2,302,338 | 235,641 | 2,066,697 | 27,412,575 | 25,110,237 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 3.65 | 150.46 | 148.89 | 163.03 | 157.11 | 2.41 | 2.41 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 2,304,943 | 235,641 | 2,069,302 | 26,953,521 | 24,648,578 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 3.6 | 148.89 | 147.41 | 157.11 | 157 | 2.41 | 2.34 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 2,896,682 | 235,641 | 2,661,041 | 35,454,075 | 32,557,393 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 4.68 | 147.41 | 143.37 | 157 | 155.42 | 2.34 | 2.34 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 2,897,625 | 235,641 | 2,661,984 | 29,311,144 | 26,413,519 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 4.09 | 143.37 | 140.45 | 155.42 | 155.66 | 2.34 | 2.21 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 2,898,057 | 235,641 | 2,662,416 | 19,102,000 | 16,203,943 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.02 | 140.45 | 139.75 | 155.66 | 151 | 2.21 | 2.26 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 2,898,057 | 235,641 | 2,662,416 | 21,549,863 | 18,651,806 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.29 | 139.75 | 138.17 | 151 | 144.74 | 2.26 | 2.23 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I07-33-I07-31 | I13-10 | I13-11 | 2,898,057 | 235,641 | 2,662,416 | 695,746 | -2,202,311 | PVC | 6 | 137.4 | 133.13 | 137.9 | 133.63 | 0.03681 | 0.013 | 9.05 | 138.17 | 134.31 | 144.74 | 139.73 | -0.27 | -0.68 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 2,899,661 | 235,641 | 2,664,020 | 6,124,076 | 3,224,415 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.32 | 134.31 | 133.68 | 139.73 | 142.95 | 1.82 | 2.34 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 2,905,976 | 235,641 | 2,670,335 | 30,407,121 | 27,501,145 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.2 | 133.68 | 131.04 | 142.95 | 138 | 2.34 | 2.34 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 2,912,921 | 235,641 | 2,677,280 | 42,793,558 | 39,880,637 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 5.35 | 131.04 | 127.29 | 138 | 138 | 2.34 | 0.9 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | M07-25-M07-8 | I14-3 | I14-5 | 2,915,158 | 235,641 | 2,679,517 | 180,739 | -2,734,419 | PVC | 6 | 125.19 | 124.9 | 125.69 | 125.4 | 0.00248 | 0.013 | 3.29 | 127.29 | 127.28 | 138 | 138 | -1.6 | -1.88 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 2,915,750 | 235,641 | 2,680,109 | 26,071,121 | 23,155,371 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.12 | 127.28 | 127.27 | 138 | 138 | 1.62 | 0.99 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 2,916,342 | 235,641 | 2,680,701 | 60,681,535 | 57,765,193 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.36 | 127.27 | 127.2 | 138 | 131.44 | 0.99 | 2.91 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | K10-7-K10-10 | I15-5 | I15-7 | 2,916,342 | 235,641 | 2,680,701 | 361,424 | -2,554,918 | PVC | 8 | 126.11 | 126.09 | 126.78 | 126.76 | 0.00127 | 0.01 | 2.51 | 127.2 | 127.2 | 131.44 | 131.37 | -0.42 | -0.44 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 7,078,489 | 235,641 | 6,842,848 | 33,686,043 | 26,607,554 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 8.41 | 127.2 | 126.76 | 131.37 | 131.41 | 1.39 | 1.61 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 7,078,489 | 235,641 | 6,842,848 | 38,080,441 | 31,001,952 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.18 | 126.98 | 126.88 | 131.41 | 131.36 | 1.39 | 0.62 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 10,248,267 | 235,641 | 10,012,626 | 2,608,858 | -7,639,409 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.23 | 126.88 | 126.33 | 131.36 | 131 | 0.62 | 1.16 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 10,253,002 | 235,641 | 10,017,361 | 30,788,053 | 20,535,051 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.06 | 126.26 | 125.19 | 131 | 131 | 1.73 | 1.81 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 23 (City_PDWF_2035 CP_2030)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | L13-7-L13-5 | _J05-7 | J05-8 | 1,155,454 | 1,155,454 | 0 | 811,300 | -344,154 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 5.12 | 274.9 | 272.41 | 276 | 274.78 | -1.23 | 0.04 | 113.1 | 0 | 113.1 |
| 2 | 3353 | M12-26-M12-21 | J05-8 | PolyVault | 1,261,659 | 1,155,454 | 106,205 | 878,463 | -383,196 | 0 | 6 | 271.78 | 265.55 | 272.28 | 266.05 | 0.05868 | 0.013 | 8.99 | 272.41 | 266.41 | 274.78 | 271.46 | -0.13 | -0.36 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | K08-33-K08-37 | PolyVault | J06-2 | 1,261,659 | 1,155,454 | 106,205 | 577,296 | -684,363 | PVC | 8 | 265.55 | 265.45 | 266.22 | 266.12 | 0.00323 | 0.01 | 3.58 | 266.41 | 266.08 | 271.46 | 270.98 | -0.19 | 0.04 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 1,265,752 | 1,155,454 | 110,298 | 2,566,826 | 1,301,074 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.23 | 266.07 | 265.22 | 270.98 | 269.39 | 0.63 | 0.68 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 1,300,226 | 1,155,454 | 144,772 | 4,834,667 | 3,534,441 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 5.17 | 265.22 | 259.65 | 269.39 | 268.74 | 0.68 | 0.68 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | H15-1-H15-3 | J06-14 | J06-16 | 1,334,700 | 1,155,454 | 179,246 | 8,688,008 | 7,353,308 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 7.93 | 259.65 | 258.42 | 268.74 | 268.74 | 0.68 | 0.68 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 1,336,029 | 1,155,454 | 180,575 | 3,996,050 | 2,660,021 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 4.54 | 258.42 | 256.89 | 268.74 | 263.77 | 0.68 | 0.68 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 1,338,517 | 1,155,454 | 183,063 | 4,717,610 | 3,379,093 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 5.12 | 256.89 | 253.02 | 263.77 | 260.51 | 0.68 | 0.68 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 1,341,561 | 1,155,454 | 186,107 | 4,079,514 | 2,737,953 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 4.61 | 253.02 | 249.47 | 260.51 | 254.58 | 0.68 | 0.67 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 1,345,547 | 1,155,454 | 190,093 | 3,118,540 | 1,772,993 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 3.79 | 249.47 | 248.65 | 254.58 | 253.74 | 0.67 | 0.66 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 1,419,734 | 1,155,454 | 264,280 | 3,888,589 | 2,468,855 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 4.52 | 248.65 | 247.21 | 253.74 | 254.51 | 0.66 | 0.66 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 1,422,436 | 1,155,454 | 266,982 | 7,526,611 | 6,104,175 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 7.29 | 247.21 | 235.22 | 254.51 | 243 | 0.66 | 0.66 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 1,424,981 | 1,155,454 | 269,527 | 6,405,009 | 4,980,028 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 6.5 | 235.22 | 229.66 | 243 | 243 | 0.66 | 0.28 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 1,533,847 | 1,155,454 | 378,393 | 1,501,102 | -32,745 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 2.15 | 229.66 | 228.95 | 243 | 242 | 0.28 | 0.63 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 1,533,847 | 1,155,454 | 378,393 | 3,345,571 | 1,811,724 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 4.13 | 228.95 | 227.38 | 242 | 241.27 | 0.63 | 0.4 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 1,533,847 | 1,155,454 | 378,393 | 1,905,990 | 372,143 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.67 | 227.38 | 226.53 | 241.27 | 235.52 | 0.4 | 0.63 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | M06-7-M06-6 | K07-69 | K07-28 | 1,533,847 | 1,155,454 | 378,393 | 651,277 | -882,570 | 0 | 6 | 225.91 | 222.53 | 226.41 | 223.03 | 0.03225 | 0.013 | 7.43 | 226.53 | 222.91 | 235.52 | 234.49 | -0.12 | 0.12 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 1,685,631 | 1,155,454 | 530,177 | 7,910,192 | 6,224,561 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 4.04 | 223.11 | 220.1 | 234.49 | 232.26 | 1.17 | 1.15 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 1,783,980 | 1,155,454 | 628,526 | 13,565,858 | 11,781,878 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 6.04 | 220.1 | 214.98 | 232.26 | 223.14 | 1.15 | 1.32 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | H04-20-H04-22 | J07-89 | J07-90 | 1,784,656 | 1,155,454 | 629,202 | 1,643,661 | -140,995 | PVC | 6 | 214.55 | 208.61 | 215.05 | 209.11 | 0.05136 | 0.013 | 7.68 | 215.05 | 209.21 | 223.14 | 216 | 0 | -0.1 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 1,785,140 | 1,155,454 | 629,686 | 10,468,942 | 8,683,802 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 5.02 | 209.21 | 206.21 | 216 | 215.87 | 1.15 | 1.14 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 1,810,856 | 1,155,454 | 655,402 | 12,098,686 | 10,287,830 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 5.59 | 206.21 | 200.11 | 215.87 | 208.82 | 1.14 | 1.14 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 1,814,959 | 1,155,454 | 659,505 | 11,807,931 | 9,992,972 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 5.5 | 200.11 | 194.04 | 208.82 | 204.07 | 1.14 | 1.29 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 1,818,072 | 1,155,454 | 662,618 | 11,904,542 | 10,086,470 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 4.24 | 194.16 | 193.03 | 204.07 | 200.58 | 1.42 | 1.41 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 1,957,865 | 1,155,454 | 802,411 | 25,483,412 | 23,525,547 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 5.87 | 193.03 | 182.84 | 200.58 | 197 | 1.66 | 1.57 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 2,088,159 | 1,155,454 | 932,705 | 10,620,231 | 8,532,072 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.21 | 182.84 | 182.09 | 197 | 198.97 | 1.57 | 1.58 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 2,091,106 | 1,155,454 | 935,652 | 10,925,568 | 8,834,462 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.28 | 182.09 | 180.9 | 198.97 | 192.83 | 1.58 | 1.57 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 2,099,239 | 1,155,454 | 943,785 | 10,554,288 | 8,455,049 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.2 | 180.9 | 180.12 | 192.83 | 190 | 1.57 | 1.56 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 2,099,693 | 1,155,454 | 944,239 | 10,350,223 | 8,250,530 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.16 | 180.12 | 178.83 | 190 | 186.72 | 1.56 | 1.54 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | K10-46-K10-44 | J09-22 | J09-24 | 2,109,851 | 1,155,454 | 954,397 | 164,574 | -1,945,277 | PVC | 6 | 178.12 | 178.07 | 178.62 | 178.57 | 0.00206 | 0.013 | 2.88 | 178.83 | 178.75 | 186.72 | 187.21 | -0.21 | -0.18 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 2,116,740 | 1,155,454 | 961,286 | 13,091,690 | 10,974,950 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.03 | 178.75 | 177.91 | 187.21 | 188.86 | 1.82 | 1.8 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 2,187,109 | 1,155,454 | 1,031,655 | 12,945,046 | 10,757,937 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.04 | 177.91 | 177.29 | 188.86 | 192.02 | 1.8 | 1.63 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 2,196,243 | 1,155,454 | 1,040,789 | 2,097,941 | -98,302 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.69 | 177.29 | 175.99 | 192.02 | 190.18 | 0.13 | 0.21 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 2,198,899 | 1,155,454 | 1,043,445 | 14,804,664 | 12,605,765 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.35 | 175.85 | 175.22 | 190.18 | 193.17 | 1.85 | 1.81 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 2,300,801 | 1,155,454 | 1,145,347 | 13,885,589 | 11,584,788 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.24 | 175.22 | 174.97 | 193.17 | 190 | 1.81 | 1.12 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 3,353,018 | 1,155,454 | 2,197,564 | 3,242,470 | -110,548 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1.16 | 174.97 | 174.26 | 190 | 184 | 1.12 | 1.75 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 3,359,105 | 1,155,454 | 2,203,651 | 30,316,999 | 26,957,894 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 6.3 | 174.26 | 169.4 | 184 | 177.94 | 1.75 | 0.17 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 3,363,843 | 1,155,454 | 2,208,389 | 16,547,967 | 13,184,124 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 1.06 | 169.4 | 168.99 | 177.94 | 178.87 | 0.17 | 1.74 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 3,382,345 | 1,155,454 | 2,226,891 | 31,703,658 | 28,321,313 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 6.51 | 168.99 | 162.16 | 178.87 | 173.01 | 1.74 | 1.74 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 3,383,793 | 1,155,454 | 2,228,339 | 16,871,263 | 13,487,470 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 4.16 | 162.16 | 160.79 | 173.01 | 172.44 | 1.74 | 1.71 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 3,659,768 | 1,155,454 | 2,504,314 | 21,975,368 | 18,315,600 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.13 | 160.79 | 158.59 | 172.44 | 171 | 1.71 | 1.71 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 3,662,254 | 1,155,454 | 2,506,800 | 20,565,867 | 16,903,613 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 4.9 | 158.59 | 156.92 | 171 | 170.85 | 1.71 | 1.49 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 3,706,205 | 1,155,454 | 2,550,751 | 15,002,227 | 11,296,022 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.72 | 156.92 | 156.37 | 170.85 | 167.67 | 1.99 | 2.11 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 3,710,346 | 1,155,454 | 2,554,892 | 19,181,160 | 15,470,814 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.25 | 156.37 | 155.72 | 167.67 | 169.54 | 2.11 | 2.08 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 3,891,937 | 1,155,454 | 2,736,483 | 18,895,751 | 15,003,814 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 3.26 | 155.72 | 155.11 | 169.54 | 168.44 | 2.08 | 2.23 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 3,903,834 | 1,155,454 | 2,748,380 | 34,641,163 | 30,737,329 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 5.02 | 155.11 | 150.75 | 168.44 | 163.03 | 2.23 | 2.12 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 5,035,470 | 1,155,454 | 3,880,016 | 27,412,575 | 22,377,105 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 4.57 | 150.75 | 149.18 | 163.03 | 157.11 | 2.12 | 2.12 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 5,040,501 | 1,155,454 | 3,885,047 | 26,953,521 | 21,913,020 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 4.52 | 149.18 | 147.7 | 157.11 | 157 | 2.12 | 2.05 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 5,804,816 | 1,155,454 | 4,649,362 | 35,454,075 | 29,649,259 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 5.72 | 147.7 | 143.66 | 157 | 155.42 | 2.05 | 2.05 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 5,806,640 | 1,155,454 | 4,651,186 | 29,311,144 | 23,504,504 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 5 | 143.66 | 140.79 | 155.42 | 155.66 | 2.05 | 1.87 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 5,807,472 | 1,155,454 | 4,652,018 | 19,102,000 | 13,294,528 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.67 | 140.79 | 140.07 | 155.66 | 151 | 1.87 | 1.94 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 5,807,472 | 1,155,454 | 4,652,018 | 21,549,863 | 15,742,391 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 4 | 140.07 | 138.51 | 151 | 144.74 | 1.94 | 1.89 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I07-33-I07-31 | I13-10 | I13-11 | 5,807,472 | 1,155,454 | 4,652,018 | 695,746 | -5,111,726 | PVC | 6 | 137.4 | 133.13 | 137.9 | 133.63 | 0.03681 | 0.013 | 11.01 | 138.51 | 134.77 | 144.74 | 139.73 | -0.61 | -1.14 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 5,810,572 | 1,155,454 | 4,655,118 | 6,124,076 | 313,504 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.53 | 134.77 | 133.97 | 139.73 | 142.95 | 1.36 | 2.05 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 5,822,765 | 1,155,454 | 4,667,311 | 30,407,121 | 24,584,356 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 5.13 | 133.97 | 131.33 | 142.95 | 138 | 2.05 | 2.05 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 5,836,176 | 1,155,454 | 4,680,722 | 42,793,558 | 36,957,382 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.55 | 131.33 | 127.65 | 138 | 138 | 2.05 | 0.54 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | M07-25-M07-8 | I14-3 | I14-5 | 5,840,495 | 1,155,454 | 4,685,041 | 180,739 | -5,659,756 | PVC | 6 | 125.19 | 124.9 | 125.69 | 125.4 | 0.00248 | 0.013 | 4 | 127.65 | 127.63 | 138 | 138 | -1.96 | -2.23 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 5,841,638 | 1,155,454 | 4,686,184 | 26,071,121 | 20,229,483 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.59 | 127.63 | 127.6 | 138 | 138 | 1.27 | 0.66 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 5,842,782 | 1,155,454 | 4,687,328 | 60,681,535 | 54,838,753 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.72 | 127.6 | 127.44 | 138 | 131.44 | 0.66 | 2.67 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | K10-7-K10-10 | I15-5 | I15-7 | 5,842,782 | 1,155,454 | 4,687,328 | 361,424 | -5,481,358 | PVC | 8 | 126.11 | 126.09 | 126.78 | 126.76 | 0.00127 | 0.01 | 3.07 | 127.44 | 127.44 | 131.44 | 131.37 | -0.66 | -0.68 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 10,254,935 | 1,155,454 | 9,099,481 | 33,686,043 | 23,431,108 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 9.32 | 127.44 | 126.97 | 131.37 | 131.41 | 1.15 | 1.4 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 10,254,935 | 1,155,454 | 9,099,481 | 38,080,441 | 27,825,506 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 10.19 | 127.22 | 127.17 | 131.41 | 131.36 | 1.15 | 0.33 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 13,424,713 | 1,155,454 | 12,269,259 | 2,608,858 | -10,815,855 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 4.23 | 127.17 | 126.54 | 131.36 | 131 | 0.33 | 0.95 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 13,433,859 | 1,155,454 | 12,278,405 | 30,788,053 | 17,354,194 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.51 | 126.45 | 125.39 | 131 | 131 | 1.54 | 1.61 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 24 (City_PWWF_2035 CP_2030)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | L13-7-L13-5 | _J05-7 | J05-8 | 2,724,398 | 2,724,398 | 0 | 811,300 | -1,913,098 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 12.08 | 286.35 | 272.59 | 276 | 274.78 | -12.68 | -0.14 | 113.1 | 0 | 113.1 |
| 2 | 3353 | M12-26-M12-21 | J05-8 | PolyVault | 2,859,065 | 2,724,398 | 134,667 | 878,463 | -1,980,602 | 0 | 6 | 271.78 | 265.55 | 272.28 | 266.05 | 0.05868 | 0.013 | 10.89 | 272.59 | 268.02 | 274.78 | 271.46 | -0.31 | -1.97 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | K08-33-K08-37 | PolyVault | J06-2 | 2,887,527 | 2,724,398 | 163,129 | 577,296 | -2,310,231 | PVC | 8 | 265.55 | 265.45 | 266.22 | 266.12 | 0.00323 | 0.01 | 8.19 | 268.02 | 266.74 | 271.46 | 270.98 | -1.8 | -0.62 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 3,005,469 | 2,724,398 | 281,071 | 2,566,826 | -438,643 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.79 | 266.74 | 265.53 | 270.98 | 269.39 | -0.04 | 0.37 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 3,068,406 | 2,724,398 | 344,008 | 4,834,667 | 1,766,261 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 6.45 | 265.53 | 259.97 | 269.39 | 268.74 | 0.37 | 0.36 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | H15-1-H15-3 | J06-14 | J06-16 | 3,131,342 | 2,724,398 | 406,944 | 8,688,008 | 5,556,666 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 10.07 | 259.97 | 258.75 | 268.74 | 268.74 | 0.36 | 0.35 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 3,161,133 | 2,724,398 | 436,735 | 3,996,050 | 834,917 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 5.59 | 258.75 | 257.22 | 268.74 | 263.77 | 0.35 | 0.35 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 3,192,083 | 2,724,398 | 467,685 | 4,717,610 | 1,525,527 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 6.39 | 257.22 | 253.36 | 263.77 | 260.51 | 0.35 | 0.34 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 3,223,589 | 2,724,398 | 499,191 | 4,079,514 | 855,925 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 5.7 | 253.36 | 249.98 | 260.51 | 254.58 | 0.34 | 0.16 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 3,256,038 | 2,724,398 | 531,640 | 3,118,540 | -137,498 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 4.46 | 249.98 | 249.16 | 254.58 | 253.74 | 0.16 | 0.15 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 4,098,704 | 2,724,398 | 1,374,306 | 3,888,589 | -210,115 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 5.55 | 249.16 | 247.64 | 253.74 | 254.51 | 0.15 | 0.23 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 4,129,868 | 2,724,398 | 1,405,470 | 7,526,611 | 3,396,743 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 9.71 | 247.64 | 239.52 | 254.51 | 243 | 0.23 | -3.64 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 4,160,875 | 2,724,398 | 1,436,477 | 6,405,009 | 2,244,134 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 5.25 | 239.52 | 237.01 | 243 | 243 | -3.64 | -7.07 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 4,468,977 | 2,724,398 | 1,744,579 | 1,501,102 | -2,967,875 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 5.63 | 237.01 | 233.82 | 243 | 242 | -7.07 | -4.24 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 4,497,439 | 2,724,398 | 1,773,041 | 3,345,571 | -1,151,868 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 5.67 | 233.82 | 230.57 | 242 | 241.27 | -4.24 | -2.79 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 4,525,901 | 2,724,398 | 1,801,503 | 1,905,990 | -2,619,911 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 5.71 | 230.57 | 226.97 | 241.27 | 235.52 | -2.79 | 0.19 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | M06-7-M06-6 | K07-69 | K07-28 | 4,554,364 | 2,724,398 | 1,829,966 | 651,277 | -3,903,087 | 0 | 6 | 225.91 | 222.53 | 226.41 | 223.03 | 0.03225 | 0.013 | 9.91 | 226.97 | 223.65 | 235.52 | 234.49 | -0.56 | -0.62 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 5,890,010 | 2,724,398 | 3,165,612 | 7,910,192 | 2,020,182 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 5.58 | 223.65 | 220.72 | 234.49 | 232.26 | 0.63 | 0.53 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 6,930,701 | 2,724,398 | 4,206,303 | 13,565,858 | 6,635,157 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 8.78 | 220.72 | 215.44 | 232.26 | 223.14 | 0.53 | 0.86 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | H04-20-H04-22 | J07-89 | J07-90 | 6,959,839 | 2,724,398 | 4,235,441 | 1,643,661 | -5,316,178 | PVC | 6 | 214.55 | 208.61 | 215.05 | 209.11 | 0.05136 | 0.013 | 11.01 | 215.48 | 209.84 | 223.14 | 216 | -0.43 | -0.73 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 6,988,785 | 2,724,398 | 4,264,387 | 10,468,942 | 3,480,157 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 7.21 | 209.84 | 206.85 | 216 | 215.87 | 0.52 | 0.5 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 7,268,636 | 2,724,398 | 4,544,238 | 12,098,686 | 4,830,050 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 8.14 | 206.85 | 200.75 | 215.87 | 208.82 | 0.5 | 0.5 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 7,278,917 | 2,724,398 | 4,554,519 | 11,807,931 | 4,529,014 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 7.99 | 200.75 | 194.57 | 208.82 | 204.07 | 0.5 | 0.76 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 7,288,209 | 2,724,398 | 4,563,811 | 11,904,542 | 4,616,333 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 6.16 | 194.78 | 193.65 | 204.07 | 200.58 | 0.8 | 0.79 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 7,870,377 | 2,724,398 | 5,145,979 | 25,483,412 | 17,613,035 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 8.74 | 193.65 | 189.39 | 200.58 | 197 | 1.04 | -4.98 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 8,597,914 | 2,724,398 | 5,873,516 | 10,620,231 | 2,022,317 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.35 | 189.39 | 188.91 | 197 | 198.97 | -4.98 | -5.24 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 8,613,219 | 2,724,398 | 5,888,821 | 10,925,568 | 2,312,349 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.35 | 188.91 | 188.16 | 198.97 | 192.83 | -5.24 | -5.69 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 8,642,979 | 2,724,398 | 5,918,581 | 10,554,288 | 1,911,309 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.36 | 188.16 | 187.63 | 192.83 | 190 | -5.69 | -5.95 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 8,649,611 | 2,724,398 | 5,925,213 | 10,350,223 | 1,700,612 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.37 | 187.63 | 186.72 | 190 | 186.72 | -5.95 | -6.35 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | K10-46-K10-44 | J09-22 | J09-24 | 8,672,127 | 2,724,398 | 5,947,729 | 164,574 | -8,507,553 | PVC | 6 | 178.12 | 178.07 | 178.62 | 178.57 | 0.00206 | 0.013 | 3.37 | 187.25 | 187.21 | 186.72 | 187.21 | -8.63 | -8.64 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 10,900,563 | 2,724,398 | 8,176,165 | 13,091,690 | 2,191,127 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.44 | 189.46 | 188.86 | 187.21 | 188.86 | -8.89 | -9.15 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 11,507,357 | 2,724,398 | 8,782,959 | 12,945,046 | 1,437,689 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.63 | 192.65 | 192.02 | 188.86 | 192.02 | -12.94 | -13.1 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 11,547,386 | 2,724,398 | 8,822,988 | 2,097,941 | -9,449,445 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 22.75 | 215.81 | 178.85 | 192.02 | 190.18 | -38.39 | -2.65 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 11,556,222 | 2,724,398 | 8,831,824 | 14,804,664 | 3,248,442 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.64 | 178.85 | 178.44 | 190.18 | 193.17 | -1.15 | -1.41 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 11,812,338 | 2,724,398 | 9,087,940 | 13,885,589 | 2,073,251 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.72 | 178.44 | 177.76 | 193.17 | 190 | -1.41 | -1.67 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 16,881,815 | 2,724,398 | 14,157,417 | 3,242,470 | -13,639,345 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 5.32 | 177.76 | 175.25 | 190 | 184 | -1.67 | 0.76 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 16,894,080 | 2,724,398 | 14,169,682 | 30,316,999 | 13,422,919 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 9.82 | 175.25 | 171.54 | 184 | 177.94 | 0.76 | -1.97 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 16,904,998 | 2,724,398 | 14,180,600 | 16,547,967 | -357,031 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 5.33 | 171.54 | 169.98 | 177.94 | 178.87 | -1.97 | 0.75 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 16,960,574 | 2,724,398 | 14,236,176 | 31,703,658 | 14,743,084 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 10.16 | 169.98 | 166.49 | 178.87 | 173.01 | 0.75 | -2.59 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 16,968,201 | 2,724,398 | 14,243,803 | 16,871,263 | -96,938 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 5.35 | 166.49 | 165.07 | 173.01 | 172.44 | -2.59 | -2.57 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 17,506,294 | 2,724,398 | 14,781,896 | 21,975,368 | 4,469,074 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.52 | 165.07 | 163.67 | 172.44 | 171 | -2.57 | -3.37 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 17,514,958 | 2,724,398 | 14,790,560 | 20,565,867 | 3,050,909 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 5.52 | 163.67 | 162.3 | 171 | 170.85 | -3.37 | -3.89 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 18,291,982 | 2,724,398 | 15,567,584 | 15,002,227 | -3,289,755 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 4 | 162.3 | 161.66 | 170.85 | 167.67 | -3.39 | -3.18 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 18,314,661 | 2,724,398 | 15,590,263 | 19,181,160 | 866,499 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 4.01 | 161.66 | 161.04 | 167.67 | 169.54 | -3.18 | -3.24 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 22,170,012 | 2,724,398 | 19,445,614 | 18,895,751 | -3,274,261 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 4.85 | 161.04 | 160.41 | 169.54 | 168.44 | -3.24 | -3.07 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 22,200,446 | 2,724,398 | 19,476,048 | 34,641,163 | 12,440,717 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.86 | 160.41 | 158.57 | 168.44 | 163.03 | -3.07 | -5.7 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 27,248,142 | 2,724,398 | 24,523,744 | 27,412,575 | 164,433 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 5.96 | 158.57 | 157.02 | 163.03 | 157.11 | -5.7 | -5.72 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 27,259,353 | 2,724,398 | 24,534,955 | 26,953,521 | -305,832 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 5.97 | 157.02 | 155.44 | 157.11 | 157 | -5.72 | -5.69 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 29,825,562 | 2,724,398 | 27,101,164 | 35,454,075 | 5,628,513 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 6.53 | 155.44 | 152.58 | 157 | 155.42 | -5.69 | -6.87 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 29,833,565 | 2,724,398 | 27,109,167 | 29,311,144 | -522,421 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 6.53 | 152.58 | 149.42 | 155.42 | 155.66 | -6.87 | -6.76 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 29,840,577 | 2,724,398 | 27,116,179 | 19,102,000 | -10,738,577 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 6.53 | 149.42 | 147.83 | 155.66 | 151 | -6.76 | -5.82 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 29,846,756 | 2,724,398 | 27,122,358 | 21,549,863 | -8,296,893 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 6.53 | 147.83 | 144.74 | 151 | 144.74 | -5.82 | -4.34 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I07-33-I07-31 | I13-10 | I13-11 | 29,852,934 | 2,724,398 | 27,128,536 | 695,746 | -29,157,188 | PVC | 6 | 137.4 | 133.13 | 137.9 | 133.63 | 0.03681 | 0.013 | 19.2 | 149.59 | 139.73 | 144.74 | 139.73 | -11.69 | -6.1 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 29,862,212 | 2,724,398 | 27,137,814 | 6,124,076 | -23,738,136 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 6.54 | 140.94 | 138.32 | 139.73 | 142.95 | -4.81 | -2.3 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 29,880,585 | 2,724,398 | 27,156,187 | 30,407,121 | 526,536 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 6.54 | 138.32 | 135.77 | 142.95 | 138 | -2.3 | -2.39 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 29,900,176 | 2,724,398 | 27,175,778 | 42,793,558 | 12,893,382 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.54 | 135.77 | 133.24 | 138 | 138 | -2.39 | -5.05 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | M07-25-M07-8 | I14-3 | I14-5 | 29,910,674 | 2,724,398 | 27,186,276 | 180,739 | -29,729,935 | PVC | 6 | 125.19 | 124.9 | 125.69 | 125.4 | 0.00248 | 0.013 | 6.55 | 133.24 | 132.68 | 138 | 138 | -7.55 | -7.28 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 29,917,996 | 2,724,398 | 27,193,598 | 26,071,121 | -3,846,875 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 3.68 | 132.68 | 131.83 | 138 | 138 | -3.78 | -3.57 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 29,925,319 | 2,724,398 | 27,200,921 | 60,681,535 | 30,756,216 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 3.68 | 131.83 | 131.38 | 138 | 131.44 | -3.57 | -1.27 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | K10-7-K10-10 | I15-5 | I15-7 | 29,931,497 | 2,724,398 | 27,207,099 | 361,424 | -29,570,073 | PVC | 8 | 126.11 | 126.09 | 126.78 | 126.76 | 0.00127 | 0.01 | 3.69 | 131.38 | 131.37 | 131.44 | 131.37 | -4.6 | -4.61 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 36,374,165 | 2,724,398 | 33,649,767 | 33,686,043 | -2,688,122 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 11.47 | 131.67 | 131.41 | 131.37 | 131.41 | -3.08 | -3.04 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 36,380,346 | 2,724,398 | 33,655,948 | 38,080,441 | 1,700,095 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 11.47 | 131.46 | 130.67 | 131.41 | 131.36 | -3.09 | -3.17 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 39,550,123 | 2,724,398 | 36,825,725 | 2,608,858 | -36,941,265 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 12.47 | 130.67 | 128.37 | 131.36 | 131 | -3.17 | -0.88 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 39,583,984 | 2,724,398 | 36,859,586 | 30,788,053 | -8,795,931 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 8.66 | 128.37 | 126.52 | 131 | 131 | -0.38 | 0.48 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 25 (City_ADWF_2035 CP_2035)

| | | | | | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Link | ID | Link Name | US Node | DS Node | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | L13-7-L13-5 | _J05-7 | J05-8 | 375,464 | 375,464 | 0 | 811,300 | 435,836 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 3.53 | 273.36 | 272.14 | 276 | 274.78 | 0.31 | 0.31 | 113.1 | 0 | 113.1 |
| 2 | 3353 | M12-26-M12-21 | J05-8 | PolyVault | 430,464 | 375,464 | 55,000 | 878,463 | 447,999 | 0 | 6 | 271.78 | 265.55 | 272.28 | 266.05 | 0.05868 | 0.013 | 6.64 | 272.14 | 265.98 | 274.78 | 271.46 | 0.14 | 0.07 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | K08-33-K08-37 | PolyVault | J06-2 | 430,464 | 375,464 | 55,000 | 577,296 | 146,832 | PVC | 8 | 265.55 | 265.45 | 266.22 | 266.12 | 0.00323 | 0.01 | 2.32 | 265.98 | 265.81 | 271.46 | 270.98 | 0.24 | 0.31 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 432,639 | 375,464 | 57,175 | 2,566,826 | 2,134,187 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 2.41 | 265.8 | 264.98 | 270.98 | 269.39 | 0.9 | 0.92 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 451,411 | 375,464 | 75,947 | 4,834,667 | 4,383,256 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 3.82 | 264.98 | 259.41 | 269.39 | 268.74 | 0.92 | 0.92 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | H15-1-H15-3 | J06-14 | J06-16 | 470,183 | 375,464 | 94,719 | 8,688,008 | 8,217,825 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 5.84 | 259.41 | 258.18 | 268.74 | 268.74 | 0.92 | 0.92 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 470,907 | 375,464 | 95,443 | 3,996,050 | 3,525,143 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 3.38 | 258.18 | 256.65 | 268.74 | 263.77 | 0.92 | 0.92 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 472,262 | 375,464 | 96,798 | 4,717,610 | 4,245,348 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 3.81 | 256.65 | 252.78 | 263.77 | 260.51 | 0.92 | 0.92 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 473,919 | 375,464 | 98,455 | 4,079,514 | 3,605,595 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 3.44 | 252.78 | 249.23 | 260.51 | 254.58 | 0.92 | 0.91 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 476,090 | 375,464 | 100,626 | 3,118,540 | 2,642,450 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 2.84 | 249.23 | 248.41 | 254.58 | 253.74 | 0.91 | 0.9 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 516,430 | 375,464 | 140,966 | 3,888,589 | 3,372,159 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 3.4 | 248.41 | 246.97 | 253.74 | 254.51 | 0.9 | 0.9 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 517,876 | 375,464 | 142,412 | 7,526,611 | 7,008,735 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 5.44 | 246.97 | 234.98 | 254.51 | 243 | 0.9 | 0.9 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 519,237 | 375,464 | 143,773 | 6,405,009 | 5,885,772 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 4.86 | 234.98 | 229.23 | 243 | 243 | 0.9 | 0.71 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 578,520 | 375,464 | 203,056 | 1,501,102 | 922,582 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 1.77 | 229.23 | 228.7 | 243 | 242 | 0.71 | 0.88 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 578,520 | 375,464 | 203,056 | 3,345,571 | 2,767,051 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 3.16 | 228.7 | 227 | 242 | 241.27 | 0.88 | 0.78 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 578,520 | 375,464 | 203,056 | 1,905,990 | 1,327,470 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.11 | 227 | 226.28 | 241.27 | 235.52 | 0.78 | 0.88 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | M06-7-M06-6 | K07-69 | K07-28 | 578,520 | 375,464 | 203,056 | 651,277 | 72,757 | 0 | 6 | 225.91 | 222.53 | 226.41 | 223.03 | 0.03225 | 0.013 | 5.6 | 226.28 | 222.76 | 235.52 | 234.49 | 0.13 | 0.27 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 657,831 | 375,464 | 282,367 | 7,910,192 | 7,252,361 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 3.08 | 222.89 | 219.88 | 234.49 | 232.26 | 1.39 | 1.37 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 711,355 | 375,464 | 335,891 | 13,565,858 | 12,854,503 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 4.61 | 219.88 | 214.82 | 232.26 | 223.14 | 1.37 | 1.48 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | H04-20-H04-22 | J07-89 | J07-90 | 711,720 | 375,464 | 336,256 | 1,643,661 | 931,941 | PVC | 6 | 214.55 | 208.61 | 215.05 | 209.11 | 0.05136 | 0.013 | 5.88 | 214.86 | 208.99 | 223.14 | 216 | 0.19 | 0.12 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 711,983 | 375,464 | 336,519 | 10,468,942 | 9,756,959 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 3.85 | 208.99 | 205.98 | 216 | 215.87 | 1.37 | 1.37 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 725,364 | 375,464 | 349,900 | 12,098,686 | 11,373,322 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 4.28 | 205.98 | 199.88 | 215.87 | 208.82 | 1.37 | 1.37 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 727,488 | 375,464 | 352,024 | 11,807,931 | 11,080,443 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 4.21 | 199.88 | 193.87 | 208.82 | 204.07 | 1.37 | 1.46 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 729,100 | 375,464 | 353,636 | 11,904,542 | 11,175,442 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 3.25 | 193.95 | 192.81 | 204.07 | 200.58 | 1.63 | 1.63 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 801,437 | 375,464 | 425,973 | 25,483,412 | 24,681,975 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 4.5 | 192.81 | 182.6 | 200.58 | 197 | 1.88 | 1.81 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 874,216 | 375,464 | 498,752 | 10,620,231 | 9,746,015 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 2.5 | 182.6 | 181.85 | 197 | 198.97 | 1.81 | 1.82 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 875,742 | 375,464 | 500,278 | 10,925,568 | 10,049,826 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 2.55 | 181.85 | 180.66 | 198.97 | 192.83 | 1.82 | 1.81 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 879,953 | 375,464 | 504,489 | 10,554,288 | 9,674,335 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 2.49 | 180.66 | 179.87 | 192.83 | 190 | 1.81 | 1.81 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 880,188 | 375,464 | 504,724 | 10,350,223 | 9,470,035 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 2.46 | 179.87 | 178.58 | 190 | 186.72 | 1.81 | 1.79 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | K10-46-K10-44 | J09-22 | J09-24 | 885,448 | 375,464 | 509,984 | 164,574 | -720,874 | PVC | 6 | 178.12 | 178.07 | 178.62 | 178.57 | 0.00206 | 0.013 | 2.24 | 178.58 | 178.51 | 186.72 | 187.21 | 0.04 | 0.06 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 889,015 | 375,464 | 513,551 | 13,091,690 | 12,202,675 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.36 | 178.51 | 177.66 | 187.21 | 188.86 | 2.06 | 2.05 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 925,148 | 375,464 | 549,684 | 12,945,046 | 12,019,898 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.36 | 177.66 | 176.93 | 188.86 | 192.02 | 2.05 | 1.99 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 929,879 | 375,464 | 554,415 | 2,097,941 | 1,168,062 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.01 | 176.93 | 175.67 | 192.02 | 190.18 | 0.49 | 0.53 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 931,254 | 375,464 | 555,790 | 14,804,664 | 13,873,410 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 2.61 | 175.62 | 174.98 | 190.18 | 193.17 | 2.08 | 2.05 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 983,443 | 375,464 | 607,979 | 13,885,589 | 12,902,146 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 2.53 | 174.98 | 174.55 | 193.17 | 190 | 2.05 | 1.54 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 1,547,988 | 375,464 | 1,172,524 | 3,242,470 | 1,694,482 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1.01 | 174.55 | 174.02 | 190 | 184 | 1.54 | 1.99 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 1,551,140 | 375,464 | 1,175,676 | 30,316,999 | 28,765,859 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 5.01 | 174.02 | 169.04 | 184 | 177.94 | 1.99 | 0.53 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 1,553,593 | 375,464 | 1,178,129 | 16,547,967 | 14,994,374 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.49 | 169.04 | 168.74 | 177.94 | 178.87 | 0.53 | 1.99 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 1,563,173 | 375,464 | 1,187,709 | 31,703,658 | 30,140,485 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 5.19 | 168.74 | 161.91 | 178.87 | 173.01 | 1.99 | 1.99 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 1,563,923 | 375,464 | 1,188,459 | 16,871,263 | 15,307,340 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 3.33 | 161.91 | 160.53 | 173.01 | 172.44 | 1.99 | 1.97 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 1,700,832 | 375,464 | 1,325,368 | 21,975,368 | 20,274,536 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 4.11 | 160.53 | 158.33 | 172.44 | 171 | 1.97 | 1.97 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 1,702,119 | 375,464 | 1,326,655 | 20,565,867 | 18,863,748 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 3.92 | 158.33 | 156.6 | 171 | 170.85 | 1.97 | 1.81 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 1,724,901 | 375,464 | 1,349,437 | 15,002,227 | 13,277,326 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.19 | 156.6 | 156.09 | 170.85 | 167.67 | 2.31 | 2.39 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 1,727,045 | 375,464 | 1,351,581 | 19,181,160 | 17,454,115 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 2.6 | 156.09 | 155.43 | 167.67 | 169.54 | 2.39 | 2.37 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 1,827,254 | 375,464 | 1,451,790 | 18,895,751 | 17,068,497 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 2.62 | 155.43 | 154.86 | 169.54 | 168.44 | 2.37 | 2.48 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 1,833,415 | 375,464 | 1,457,951 | 34,641,163 | 32,807,748 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.02 | 154.86 | 150.48 | 168.44 | 163.03 | 2.48 | 2.39 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 2,442,161 | 375,464 | 2,066,697 | 27,412,575 | 24,970,414 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 3.71 | 150.48 | 148.91 | 163.03 | 157.11 | 2.39 | 2.39 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 2,444,766 | 375,464 | 2,069,302 | 26,953,521 | 24,508,755 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 3.67 | 148.91 | 147.43 | 157.11 | 157 | 2.39 | 2.32 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 3,036,505 | 375,464 | 2,661,041 | 35,454,075 | 32,417,570 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 4.74 | 147.43 | 143.39 | 157 | 155.42 | 2.32 | 2.32 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 3,037,448 | 375,464 | 2,661,984 | 29,311,144 | 26,273,696 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 4.15 | 143.39 | 140.47 | 155.42 | 155.66 | 2.32 | 2.19 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 3,037,880 | 375,464 | 2,662,416 | 19,102,000 | 16,064,120 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.06 | 140.47 | 139.77 | 155.66 | 151 | 2.19 | 2.24 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 3,037,880 | 375,464 | 2,662,416 | 21,549,863 | 18,511,983 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.33 | 139.77 | 138.19 | 151 | 144.74 | 2.24 | 2.21 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I07-33-I07-31 | I13-10 | I13-11 | 3,037,880 | 375,464 | 2,662,416 | 695,746 | -2,342,134 | PVC | 6 | 137.4 | 133.13 | 137.9 | 133.63 | 0.03681 | 0.013 | 9.17 | 138.19 | 134.33 | 144.74 | 139.73 | -0.29 | -0.7 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 3,039,484 | 375,464 | 2,664,020 | 6,124,076 | 3,084,592 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.34 | 134.33 | 133.7 | 139.73 | 142.95 | 1.8 | 2.32 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 3,045,799 | 375,464 | 2,670,335 | 30,407,121 | 27,361,322 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.26 | 133.7 | 131.06 | 142.95 | 138 | 2.32 | 2.32 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 3,052,744 | 375,464 | 2,677,280 | 42,793,558 | 39,740,814 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 5.42 | 131.06 | 127.31 | 138 | 138 | 2.32 | 0.88 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | M07-25-M07-8 | I14-3 | I14-5 | 3,054,981 | 375,464 | 2,679,517 | 180,739 | -2,874,242 | PVC | 6 | 125.19 | 124.9 | 125.69 | 125.4 | 0.00248 | 0.013 | 3.33 | 127.31 | 127.3 | 138 | 138 | -1.62 | -1.9 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 3,055,573 | 375,464 | 2,680,109 | 26,071,121 | 23,015,548 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.15 | 127.3 | 127.29 | 138 | 138 | 1.6 | 0.97 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 3,056,165 | 375,464 | 2,680,701 | 60,681,535 | 57,625,370 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.38 | 127.29 | 127.21 | 138 | 131.44 | 0.97 | 2.9 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | K10-7-K10-10 | I15-5 | I15-7 | 3,056,165 | 375,464 | 2,680,701 | 361,424 | -2,694,741 | PVC | 8 | 126.11 | 126.09 | 126.78 | 126.76 | 0.00127 | 0.01 | 2.54 | 127.21 | 127.21 | 131.44 | 131.37 | -0.43 | -0.45 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 7,218,312 | 375,464 | 6,842,848 | 33,686,043 | 26,467,731 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 8.45 | 127.21 | 126.77 | 131.37 | 131.41 | 1.38 | 1.6 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 7,218,312 | 375,464 | 6,842,848 | 38,080,441 | 30,862,129 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.23 | 126.99 | 126.89 | 131.41 | 131.36 | 1.38 | 0.61 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 10,388,090 | 375,464 | 10,012,626 | 2,608,858 | -7,779,232 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.27 | 126.89 | 126.34 | 131.36 | 131 | 0.61 | 1.15 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 10,392,825 | 375,464 | 10,017,361 | 30,788,053 | 20,395,228 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.08 | 126.27 | 125.2 | 131 | 131 | 1.72 | 1.8 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 26 (City_PDWF_2035 CP_2035)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | L13-7-L13-5 | _J05-7 | J05-8 | 1,518,994 | 1,518,994 | 0 | 811,300 | -707,694 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 6.73 | 276.76 | 272.48 | 276 | 274.78 | -3.09 | -0.03 | 113.1 | 0 | 113.1 |
| 2 | 3353 | M12-26-M12-21 | J05-8 | PolyVault | 1,625,199 | 1,518,994 | 106,205 | 878,463 | -746,736 | 0 | 6 | 271.78 | 265.55 | 272.28 | 266.05 | 0.05868 | 0.013 | 9.6 | 272.48 | 266.63 | 274.78 | 271.46 | -0.2 | -0.58 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | K08-33-K08-37 | PolyVault | J06-2 | 1,625,199 | 1,518,994 | 106,205 | 577,296 | -1,047,903 | PVC | 8 | 265.55 | 265.45 | 266.22 | 266.12 | 0.00323 | 0.01 | 4.61 | 266.63 | 266.17 | 271.46 | 270.98 | -0.41 | -0.05 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 1,629,292 | 1,518,994 | 110,298 | 2,566,826 | 937,534 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.43 | 266.17 | 265.29 | 270.98 | 269.39 | 0.53 | 0.61 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 1,663,766 | 1,518,994 | 144,772 | 4,834,667 | 3,170,901 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 5.53 | 265.29 | 259.73 | 269.39 | 268.74 | 0.61 | 0.6 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | H15-1-H15-3 | J06-14 | J06-16 | 1,698,240 | 1,518,994 | 179,246 | 8,688,008 | 6,989,768 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 8.5 | 259.73 | 258.24 | 268.74 | 268.74 | 0.6 | 0.86 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 1,699,569 | 1,518,994 | 180,575 | 3,996,050 | 2,296,481 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 4.83 | 258.5 | 256.97 | 268.74 | 263.77 | 0.6 | 0.6 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 1,702,057 | 1,518,994 | 183,063 | 4,717,610 | 3,015,553 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 5.47 | 256.97 | 253.1 | 263.77 | 260.51 | 0.6 | 0.6 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 1,705,101 | 1,518,994 | 186,107 | 4,079,514 | 2,374,413 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 4.91 | 253.1 | 249.55 | 260.51 | 254.58 | 0.6 | 0.59 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 1,709,087 | 1,518,994 | 190,093 | 3,118,540 | 1,409,453 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 4.02 | 249.55 | 248.73 | 254.58 | 253.74 | 0.59 | 0.58 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 1,783,274 | 1,518,994 | 264,280 | 3,888,589 | 2,105,315 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 4.8 | 248.73 | 247.29 | 253.74 | 254.51 | 0.58 | 0.58 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 1,785,976 | 1,518,994 | 266,982 | 7,526,611 | 5,740,635 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 7.78 | 247.29 | 235.3 | 254.51 | 243 | 0.58 | 0.58 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 1,788,521 | 1,518,994 | 269,527 | 6,405,009 | 4,616,488 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 6.92 | 235.3 | 229.83 | 243 | 243 | 0.58 | 0.11 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 1,897,387 | 1,518,994 | 378,393 | 1,501,102 | -396,285 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 2.39 | 229.83 | 229.02 | 243 | 242 | 0.11 | 0.56 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 1,897,387 | 1,518,994 | 378,393 | 3,345,571 | 1,448,184 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 4.35 | 229.02 | 227.53 | 242 | 241.27 | 0.56 | 0.25 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 1,897,387 | 1,518,994 | 378,393 | 1,905,990 | 8,603 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.74 | 227.53 | 226.6 | 241.27 | 235.52 | 0.25 | 0.56 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | M06-7-M06-6 | K07-69 | K07-28 | 1,897,387 | 1,518,994 | 378,393 | 651,277 | -1,246,110 | 0 | 6 | 225.91 | 222.53 | 226.41 | 223.03 | 0.03225 | 0.013 | 7.88 | 226.6 | 222.96 | 235.52 | 234.49 | -0.19 | 0.07 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 2,049,171 | 1,518,994 | 530,177 | 7,910,192 | 5,861,021 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 4.27 | 223.18 | 220.16 | 234.49 | 232.26 | 1.1 | 1.09 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 2,147,520 | 1,518,994 | 628,526 | 13,565,858 | 11,418,338 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 6.37 | 220.16 | 215.02 | 232.26 | 223.14 | 1.09 | 1.28 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | H04-20-H04-22 | J07-89 | J07-90 | 2,148,196 | 1,518,994 | 629,202 | 1,643,661 | -504,535 | PVC | 6 | 214.55 | 208.61 | 215.05 | 209.11 | 0.05136 | 0.013 | 8.09 | 215.1 | 209.27 | 223.14 | 216 | -0.05 | -0.16 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 2,148,680 | 1,518,994 | 629,686 | 10,468,942 | 8,320,262 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 5.3 | 209.27 | 206.27 | 216 | 215.87 | 1.09 | 1.08 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 2,174,396 | 1,518,994 | 655,402 | 12,098,686 | 9,924,290 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 5.89 | 206.27 | 200.17 | 215.87 | 208.82 | 1.08 | 1.08 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 2,178,499 | 1,518,994 | 659,505 | 11,807,931 | 9,629,432 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 5.8 | 200.17 | 194.09 | 208.82 | 204.07 | 1.08 | 1.24 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 2,181,612 | 1,518,994 | 662,618 | 11,904,542 | 9,722,930 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 4.47 | 194.22 | 193.02 | 204.07 | 200.58 | 1.36 | 1.42 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 2,321,405 | 1,518,994 | 802,411 | 25,483,412 | 23,162,007 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 6.17 | 193.08 | 182.9 | 200.58 | 197 | 1.61 | 1.51 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 2,451,699 | 1,518,994 | 932,705 | 10,620,231 | 8,168,532 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.36 | 182.9 | 182.14 | 197 | 198.97 | 1.51 | 1.53 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 2,454,646 | 1,518,994 | 935,652 | 10,925,568 | 8,470,922 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.43 | 182.14 | 180.96 | 198.97 | 192.83 | 1.53 | 1.51 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 2,462,779 | 1,518,994 | 943,785 | 10,554,288 | 8,091,509 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.35 | 180.96 | 180.18 | 192.83 | 190 | 1.51 | 1.5 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 2,463,233 | 1,518,994 | 944,239 | 10,350,223 | 7,886,990 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.3 | 180.18 | 178.89 | 190 | 186.72 | 1.5 | 1.48 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | K10-46-K10-44 | J09-22 | J09-24 | 2,473,391 | 1,518,994 | 954,397 | 164,574 | -2,308,817 | PVC | 6 | 178.12 | 178.07 | 178.62 | 178.57 | 0.00206 | 0.013 | 3.01 | 178.89 | 178.81 | 186.72 | 187.21 | -0.27 | -0.24 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 2,480,280 | 1,518,994 | 961,286 | 13,091,690 | 10,611,410 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.17 | 178.81 | 178.05 | 187.21 | 188.86 | 1.76 | 1.66 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 2,550,649 | 1,518,994 | 1,031,655 | 12,945,046 | 10,394,397 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.17 | 178.05 | 177.92 | 188.86 | 192.02 | 1.66 | 1 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 2,559,783 | 1,518,994 | 1,040,789 | 2,097,941 | -461,842 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 5.04 | 177.92 | 176.04 | 192.02 | 190.18 | -0.5 | 0.16 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 2,562,439 | 1,518,994 | 1,043,445 | 14,804,664 | 12,242,225 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.5 | 175.9 | 175.28 | 190.18 | 193.17 | 1.8 | 1.75 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 2,664,340 | 1,518,994 | 1,145,346 | 13,885,589 | 11,221,249 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.38 | 175.28 | 175.07 | 193.17 | 190 | 1.75 | 1.02 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 3,716,558 | 1,518,994 | 2,197,564 | 3,242,470 | -474,088 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1.17 | 175.07 | 174.3 | 190 | 184 | 1.02 | 1.71 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 3,722,645 | 1,518,994 | 2,203,651 | 30,316,999 | 26,594,354 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 6.49 | 174.3 | 169.47 | 184 | 177.94 | 1.71 | 0.1 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 3,727,383 | 1,518,994 | 2,208,389 | 16,547,967 | 12,820,584 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 1.17 | 169.47 | 169.03 | 177.94 | 178.87 | 0.1 | 1.7 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 3,745,885 | 1,518,994 | 2,226,891 | 31,703,658 | 27,957,773 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 6.71 | 169.03 | 162.2 | 178.87 | 173.01 | 1.7 | 1.7 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 3,747,333 | 1,518,994 | 2,228,339 | 16,871,263 | 13,123,930 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 4.28 | 162.2 | 160.83 | 173.01 | 172.44 | 1.7 | 1.67 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 4,023,308 | 1,518,994 | 2,504,314 | 21,975,368 | 17,952,060 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.27 | 160.83 | 158.63 | 172.44 | 171 | 1.67 | 1.67 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 4,025,794 | 1,518,994 | 2,506,800 | 20,565,867 | 16,540,073 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 5.03 | 158.63 | 156.97 | 171 | 170.85 | 1.67 | 1.44 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 4,069,745 | 1,518,994 | 2,550,751 | 15,002,227 | 10,932,482 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.79 | 156.97 | 156.42 | 170.85 | 167.67 | 1.94 | 2.06 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 4,073,886 | 1,518,994 | 2,554,892 | 19,181,160 | 15,107,274 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.33 | 156.42 | 155.77 | 167.67 | 169.54 | 2.06 | 2.03 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 4,255,477 | 1,518,994 | 2,736,483 | 18,895,751 | 14,640,274 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 3.34 | 155.77 | 155.15 | 169.54 | 168.44 | 2.03 | 2.19 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 4,267,374 | 1,518,994 | 2,748,380 | 34,641,163 | 30,373,789 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 5.15 | 155.15 | 150.78 | 168.44 | 163.03 | 2.19 | 2.09 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 5,399,010 | 1,518,994 | 3,880,016 | 27,412,575 | 22,013,565 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 4.66 | 150.78 | 149.21 | 163.03 | 157.11 | 2.09 | 2.09 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 5,404,040 | 1,518,994 | 3,885,046 | 26,953,521 | 21,549,481 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 4.61 | 149.21 | 147.73 | 157.11 | 157 | 2.09 | 2.02 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 6,168,357 | 1,518,994 | 4,649,363 | 35,454,075 | 29,285,718 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 5.83 | 147.73 | 143.69 | 157 | 155.42 | 2.02 | 2.02 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 6,170,180 | 1,518,994 | 4,651,186 | 29,311,144 | 23,140,964 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 5.08 | 143.69 | 140.83 | 155.42 | 155.66 | 2.02 | 1.83 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 6,171,012 | 1,518,994 | 4,652,018 | 19,102,000 | 12,930,988 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.73 | 140.83 | 140.11 | 155.66 | 151 | 1.83 | 1.9 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 6,171,012 | 1,518,994 | 4,652,018 | 21,549,863 | 15,378,851 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 4.07 | 140.11 | 138.55 | 151 | 144.74 | 1.9 | 1.85 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I07-33-I07-31 | I13-10 | I13-11 | 6,171,012 | 1,518,994 | 4,652,018 | 695,746 | -5,475,266 | PVC | 6 | 137.4 | 133.13 | 137.9 | 133.63 | 0.03681 | 0.013 | 11.19 | 138.55 | 134.82 | 144.74 | 139.73 | -0.65 | -1.19 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 6,174,111 | 1,518,994 | 4,655,117 | 6,124,076 | -50,035 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.53 | 134.82 | 134 | 139.73 | 142.95 | 1.31 | 2.02 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 6,186,304 | 1,518,994 | 4,667,310 | 30,407,121 | 24,220,817 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 5.22 | 134 | 131.36 | 142.95 | 138 | 2.02 | 2.02 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 6,199,717 | 1,518,994 | 4,680,723 | 42,793,558 | 36,593,841 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.67 | 131.36 | 127.69 | 138 | 138 | 2.02 | 0.5 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | M07-25-M07-8 | I14-3 | I14-5 | 6,204,035 | 1,518,994 | 4,685,041 | 180,739 | -6,023,296 | PVC | 6 | 125.19 | 124.9 | 125.69 | 125.4 | 0.00248 | 0.013 | 4.07 | 127.69 | 127.67 | 138 | 138 | -2 | -2.27 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 6,205,178 | 1,518,994 | 4,686,184 | 26,071,121 | 19,865,943 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.63 | 127.67 | 127.63 | 138 | 138 | 1.23 | 0.63 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 6,206,322 | 1,518,994 | 4,687,328 | 60,681,535 | 54,475,213 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.76 | 127.63 | 127.47 | 138 | 131.44 | 0.63 | 2.64 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | K10-7-K10-10 | I15-5 | I15-7 | 6,206,322 | 1,518,994 | 4,687,328 | 361,424 | -5,844,898 | PVC | 8 | 126.11 | 126.09 | 126.78 | 126.76 | 0.00127 | 0.01 | 3.12 | 127.47 | 127.46 | 131.44 | 131.37 | -0.69 | -0.7 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 10,618,475 | 1,518,994 | 9,099,481 | 33,686,043 | 23,067,568 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 9.41 | 127.46 | 126.99 | 131.37 | 131.41 | 1.13 | 1.38 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 10,618,475 | 1,518,994 | 9,099,481 | 38,080,441 | 27,461,966 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 10.28 | 127.24 | 127.21 | 131.41 | 131.36 | 1.13 | 0.29 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 13,788,253 | 1,518,994 | 12,269,259 | 2,608,858 | -11,179,395 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 4.35 | 127.21 | 126.56 | 131.36 | 131 | 0.29 | 0.93 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 13,797,398 | 1,518,994 | 12,278,404 | 30,788,053 | 16,990,655 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.55 | 126.48 | 125.41 | 131 | 131 | 1.51 | 1.59 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 27 (City_PWWF_2035 CP_2035)

| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | L13-7-L13-5 | _J05-7 | J05-8 | 3,087,938 | 3,087,938 | 0 | 811,300 | -2,276,638 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 13.69 | 291.89 | 274.21 | 276 | 274.78 | -18.22 | -1.76 | 113.1 | 0 | 113.1 |
| 2 | 3353 | M12-26-M12-21 | J05-8 | PolyVault | 3,222,605 | 3,087,938 | 134,667 | 878,463 | -2,344,142 | 0 | 6 | 271.78 | 265.55 | 272.28 | 266.05 | 0.05868 | 0.013 | 9.14 | 274.21 | 268.71 | 274.78 | 271.46 | -1.93 | -2.66 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | K08-33-K08-37 | PolyVault | J06-2 | 3,251,067 | 3,087,938 | 163,129 | 577,296 | -2,673,771 | PVC | 8 | 265.55 | 265.45 | 266.22 | 266.12 | 0.00323 | 0.01 | 9.22 | 268.71 | 267.08 | 271.46 | 270.98 | -2.49 | -0.96 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 3,369,009 | 3,087,938 | 281,071 | 2,566,826 | -802,183 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 4.25 | 267.08 | 265.58 | 270.98 | 269.39 | -0.38 | 0.32 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 3,431,946 | 3,087,938 | 344,008 | 4,834,667 | 1,402,721 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 6.61 | 265.58 | 260.02 | 269.39 | 268.74 | 0.32 | 0.31 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | H15-1-H15-3 | J06-14 | J06-16 | 3,494,882 | 3,087,938 | 406,944 | 8,688,008 | 5,193,126 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 10.36 | 260.02 | 258.8 | 268.74 | 268.74 | 0.31 | 0.3 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 3,524,673 | 3,087,938 | 436,735 | 3,996,050 | 471,377 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 5.69 | 258.8 | 257.27 | 268.74 | 263.77 | 0.3 | 0.3 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 3,555,623 | 3,087,938 | 467,685 | 4,717,610 | 1,161,987 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 6.53 | 257.27 | 253.4 | 263.77 | 260.51 | 0.3 | 0.3 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 3,587,129 | 3,087,938 | 499,191 | 4,079,514 | 492,385 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 5.8 | 253.4 | 250.74 | 260.51 | 254.58 | 0.3 | -0.6 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 3,619,578 | 3,087,938 | 531,640 | 3,118,540 | -501,038 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 4.56 | 250.74 | 249.62 | 254.58 | 253.74 | -0.6 | -0.31 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 4,462,244 | 3,087,938 | 1,374,306 | 3,888,589 | -573,655 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 5.63 | 249.62 | 247.68 | 253.74 | 254.51 | -0.31 | 0.19 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 4,493,408 | 3,087,938 | 1,405,470 | 7,526,611 | 3,033,203 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 9.91 | 247.68 | 241.67 | 254.51 | 243 | 0.19 | -5.79 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 4,524,415 | 3,087,938 | 1,436,477 | 6,405,009 | 1,880,594 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 5.7 | 241.67 | 238.7 | 243 | 243 | -5.79 | -8.76 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 4,832,517 | 3,087,938 | 1,744,579 | 1,501,102 | -3,331,415 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 6.09 | 238.7 | 234.97 | 243 | 242 | -8.76 | -5.39 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 4,860,979 | 3,087,938 | 1,773,041 | 3,345,571 | -1,515,408 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 6.13 | 234.97 | 231.17 | 242 | 241.27 | -5.39 | -3.39 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 4,889,441 | 3,087,938 | 1,801,503 | 1,905,990 | -2,983,451 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 6.16 | 231.17 | 227.01 | 241.27 | 235.52 | -3.39 | 0.15 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | M06-7-M06-6 | K07-69 | K07-28 | 4,917,903 | 3,087,938 | 1,829,965 | 651,277 | -4,266,626 | 0 | 6 | 225.91 | 222.53 | 226.41 | 223.03 | 0.03225 | 0.013 | 10.08 | 227.01 | 223.7 | 235.52 | 234.49 | -0.6 | -0.67 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 6,253,550 | 3,087,938 | 3,165,612 | 7,910,192 | 1,656,642 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 5.64 | 223.7 | 220.75 | 234.49 | 232.26 | 0.58 | 0.5 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 7,294,241 | 3,087,938 | 4,206,303 | 13,565,858 | 6,271,617 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 8.89 | 220.75 | 215.46 | 232.26 | 223.14 | 0.5 | 0.84 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | H04-20-H04-22 | J07-89 | J07-90 | 7,323,380 | 3,087,938 | 4,235,442 | 1,643,661 | -5,679,719 | PVC | 6 | 214.55 | 208.61 | 215.05 | 209.11 | 0.05136 | 0.013 | 11.13 | 215.5 | 209.87 | 223.14 | 216 | -0.45 | -0.76 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 7,352,325 | 3,087,938 | 4,264,387 | 10,468,942 | 3,116,617 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 7.29 | 209.87 | 206.88 | 216 | 215.87 | 0.49 | 0.47 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 7,632,175 | 3,087,938 | 4,544,237 | 12,098,686 | 4,466,511 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 8.23 | 206.88 | 200.78 | 215.87 | 208.82 | 0.47 | 0.47 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 7,642,458 | 3,087,938 | 4,554,520 | 11,807,931 | 4,165,473 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 8.08 | 200.78 | 194.61 | 208.82 | 204.07 | 0.47 | 0.72 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 7,651,749 | 3,087,938 | 4,563,811 | 11,904,542 | 4,252,793 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 6.23 | 194.82 | 193.68 | 204.07 | 200.58 | 0.76 | 0.76 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 8,233,917 | 3,087,938 | 5,145,979 | 25,483,412 | 17,249,495 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 8.85 | 193.68 | 189.62 | 200.58 | 197 | 1.01 | -5.21 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 8,961,454 | 3,087,938 | 5,873,516 | 10,620,231 | 1,658,777 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.49 | 189.62 | 189.09 | 197 | 198.97 | -5.21 | -5.42 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 8,976,759 | 3,087,938 | 5,888,821 | 10,925,568 | 1,948,809 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.49 | 189.09 | 188.28 | 198.97 | 192.83 | -5.42 | -5.81 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 9,006,518 | 3,087,938 | 5,918,580 | 10,554,288 | 1,547,770 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.5 | 188.28 | 187.71 | 192.83 | 190 | -5.81 | -6.03 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 9,013,152 | 3,087,938 | 5,925,214 | 10,350,223 | 1,337,071 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.51 | 187.71 | 186.72 | 190 | 186.72 | -6.03 | -6.35 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | K10-46-K10-44 | J09-22 | J09-24 | 9,035,667 | 3,087,938 | 5,947,729 | 164,574 | -8,871,093 | PVC | 6 | 178.12 | 178.07 | 178.62 | 178.57 | 0.00206 | 0.013 | 3.52 | 187.25 | 187.21 | 186.72 | 187.21 | -8.63 | -8.64 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 11,264,103 | 3,087,938 | 8,176,165 | 13,091,690 | 1,827,587 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.55 | 189.5 | 188.86 | 187.21 | 188.86 | -8.93 | -9.15 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 11,870,897 | 3,087,938 | 8,782,959 | 12,945,046 | 1,074,149 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.74 | 192.69 | 192.02 | 188.86 | 192.02 | -12.98 | -13.1 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 11,910,927 | 3,087,938 | 8,822,989 | 2,097,941 | -9,812,986 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 23.46 | 218.35 | 179.02 | 192.02 | 190.18 | -40.93 | -2.82 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 11,919,761 | 3,087,938 | 8,831,823 | 14,804,664 | 2,884,903 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.76 | 179.02 | 178.59 | 190.18 | 193.17 | -1.32 | -1.56 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 12,175,878 | 3,087,938 | 9,087,940 | 13,885,589 | 1,709,711 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.84 | 178.59 | 177.87 | 193.17 | 190 | -1.56 | -1.78 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 17,245,354 | 3,087,938 | 14,157,416 | 3,242,470 | -14,002,884 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 5.44 | 177.87 | 175.27 | 190 | 184 | -1.78 | 0.74 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 17,257,620 | 3,087,938 | 14,169,682 | 30,316,999 | 13,059,379 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 9.87 | 175.27 | 171.6 | 184 | 177.94 | 0.74 | -2.03 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 17,268,537 | 3,087,938 | 14,180,599 | 16,547,967 | -720,570 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 5.44 | 171.6 | 170 | 177.94 | 178.87 | -2.03 | 0.73 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 17,324,113 | 3,087,938 | 14,236,175 | 31,703,658 | 14,379,545 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 10.22 | 170 | 166.92 | 178.87 | 173.01 | 0.73 | -3.02 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 17,331,740 | 3,087,938 | 14,243,802 | 16,871,263 | -460,477 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 5.46 | 166.92 | 165.44 | 173.01 | 172.44 | -3.02 | -2.94 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 17,869,834 | 3,087,938 | 14,781,896 | 21,975,368 | 4,105,534 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.63 | 165.44 | 163.99 | 172.44 | 171 | -2.94 | -3.69 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 17,878,499 | 3,087,938 | 14,790,561 | 20,565,867 | 2,687,368 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 5.64 | 163.99 | 162.56 | 171 | 170.85 | -3.69 | -4.15 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 18,655,523 | 3,087,938 | 15,567,585 | 15,002,227 | -3,653,296 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 4.08 | 162.56 | 161.9 | 170.85 | 167.67 | -3.65 | -3.42 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 18,678,201 | 3,087,938 | 15,590,263 | 19,181,160 | 502,959 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 4.09 | 161.9 | 161.25 | 167.67 | 169.54 | -3.42 | -3.45 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 22,533,553 | 3,087,938 | 19,445,615 | 18,895,751 | -3,637,802 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 4.93 | 161.25 | 160.6 | 169.54 | 168.44 | -3.45 | -3.26 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 22,563,985 | 3,087,938 | 19,476,047 | 34,641,163 | 12,077,178 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.94 | 160.6 | 158.7 | 168.44 | 163.03 | -3.26 | -5.83 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 27,611,683 | 3,087,938 | 24,523,745 | 27,412,575 | -199,108 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 6.04 | 158.7 | 157.11 | 163.03 | 157.11 | -5.83 | -5.81 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 27,622,894 | 3,087,938 | 24,534,956 | 26,953,521 | -669,373 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 6.05 | 157.33 | 155.7 | 157.11 | 157 | -6.03 | -5.95 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 30,189,103 | 3,087,938 | 27,101,165 | 35,454,075 | 5,264,972 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 6.61 | 155.7 | 152.77 | 157 | 155.42 | -5.95 | -7.06 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 30,197,106 | 3,087,938 | 27,109,168 | 29,311,144 | -885,962 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 6.61 | 152.77 | 149.53 | 155.42 | 155.66 | -7.06 | -6.87 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 30,204,115 | 3,087,938 | 27,116,177 | 19,102,000 | -11,102,115 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 6.61 | 149.53 | 147.91 | 155.66 | 151 | -6.87 | -5.9 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 30,210,294 | 3,087,938 | 27,122,356 | 21,549,863 | -8,660,431 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 6.61 | 147.91 | 144.74 | 151 | 144.74 | -5.9 | -4.34 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I07-33-I07-31 | I13-10 | I13-11 | 30,216,475 | 3,087,938 | 27,128,537 | 695,746 | -29,520,729 | PVC | 6 | 137.4 | 133.13 | 137.9 | 133.63 | 0.03681 | 0.013 | 19.44 | 149.83 | 139.73 | 144.74 | 139.73 | -11.93 | -6.1 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 30,225,753 | 3,087,938 | 27,137,815 | 6,124,076 | -24,101,677 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 6.62 | 141.17 | 138.49 | 139.73 | 142.95 | -5.04 | -2.47 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 30,244,126 | 3,087,938 | 27,156,188 | 30,407,121 | 162,995 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 6.62 | 138.49 | 135.88 | 142.95 | 138 | -2.47 | -2.5 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 30,263,717 | 3,087,938 | 27,175,779 | 42,793,558 | 12,529,841 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.62 | 135.88 | 133.28 | 138 | 138 | -2.5 | -5.09 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | M07-25-M07-8 | I14-3 | I14-5 | 30,274,212 | 3,087,938 | 27,186,274 | 180,739 | -30,093,473 | PVC | 6 | 125.19 | 124.9 | 125.69 | 125.4 | 0.00248 | 0.013 | 6.63 | 133.28 | 132.71 | 138 | 138 | -7.59 | -7.31 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 30,281,535 | 3,087,938 | 27,193,597 | 26,071,121 | -4,210,414 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 3.73 | 132.71 | 131.85 | 138 | 138 | -3.81 | -3.59 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 30,288,857 | 3,087,938 | 27,200,919 | 60,681,535 | 30,392,678 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 3.73 | 131.85 | 131.38 | 138 | 131.44 | -3.59 | -1.27 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | K10-7-K10-10 | I15-5 | I15-7 | 30,295,036 | 3,087,938 | 27,207,098 | 361,424 | -29,933,612 | PVC | 8 | 126.11 | 126.09 | 126.78 | 126.76 | 0.00127 | 0.01 | 3.73 | 131.38 | 131.37 | 131.44 | 131.37 | -4.6 | -4.61 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 36,737,706 | 3,087,938 | 33,649,768 | 33,686,043 | -3,051,663 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 11.58 | 131.67 | 131.41 | 131.37 | 131.41 | -3.08 | -3.04 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 36,743,885 | 3,087,938 | 33,655,947 | 38,080,441 | 1,336,556 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 11.58 | 131.56 | 130.75 | 131.41 | 131.36 | -3.19 | -3.25 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 39,913,664 | 3,087,938 | 36,825,726 | 2,608,858 | -37,304,806 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 12.58 | 130.75 | 128.41 | 131.36 | 131 | -3.25 | -0.92 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 39,947,525 | 3,087,938 | 36,859,587 | 30,788,053 | -9,159,472 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 8.74 | 128.41 | 126.53 | 131 | 131 | -0.42 | 0.47 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 28 (City_ADWF_2035 CP_0.471 MGD)

| | | | | | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Link | ID | Link Name | US Node | DS Node | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | L13-7-L13-5 | _J05-7 | J05-8 | 471,000 | 471,000 | 0 | 811,300 | 340,300 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 3.73 | 273.4 | 272.14 | 276 | 274.78 | 0.27 | 0.31 | 113.1 | 0 | 113.1 |
| 2 | 3353 | M12-26-M12-21 | J05-8 | PolyVault | 526,000 | 471,000 | 55,000 | 878,463 | 352,463 | 0 | 6 | 271.78 | 265.55 | 272.28 | 266.05 | 0.05868 | 0.013 | 7.04 | 272.18 | 266.03 | 274.78 | 271.46 | 0.1 | 0.02 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | K08-33-K08-37 | PolyVault | J06-2 | 526,000 | 471,000 | 55,000 | 577,296 | 51,296 | PVC | 8 | 265.55 | 265.45 | 266.22 | 266.12 | 0.00323 | 0.01 | 2.43 | 266.03 | 265.85 | 271.46 | 270.98 | 0.19 | 0.27 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 528,175 | 471,000 | 57,175 | 2,566,826 | 2,038,651 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 2.55 | 265.83 | 265.01 | 270.98 | 269.39 | 0.87 | 0.89 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 546,947 | 471,000 | 75,947 | 4,834,667 | 4,287,720 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 4.04 | 265.01 | 259.45 | 269.39 | 268.74 | 0.89 | 0.88 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | H15-1-H15-3 | J06-14 | J06-16 | 565,719 | 471,000 | 94,719 | 8,688,008 | 8,122,289 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 6.18 | 259.45 | 258.22 | 268.74 | 268.74 | 0.88 | 0.88 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 566,443 | 471,000 | 95,443 | 3,996,050 | 3,429,607 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 3.57 | 258.22 | 256.69 | 268.74 | 263.77 | 0.88 | 0.88 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 567,798 | 471,000 | 96,798 | 4,717,610 | 4,149,812 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 4.02 | 256.69 | 252.82 | 263.77 | 260.51 | 0.88 | 0.88 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 569,455 | 471,000 | 98,455 | 4,079,514 | 3,510,059 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 3.62 | 252.82 | 249.26 | 260.51 | 254.58 | 0.88 | 0.88 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 571,626 | 471,000 | 100,626 | 3,118,540 | 2,546,914 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 2.99 | 249.26 | 248.44 | 254.58 | 253.74 | 0.88 | 0.87 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 611,966 | 471,000 | 140,966 | 3,888,589 | 3,276,623 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 3.58 | 248.44 | 247 | 253.74 | 254.51 | 0.87 | 0.87 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 613,412 | 471,000 | 142,412 | 7,526,611 | 6,913,199 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 5.71 | 247 | 235.01 | 254.51 | 243 | 0.87 | 0.87 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 614,773 | 471,000 | 143,773 | 6,405,009 | 5,790,236 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 5.1 | 235.01 | 229.28 | 243 | 243 | 0.87 | 0.66 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 674,056 | 471,000 | 203,056 | 1,501,102 | 827,046 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 1.84 | 229.28 | 228.73 | 243 | 242 | 0.66 | 0.85 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 674,056 | 471,000 | 203,056 | 3,345,571 | 2,671,515 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 3.3 | 228.73 | 227.04 | 242 | 241.27 | 0.85 | 0.74 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 674,056 | 471,000 | 203,056 | 1,905,990 | 1,231,934 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.2 | 227.04 | 226.31 | 241.27 | 235.52 | 0.74 | 0.85 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | M06-7-M06-6 | K07-69 | K07-28 | 674,056 | 471,000 | 203,056 | 651,277 | -22,779 | 0 | 6 | 225.91 | 222.53 | 226.41 | 223.03 | 0.03225 | 0.013 | 5.86 | 226.31 | 222.78 | 235.52 | 234.49 | 0.1 | 0.25 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 753,367 | 471,000 | 282,367 | 7,910,192 | 7,156,825 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 3.21 | 222.92 | 219.9 | 234.49 | 232.26 | 1.36 | 1.35 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 806,891 | 471,000 | 335,891 | 13,565,858 | 12,758,967 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 4.79 | 219.9 | 214.84 | 232.26 | 223.14 | 1.35 | 1.46 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | H04-20-H04-22 | J07-89 | J07-90 | 807,256 | 471,000 | 336,256 | 1,643,661 | 836,405 | PVC | 6 | 214.55 | 208.61 | 215.05 | 209.11 | 0.05136 | 0.013 | 6.1 | 214.88 | 209.01 | 223.14 | 216 | 0.17 | 0.1 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 807,519 | 471,000 | 336,519 | 10,468,942 | 9,661,423 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 3.99 | 209.01 | 206 | 216 | 215.87 | 1.35 | 1.35 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 820,900 | 471,000 | 349,900 | 12,098,686 | 11,277,786 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 4.44 | 206 | 199.9 | 215.87 | 208.82 | 1.35 | 1.35 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 823,024 | 471,000 | 352,024 | 11,807,931 | 10,984,907 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 4.37 | 199.9 | 193.89 | 208.82 | 204.07 | 1.35 | 1.44 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 824,636 | 471,000 | 353,636 | 11,904,542 | 11,079,906 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 3.37 | 193.97 | 192.83 | 204.07 | 200.58 | 1.61 | 1.61 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 896,973 | 471,000 | 425,973 | 25,483,412 | 24,586,439 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 4.66 | 192.83 | 182.62 | 200.58 | 197 | 1.86 | 1.79 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 969,752 | 471,000 | 498,752 | 10,620,231 | 9,650,479 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 2.57 | 182.62 | 181.87 | 197 | 198.97 | 1.79 | 1.8 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 971,278 | 471,000 | 500,278 | 10,925,568 | 9,954,290 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 2.63 | 181.87 | 180.68 | 198.97 | 192.83 | 1.8 | 1.79 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 975,489 | 471,000 | 504,489 | 10,554,288 | 9,578,799 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 2.57 | 180.68 | 179.9 | 192.83 | 190 | 1.79 | 1.78 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 975,724 | 471,000 | 504,724 | 10,350,223 | 9,374,499 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 2.53 | 179.9 | 178.61 | 190 | 186.72 | 1.78 | 1.76 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | K10-46-K10-44 | J09-22 | J09-24 | 980,984 | 471,000 | 509,984 | 164,574 | -816,410 | PVC | 6 | 178.12 | 178.07 | 178.62 | 178.57 | 0.00206 | 0.013 | 2.31 | 178.61 | 178.53 | 186.72 | 187.21 | 0.01 | 0.04 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 984,551 | 471,000 | 513,551 | 13,091,690 | 12,107,139 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 2.43 | 178.53 | 177.68 | 187.21 | 188.86 | 2.04 | 2.03 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 1,020,684 | 471,000 | 549,684 | 12,945,046 | 11,924,362 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 2.43 | 177.68 | 176.95 | 188.86 | 192.02 | 2.03 | 1.97 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 1,025,415 | 471,000 | 554,415 | 2,097,941 | 1,072,526 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.11 | 176.95 | 175.69 | 192.02 | 190.18 | 0.47 | 0.51 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 1,026,790 | 471,000 | 555,790 | 14,804,664 | 13,777,874 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 2.68 | 175.65 | 175 | 190.18 | 193.17 | 2.05 | 2.03 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 1,078,979 | 471,000 | 607,979 | 13,885,589 | 12,806,610 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 2.6 | 175 | 174.58 | 193.17 | 190 | 2.03 | 1.51 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 1,643,524 | 471,000 | 1,172,524 | 3,242,470 | 1,598,946 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1.03 | 174.58 | 174.03 | 190 | 184 | 1.51 | 1.98 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 1,646,676 | 471,000 | 1,175,676 | 30,316,999 | 28,670,323 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 5.1 | 174.03 | 169.06 | 184 | 177.94 | 1.98 | 0.51 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 1,649,129 | 471,000 | 1,178,129 | 16,547,967 | 14,898,838 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 0.52 | 169.06 | 168.75 | 177.94 | 178.87 | 0.51 | 1.98 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 1,658,710 | 471,000 | 1,187,710 | 31,703,658 | 30,044,948 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 5.28 | 168.75 | 161.93 | 178.87 | 173.01 | 1.98 | 1.97 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 1,659,459 | 471,000 | 1,188,459 | 16,871,263 | 15,211,804 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 3.38 | 161.93 | 160.55 | 173.01 | 172.44 | 1.97 | 1.95 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 1,796,368 | 471,000 | 1,325,368 | 21,975,368 | 20,179,000 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 4.17 | 160.55 | 158.35 | 172.44 | 171 | 1.95 | 1.95 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 1,797,655 | 471,000 | 1,326,655 | 20,565,867 | 18,768,212 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 3.98 | 158.35 | 156.62 | 171 | 170.85 | 1.95 | 1.79 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 1,820,437 | 471,000 | 1,349,437 | 15,002,227 | 13,181,790 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.22 | 156.62 | 156.1 | 170.85 | 167.67 | 2.29 | 2.38 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 1,822,581 | 471,000 | 1,351,581 | 19,181,160 | 17,358,579 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 2.64 | 156.1 | 155.45 | 167.67 | 169.54 | 2.38 | 2.35 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 1,922,790 | 471,000 | 1,451,790 | 18,895,751 | 16,972,961 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 2.66 | 155.45 | 154.88 | 169.54 | 168.44 | 2.35 | 2.46 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 1,928,951 | 471,000 | 1,457,951 | 34,641,163 | 32,712,212 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.08 | 154.88 | 150.49 | 168.44 | 163.03 | 2.46 | 2.38 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 2,537,697 | 471,000 | 2,066,697 | 27,412,575 | 24,874,878 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 3.75 | 150.49 | 148.92 | 163.03 | 157.11 | 2.38 | 2.38 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 2,540,302 | 471,000 | 2,069,302 | 26,953,521 | 24,413,219 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 3.71 | 148.92 | 147.44 | 157.11 | 157 | 2.38 | 2.31 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 3,132,041 | 471,000 | 2,661,041 | 35,454,075 | 32,322,034 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 4.79 | 147.44 | 143.4 | 157 | 155.42 | 2.31 | 2.31 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 3,132,985 | 471,000 | 2,661,985 | 29,311,144 | 26,178,159 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 4.18 | 143.4 | 140.48 | 155.42 | 155.66 | 2.31 | 2.18 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 3,133,415 | 471,000 | 2,662,415 | 19,102,000 | 15,968,585 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.09 | 140.48 | 139.78 | 155.66 | 151 | 2.18 | 2.23 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 3,133,415 | 471,000 | 2,662,415 | 21,549,863 | 18,416,448 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 3.36 | 139.78 | 138.21 | 151 | 144.74 | 2.23 | 2.19 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I07-33-I07-31 | I13-10 | I13-11 | 3,133,415 | 471,000 | 2,662,415 | 695,746 | -2,437,669 | PVC | 6 | 137.4 | 133.13 | 137.9 | 133.63 | 0.03681 | 0.013 | 9.25 | 138.21 | 134.35 | 144.74 | 139.73 | -0.31 | -0.72 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 3,135,020 | 471,000 | 2,664,020 | 6,124,076 | 2,989,056 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.35 | 134.35 | 133.71 | 139.73 | 142.95 | 1.78 | 2.31 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 3,141,335 | 471,000 | 2,670,335 | 30,407,121 | 27,265,786 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 4.3 | 133.71 | 131.07 | 142.95 | 138 | 2.31 | 2.31 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 3,148,280 | 471,000 | 2,677,280 | 42,793,558 | 39,645,278 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 5.47 | 131.07 | 127.32 | 138 | 138 | 2.31 | 0.87 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | M07-25-M07-8 | I14-3 | I14-5 | 3,150,517 | 471,000 | 2,679,517 | 180,739 | -2,969,778 | PVC | 6 | 125.19 | 124.9 | 125.69 | 125.4 | 0.00248 | 0.013 | 3.36 | 127.32 | 127.31 | 138 | 138 | -1.63 | -1.91 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 3,151,109 | 471,000 | 2,680,109 | 26,071,121 | 22,920,012 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.17 | 127.31 | 127.3 | 138 | 138 | 1.59 | 0.96 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 3,151,701 | 471,000 | 2,680,701 | 60,681,535 | 57,529,834 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.39 | 127.3 | 127.22 | 138 | 131.44 | 0.96 | 2.89 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | K10-7-K10-10 | I15-5 | I15-7 | 3,151,701 | 471,000 | 2,680,701 | 361,424 | -2,790,277 | PVC | 8 | 126.11 | 126.09 | 126.78 | 126.76 | 0.00127 | 0.01 | 2.57 | 127.22 | 127.22 | 131.44 | 131.37 | -0.44 | -0.46 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 7,313,847 | 471,000 | 6,842,847 | 33,686,043 | 26,372,196 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 8.48 | 127.22 | 126.78 | 131.37 | 131.41 | 1.37 | 1.59 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 7,313,847 | 471,000 | 6,842,847 | 38,080,441 | 30,766,594 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 9.26 | 127 | 126.9 | 131.41 | 131.36 | 1.37 | 0.6 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 10,483,625 | 471,000 | 10,012,625 | 2,608,858 | -7,874,767 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 3.3 | 126.9 | 126.35 | 131.36 | 131 | 0.6 | 1.14 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 10,488,362 | 471,000 | 10,017,362 | 30,788,053 | 20,299,691 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.1 | 126.28 | 125.21 | 131 | 131 | 1.71 | 1.79 | 194.1 | 20062.3 | 20256.4 |

**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

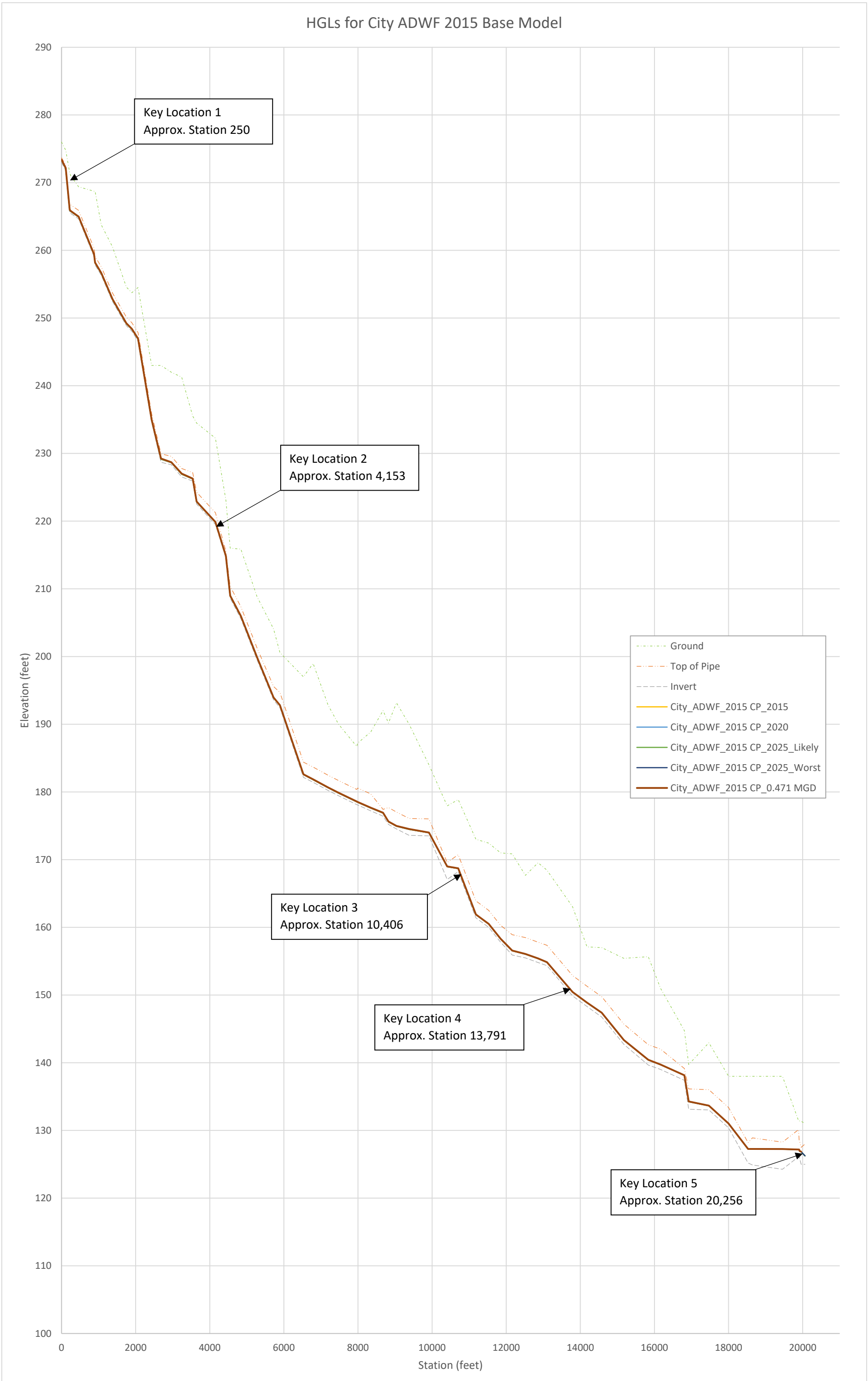
## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 29 (City_PDWF_2035 CP_1.2 MGD)

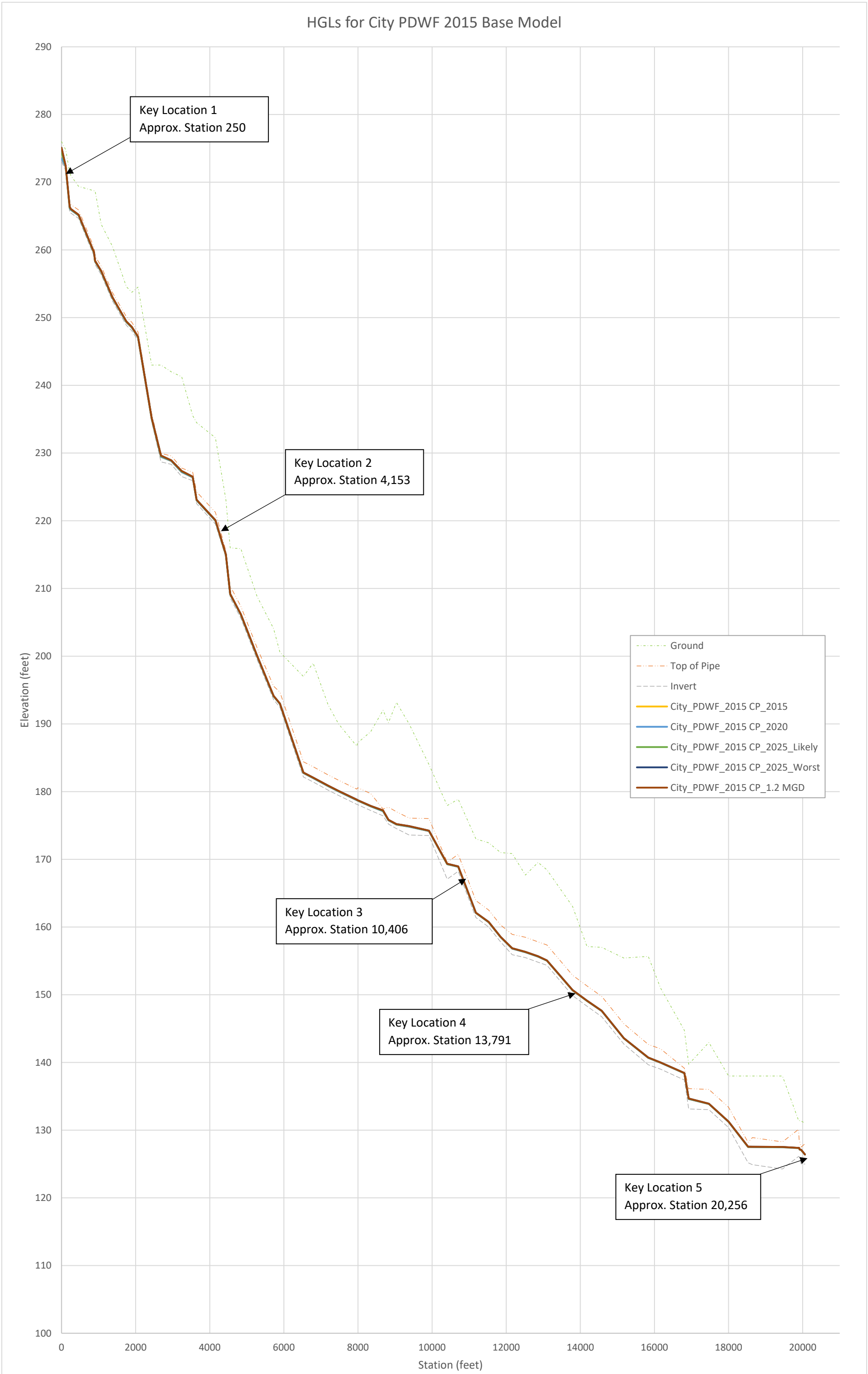
| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | J05-7-J05-8 | _J05-7 | J05-8 | 1,200,000 | 1,200,000 | 0 | 811,300 | -388,700 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 5.32 | 275.1 | 272.42 | 276 | 274.78 | -1.43 | 0.03 | 113.1 | 0 | 113.1 |
| 2 | 3353 | J05-8-POLY VAULT | J05-8 | PolyVault | 1,306,205 | 1,200,000 | 106,205 | 3,430,204 | 2,123,999 | 0 | 10 | 271.78 | 265.55 | 272.61 | 266.38 | 0.05868 | 0.013 | 9.07 | 272.42 | 266.44 | 274.78 | 271.46 | 0.19 | -0.06 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | POLY VAULT-J06-2 | PolyVault | J06-2 | 1,306,205 | 1,200,000 | 106,205 | 805,159 | -501,046 | 0 | 10 | 265.55 | 265.45 | 266.38 | 266.28 | 0.00323 | 0.013 | 3.71 | 266.44 | 266.09 | 271.46 | 270.98 | -0.06 | 0.19 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 1,310,298 | 1,200,000 | 110,298 | 2,566,826 | 1,256,528 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.25 | 266.08 | 265.23 | 270.98 | 269.39 | 0.62 | 0.67 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 1,344,772 | 1,200,000 | 144,772 | 4,834,667 | 3,489,895 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 5.22 | 265.23 | 259.66 | 269.39 | 268.74 | 0.67 | 0.67 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | J06-14-J06-16 | J06-14 | J06-16 | 1,379,246 | 1,200,000 | 179,246 | 8,688,008 | 7,308,762 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 8.01 | 259.66 | 258.43 | 268.74 | 268.74 | 0.67 | 0.67 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 1,380,575 | 1,200,000 | 180,575 | 3,996,050 | 2,615,475 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 4.58 | 258.43 | 256.9 | 268.74 | 263.77 | 0.67 | 0.67 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 1,383,063 | 1,200,000 | 183,063 | 4,717,610 | 3,334,547 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 5.17 | 256.9 | 253.03 | 263.77 | 260.51 | 0.67 | 0.67 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 1,386,107 | 1,200,000 | 186,107 | 4,079,514 | 2,693,407 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 4.65 | 253.03 | 249.48 | 260.51 | 254.58 | 0.67 | 0.66 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 1,390,093 | 1,200,000 | 190,093 | 3,118,540 | 1,728,447 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 3.82 | 249.48 | 248.66 | 254.58 | 253.74 | 0.66 | 0.65 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 1,464,280 | 1,200,000 | 264,280 | 3,888,589 | 2,424,309 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 4.56 | 248.66 | 247.22 | 253.74 | 254.51 | 0.65 | 0.65 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 1,466,982 | 1,200,000 | 266,982 | 7,526,611 | 6,059,629 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 7.36 | 247.22 | 235.23 | 254.51 | 243 | 0.65 | 0.65 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 1,469,527 | 1,200,000 | 269,527 | 6,405,009 | 4,935,482 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 6.56 | 235.23 | 229.68 | 243 | 243 | 0.65 | 0.26 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 1,578,393 | 1,200,000 | 378,393 | 1,501,102 | -77,291 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 2.14 | 229.68 | 228.96 | 243 | 242 | 0.26 | 0.62 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 1,578,393 | 1,200,000 | 378,393 | 3,345,571 | 1,767,178 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 4.16 | 228.96 | 227.4 | 242 | 241.27 | 0.62 | 0.38 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 1,578,393 | 1,200,000 | 378,393 | 1,905,990 | 327,597 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 2.69 | 227.4 | 226.54 | 241.27 | 235.52 | 0.38 | 0.62 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | K07-69-K07-28 | K07-69 | K07-28 | 1,578,393 | 1,200,000 | 378,393 | 7,497,885 | 5,919,492 | 0 | 15 | 225.91 | 222.53 | 227.16 | 223.78 | 0.03225 | 0.013 | 7.49 | 226.54 | 222.92 | 235.52 | 234.49 | 0.62 | 0.86 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 1,730,177 | 1,200,000 | 530,177 | 7,910,192 | 6,180,015 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 4.07 | 223.12 | 220.11 | 234.49 | 232.26 | 1.16 | 1.14 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 1,828,526 | 1,200,000 | 628,526 | 13,565,858 | 11,737,332 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 6.09 | 220.11 | 214.98 | 232.26 | 223.14 | 1.14 | 1.32 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | J07-89-J07-90 | J07-89 | J07-90 | 1,829,203 | 1,200,000 | 629,203 | 10,436,597 | 8,607,394 | PVC | 12 | 214.55 | 208.61 | 215.55 | 209.61 | 0.05136 | 0.013 | 7.74 | 215.05 | 209.22 | 223.14 | 216 | 0.5 | 0.39 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 1,829,686 | 1,200,000 | 629,686 | 10,468,942 | 8,639,256 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 5.06 | 209.22 | 206.21 | 216 | 215.87 | 1.14 | 1.14 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 1,855,402 | 1,200,000 | 655,402 | 12,098,686 | 10,243,284 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 5.63 | 206.21 | 200.12 | 215.87 | 208.82 | 1.14 | 1.13 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 1,859,505 | 1,200,000 | 659,505 | 11,807,931 | 9,948,426 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 5.54 | 200.12 | 194.05 | 208.82 | 204.07 | 1.13 | 1.28 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 1,862,618 | 1,200,000 | 662,618 | 11,904,542 | 10,041,924 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 4.27 | 194.17 | 193.03 | 204.07 | 200.58 | 1.41 | 1.41 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 2,002,411 | 1,200,000 | 802,411 | 25,483,412 | 23,481,001 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 5.91 | 193.03 | 182.84 | 200.58 | 197 | 1.66 | 1.57 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 2,132,705 | 1,200,000 | 932,705 | 10,620,231 | 8,487,526 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.23 | 182.84 | 182.09 | 197 | 198.97 | 1.57 | 1.58 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 2,135,652 | 1,200,000 | 935,652 | 10,925,568 | 8,789,916 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.3 | 182.09 | 180.91 | 198.97 | 192.83 | 1.58 | 1.56 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 2,143,785 | 1,200,000 | 943,785 | 10,554,288 | 8,410,503 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.22 | 180.91 | 180.12 | 192.83 | 190 | 1.56 | 1.56 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 2,144,239 | 1,200,000 | 944,239 | 10,350,223 | 8,205,984 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.18 | 180.12 | 178.84 | 190 | 186.72 | 1.56 | 1.53 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | J09-22-J09-24 | J09-22 | J09-24 | 2,154,397 | 1,200,000 | 954,397 | 9,083,654 | 6,929,257 | PVC | 27 | 178.12 | 178.07 | 180.37 | 180.32 | 0.00206 | 0.013 | 2.89 | 178.84 | 178.76 | 186.72 | 187.21 | 1.53 | 1.56 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 2,161,286 | 1,200,000 | 961,286 | 13,091,690 | 10,930,404 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.05 | 178.76 | 177.91 | 187.21 | 188.86 | 1.81 | 1.8 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 2,231,655 | 1,200,000 | 1,031,655 | 12,945,046 | 10,713,391 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.05 | 177.91 | 177.32 | 188.86 | 192.02 | 1.8 | 1.6 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 2,240,789 | 1,200,000 | 1,040,789 | 2,097,941 | -142,848 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 4.64 | 177.32 | 176 | 192.02 | 190.18 | 0.1 | 0.2 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 2,243,445 | 1,200,000 | 1,043,445 | 14,804,664 | 12,561,219 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.37 | 175.86 | 175.23 | 190.18 | 193.17 | 1.84 | 1.8 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 2,345,347 | 1,200,000 | 1,145,347 | 13,885,589 | 11,540,242 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.26 | 175.23 | 174.98 | 193.17 | 190 | 1.8 | 1.11 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 3,397,564 | 1,200,000 | 2,197,564 | 3,242,470 | -155,094 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 1.16 | 174.98 | 174.27 | 190 | 184 | 1.11 | 1.74 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 3,403,651 | 1,200,000 | 2,203,651 | 30,316,999 | 26,913,348 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 6.32 | 174.27 | 169.41 | 184 | 177.94 | 1.74 | 0.16 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 3,408,389 | 1,200,000 | 2,208,389 | 16,547,967 | 13,139,578 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 1.07 | 169.41 | 168.99 | 177.94 | 178.87 | 0.16 | 1.74 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 3,426,891 | 1,200,000 | 2,226,891 | 31,703,658 | 28,276,767 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 6.54 | 168.99 | 162.16 | 178.87 | 173.01 | 1.74 | 1.74 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 3,428,340 | 1,200,000 | 2,228,340 | 16,871,263 | 13,442,923 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 4.17 | 162.16 | 160.79 | 173.01 | 172.44 | 1.74 | 1.71 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 3,704,314 | 1,200,000 | 2,504,314 | 21,975,368 | 18,271,054 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.15 | 160.79 | 158.59 | 172.44 | 171 | 1.71 | 1.71 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 3,706,800 | 1,200,000 | 2,506,800 | 20,565,867 | 16,859,067 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 4.91 | 158.59 | 156.93 | 171 | 170.85 | 1.71 | 1.48 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 3,750,751 | 1,200,000 | 2,550,751 | 15,002,227 | 11,251,476 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 2.73 | 156.93 | 156.38 | 170.85 | 167.67 | 1.98 | 2.1 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 3,754,892 | 1,200,000 | 2,554,892 | 19,181,160 | 15,426,268 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 3.26 | 156.38 | 155.73 | 167.67 | 169.54 | 2.1 | 2.07 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 3,936,483 | 1,200,000 | 2,736,483 | 18,895,751 | 14,959,268 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 3.27 | 155.73 | 155.12 | 169.54 | 168.44 | 2.07 | 2.22 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 3,948,380 | 1,200,000 | 2,748,380 | 34,641,163 | 30,692,783 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 5.04 | 155.12 | 150.75 | 168.44 | 163.03 | 2.22 | 2.12 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 5,080,016 | 1,200,000 | 3,880,016 | 27,412,575 | 22,332,559 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 4.58 | 150.75 | 149.18 | 163.03 | 157.11 | 2.12 | 2.12 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 5,085,046 | 1,200,000 | 3,885,046 | 26,953,521 | 21,868,475 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 4.53 | 149.18 | 147.7 | 157.11 | 157 | 2.12 | 2.05 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 5,849,363 | 1,200,000 | 4,649,363 | 35,454,075 | 29,604,712 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 5.74 | 147.7 | 143.66 | 157 | 155.42 | 2.05 | 2.05 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 5,851,186 | 1,200,000 | 4,651,186 | 29,311,144 | 23,459,958 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 5.01 | 143.66 | 140.8 | 155.42 | 155.66 | 2.05 | 1.86 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 5,852,018 | 1,200,000 | 4,652,018 | 19,102,000 | 13,249,982 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 3.68 | 140.8 | 140.08 | 155.66 | 151 | 1.86 | 1.93 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 5,852,018 | 1,200,000 | 4,652,018 | 21,549,863 | 15,697,845 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 4.01 | 140.08 | 138.52 | 151 | 144.74 | 1.93 | 1.88 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I13-10-I13-11 | I13-10 | I13-11 | 5,852,018 | 1,200,000 | 4,652,018 | 19,647,126 | 13,795,108 | PVC | 21 | 137.4 | 133.13 | 139.15 | 134.88 | 0.03681 | 0.013 | 11.03 | 138.52 | 134.78 | 144.74 | 139.73 | 0.63 | 0.1 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 5,855,118 | 1,200,000 | 4,655,118 | 6,124,076 | 268,958 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 1.53 | 134.78 | 133.97 | 139.73 | 142.95 | 1.35 | 2.05 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 5,867,311 | 1,200,000 | 4,667,311 | 30,407,121 | 24,539,810 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 5.14 | 133.97 | 131.33 | 142.95 | 138 | 2.05 | 2.05 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 5,880,723 | 1,200,000 | 4,680,723 | 42,793,558 | 36,912,835 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.57 | 131.33 | 127.65 | 138 | 138 | 2.05 | 0.54 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | I14-3-I14-5 | I14-3 | I14-5 | 5,885,041 | 1,200,000 | 4,685,041 | 21,484,290 | 15,599,249 | PVC | 36 | 125.19 | 124.9 | 128.19 | 127.9 | 0.00248 | 0.013 | 4.01 | 127.65 | 127.64 | 138 | 138 | 0.54 | 0.26 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 5,886,184 | 1,200,000 | 4,686,184 | 26,071,121 | 20,184,937 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 2.59 | 127.64 | 127.6 | 138 | 138 | 1.26 | 0.66 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 5,887,328 | 1,200,000 | 4,687,328 | 60,681,535 | 54,794,207 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 0.72 | 127.6 | 127.45 | 138 | 131.44 | 0.66 | 2.66 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | I15-5-I15-7 | I15-5 | I15-7 | 5,887,328 | 1,200,000 | 4,687,328 | 33,047,844 | 27,160,516 | PVC | 48 | 126.11 | 126.09 | 130.11 | 130.09 | 0.00127 | 0.013 | 3.07 | 127.45 | 127.44 | 131.44 | 131.37 | 2.66 | 2.65 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 10,299,481 | 1,200,000 | 9,099,481 | 33,686,043 | 23,386,562 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 9.33 | 127.44 | 126.97 | 131.37 | 131.41 | 1.15 | 1.4 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 10,299,481 | 1,200,000 | 9,099,481 | 38,080,441 | 27,780,960 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 10.2 | 127.22 | 127.18 | 131.41 | 131.36 | 1.15 | 0.32 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 13,469,259 | 1,200,000 | 12,269,259 | 2,608,858 | -10,860,401 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 4.25 | 127.18 | 126.54 | 131.36 | 131 | 0.32 | 0.95 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 13,478,404 | 1,200,000 | 12,278,404 | 30,788,053 | 17,309,649 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 6.51 | 126.46 | 125.39 | 131 | 131 | 1.53 | 1.61 | 194.1 | 20062.3 | 20256.4 |

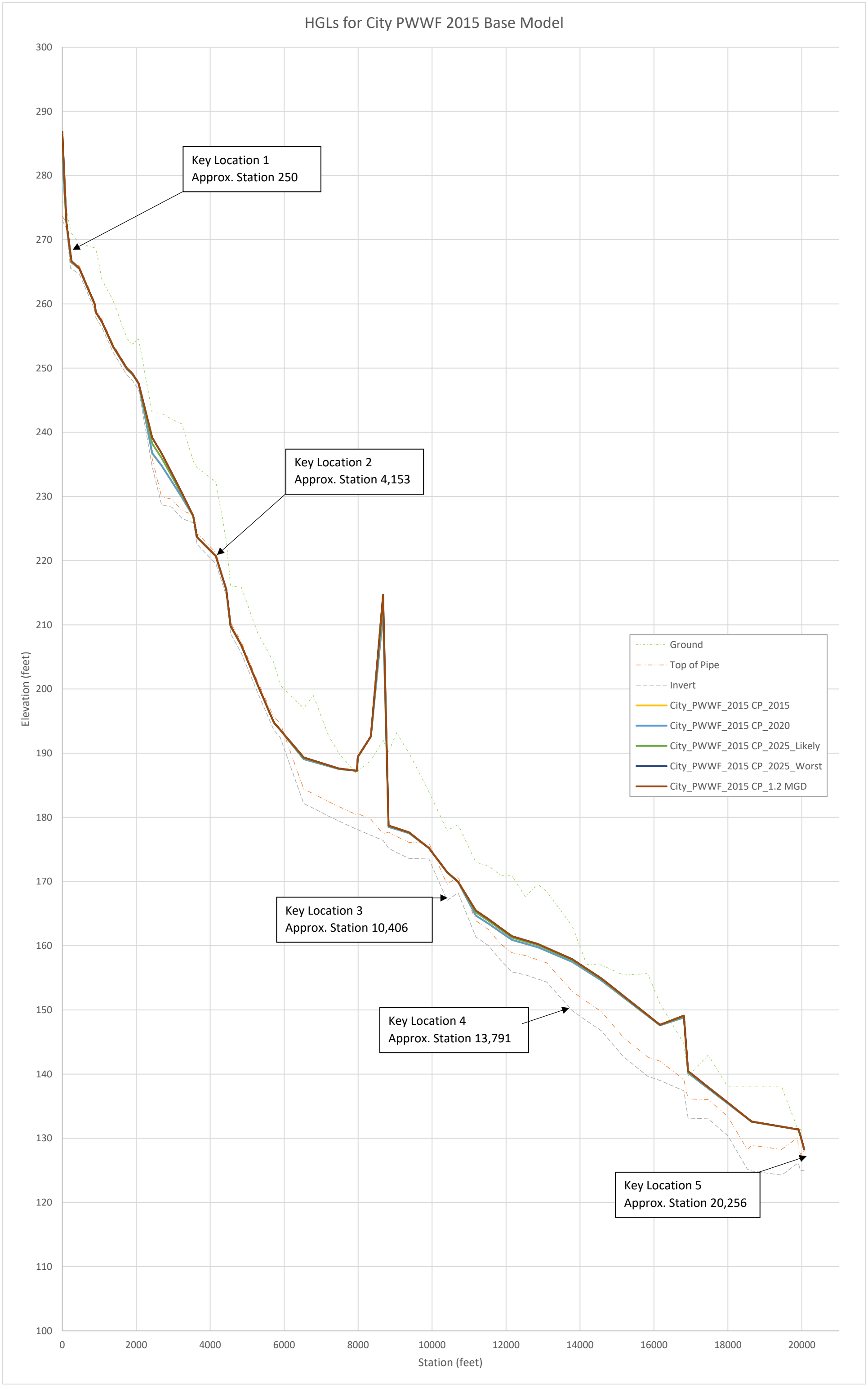
**Cal Poly San Luis Obispo Water Supply Assessment and Wastewater Feasibility Modeling**
**Watearth, Inc.**
**Job No. 2018.0314.1-CA**
**4/3/2019**

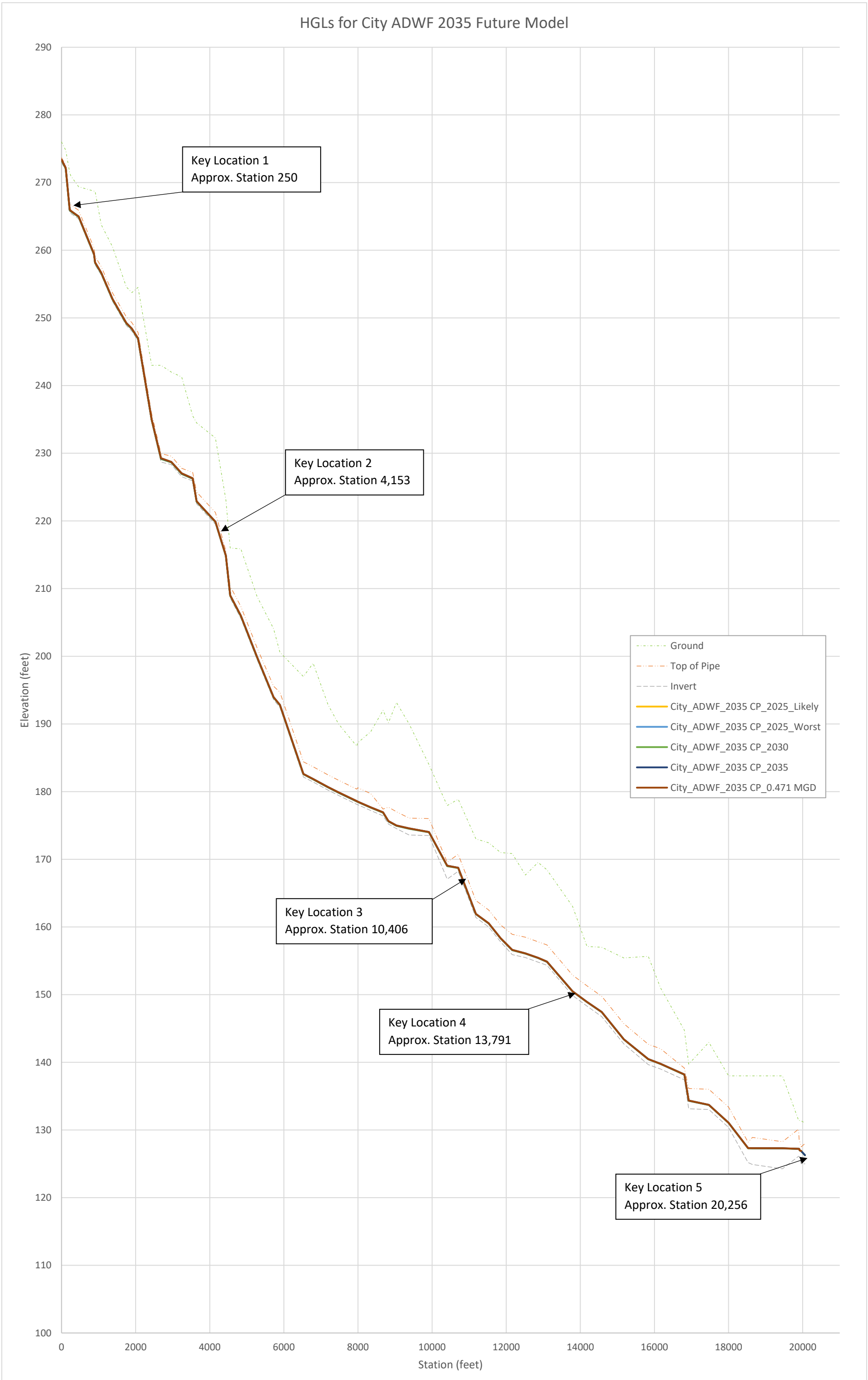
## TABLE: DETAILED SEWERCAD MODELING RESULTS MODEL RUN 30 (City_PWWF_2035 CP_1.2 MGD)

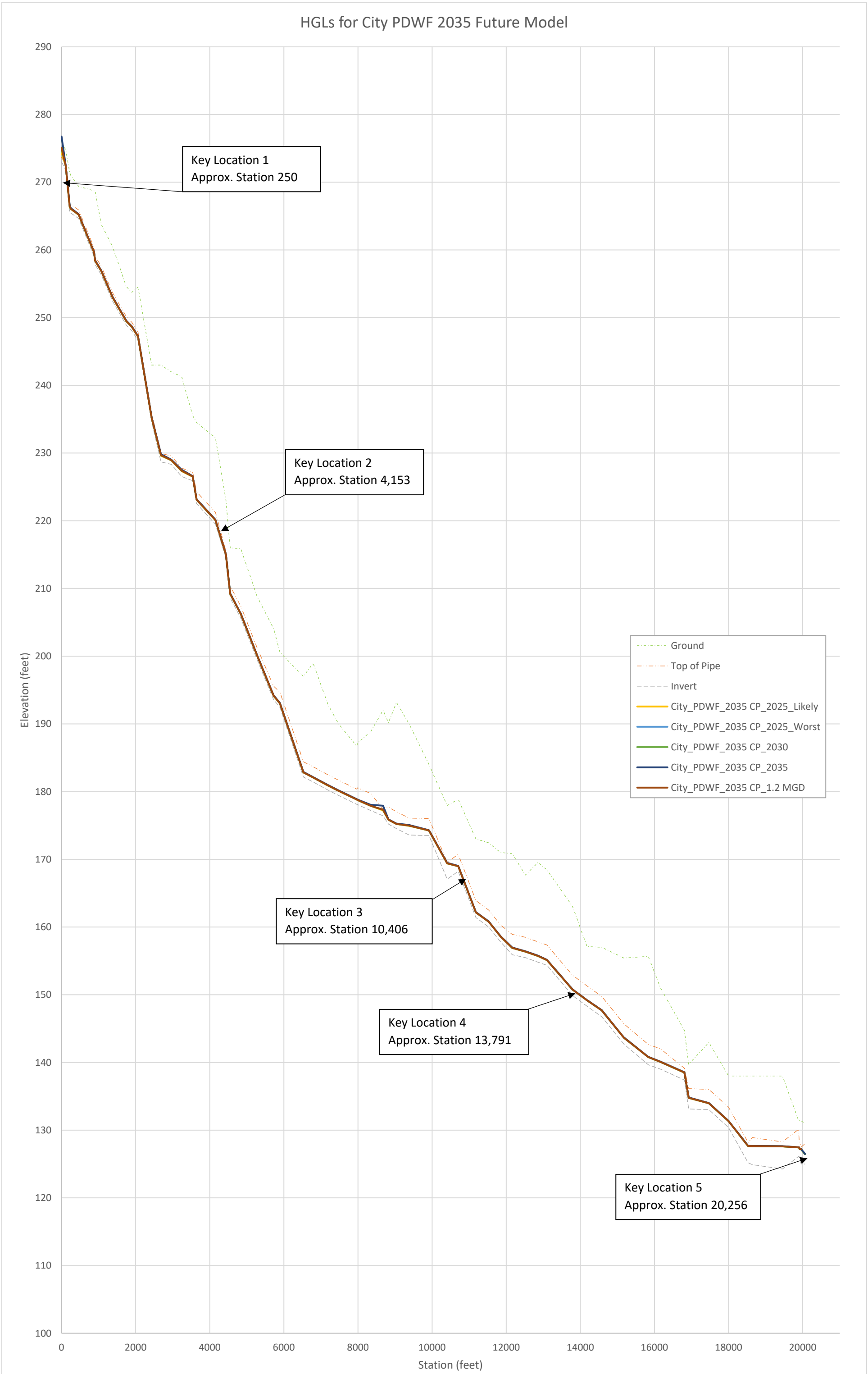
| Link | ID | Link Name | US Node | DS Node | Flows (gpd) | | | Capacity (gpd) | | Pipe Data | | | | | | | | | Elevations (ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Flow | Cal Poly | City SLO | Total Capacity | Available Capacity | Material | Diameter (in) | US Invert (ft) | DS Invert (ft) | US Top of Pipe (ft) | DS Top of Pipe (ft) | Slope (ft/ft) | n-Value | Velocity (fps) | US Hydraulic Grade Line | DS Hydraulic Grade Line | US Natural Ground | DS Natural Ground | US Top of Pipe - US HGL | DS Top of Pipe - DS HGL | Length (ft) | Starting Station (ft) | Ending Station (ft) |
| 1 | 3428 | L13-7-L13-5 | _J05-7 | J05-8 | 2,768,944 | 2,768,944 | 0 | 811,300 | -1,957,644 | 0 | 8 | 273 | 271.78 | 273.67 | 272.45 | 0.01079 | 0.013 | 12.27 | 286.8 | 272.59 | 276 | 274.78 | -13.13 | -0.14 | 113.1 | 0 | 113.1 |
| 2 | 3353 | M12-26-M12-21 | J05-8 | PolyVault | 2,903,611 | 2,768,944 | 134,667 | 878,463 | -2,025,148 | 0 | 6 | 271.78 | 265.55 | 272.28 | 266.05 | 0.05868 | 0.013 | 10.91 | 272.59 | 268.11 | 274.78 | 271.46 | -0.31 | -2.06 | 106.2 | 113.1 | 219.3 |
| 3 | 3045 | K08-33-K08-37 | PolyVault | J06-2 | 2,932,073 | 2,768,944 | 163,129 | 577,296 | -2,354,777 | PVC | 8 | 265.55 | 265.45 | 266.22 | 266.12 | 0.00323 | 0.01 | 8.32 | 268.11 | 266.78 | 271.46 | 270.98 | -1.89 | -0.66 | 30.9 | 219.3 | 250.2 |
| 4 | 4296 | J06-2-J06-6 | J06-2 | J06-6 | 3,050,015 | 2,768,944 | 281,071 | 2,566,826 | -483,189 | 0 | 15 | 265.45 | 264.65 | 266.7 | 265.9 | 0.00378 | 0.013 | 3.85 | 266.78 | 265.54 | 270.98 | 269.39 | -0.08 | 0.36 | 211.6 | 250.2 | 461.8 |
| 5 | 5729 | J06-6-J06-14 | J06-6 | J06-14 | 3,112,951 | 2,768,944 | 344,007 | 4,834,667 | 1,721,716 | 0 | 15 | 264.65 | 259.08 | 265.9 | 260.33 | 0.01341 | 0.013 | 6.47 | 265.54 | 259.98 | 269.39 | 268.74 | 0.36 | 0.35 | 415.3 | 461.8 | 877.1 |
| 6 | 3012 | H15-1-H15-3 | J06-14 | J06-16 | 3,175,888 | 2,768,944 | 406,944 | 8,688,008 | 5,512,120 | 0 | 15 | 259.08 | 257.85 | 260.33 | 259.1 | 0.04331 | 0.013 | 10.1 | 259.98 | 258.75 | 268.74 | 268.74 | 0.35 | 0.35 | 28.4 | 877.1 | 905.5 |
| 7 | 3593 | J06-16-J06-22 | J06-16 | J06-22 | 3,205,679 | 2,768,944 | 436,735 | 3,996,050 | 790,371 | 0 | 15 | 257.85 | 256.32 | 259.1 | 257.57 | 0.00916 | 0.013 | 5.6 | 258.75 | 257.23 | 268.74 | 263.77 | 0.35 | 0.34 | 167 | 905.5 | 1072.5 |
| 8 | 5268 | J06-22-J06-26 | J06-22 | J06-26 | 3,236,629 | 2,768,944 | 467,685 | 4,717,610 | 1,480,981 | 0 | 15 | 256.32 | 252.45 | 257.57 | 253.7 | 0.01277 | 0.013 | 6.41 | 257.23 | 253.36 | 263.77 | 260.51 | 0.34 | 0.34 | 303.1 | 1072.5 | 1375.6 |
| 9 | 5544 | J06-26-J06-48 | J06-26 | J06-48 | 3,268,135 | 2,768,944 | 499,191 | 4,079,514 | 811,379 | 0 | 15 | 252.45 | 248.89 | 253.7 | 250.14 | 0.00955 | 0.013 | 5.72 | 253.36 | 250 | 260.51 | 254.58 | 0.34 | 0.14 | 372.8 | 1375.6 | 1748.4 |
| 10 | 3663 | J06-48-J06-55 | J06-48 | J06-55 | 3,300,584 | 2,768,944 | 531,640 | 3,118,540 | -182,044 | 0 | 15 | 248.89 | 248.06 | 250.14 | 249.31 | 0.00558 | 0.013 | 4.44 | 250 | 249.18 | 254.58 | 253.74 | 0.14 | 0.13 | 148.7 | 1748.4 | 1897.1 |
| 11 | 3832 | J06-55-J06-62 | J06-55 | J06-62 | 4,143,249 | 2,768,944 | 1,374,305 | 3,888,589 | -254,660 | PVC | 15 | 248.06 | 246.62 | 249.31 | 247.87 | 0.00868 | 0.013 | 5.51 | 249.18 | 247.64 | 253.74 | 254.51 | 0.13 | 0.23 | 166 | 1897.1 | 2063.1 |
| 12 | 5555 | J06-62-J07-4 | J06-62 | J07-4 | 4,174,414 | 2,768,944 | 1,405,470 | 7,526,611 | 3,352,197 | PVC | 15 | 246.62 | 234.63 | 247.87 | 235.88 | 0.0325 | 0.013 | 9.74 | 247.64 | 239.77 | 254.51 | 243 | 0.23 | -3.89 | 368.9 | 2063.1 | 2432 |
| 13 | 4604 | J07-4-J07-25 | J07-4 | J07-25 | 4,205,421 | 2,768,944 | 1,436,477 | 6,405,009 | 2,199,588 | PVC | 15 | 234.63 | 228.69 | 235.88 | 229.94 | 0.02354 | 0.013 | 5.3 | 239.77 | 237.21 | 243 | 243 | -3.89 | -7.27 | 252.4 | 2432 | 2684.4 |
| 14 | 4832 | J07-25-J07-46 | J07-25 | J07-46 | 4,513,523 | 2,768,944 | 1,744,579 | 1,501,102 | -3,012,421 | PVC | 15 | 228.69 | 228.33 | 229.94 | 229.58 | 0.00129 | 0.013 | 5.69 | 237.21 | 233.96 | 243 | 242 | -7.27 | -4.38 | 278.5 | 2684.4 | 2962.9 |
| 15 | 4877 | J07-46-K07-19 | J07-46 | K07-19 | 4,541,985 | 2,768,944 | 1,773,041 | 3,345,571 | -1,196,414 | 0 | 15 | 228.33 | 226.53 | 229.58 | 227.78 | 0.00642 | 0.013 | 5.73 | 233.96 | 230.64 | 242 | 241.27 | -4.38 | -2.86 | 280.3 | 2962.9 | 3243.2 |
| 16 | 4986 | K07-19-K07-69 | K07-19 | K07-69 | 4,570,447 | 2,768,944 | 1,801,503 | 1,905,990 | -2,664,457 | 0 | 15 | 226.53 | 225.91 | 227.78 | 227.16 | 0.00208 | 0.013 | 5.76 | 230.64 | 226.98 | 241.27 | 235.52 | -2.86 | 0.18 | 297.5 | 3243.2 | 3540.7 |
| 17 | 3391 | M06-7-M06-6 | K07-69 | K07-28 | 4,598,909 | 2,768,944 | 1,829,965 | 651,277 | -3,947,632 | 0 | 6 | 225.91 | 222.53 | 226.41 | 223.03 | 0.03225 | 0.013 | 9.93 | 226.98 | 223.66 | 235.52 | 234.49 | -0.57 | -0.63 | 104.8 | 3540.7 | 3645.5 |
| 18 | 5882 | K07-28-J07-83 | K07-28 | J07-83 | 5,934,556 | 2,768,944 | 3,165,612 | 7,910,192 | 1,975,636 | PVC | 21 | 222.53 | 219.5 | 224.28 | 221.25 | 0.00597 | 0.013 | 5.58 | 223.66 | 220.72 | 234.49 | 232.26 | 0.62 | 0.53 | 507.8 | 3645.5 | 4153.3 |
| 19 | 4869 | J07-83-J07-89 | J07-83 | J07-89 | 6,975,247 | 2,768,944 | 4,206,303 | 13,565,858 | 6,590,611 | PVC | 21 | 219.5 | 214.55 | 221.25 | 216.3 | 0.01755 | 0.013 | 8.79 | 220.72 | 215.44 | 232.26 | 223.14 | 0.53 | 0.86 | 282.1 | 4153.3 | 4435.4 |
| 20 | 3410 | H04-20-H04-22 | J07-89 | J07-90 | 7,004,386 | 2,768,944 | 4,235,442 | 1,643,661 | -5,360,725 | PVC | 6 | 214.55 | 208.61 | 215.05 | 209.11 | 0.05136 | 0.013 | 11.02 | 215.49 | 209.84 | 223.14 | 216 | -0.44 | -0.73 | 115.7 | 4435.4 | 4551.1 |
| 21 | 4911 | J07-90-J07-91 | J07-90 | J07-91 | 7,033,331 | 2,768,944 | 4,264,387 | 10,468,942 | 3,435,611 | PVC | 21 | 208.61 | 205.6 | 210.36 | 207.35 | 0.01045 | 0.013 | 7.22 | 209.84 | 206.85 | 216 | 215.87 | 0.52 | 0.5 | 288 | 4551.1 | 4839.1 |
| 22 | 5796 | J07-91-J08-9 | J07-91 | J08-9 | 7,313,181 | 2,768,944 | 4,544,237 | 12,098,686 | 4,785,505 | PVC | 21 | 205.6 | 199.5 | 207.35 | 201.25 | 0.01396 | 0.013 | 8.15 | 206.85 | 200.76 | 215.87 | 208.82 | 0.5 | 0.49 | 437 | 4839.1 | 5276.1 |
| 23 | 5816 | J08-9-J08-20 | J08-9 | J08-20 | 7,323,464 | 2,768,944 | 4,554,520 | 11,807,931 | 4,484,467 | PVC | 21 | 199.5 | 193.58 | 201.25 | 195.33 | 0.0133 | 0.013 | 8 | 200.76 | 194.58 | 208.82 | 204.07 | 0.49 | 0.75 | 445.3 | 5276.1 | 5721.4 |
| 24 | 3858 | J08-20-J08-24 | J08-20 | J08-24 | 7,332,755 | 2,768,944 | 4,563,811 | 11,904,542 | 4,571,787 | PVC | 24 | 193.58 | 192.44 | 195.58 | 194.44 | 0.00663 | 0.013 | 6.17 | 194.79 | 193.65 | 204.07 | 200.58 | 0.79 | 0.79 | 171.9 | 5721.4 | 5893.3 |
| 25 | 5924 | J08-24-J08-42 | J08-24 | J08-42 | 7,914,924 | 2,768,944 | 5,145,980 | 25,483,412 | 17,568,488 | PVC | 27 | 192.44 | 182.16 | 194.69 | 184.41 | 0.01621 | 0.013 | 8.75 | 193.65 | 189.42 | 200.58 | 197 | 1.04 | -5.01 | 634.2 | 5893.3 | 6527.5 |
| 26 | 4684 | J08-42-J08-48 | J08-42 | J08-48 | 8,642,460 | 2,768,944 | 5,873,516 | 10,620,231 | 1,977,771 | PVC | 27 | 182.16 | 181.42 | 184.41 | 183.67 | 0.00282 | 0.013 | 3.36 | 189.42 | 188.93 | 197 | 198.97 | -5.01 | -5.26 | 262.8 | 6527.5 | 6790.3 |
| 27 | 5713 | J08-48-J09-5 | J08-48 | J09-5 | 8,657,766 | 2,768,944 | 5,888,822 | 10,925,568 | 2,267,802 | 0 | 27 | 181.42 | 180.22 | 183.67 | 182.47 | 0.00298 | 0.013 | 3.37 | 188.93 | 188.18 | 198.97 | 192.83 | -5.26 | -5.71 | 402.7 | 6790.3 | 7193 |
| 28 | 4854 | J09-5-J09-9 | J09-5 | J09-9 | 8,687,525 | 2,768,944 | 5,918,581 | 10,554,288 | 1,866,763 | PVC | 27 | 180.22 | 179.43 | 182.47 | 181.68 | 0.00278 | 0.013 | 3.38 | 188.18 | 187.64 | 192.83 | 190 | -5.71 | -5.96 | 284.1 | 7193 | 7477.1 |
| 29 | 5859 | J09-9-J09-22 | J09-9 | J09-22 | 8,694,158 | 2,768,944 | 5,925,214 | 10,350,223 | 1,656,065 | PVC | 27 | 179.43 | 178.12 | 181.68 | 180.37 | 0.00267 | 0.013 | 3.38 | 187.64 | 186.72 | 190 | 186.72 | -5.96 | -6.35 | 489.9 | 7477.1 | 7967 |
| 30 | 3003 | K10-46-K10-44 | J09-22 | J09-24 | 8,716,673 | 2,768,944 | 5,947,729 | 164,574 | -8,552,099 | PVC | 6 | 178.12 | 178.07 | 178.62 | 178.57 | 0.00206 | 0.013 | 3.39 | 187.25 | 187.21 | 186.72 | 187.21 | -8.63 | -8.64 | 24.3 | 7967 | 7991.3 |
| 31 | 5419 | J09-24-J09-33 | J09-24 | J09-33 | 10,945,110 | 2,768,944 | 8,176,166 | 13,091,690 | 2,146,580 | PVC | 30 | 178.07 | 177.21 | 180.57 | 179.71 | 0.00244 | 0.013 | 3.45 | 189.46 | 188.86 | 187.21 | 188.86 | -8.89 | -9.15 | 352.6 | 7991.3 | 8343.9 |
| 32 | 5257 | J09-33-J09-41 | J09-33 | J09-41 | 11,551,903 | 2,768,944 | 8,782,959 | 12,945,046 | 1,393,143 | PVC | 30 | 177.21 | 176.42 | 179.71 | 178.92 | 0.00238 | 0.013 | 3.64 | 192.65 | 192.02 | 188.86 | 192.02 | -12.94 | -13.1 | 331.3 | 8343.9 | 8675.2 |
| 33 | 3667 | J09-41-J09-45 | J09-41 | J09-45 | 11,591,933 | 2,768,944 | 8,822,989 | 2,097,941 | -9,493,992 | PVC | 12 | 176.42 | 175.2 | 177.42 | 176.2 | 0.0083 | 0.013 | 22.84 | 216.11 | 178.87 | 192.02 | 190.18 | -38.69 | -2.67 | 147 | 8675.2 | 8822.2 |
| 34 | 4251 | J09-45-J10-2 | J09-45 | J10-2 | 11,600,767 | 2,768,944 | 8,831,823 | 14,804,664 | 3,203,897 | PVC | 30 | 175.2 | 174.53 | 177.7 | 177.03 | 0.00312 | 0.013 | 3.66 | 178.87 | 178.46 | 190.18 | 193.17 | -1.17 | -1.43 | 214.8 | 8822.2 | 9037 |
| 35 | 5335 | J10-2-J10-8 | J10-2 | J10-8 | 11,856,884 | 2,768,944 | 9,087,940 | 13,885,589 | 2,028,705 | PVC | 30 | 174.53 | 173.59 | 177.03 | 176.09 | 0.00274 | 0.013 | 3.74 | 178.46 | 177.77 | 193.17 | 190 | -1.43 | -1.68 | 342.6 | 9037 | 9379.6 |
| 36 | 5897 | J10-8-J10-24 | J10-8 | J10-24 | 16,926,360 | 2,768,944 | 14,157,416 | 3,242,470 | -13,683,890 | PVC | 30 | 173.59 | 173.51 | 176.09 | 176.01 | 0.00015 | 0.013 | 5.34 | 177.77 | 175.26 | 190 | 184 | -1.68 | 0.75 | 534.7 | 9379.6 | 9914.3 |
| 37 | 5852 | J10-24-J10-34 | J10-24 | J10-34 | 16,938,626 | 2,768,944 | 14,169,682 | 30,316,999 | 13,378,373 | PVC | 30 | 173.51 | 167.07 | 176.01 | 169.57 | 0.01308 | 0.013 | 9.82 | 175.26 | 171.55 | 184 | 177.94 | 0.75 | -1.98 | 492.4 | 9914.3 | 10406.7 |
| 38 | 4918 | J10-34-J10-44 | J10-34 | J10-44 | 16,949,543 | 2,768,944 | 14,180,599 | 16,547,967 | -401,576 | PVC | 30 | 167.07 | 168.23 | 169.57 | 170.73 | -0.0039 | 0.013 | 5.34 | 171.55 | 169.98 | 177.94 | 178.87 | -1.98 | 0.75 | 297.7 | 10406.7 | 10704.4 |
| 39 | 5839 | J10-44-J10-53 | J10-44 | J10-53 | 17,005,119 | 2,768,944 | 14,236,175 | 31,703,658 | 14,698,539 | PVC | 30 | 168.23 | 161.4 | 170.73 | 163.9 | 0.0143 | 0.013 | 10.17 | 169.98 | 166.57 | 178.87 | 173.01 | 0.75 | -2.67 | 477.5 | 10704.4 | 11181.9 |
| 40 | 5360 | J10-53-J11-4 | J10-53 | J11-4 | 17,012,746 | 2,768,944 | 14,243,802 | 16,871,263 | -141,483 | PVC | 30 | 161.4 | 160 | 163.9 | 162.5 | 0.00405 | 0.013 | 5.36 | 166.57 | 165.14 | 173.01 | 172.44 | -2.67 | -2.64 | 345.6 | 11181.9 | 11527.5 |
| 41 | 5171 | J11-4-J11-10 | J11-4 | J11-10 | 17,550,840 | 2,768,944 | 14,781,896 | 21,975,368 | 4,424,528 | PVC | 30 | 160 | 157.8 | 162.5 | 160.3 | 0.00687 | 0.013 | 5.53 | 165.14 | 163.74 | 172.44 | 171 | -2.64 | -3.44 | 320.1 | 11527.5 | 11847.6 |
| 42 | 5096 | J11-10-J11-18 | J11-10 | J11-18 | 17,559,505 | 2,768,944 | 14,790,561 | 20,565,867 | 3,006,362 | PVC | 30 | 157.8 | 155.91 | 160.3 | 158.41 | 0.00602 | 0.013 | 5.53 | 163.74 | 162.36 | 171 | 170.85 | -3.44 | -3.95 | 314 | 11847.6 | 12161.6 |
| 43 | 5438 | J11-18-J11-29 | J11-18 | J11-29 | 18,336,529 | 2,768,944 | 15,567,585 | 15,002,227 | -3,334,302 | PVC | 36 | 155.91 | 155.48 | 158.91 | 158.48 | 0.00121 | 0.013 | 4.01 | 162.36 | 161.72 | 170.85 | 167.67 | -3.45 | -3.24 | 355 | 12161.6 | 12516.6 |
| 44 | 5342 | J11-29-J11-44 | J11-29 | J11-44 | 18,359,207 | 2,768,944 | 15,590,263 | 19,181,160 | 821,953 | PVC | 36 | 155.48 | 154.8 | 158.48 | 157.8 | 0.00198 | 0.013 | 4.02 | 161.72 | 161.1 | 167.67 | 169.54 | -3.24 | -3.3 | 343.4 | 12516.6 | 12860 |
| 45 | 4455 | J11-44-J11-51 | J11-44 | J11-51 | 22,214,559 | 2,768,944 | 19,445,615 | 18,895,751 | -3,318,808 | PVC | 36 | 154.8 | 154.34 | 157.8 | 157.34 | 0.00192 | 0.013 | 4.86 | 161.1 | 160.46 | 169.54 | 168.44 | -3.3 | -3.12 | 239.4 | 12860 | 13099.4 |
| 46 | 5929 | J11-51-J12-11 | J11-51 | J12-11 | 22,244,993 | 2,768,944 | 19,476,049 | 34,641,163 | 12,396,170 | PVC | 36 | 154.34 | 149.87 | 157.34 | 152.87 | 0.00646 | 0.013 | 4.87 | 160.46 | 158.62 | 168.44 | 163.03 | -3.12 | -5.75 | 692.1 | 13099.4 | 13791.5 |
| 47 | 5626 | J12-11-J12-9 | J12-11 | J12-9 | 27,292,689 | 2,768,944 | 24,523,745 | 27,412,575 | 119,886 | PVC | 36 | 149.87 | 148.3 | 152.87 | 151.3 | 0.00404 | 0.013 | 5.97 | 158.62 | 157.06 | 163.03 | 157.11 | -5.75 | -5.76 | 388.2 | 13791.5 | 14179.7 |
| 48 | 5642 | J12-9-J12-20 | J12-9 | J12-20 | 27,303,900 | 2,768,944 | 24,534,956 | 26,953,521 | -350,379 | PVC | 36 | 148.3 | 146.75 | 151.3 | 149.75 | 0.00391 | 0.013 | 5.98 | 157.06 | 155.47 | 157.11 | 157 | -5.76 | -5.72 | 396.4 | 14179.7 | 14576.1 |
| 49 | 5922 | J12-20-J12-26 | J12-20 | J12-26 | 29,870,109 | 2,768,944 | 27,101,165 | 35,454,075 | 5,583,966 | PVC | 36 | 146.75 | 142.71 | 149.75 | 145.71 | 0.00676 | 0.013 | 6.54 | 155.47 | 152.6 | 157 | 155.42 | -5.72 | -6.89 | 597.2 | 14576.1 | 15173.3 |
| 50 | 5927 | J12-26-J13-4 | J12-26 | J13-4 | 29,878,112 | 2,768,944 | 27,109,168 | 29,311,144 | -566,968 | PVC | 36 | 142.71 | 139.66 | 145.71 | 142.66 | 0.00462 | 0.013 | 6.54 | 152.6 | 149.43 | 155.42 | 155.66 | -6.89 | -6.77 | 659.6 | 15173.3 | 15832.9 |
| 51 | 5256 | J13-4-I13-4 | J13-4 | I13-4 | 29,885,121 | 2,768,944 | 27,116,177 | 19,102,000 | -10,783,121 | PVC | 36 | 139.66 | 139.01 | 142.66 | 142.01 | 0.00196 | 0.013 | 6.54 | 149.43 | 147.84 | 155.66 | 151 | -6.77 | -5.83 | 331 | 15832.9 | 16163.9 |
| 52 | 5925 | I13-4-I13-10 | I13-4 | I13-10 | 29,891,300 | 2,768,944 | 27,122,356 | 21,549,863 | -8,341,437 | PVC | 36 | 139.01 | 137.4 | 142.01 | 140.4 | 0.0025 | 0.013 | 6.54 | 147.84 | 144.74 | 151 | 144.74 | -5.83 | -4.34 | 644.2 | 16163.9 | 16808.1 |
| 53 | 3447 | I07-33-I07-31 | I13-10 | I13-11 | 29,897,481 | 2,768,944 | 27,128,537 | 695,746 | -29,201,735 | PVC | 6 | 137.4 | 133.13 | 137.9 | 133.63 | 0.03681 | 0.013 | 19.23 | 149.62 | 139.73 | 144.74 | 139.73 | -11.72 | -6.1 | 116 | 16808.1 | 16924.1 |
| 54 | 5901 | I13-11-I14-1 | I13-11 | I14-1 | 29,906,759 | 2,768,944 | 27,137,815 | 6,124,076 | -23,782,683 | PVC | 36 | 133.13 | 133.02 | 136.13 | 136.02 | 0.0002 | 0.013 | 6.55 | 140.97 | 138.34 | 139.73 | 142.95 | -4.84 | -2.32 | 545 | 16924.1 | 17469.1 |
| 55 | 5903 | I14-1-I14-2 | I14-1 | I14-2 | 29,925,131 | 2,768,944 | 27,156,187 | 30,407,121 | 481,990 | PVC | 36 | 133.02 | 130.38 | 136.02 | 133.38 | 0.00498 | 0.013 | 6.55 | 138.34 | 135.79 | 142.95 | 138 | -2.32 | -2.41 | 530.6 | 17469.1 | 17999.7 |
| 56 | 5902 | I14-2-I14-3 | I14-2 | I14-3 | 29,944,722 | 2,768,944 | 27,175,778 | 42,793,558 | 12,848,836 | PVC | 36 | 130.38 | 125.19 | 133.38 | 128.19 | 0.00986 | 0.013 | 6.55 | 135.79 | 133.24 | 138 | 138 | -2.41 | -5.05 | 526.6 | 17999.7 | 18526.3 |
| 57 | 3436 | M07-25-M07-8 | I14-3 | I14-5 | 29,955,218 | 2,768,944 | 27,186,274 | 180,739 | -29,774,479 | PVC | 6 | 125.19 | 124.9 | 125.69 | 125.4 | 0.00248 | 0.013 | 6.56 | 133.24 | 132.68 | 138 | 138 | -7.55 | -7.28 | 116.7 | 18526.3 | 18643 |
| 58 | 5931 | I14-5-I15-1 | I14-5 | I15-1 | 29,962,541 | 2,768,944 | 27,193,597 | 26,071,121 | -3,891,420 | PVC | 48 | 124.9 | 124.26 | 128.9 | 128.26 | 0.00079 | 0.013 | 3.69 | 132.68 | 131.84 | 138 | 138 | -3.78 | -3.58 | 811.5 | 18643 | 19454.5 |
| 59 | 5819 | I15-1-I15-5 | I15-1 | I15-5 | 29,969,863 | 2,768,944 | 27,200,919 | 60,681,535 | 30,711,672 | PVC | 48 | 124.26 | 126.11 | 128.26 | 130.11 | -0.00427 | 0.013 | 3.69 | 131.84 | 131.38 | 138 | 131.44 | -3.58 | -1.27 | 433 | 19454.5 | 19887.5 |
| 60 | 2975 | K10-7-K10-10 | I15-5 | I15-7 | 29,976,042 | 2,768,944 | 27,207,098 | 361,424 | -29,614,618 | PVC | 8 | 126.11 | 126.09 | 126.78 | 126.76 | 0.00127 | 0.01 | 3.69 | 131.38 | 131.37 | 131.44 | 131.37 | -4.6 | -4.61 | 15.8 | 19887.5 | 19903.3 |
| 61 | 6132 | I15-7-I15-8 | I15-7 | I15-8 | 36,418,712 | 2,768,944 | 33,649,768 | 33,686,043 | -2,732,669 | 0 | 30 | 126.09 | 125.87 | 128.59 | 128.37 | 0.01615 | 0.013 | 11.48 | 131.67 | 131.41 | 131.37 | 131.41 | -3.08 | -3.04 | 13.6 | 19903.3 | 19916.9 |
| 62 | 6133 | CO-8 | I15-8 | MH-8 | 36,424,891 | 2,768,944 | 33,655,947 | 38,080,441 | 1,655,550 | 0 | 30 | 125.87 | 125 | 128.37 | 127.5 | 0.02064 | 0.013 | 11.48 | 131.48 | 130.68 | 131.41 | 131.36 | -3.11 | -3.18 | 42.2 | 19916.9 | 19959.1 |
| 63 | 5981 | CO-4 | MH-8 | I15-9 | 39,594,670 | 2,768,944 | 36,825,726 | 2,608,858 | -36,985,812 | 0 | 30 | 125 | 124.99 | 127.5 | 127.49 | 0.0001 | 0.013 | 12.48 | 130.68 | 128.38 | 131.36 | 131 | -3.18 | -0.89 | 103.2 | 19959.1 | 20062.3 |
| 64 | 4022 | I15-9-I15-WRF | I15-9 | O-1 | 39,628,531 | 2,768,944 | 36,859,587 | 30,788,053 | -8,840,478 | 0 | 36 | 124.99 | 124 | 127.99 | 127 | 0.0051 | 0.013 | 8.67 | 128.38 | 126.53 | 131 | 131 | -0.39 | 0.47 | 194.1 | 20062.3 | 20256.4 |

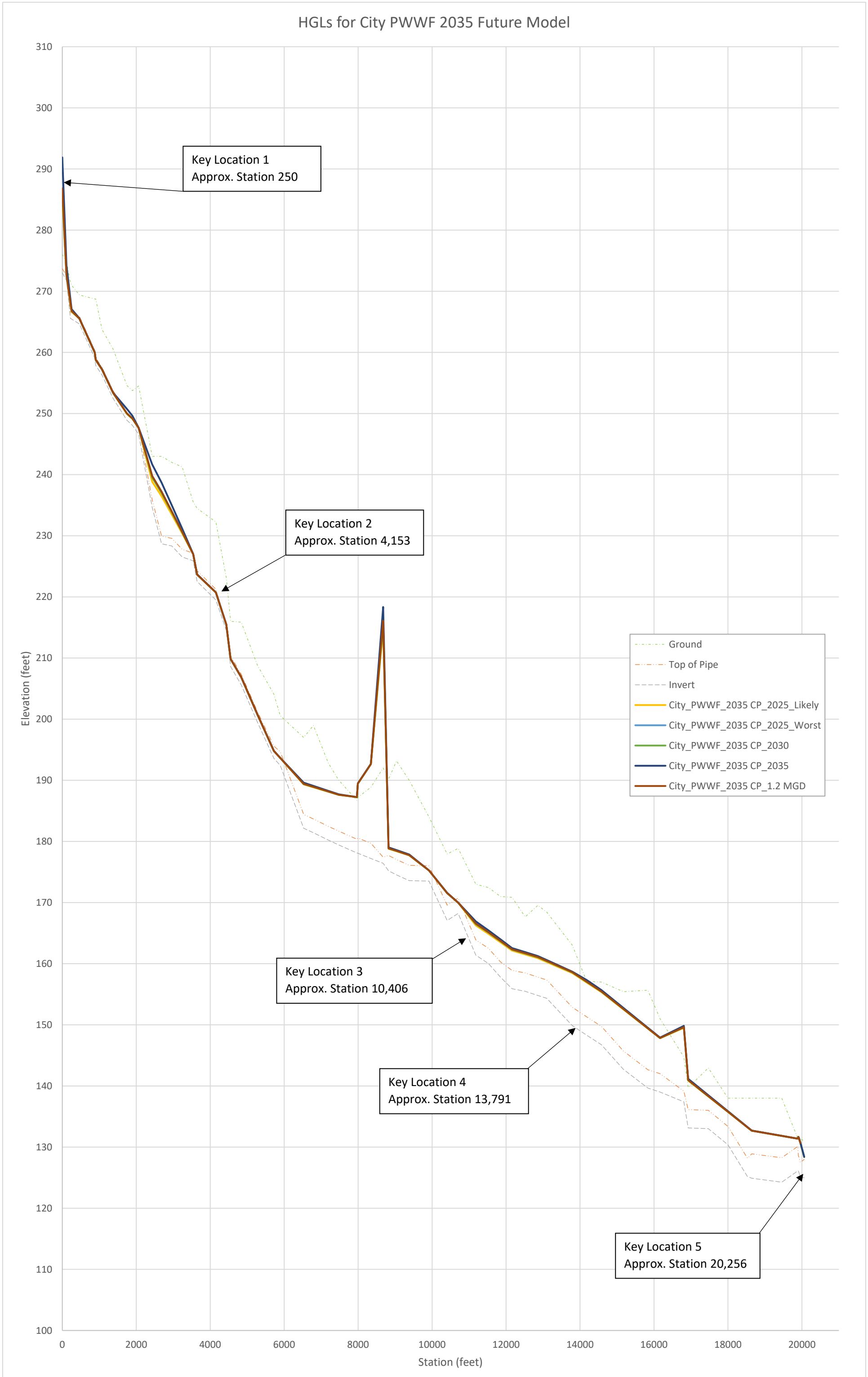

HGLs for City ADWF 2015 Base Model
Elevation (feet)
Station (feet)
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
Key Location 1
Approx. Station 250
Key Location 2
Approx. Station 4,153
Key Location 3
Approx. Station 10,406
Key Location 4
Approx. Station 13,791
Key Location 5
Approx. Station 20,256
Ground
Top of Pipe
Invert
City_ADWF_2015 CP_2015
City_ADWF_2015 CP_2020
City_ADWF_2015 CP_2025_Likely
City_ADWF_2015 CP_2025_Worst
City_ADWF_2015 CP_0.471 MGD


HGLs for City PDWF 2015 Base Model
Elevation (feet)
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
Station (feet)
Key Location 1
Approx. Station 250
Key Location 2
Approx. Station 4,153
Key Location 3
Approx. Station 10,406
Key Location 4
Approx. Station 13,791
Key Location 5
Approx. Station 20,256
Ground
Top of Pipe
Invert
City_PDWF_2015 CP_2015
City_PDWF_2015 CP_2020
City_PDWF_2015 CP_2025_Likely
City_PDWF_2015 CP_2025_Worst
City_PDWF_2015 CP_1.2 MGD


HGLs for City PWWF 2015 Base Model
Elevation (feet)
Station (feet)
Key Location 1
Approx. Station 250
Key Location 2
Approx. Station 4,153
Key Location 3
Approx. Station 10,406
Key Location 4
Approx. Station 13,791
Key Location 5
Approx. Station 20,256
Ground
Top of Pipe
Invert
City_PWWF_2015 CP_2015
City_PWWF_2015 CP_2020
City_PWWF_2015 CP_2025_Likely
City_PWWF_2015 CP_2025_Worst
City_PWWF_2015 CP_1.2 MGD
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000


HGLs for City ADWF 2035 Future Model
Elevation (feet)
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
Station (feet)
Key Location 1
Approx. Station 250
Key Location 2
Approx. Station 4,153
Key Location 3
Approx. Station 10,406
Key Location 4
Approx. Station 13,791
Key Location 5
Approx. Station 20,256
Ground
Top of Pipe
Invert
City_ADWF_2035 CP_2025_Likely
City_ADWF_2035 CP_2025_Worst
City_ADWF_2035 CP_2030
City_ADWF_2035 CP_2035
City_ADWF_2035 CP_0.471 MGD


HGLs for City PDWF 2035 Future Model
Elevation (feet)
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
Station (feet)
Key Location 1
Approx. Station 250
Key Location 2
Approx. Station 4,153
Key Location 3
Approx. Station 10,406
Key Location 4
Approx. Station 13,791
Key Location 5
Approx. Station 20,256
Ground
Top of Pipe
Invert
City_PDWF_2035 CP_2025_Likely
City_PDWF_2035 CP_2025_Worst
City_PDWF_2035 CP_2030
City_PDWF_2035 CP_2035
City_PDWF_2035 CP_1.2 MGD


HGLs for City PWWF 2035 Future Model
Elevation (feet)
Station (feet)
Key Location 1
Approx. Station 250
Key Location 2
Approx. Station 4,153
Key Location 3
Approx. Station 10,406
Key Location 4
Approx. Station 13,791
Key Location 5
Approx. Station 20,256
Ground
Top of Pipe
Invert
City_PWWF_2035 CP_2025_Likely
City_PWWF_2035 CP_2025_Worst
City_PWWF_2035 CP_2030
City_PWWF_2035 CP_2035
City_PWWF_2035 CP_1.2 MGD
310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000