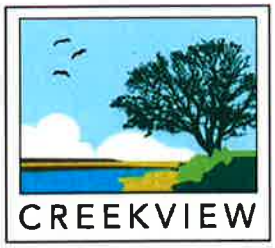
APPENDIX H-2
ATTACHMENT 2:

CREEKVIEW POTABLE MASTER PLAN, MCKAY & SOMPS, SEPTEMBER 2010

CREEKVIEW SPECIFIC PLAN



Master Water Study
Final Report

Prepared For:

Granite Bay Development

City of Roseville/Placer County, CA

November 30, 2010

Prepared By:

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I. INTRODUCTION

Study Purpose and Objectives

The Creekview Master Water Study (Study) has been prepared to detail an infrastructure plan that will accommodate water demands used by the proposed Creekview Specific Plan (CSP). General Plan Policies require new development areas to demonstrate solutions to the water needs of the project area. The following topics are discussed within this Study:

- Land uses proposed for the CSP
- Projected CSP water demands
- Water facilities design criteria and assumptions
- On-site infrastructure to provide service to CSP

This Study identifies the ultimate backbone water system for the CSP based on the most recent land use designations (Land Use Plan, dated October 26, 2010), while considering the future adjacent Amoruso Ranch Study Area (Brookfield) to ensure that an acceptable level of service could be provided to this potential future development area. The City's Panhandle project is not addressed, it is considered to consist of open space and limited agriculture.

The main focus of this Study is to define the potable water system necessary to serve the CSP. This report recommends, based on current land plan information, facilities necessary to implement this project. Results and conclusions of the water modeling are based on serving the CSP.

Study Area

The CSP guides the development of approximately 501.3 acres located north of Blue Oaks Boulevard in northwest Roseville. The CSP location and project vicinity are shown on **Figure 1-1.** The CSP is a distinctive residential community with a broad range of residential housing types and densities. The centerpiece of the CSP is Pleasant Grove Creek, surrounded by a residential land use pattern with supporting community commercial, commercial mixed use, parks, and open space. The CSP is planned to implement smart growth strategies and low impact development practices to create a sustainable community as well as incorporate water conservation measures that reduce the overall potable water usage by approximately 20% based on current unit demand factors. Details of the water conservation measures are provide within a separate study.

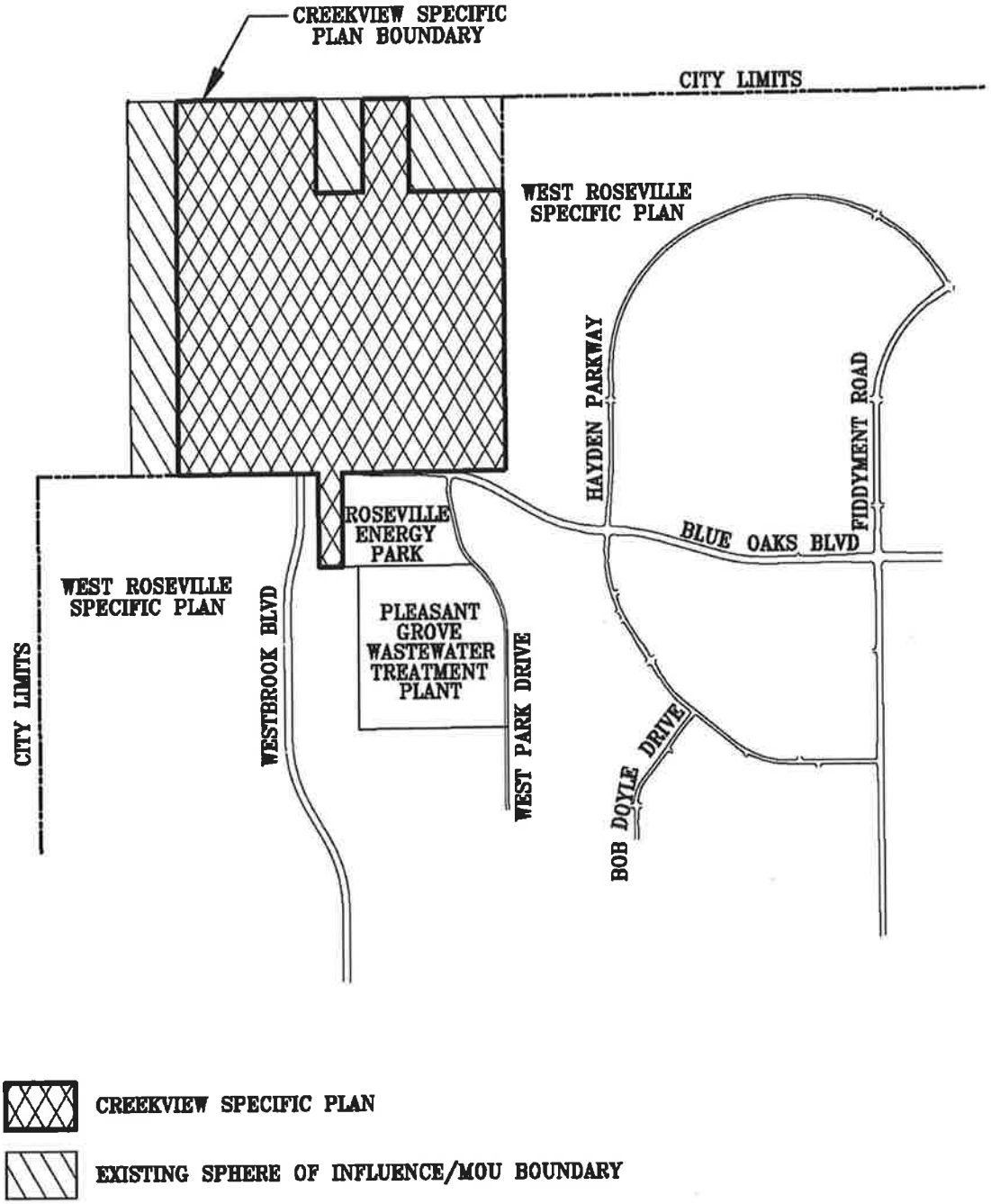


Figure 1-1 Regional Location Map

The pre-development physical setting consists of flat to gently rolling terrain with surface elevations ranging from approximately 75 to 100 feet relative to mean sea level over 4,000 feet horizontal. The vegetation across the site consists of a moderate growth of annual grasslands and riparian areas adjacent to Pleasant Grove Creek and an unnamed branch of Pleasant Grove Creek in the northern portion of the site. Pleasant Grove Creek traverses the plan area diagonally. Oak woodlands are located along the creeks. A wooden and steel bridge crosses Pleasant Grove Creek within the central portion of the CSP. The site also contains clusters of seasonal drainages and wetland areas dispersed throughout the site. A fire in 2007 impacted existing structures and vegetation including oak woodlands and grasslands.

The West Roseville Specific Plan (WRSP) is located east and south of a portion of the CSP. East of the CSP, the Fiddyment Farm community of the WRSP includes open space and low-density residential uses. Within Fiddyment Farm, a 132-acre open space preserve abuts the northeast corner of the CSP. The planned extension of Blue Oaks Boulevard forms the southern boundary of the CSP. The Roseville Energy Park and Pleasant Grove Wastewater Treatment Plant are located south of the CSP. An open space preserve is located south of the CSP and west of Westbrook Boulevard, within theWRSP.

Lands to the north of the CSP are grasslands and portions are used for limited agricultural uses. Lands west of the CSP are owned by the City of Roseville and are referred to as the City's Panhandle property. West of the Panhandle property is the City's 1,700 acre Reason Farms planned Regional Stormwater Retention Basin site that includes agricultural and open space features.

This Study includes preliminary demands for the adjacent Brookfield development to the north. Inclusion of this development helps to ensure the CSP on-site infrastructure is adequate to serve the adjacent area should it be developed as a City of Roseville project in the future.

Study Process

This Study analyzes the hydraulics of the proposed water infrastructure necessary to serve the CSP site. The methodology used for hydraulic modeling in this study conforms to the methodology and criteria used by the City of Roseville Environmental Utilities Department. Using the City's current design criteria and standards, a hydraulic model has been developed to adequately size the proposed plan area's water infrastructure. These details are presented and results discussed in the proceeding **Section V.** The City will incorporate this study's results into their City build-out model to determine the impacts, if any, to the City's existing water system.

II. LAND USE AND DEMAND PROJECTIONS

The proposed land uses for the CSP are directly used to calculate the potable water demand on the City's system. This section discusses the proposed land use, the potable water demand factors, the CSP demand projections, and the potable water demand peaking factors.

Proposed Land Uses

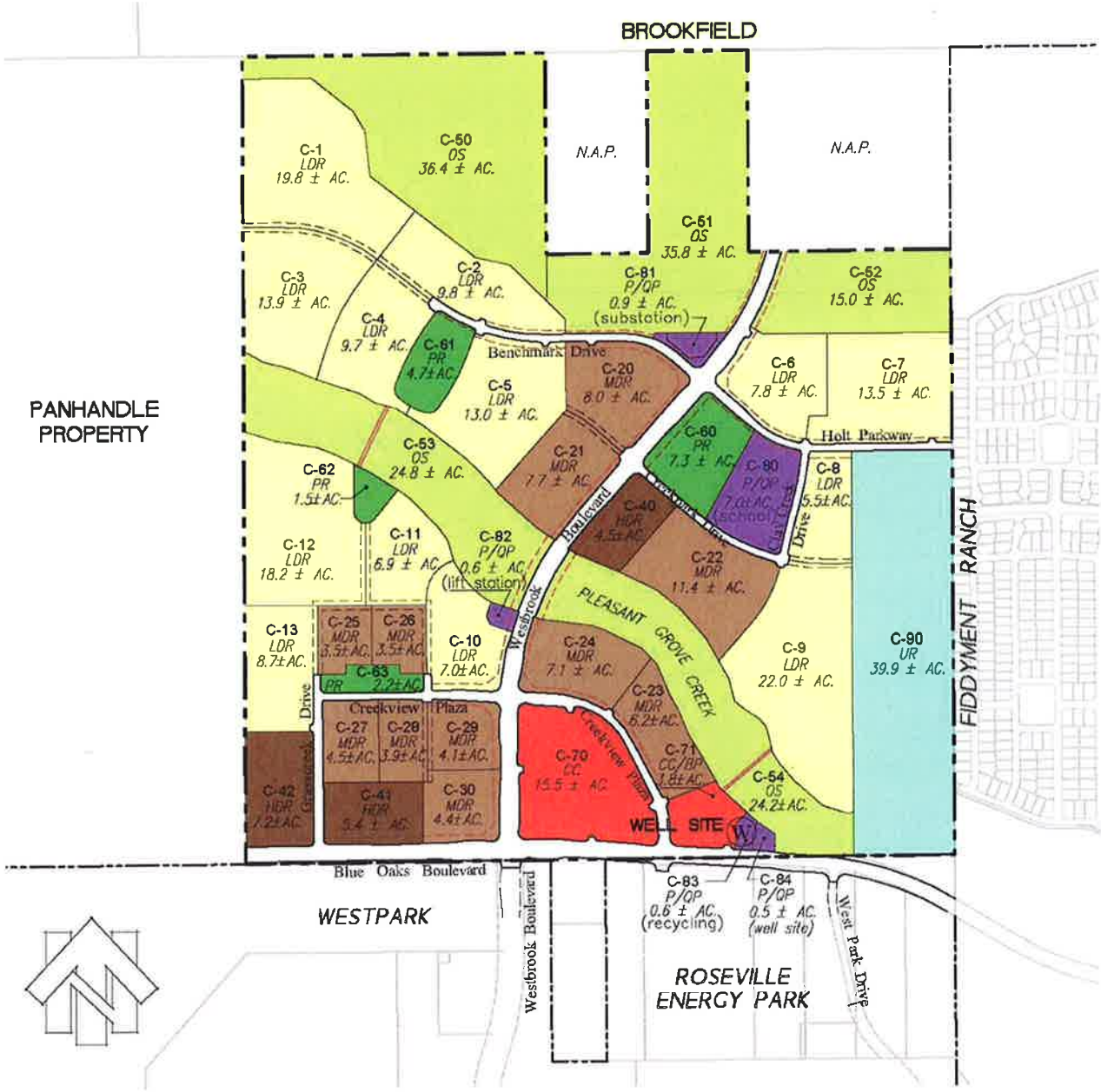
The centerpiece of the CSP is Pleasant Grove Creek, surrounded by a residential land use pattern with supporting community commercial, commercial mixed use, parks, and open space. The CSP is planned to implement smart growth strategies and low-impact development practices to create a sustainable community. The various land use classifications and corresponding acreages, based on the land use plan, dated October 26, 2010, are listed in **Table 2-1** and shown in **Figure 2-1.**

Table 2-1 - CSP Land Use Summary

Land Use	Acres	Dwelling Units (du)	Density (du/ac)
Low Density Residential	155.8	836	5.4
Medium Density Residential	64.3	655	10.2
High Density Residential	17.1	520	30.4
Commercial Mixed Use	19.3		
Public/Quasi-public	9.6		
Recreation, Parks, Paseos	15.7		
Open Space/Wetlands	136.2		
Right-of-Way	43.4		
Urban Reserve	39.9	405	
Totals:	501.3	2,416	4.8

Parcel 90, as shown in **Figure 2-1**, is an Urban Reserve parcel (Harris- Urban Reserve). The Harris- Urban Reserve is not participating in the CSP and is designated Urban Reserve. For the purposes of the CSP infrastructure studies, land use designations have been assigned in order to determine infrastructure needs in the future **See Appendix A.**

The service area for the Brookfield development was based on information available at the time of this Study, which included land use information and assumptions obtained from the City. The Brookfield demands are based on Brookfield's May 20, 2010 Land Use Plan.



LAND USE PLAN
CREEKVIEW

Figure 2-1 Conceptual Land Use Plan, October 26, 2010

Water Demand Projections

Unit water demand factors used to develop water demands for the CSP are outlined in the City's domestic water design standards. These are identified in **Table 2-2** and detailed in **Appendix A**.

Table 2-2- Water Demand Projections for CSP

Land Use Designation	Total DU's [3]	Total Acres [3]	Unit Demands (gpd/ac) or (gpd/du)	Avg Annual Daily Demands (gpm)
LDR (>3.5 to 5 du/ac)	365	73.9	600	152.1
LDR (>5 to <6 du/ac)	381	67.7	521	137.8
LDR (6 to 8 du/ac)	90	14.2	430	26.9
MDR (>8 to 12 du/ac)	480	50.4	323	107.7
MDR (>12 to 16 du/ac)	175	13.9	288	35.0
HDR (>16 to 20 du/ac)	520	17.1	177	63.9
Commercial	-	19.3	2,598	34.8
Schools (Elementary)	-	7	3,454	16.8
Public/Quasi-public	-	2.6	1,780	3.2
Parks/Paseos	-	15.7	2,988	32.6
Open Space/Right-of-Way	-	179.6	-	60.2
Urban Reserve [1]	405	39.9	-	72.1
Subtotal				743.1
Subtotal w/ 2% Losses				758.0
Brookfield [2]	-	-	-	939.9
Total:	2,416	501.3		1,697.9

1. Demands for the Urban Reserve were calculated based on preliminary land use consistent with the CSP (Parcel 90- 16.7 ac MDR (167 du), 11.9 ac HDR (238 du), 1.1 ac Park, 8.0 ac Open Space and 2.2 ac Right-of-Way).
2. Demands for Brookfield are preliminary and based on the May 2010 Amoruso Ranch Specific Plan as estimated from the City of Roseville staff. (939.9gpm includes 2% system losses)
3. Based on the land use plan, dated October 26, 2010.

The total average day demand is estimated to be 757.9gpm (1,223 AFY) for CSP and 939.9 gpm for the Brookfield development (1,516 AFY). The unit demands listed above have not been adjusted to account for a separate recycled water system with corresponding recycled water demands. These demands include provisions for supplying the recycled water demands (with potable water) as a back-up in case the recycled system is down.

Distribution of the water demands based on the land use designations has been developed for use in the water system model. A water demand spreadsheet detailing the demands assigned to each of the water model junction nodes for the CSP and adjacent area is included in **Appendix A.**

Peaking Factors

Peaking factors are used to simulate system-operating scenarios and to analyze water distribution facilities. Maximum Day Demands (MDD) are developed by applying the MDD factor to Average Day Demand (ADD) estimates. MDD estimates are typically used to size supply mains and to determine required supply production rates. For this study, a MDD factor of 2.0 is used per the City of Roseville Design Standards (January, 2010).

The Peak Hour Demand (PHD) is used for the sizing of transmission mains, pumps, and storage reservoirs for relatively larger systems. To determine these sizes, a factor of 1.7 is applied to the MDD. A reduction in the PHD to MDD peaking factor is generally noticed when you observe the entire water system as a whole over the course of the peak flow periods. The transmission mains; however, need to be sized so they can handle instantaneous peak flows that may occur over shorter periods of time in order to maintain velocities within the City's design criteria.

Using the water system peaking factors, the water system demands were established for all of the scenarios listed in **Table 2-3** for the CSP, including the Brookfield development.

Table 2-3 - Water System Scenario Demands for CSP and Brookfield

Scenario	Water Demand [1] (gpm)
Average Day Demand	1,698
Maximum Day Demand 2.0	3,396
Peak Hour Demand 3.4	5,773
Maximum Day Demand plus 2,000 gpm Fire Flow	5,396
Maximum Day Demand plus 4,000 gpm Fire Flow	7,396
Maximum Day Demand plus 4,500 gpm Fire Flow	7,896

1. Demands account for 2% system losses.

See spreadsheet in **Appendix A** for demands at each water model node location.

IV. SERVICE REQUIREMENTS

Proposed facilities within the CSP are intended to provide and maintain an acceptable level of service to the CSP, as well as the Brookfield development.

For this Study, it is anticipated the CSP will be served with surface water from the extension of the City's existing infrastructure and by an on-site groundwater well. The groundwater well would be located adjacent to Blue Oaks Boulevard within the plan area. The well is proposed to meet dry year water needs when surface water supplies are limited and for emergency purposes. Water storage tanks to be located on an existing City water storage tank site within the West Roseville Specific Plan Area will provide necessary water storage for the project.

System Criteria

Transmission Main Criteria

The City has developed minimum operating goals to be used in the planning of backbone water facilities. The criteria used for transmission main sizing are listed in the following **Table 4-1**. These criteria help to ensure the subsequent distribution systems are not undersized when designed and then constructed.

Table 4-1 – Water Supply Pressure Design Criteria

Operating Condition	Criteria
Average Day Demand	50 psi minimum pressure
Conditions	100 psi maximum pressure
Fire Flow plus MDD	20 psi minimum at source node
	50 psi minimum elsewhere

In addition to the pressure requirements, the City maintains a maximum pipe velocity of 5 feet/second (fps) for ADD conditions and 6 fps for MDD and PHD operating conditions with the transmission mains.

Water Supply Criteria

For this Study, water is anticipated to be supplied to the CSP via connections to the existing City water infrastructure. Extensions of the existing system are necessary and timing of these connections will depend on development within the area adjacent to the proposed CSP and existing City limit boundary. Refer to **Figure 4-1**, which shows the existing and proposed water facilities along the western boundary of the City of Roseville and Placer County limits.

It is unknown when other specific plan areas or offsite improvements will be completed therefore this study assumes that in the interim condition (without other offsite connections), water supply will be obtained from a 24-inch pipe routed from the existing City's Westside Tank and Pump Station site. This site is located south of the CSP within the WRSP as shown on Figure 4-1.

Water storage for CSP will be located within the WRSP at the City's future Westside Tank and Pump Station site and will be utilized to meet supply needs including peak hour demands and fire flow events.

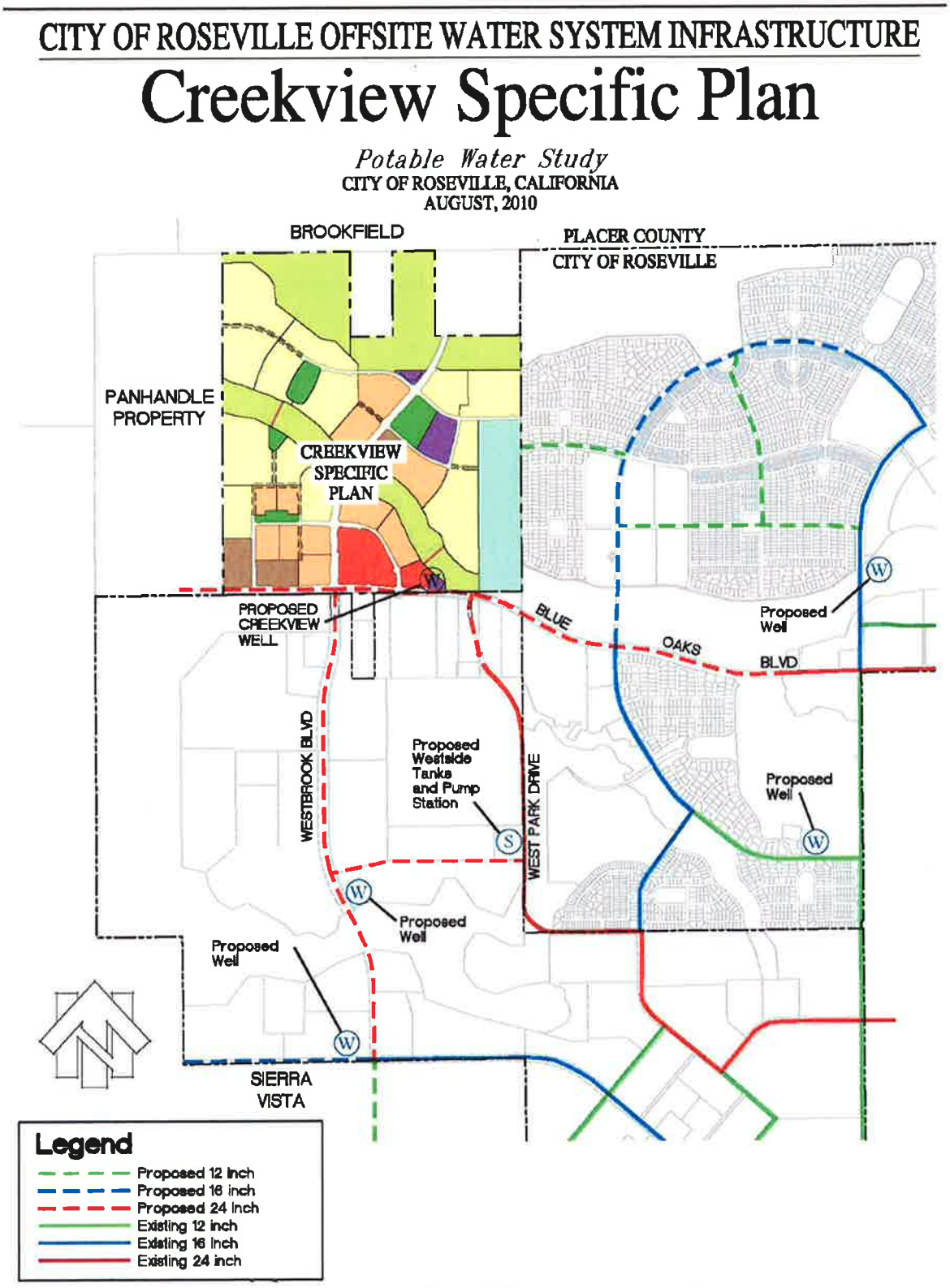

CITY OF ROSEVILLE OFFSITE WATER SYSTEM INFRASTRUCTURE
Creekview Specific Plan
Potable Water Study
CITY OF ROSEVILLE, CALIFORNIA
AUGUST, 2010
BROOKFIELD
PLACER COUNTY
CITY OF ROSEVILLE
PANHANDLE PROPERTY
CREEKVIEW SPECIFIC PLAN
PROPOSED CREEKVIEW WELL
BLUE OAKS BLVD
Proposed Well
WESTBROOK BLVD
Proposed Westside Tanks and Pump Station
WEST PARK DRIVE
Proposed Well
Proposed Well
Proposed Well
SIERRA VISTA
Legend
Proposed 12 inch
Proposed 16 inch
Proposed 24 inch
Existing 12 inch
Existing 16 inch
Existing 24 inch

Figure 4-1

The City utilizes ground water wells during dry years and during emergency events only when surface water supplies are limited. The on-site well is anticipated to have a total supply capacity of approximately 1,800 gpm. The actual yield of the proposed well will need to be confirmed though drilling an exploratory well to determine the aquifer capacity and water quality.

Fire Flow Requirements

Distribution systems must be sized to provide adequate fire flows at minimum residual pressures that meet or exceed flows specified by the California Fire Code (CFC) and local fire departments. City of Roseville fire flow requirements by land use are shown in **Table 4-2.**

Table 4-2 - Fire Flow Requirements

Land Use	Fire Flow (gpm)	Residual Pressure (psi)	Duration (Hours)
Residential [1]	2,000	20	2
Multi-Family	2,500	20	3
Commercial/Office/Industrial [2]	4,000	20	4
School [3]	4,500	20	4

1. 1,500 gpm is the requirement for residential areas having primarily one-story single-family dwellings on average size lots. However, 2,000 gpm is used in this Study to provide flexibility for the construction of potentially large dwelling units (up to 6,200 sf per the CFC).
2. Typical fire flow requirements for commercial, institutional, industrial and business park areas are 8,000 gpm for non-sprinkled structures and 4,000 gpm for sprinkled structures. This Study assumes all commercial structures will be sprinkled.
3. Typical fire flow requirements for School areas are 9,000 gpm for non-sprinkled structures and 4,500 gpm for sprinkled structures. This Study assumes all commercial structures will be sprinkled.

Fire flow requirements at junction CV-5 for Brookfield are assumed to be 4,500gpm.

Reservoir and Pump Sizing Criteria

Water storage tank(s) will be used to meet peak and fire flow demands. Multiple storage tanks are planned in the WRSP at the City's Westside Tank and Pump Station site. The site has sufficient space to allow for the construction of sufficient storage and pumping facilities to accommodate the CSP. The proposed CSP on-site groundwater well is considered to provide emergency storage. However, for this Study the total water storage volume calculation does not consider the groundwater well capacity as part of the emergency storage.

Reservoir sizing criteria is generally made up of three components: operational, fire protection, and emergency requirements. The operational and emergency components are calculated based upon a percentage of a system's Maximum Day water demands (MDD) while the fire protection component is based up the largest volume of fire flow required in a system over a select period of time, typically four hours. Operational storage needed is 25% of MDD, while Emergency storage is 50% of MDD. Roseville has allowed groundwater sources to

account for up to 25% MDD to offset emergency storage needs. For the calculation of the CSP operational storage, the Max Day demand of 1,516gpm (1,486gpm plus 2% system losses) is used. The MDD for CSP plus Brookfield is 3,396gpm (3,329 plus 2%). **Table 4-3** shows the total water storage requirements breakdown by storage component for the CSP project and the CSP plus Brookfield projects.

Table 4-3 - Reservoir Sizing Criteria for CSP

Category	Equation	Volume (gal)	Volume (MG)
Operational - 25% MDD [1]	(25%) x (1,516 gpm) x (1,440 min/day)	545,760	0.55
Fire- Provide the volume for the largest fire flow criteria	(4,500 gpm) x (4 hrs) x (60 min/hr)	1,080,000	1.08
Emergency- 25% of MDD [1]/[2]	(25%) x (1,516 gpm) x (1,440 min/day)	545,760	0.55
Total Volume		2,171,520	2.18

Reservoir Sizing Criteria for CSP and Brookfield

Category	Equation	Volume (gal)	Volume (MG)
Operational - 25% MDD [1]	(25%) x (3,396 gpm) x (1,440 min/day)	1,222,560	1.22
Fire- Provide the volume for the largest fire flow criteria	(4,500 gpm) x (4 hrs) x (60 min/hr)	1,080,000	1.08
Emergency- 25% of MDD [1]/[2]	(25%) x (3,396 gpm) x (1,440 min/day)	1,222,560	1.22
Total Volume		3,525,120	3.52

1. Operational and Emergency MDD include 2% for system losses.
2. Emergency storage is 50% of MDD, but 50% of that emergency volume can be supplied from groundwater sources, resulting in a tank storage capacity requirements of 25% of MDD.

According to the above sizing criteria, a total of 2.2 million gallons (MG) of treated water storage will be required to provide adequate needs to the CSP and 3.5 MG to provide for the needs of the CSP and Brookfield.

Distribution pumps will be used to meet peak hour and max day plus fire flow demands. The existing pumping system in the WRSP at the City's Westside Tank and Pump Station site will need to be modified to accommodate the increased demands. Pumping facility upgrades to accommodate the CSP will require an increase in pumping capacity by a minimum of 2,577 gpm for PHD and 6,016 gpm for MDD plus fire flow. Pumping facility upgrades to accommodate the CSP plus Brookfield will require an increase in pumping capacity by a minimum of 5,773 gpm for PHD and 7,896 gpm for MDD plus fire flow.

V. SYSTEM DESCRIPTION AND HYDRAULIC MODEL RESULTS

Water Service to the Plan Area

CSP is currently within the boundaries of the Placer County Water Agency. The CSP is currently located outside of the City's service limits and is solely located within Placer County. Placer County currently does not have adequate facilities within the vicinity to serve the CSP. With the CSP being located adjacent to existing City limits and within the City's sphere of influence, annexing the CSP into the City's incorporated boundary is currently being pursued. The City of Roseville would be the water purveyor for this area upon development, thus would own, operate, and maintain the storage, transmission, and distribution system with the CSP.

Existing Water Facilities

West Roseville

Existing water facilities are located in the vicinity of the proposed CSP. **Figure 4-1** shows the location and sizes of the City's existing facilities and planned facilities for the West Roseville Specific Plan Area. To serve the CSP in the interim condition prior to the development of adjacent areas, facilities will need to be extended along Blue Oaks Boulevard as identified on **Figure 5-1**.

Creekview Specific Plan Area

CSP is currently undeveloped and consists of natural rolling terrain with existing ground elevation ranging from 75 to 100 feet above msl. There are no existing municipal water facilities located within the CSP.

System Description

The CSP potable water transmission system has been laid out in a looping system following the major arterial and collector street alignments for a main grid. The pipe diameter sizes range from 24 inches to 12 inches. Refer to **Figure 5-2** for the general water system layout for CSP. Preliminary pipe sizes include anticipated demands for the Brookfield site.

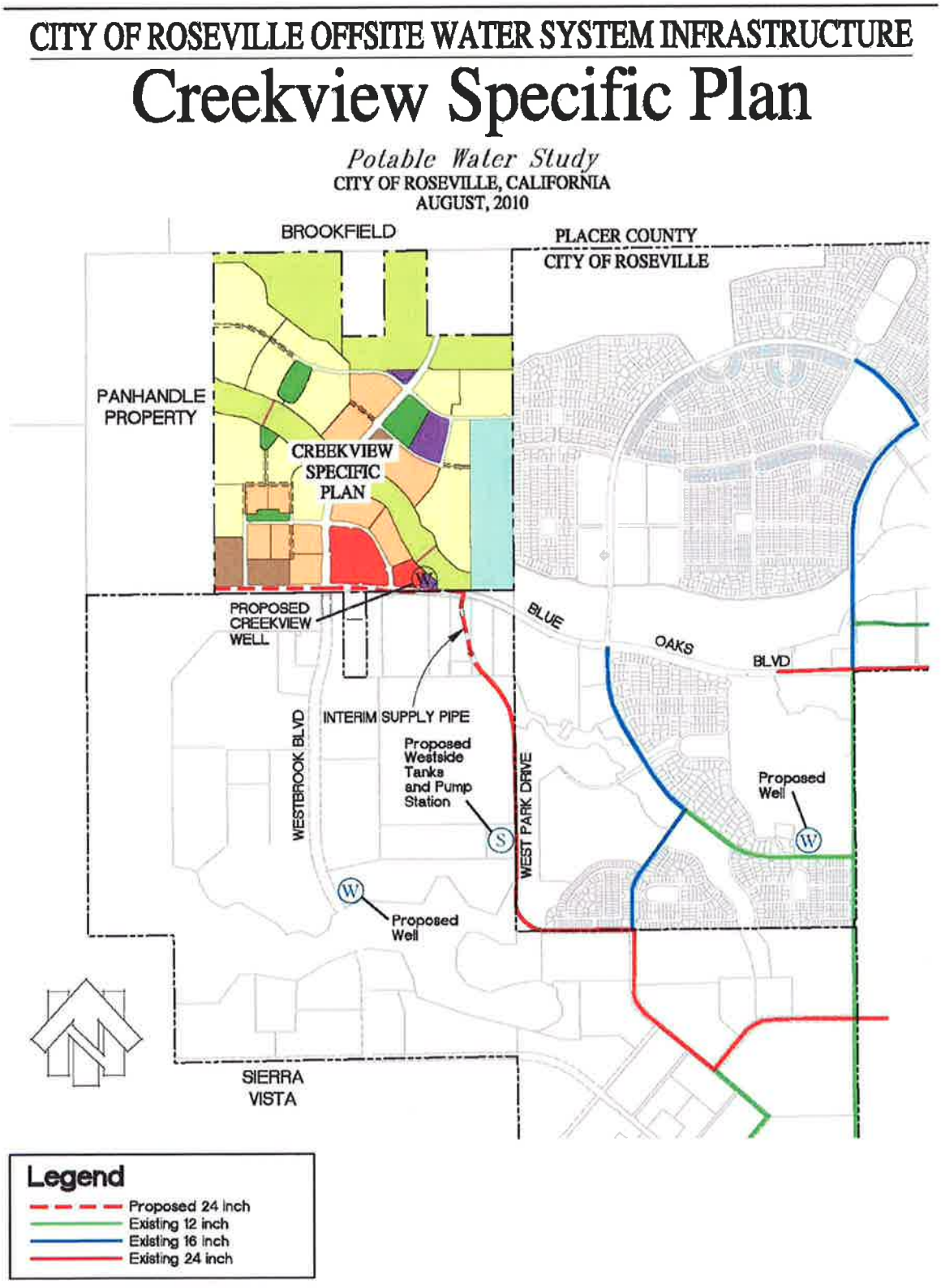
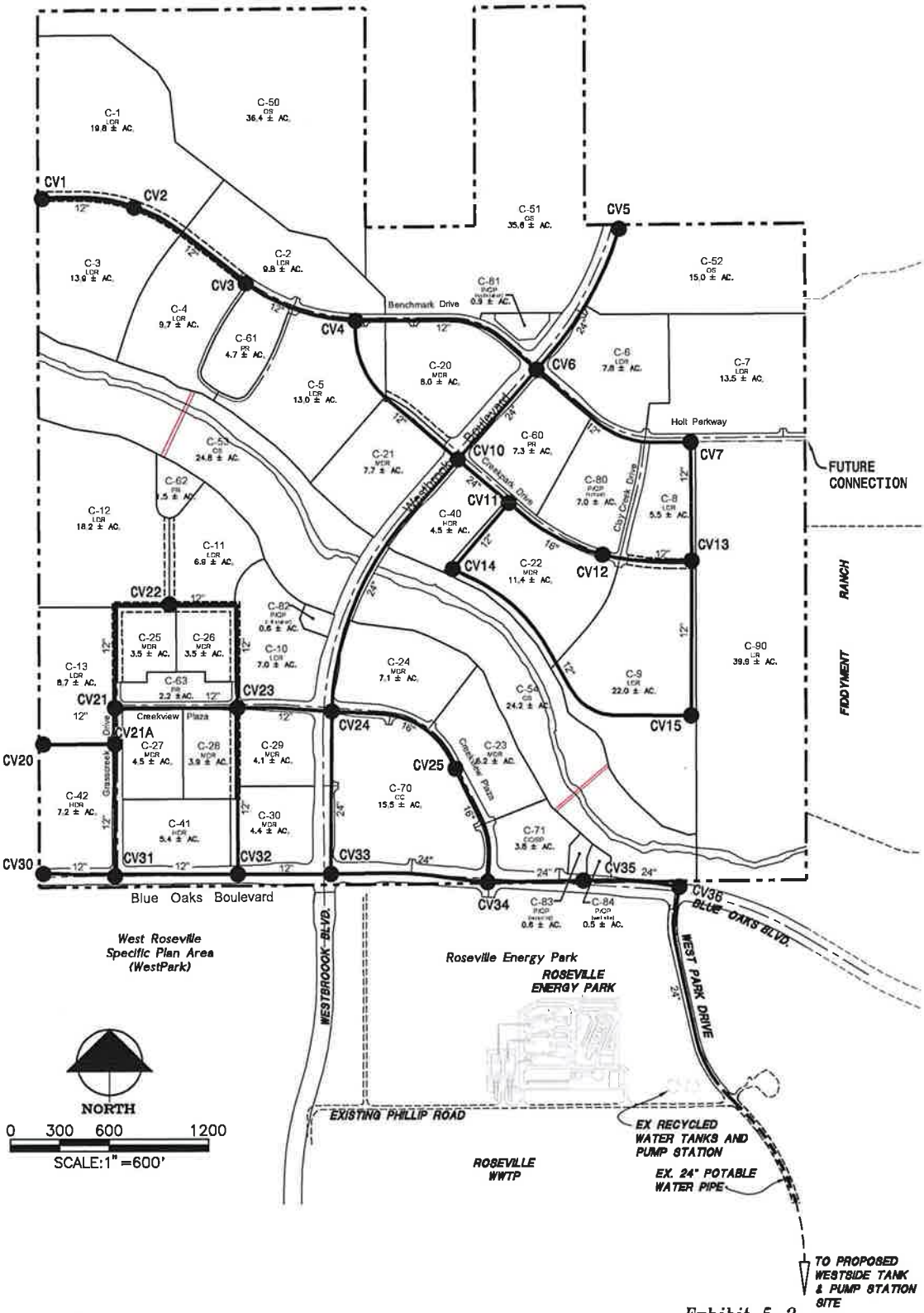


Figure 5-1 Interim Supply Pipe



PROPOSED
POTABLE WATER
CREEKVIEW

Exhibit 5-2
General Water System Layout

MACKAY & SOMPS
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1552 Eureka Road, Suite 100, Roseville, CA 95661 (916) 773-1100

11-29-2010 1:39pm Mike Brill P:\18431\WATERMODEL\EXH-POTABLEWATER20100726.DWG

Hydraulic Modeling

Computer software is implemented in modeling the water distribution system and the resulting hydraulic conditions are tabulated. The software utilized in this study was developed by Haestad Methods Inc. under trademark WaterCAD® Version 6.5. The computer modeling methodologies applied herein incorporate a combination of energy and mass balance iterations including the application of Bernoulli's equation with the Hazen-Williams method for determination of frictional head loss. Directional flow distribution is determined by applying the Hardy-Cross method.

The WaterCAD® software provides a module for testing fire flow and zone pressures at each node in the model. The fire flow data is sampled at each node representing the tee supplying a fire hydrant. WaterCAD® tests each zone by applying the available fire flow at hydrant tee locations. Nodes are tested to verify that the available fire flow is greater than the total needed fire flow and the calculated residual pressures are above the designated minimum zone pressure. All nodes satisfying the fire flow constraints are labeled as 'true' in the Fire Flow Report (Appendix C), while nodes that fail the fire flow constraints are labeled as 'false'.

The results of the fire flow analysis are reviewed for the fire flow scenario that produces the worst-case pressure results. The worst-case node is then individually analyzed to check for system wide constraints such as maximum pipe velocities.

Assumptions

The following are the assumptions used for the hydraulic modeling:

- The City's existing facilities will accommodate the CSP water demands.
- A Hazen William's "C" value of 130 was used to represent all pipe material, including Ductile Iron (DIP), Welded Steel, Concrete Cylinder and Polyvinyl Chloride (PVC) mains.
- The connection to the City's system will consist of maintaining pressures consistent with the City's Zone 4 pressures. The City's Westside pump station was modeled as a fixed head reservoir with a fixed hydraulic grade line. A HGL range of 245' to 267' was provided by the City, the minimum HGL of 245' was incorporated into the model to verify minimum pressures are maintained.

Hydraulic Modeling Scenarios

A number of hydraulic scenarios were modeled in order to observe the operating behavior of the system under various demand scenarios. Average day demands were modeled to represent the system under average daily water use. Maximum day demand and peak hour demand scenarios were modeled to represent the system during the higher usage situations. The distribution system must also be designed to carry fire flows. Fire flow scenarios usually represent the most critical scenario for small-to-medium size systems and are typically performed under maximum day demands with a commercial, school, or residential fire flow. Fire flow runs were performed during maximum day conditions assuming an additional 4,000 gpm for commercial sites, 4,500 gpm for school sites, and 2,000 gpm for single-family residential developments. This scenario performs the analysis at every node in the system and generates the results to determine the maximum flow available while maintaining the minimum

required 50 psi residual system pressure in transmission mains. This will allow an additional drop in pressure to serve the interior developments with a minimum of 20 psi residual pressure at the fire flow event.

Hydraulic Modeling Results

Two model alternatives were performed to provide a comparison of infrastructure requirements needed to support 1) The CSP and Brookfield demands and 2) the CSP demands. Alternative 1 is used for system sizing and alternative 2 is used for comparison of infrastructure requirements. Model results consist of sizing transmission mains to supply water to the CSP and the future Brookfield development. The results of sizing the transmission mains determined a 24-inch pipeline in the future Westbrook Boulevard is required for alternative 1 and a 24-inch downsized to a 16-inch along Westbrook Boulevard is required for alternative 2. Each of the water system layouts are shown in **Appendix B.**

Summary of Results

The hydraulic modeling criteria were used to determine the ability of the planned system to convey adequate flows and to provide sufficient pressures. The following **Table 5-1** summarizes the results from the various scenarios based on the minimum design criteria, see **Appendix C.**

Table 5-1 - Summary of Results

Creekview with Brookfield

Scenario	Minimum Pressure (psi)	Maximum Pressure (psi)	Maximum Velocity (fps)
Average Day Demand	64	72	1.2
Maximum Day Demand	62	70	2.4
Peak Hour Demand	57	66	4.1
Max Day + Fire Flow at CV-5	50	63	5.6
Max Day + Fire Flow at CV-12	50	62	5.6

Creekview

Scenario	Minimum Pressure (psi)	Maximum Pressure (psi)	Maximum Velocity (fps)
Average Day Demand	64	72	0.5
Maximum Day Demand	64	72	1.1
Peak Hour Demand	63	71	1.9
Max Day + Fire Flow at CV-5	61	70	3.2
Max Day + Fire Flow at CV-12	55	65	5.6

Based on the stated assumptions and results presented in **Table 5-1**, the water transmission mains satisfy the minimum design criteria. The proposed water infrastructure can adequately supply water to the CSP and Brookfield, while maintaining 50 psi within the CSP during maximum day and peak hour demands and satisfying the minimum fire flow criteria. Results for the CSP hydraulic model analysis are presented in **Appendix C**.

These results identify the minimum infrastructure requirements to meet the demands of the CSP and Brookfield, additional offsite infrastructure sizing requirements, if any, will be

determined by the City to ensure the existing water system can serve the CSP project without negatively impacting existing and future customer service levels.

The 24" pipe from the City's Westside Tank and Pump Station facility located along West Park Drive (see Figure 4-1) will adequately support the buildout of the CSP and Brookfield prior to any supply contributions provided from other offsite connection points.

The proposed pipe infrastructure required to convey water under the two scenarios are tabulated in **Table 5-2** and shown in **Appendix B**.

Table 5-2 Water System Pipe Size and Lengths

Pipe Size	Pipe Length (ft)	
	Scenario 1 CSP and Brookfield	**Scenario 2** CSP
8"	4,106	4,106
12"	17,535	17,535
16"	2,568	3,287
24"	11,392	9,685
Total	35,601	34,613

Pipe lengths shown in **Table 5-2** are used for modeling purposes and are an approximate representation of site requirements. Actual lengths may vary slightly.

Pipe sizes evaluated in scenario 2 meet the needs of the CSP and are used for comparison purposes. Because Scenario 2 is based on the CSP as a stand alone project, the 988' pipe that extends north of Parkway One to support Brookfield (pipe P-CV-105 as seen in **Appendix C)** has been removed from scenario 2 total in **Table 5-2**.

Appendix A

Demand Calculations

CREEKVIEW
WATER DEMAND SUMMARY

Parcel	Land Use	Acres	Units	Density	Unit Demand Factor	Demand Unit	Avg Day Demand (gpd)	Avg Day Demand (gpm)	Avg Annual Demand (AF/yr)	Max Day Demand (gpm)	Peak Hour Demand (gpm)
1	LDR	19.8	95	4.8	600	gpd/DU	57,000	39.58	63.85	79.17	134.58
2	LDR	9.8	50	5.1	521	gpd/DU	26,050	18.09	29.18	36.18	61.51
3	LDR	13.9	70	5.0	600	gpd/DU	42,000	29.17	47.05	58.33	99.17
4	LDR	9.7	55	5.7	521	gpd/DU	28,655	19.90	32.10	39.80	67.66
5	LDR	13.0	75	5.8	521	gpd/DU	39,075	27.14	43.77	54.27	92.26
6	LDR	7.8	46	5.9	521	gpd/DU	23,966	16.64	26.85	33.29	56.59
7	LDR	13.5	80	5.9	521	gpd/DU	41,680	28.94	46.69	57.89	98.41
8	LDR	5.5	35	6.4	430	gpd/DU	15,050	10.45	16.86	20.90	35.53
9	LDR	22.0	110	5.0	600	gpd/DU	66,000	45.83	73.93	91.67	155.83
10	LDR	7.0	40	5.7	521	gpd/DU	20,840	14.47	23.34	28.94	49.21
11	LDR	6.9	35	5.1	521	gpd/DU	18,235	12.66	20.43	25.33	43.05
12	LDR	18.2	90	4.9	600	gpd/DU	54,000	37.50	60.49	75.00	127.50
13	LDR	8.7	55	6.3	430	gpd/DU	23,650	16.42	26.49	32.85	55.84
20	MDR	8.0	75	9.4	323	gpd/DU	24,225	16.82	27.14	33.65	57.20
21	MDR	7.7	95	12.3	288	gpd/DU	27,360	19.00	30.65	38.00	64.60
22	MDR	11.4	105	9.2	323	gpd/DU	33,915	23.55	37.99	47.10	80.08
23	MDR	6.2	80	12.9	288	gpd/DU	23,040	16.00	25.81	32.00	54.40
24	MDR	7.1	65	9.2	323	gpd/DU	20,995	14.58	23.52	29.16	49.57
25	MDR	3.5	35	10.0	323	gpd/DU	11,305	7.85	12.66	15.70	26.69
26	MDR	3.5	35	10.0	323	gpd/DU	11,305	7.85	12.66	15.70	26.69
27	MDR	4.5	50	11.1	323	gpd/DU	16,150	11.22	18.09	22.43	38.13
28	MDR	3.9	35	9.0	323	gpd/DU	11,305	7.85	12.66	15.70	26.69
29	MDR	4.1	40	9.8	323	gpd/DU	12,920	8.97	14.47	17.94	30.51
30	MDR	4.4	40	9.1	323	gpd/DU	12,920	8.97	14.47	17.94	30.51
40	HDR	4.5	135	30.0	177	gpd/DU	23,895	16.59	26.77	33.19	56.42
41	HDR	5.4	165	30.6	177	gpd/DU	29,205	20.28	32.71	40.56	68.96
42	HDR	7.2	220	30.6	177	gpd/DU	38,940	27.04	43.62	54.08	91.94
50	Open Space	36.4			-						
51	Open Space	35.8			-						
52	Open Space	15.0			-						
53	Open Space	24.8			-						
54	Open Space	24.2			-						

CREEKVIEW
WATER DEMAND SUMMARY

Parcel	Land Use	Acres	Units	Density	Unit Demand Factor	Demand Unit	Avg Day Demand (gpd)	Avg Day Demand (gpm)	Avg Annual Demand (AF/yr)	Max Day Demand (gpm)	Peak Hour Demand (gpm)
60	Park	7.3			2,988	gpd/ac	21,812	15.15	24.43	30.30	51.50
61	Park	4.7			2,988	gpd/ac	14,044	9.75	15.73	19.51	33.16
62	Park	1.5			2,988	gpd/ac	4,482	3.11	5.02	6.23	10.58
63	Park	2.2			2,988	gpd/ac	6,574	4.57	7.36	9.13	15.52
70	Commercial	15.5			2,598	gpd/ac	40,269	27.96	45.11	55.93	95.08
71	Commercial	3.8			2,598	gpd/ac	9,872	6.86	11.06	13.71	23.31
80	P/QP - Elementary School	7.0			3,454	gpd/ac	24,178	16.79	27.08	33.58	57.09
81	P/QP - Elect. Sub Station	0.9			1,780	gpd/ac	1,602	1.11	1.79	2.23	3.78
82	P/QP - Lift Station	0.6			1,780	gpd/ac	1,068	0.74	1.20	1.48	2.52
83	P/QP - Recycling Center	0.6			1,780	gpd/ac	1,068	0.74	1.20	1.48	2.52
84	P/QP - Well Site	0.5			1,780	gpd/ac	890	0.62	1.00	1.24	2.10
	Road Right/Way Irrigated	29.0			2,988	gpd/ac	86,652	60.18	97.06	120.35	204.60
	Road Right/Way not Irrigated	14.4			-						
Subtotal		**461.4**	**2011**				**966,192**	**670.97**	**1,082.27**	**1,341.93**	**2,281.29**
90	Urban Reserve - Harris Property 39.9 ac										
	Medium Density Residential	16.7	167	10.0	323	gpd/DU	53,941	37.46	60.42	74.92	127.36
	High Density Residential	11.9	238	20.0	177	gpd/DU	42,126	29.25	47.19	58.51	99.46
	Park	1.1			2,988	gpd/ac	3,287	2.28	3.68	4.57	7.76
	Open Space	8.0			-						
	Right of Way Irrigated	1.5			2,988	gpd/ac	4,482	3.11	5.02	6.23	10.58
	Right of Way not Irrigated	0.7			-						
Subtotal							*1,070,028*	743.07	1,198.58	1,486.15	2,526.45
2% System Loss							*21,401*	*14.86*	*23.97*	*29.72*	*50.53*
Total		**501.3**	**2,416.0**				**1,091,428**	**757.94**	**1,222.55**	**1,515.87**	**2,576.98**

CREEKVIEW
WATER DEMAND SUMMARY

Model ID	Parcel	Land Use	Acres	Units	Density	Unit Demand Factor	Avg Day Demand (gpd)	Avg Day Demand (gpm)	Max Day Demand (gpm)	Peak Hour Demand (gpm)
CV-01	1	LDR	19.8	95	4.8	600 gpd/DU	57,000	39.58	79.17	134.58
CV-02	3	LDR	13.9	70	5.0	600 gpd/DU	42,000	29.17	58.33	99.17
	2	LDR	9.8	50	5.1	521 gpd/DU	26,050	18.09	36.18	61.51
CV-03	4	LDR	9.7	55	5.7	521 gpd/DU	28,655	19.90	39.80	67.66
	61	Park	4.7			2,988 gpd/ac	14,044	9.75	19.51	33.16
							68,749	*47.74*	*95.48*	*162.32*
CV-04	5	LDR	13.0	75	5.8	521 gpd/DU	39,075	27.14	54.27	92.26
	20	MDR	8.0	75	9.4	323 gpd/DU	24,225	16.82	33.65	57.20
							63,300	*43.96*	*87.92*	*149.46*
CV-06	81	P/QP - Elect. Sub Station	0.9			1,780 gpd/ac	1,602	1.11	2.23	3.78
	6	LDR	7.8	46	5.9	521 gpd/DU	23,966	16.64	33.29	56.59
CV-07	7	LDR	13.5	80	5.9	521 gpd/DU	41,680	28.94	57.89	98.41
	90	1/4 of parcel 90 flow rates	10.0	101			25,959	18.03	36.05	61.29
							91,605	*63.61*	*127.23*	*216.29*
CV-10	21	MDR	7.7	95	12.3	288 gpd/DU	27,360	19.00	38.00	64.60
		Road Right of Way Irrigated	29.0			2,988 gpd/ac	86,652	60.18	120.35	204.60
							114,012	*79.18*	*158.35*	*269.20*
CV-11	60	Park	7.3			2,988 gpd/ac	21,812	15.15	30.30	51.50
CV-12	80	P/QP - Elementary School	7.0			3,454 gpd/ac	24,178	16.79	33.58	57.09
CV-13	8	LDR	5.5	35	6.4	430 gpd/DU	15,050	10.45	20.90	35.53
	90	1/4 of parcel 90 flow rates	10.0	101			25,959	18.03	36.05	61.29
							41,009	*28.48*	*56.96*	*96.83*

CREEKVIEW
WATER DEMAND SUMMARY

Model ID	Parcel	Land Use	Acres	Units	Density	Unit Demand Factor	Avg Day Demand (gpd)	Avg Day Demand (gpm)	Max Day Demand (gpm)	Peak Hour Demand (gpm)
CV-14	22	MDR	11.4	105	9.2	323 gpd/DU	33,915	23.55	47.10	80.08
	40	HDR	4.5	135	30.0	177 gpd/DU	23,895	16.59	33.19	56.42
							57,810	*40.15*	*80.29*	*136.50*
CV-15	9	LDR	22	110	5.0	600 gpd/DU	66,000	45.83	91.67	155.83
	90	1/2 of Parcel 90 Flow Rates	19.9	203			51,918	36.05	72.11	122.58
							117,918	*81.89*	*163.77*	*278.42*
CV-20	13	LDR	8.7	55	6.3	430 gpd/DU	23,650	16.42	32.85	55.84
CV-21	25	MDR	3.5	35	10.0	323 gpd/DU	11,305	7.85	15.70	26.69
	27	MDR	4.5	50	11.1	323 gpd/DU	16,150	11.22	22.43	38.13
							27,455	*19.07*	*38.13*	*64.82*
	11	LDR	6.9	35	5.1	521 gpd/DU	18,235	12.66	25.33	43.05
CV-22	12	LDR	18.2	90	4.9	600 gpd/DU	54,000	37.50	75.00	127.50
	26	MDR	3.5	35	10.0	323 gpd/DU	11,305	7.85	15.70	26.69
	62	Park	1.5			2,988 gpd/ac	4,482	3.11	6.23	10.58
							88,022	*61.13*	*122.25*	*207.83*
	10	LDR	7	40	5.7	521 gpd/DU	20,840	14.47	28.94	49.21
CV-23	28	MDR	3.9	35	9.0	323 gpd/DU	11,305	7.85	15.70	26.69
	29	MDR	4.1	40	9.8	323 gpd/DU	12,920	8.97	17.94	30.51
	63	Park	2.2			2,988 gpd/ac	6,574	4.57	9.13	15.52
							51,639	*35.86*	*71.72*	*121.92*
CV-24	82	P/QP - Lift Station	0.6			1,780 gpd/ac	1,068	0.74	1.48	2.52
CV-25	23	MDR	6.2	80	12.9	288 gpd/DU	23,040	16.00	32.00	54.40
	24	MDR	7.1	65	9.2	323 gpd/DU	20,995	14.58	29.16	49.57
	70	Commercial	15.5			2,598 gpd/ac	40,269	27.96	55.93	95.08
	71	Commercial	3.8			2,598 gpd/ac	9,872	6.86	13.71	23.31
							94,176	*65.40*	*130.80*	*222.36*
CV-30	42	HDR	7.2	220	30.6	177 gpd/DU	38,940	27.04	54.08	91.94

CREEKVIEW
WATER DEMAND SUMMARY

Model ID	Parcel	Land Use	Acres	Units	Density	Unit Demand Factor	Avg Day Demand (gpd)	Avg Day Demand (gpm)	Max Day Demand (gpm)	Peak Hour Demand (gpm)
CV-31	41	HDR	5.4	165	30.6	177 gpd/DU	29,205	20.28	40.56	68.96
CV-32	30	MDR	4.4	40	9.1	323 gpd/DU	12,920	8.97	17.94	30.51
CV-35	84	P/QP - Well Site	0.5			1,780 gpd/ac	890	0.62	1.24	2.10
	83	P/QP - Recycling Center	0.6			1,780 gpd/ac	1,068	0.74	1.48	2.52
							1,958	*1.36*	*2.72*	*4.62*
	50	Open Space	36.4			-				
	51	Open Space	35.8			-				
	52	Open Space	15.0			-				
	53	Open Space	24.8			-				
	54	Open Space	24.2			-				
		Road Right of Way	14.4			-				
	Subtotal						*1,070,028*	*743.07*	*1,486.15*	*2,526.45*
	2% System Loss						*21,401*	*14.86*	*29.72*	*50.53*
	Total Creekview		**501.3**	**2,416**			**1,091,428**	**757.94**	**1,515.87**	**2,576.98**
CV-5	Brookfield		674.4	2785		1486.5 (AFY)	1,326,945	921.49	1,842.98	3,133.06
	2% Systwm Loss					29.729 (AFY)	26,539	18.43	36.86	62.66
	Total Brookfield					**1516.2 (AFY)**	**1,353,484**	**939.92**	**1,879.84**	**3,195.73**
	Total Creekview and Brookfield		1,175.7	5,201			2,396,973	1,664.56	3,329.13	5,659.52
	2% System Loss						47,939	33.29	66.58	113.19
Total Creekview and Brookfield			**1,175.7**	**5,201**			**2,444,912**	**1,697.86**	**3,395.71**	**5,772.71**

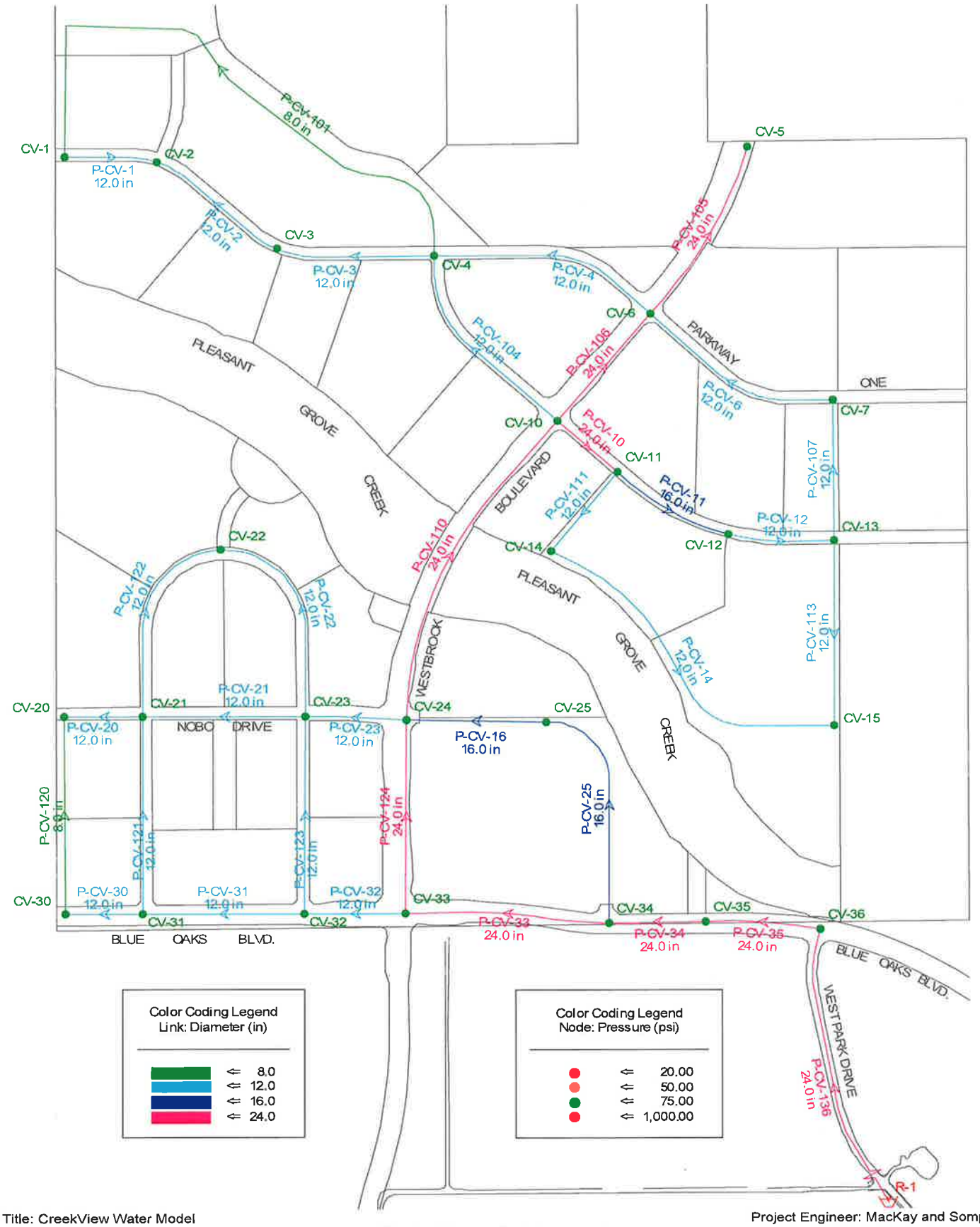
* Note: The Urban Reserve - Harris Property is developed as shown below and distributed to several nodes as indicated above.

90	Urban Reserve - Harris Property								
	Medium Density Residential	16.7	167	10.0	323 gpd/DU	53,941	37.46	74.92	127.36
	High Density Residential	11.9	238	20.0	177 gpd/DU	42,126	29.25	58.51	99.46
	Park	1.1			2,988 gpd/ac	3,287	2.28	4.57	7.76
	Open Space	8.0			-				
	Right of Way Irrigated	1.5			2,988 gpd/ac	4,482	3.11	6.23	10.58
	Right of Way	0.7			-				
		39.9				*103,836*	*72.11*	*144.22*	*245.17*

Appendix B

Water System Layouts

Scenario: PHD w Brookfield



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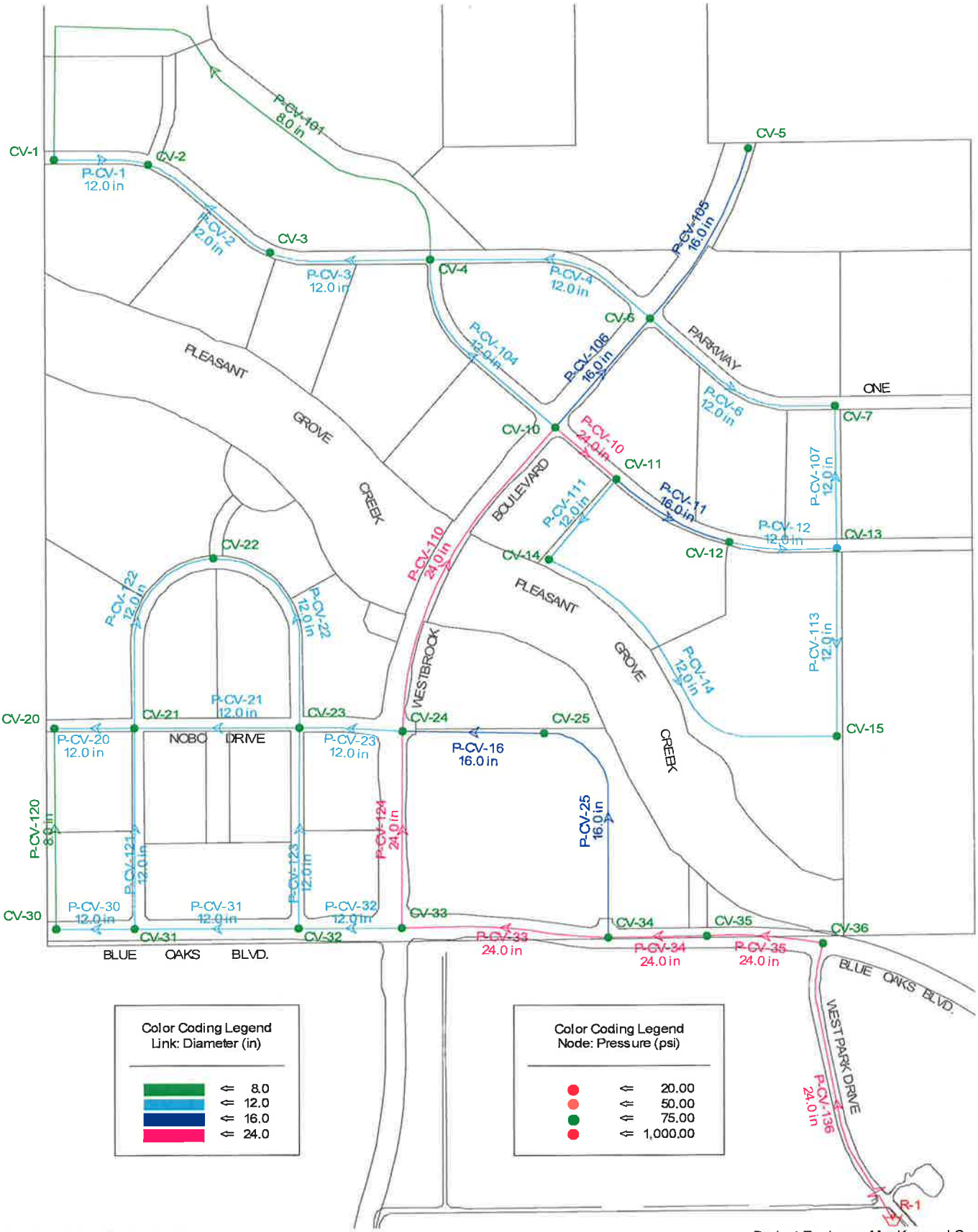
Scenario: CSP Peak Hour



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Appendix C

Model Output

CSP and Brookfield

Scenario: ADD w Brookfiled
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	13.60	Fixed	243.11	68.84
CV-2	85.00	Zone	Demand	40.80	Fixed	243.11	68.41
CV-3	85.00	Zone	Demand	67.36	Fixed	243.12	68.41
CV-4	84.00	Zone	Demand	44.81	Fixed	243.15	68.86
CV-5	83.00	Zone	Demand	939.92	Fixed	243.08	69.26
CV-6	86.00	Zone	Demand	1.39	Fixed	243.15	67.99
CV-7	96.00	Zone	Demand	62.49	Fixed	243.15	63.67
CV-10	92.00	Zone	Demand	67.00	Fixed	243.21	65.42
CV-11	92.00	Zone	Demand	16.93	Fixed	243.21	65.42
CV-12	92.00	Zone	Demand	17.13	Fixed	243.20	65.42
CV-13	95.00	Zone	Demand	27.24	Fixed	243.17	64.11
CV-14	85.00	Zone	Demand	34.78	Fixed	243.19	68.44
CV-15	84.00	Zone	Demand	84.75	Fixed	243.17	68.86
CV-20	88.00	Zone	Demand	15.84	Fixed	243.50	67.28
CV-21	86.00	Zone	Demand	34.72	Fixed	243.50	68.14
CV-22	78.00	Zone	Demand	56.75	Fixed	243.50	71.60
CV-23	79.00	Zone	Demand	39.44	Fixed	243.50	71.17
CV-24	80.00	Zone	Demand	0.50	Fixed	243.50	70.74
CV-25	79.00	Zone	Demand	82.49	Fixed	243.57	71.20
CV-30	90.00	Zone	Demand	13.55	Fixed	243.51	66.41
CV-31	90.00	Zone	Demand	20.06	Fixed	243.51	66.42
CV-32	88.00	Zone	Demand	11.28	Fixed	243.53	67.29
CV-33	86.00	Zone	Demand	0.00	Fixed	243.59	68.18
CV-34	82.00	Zone	Demand	0.00	Fixed	243.73	69.97
CV-35	82.00	Zone	Demand	1.26	Fixed	243.84	70.02
CV-36	83.00	Zone	Demand	0.00	Fixed	243.98	69.65

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Scenario: MDD w Brookfield
Fire Flow Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	27.19	Fixed	238.09	66.67
CV-2	85.00	Zone	Demand	81.60	Fixed	238.09	66.23
CV-3	85.00	Zone	Demand	134.72	Fixed	238.10	66.24
CV-4	84.00	Zone	Demand	89.62	Fixed	238.21	66.72
CV-5	83.00	Zone	Demand	1,879.84	Fixed	237.96	67.04
CV-6	86.00	Zone	Demand	2.77	Fixed	238.23	65.86
CV-7	96.00	Zone	Demand	124.96	Fixed	238.23	61.54
CV-10	92.00	Zone	Demand	133.98	Fixed	238.44	63.36
CV-11	92.00	Zone	Demand	33.86	Fixed	238.43	63.35
CV-12	92.00	Zone	Demand	34.25	Fixed	238.39	63.34
CV-13	95.00	Zone	Demand	54.49	Fixed	238.28	61.99
CV-14	85.00	Zone	Demand	69.56	Fixed	238.37	66.35
CV-15	84.00	Zone	Demand	196.50	Fixed	238.26	66.74
CV-20	88.00	Zone	Demand	31.68	Fixed	239.50	65.55
CV-21	86.00	Zone	Demand	69.44	Fixed	239.50	66.41
CV-22	78.00	Zone	Demand	113.51	Fixed	239.49	69.87
CV-23	79.00	Zone	Demand	78.89	Fixed	239.51	69.44
CV-24	80.00	Zone	Demand	1.00	Fixed	239.50	69.01
CV-25	79.00	Zone	Demand	164.97	Fixed	239.75	69.55
CV-30	90.00	Zone	Demand	27.09	Fixed	239.53	64.69
CV-31	90.00	Zone	Demand	40.13	Fixed	239.53	64.69
CV-32	88.00	Zone	Demand	22.56	Fixed	239.62	65.60
CV-33	86.00	Zone	Demand	0.00	Fixed	239.85	66.56
CV-34	82.00	Zone	Demand	0.00	Fixed	240.35	68.51
CV-35	82.00	Zone	Demand	2.53	Fixed	240.76	68.69
CV-36	83.00	Zone	Demand	0.00	Fixed	241.25	68.47

Scenario: PHD w Brookfield
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	46.23	Fixed	226.51	61.66
CV-2	85.00	Zone	Demand	138.72	Fixed	226.51	61.22
CV-3	85.00	Zone	Demand	229.03	Fixed	226.55	61.24
CV-4	84.00	Zone	Demand	152.35	Fixed	226.84	61.80
CV-5	83.00	Zone	Demand	3,195.73	Fixed	226.16	61.94
CV-6	86.00	Zone	Demand	4.72	Fixed	226.90	60.96
CV-7	96.00	Zone	Demand	212.43	Fixed	226.91	56.64
CV-10	92.00	Zone	Demand	277.77	Fixed	227.46	58.61
CV-11	92.00	Zone	Demand	57.57	Fixed	227.44	58.60
CV-12	92.00	Zone	Demand	58.23	Fixed	227.33	58.55
CV-13	95.00	Zone	Demand	92.63	Fixed	227.05	57.13
CV-14	85.00	Zone	Demand	118.26	Fixed	227.27	61.55
CV-15	84.00	Zone	Demand	288.15	Fixed	227.02	61.88
CV-20	88.00	Zone	Demand	53.86	Fixed	230.29	61.56
CV-21	86.00	Zone	Demand	118.05	Fixed	230.29	62.43
CV-22	78.00	Zone	Demand	192.96	Fixed	230.26	65.87
CV-23	79.00	Zone	Demand	134.11	Fixed	230.30	65.46
CV-24	80.00	Zone	Demand	1.70	Fixed	230.30	65.03
CV-25	79.00	Zone	Demand	280.45	Fixed	230.94	65.74
CV-30	90.00	Zone	Demand	46.06	Fixed	230.35	60.72
CV-31	90.00	Zone	Demand	68.22	Fixed	230.37	60.73
CV-32	88.00	Zone	Demand	38.36	Fixed	230.61	61.70
CV-33	86.00	Zone	Demand	0.00	Fixed	231.23	62.83
CV-34	82.00	Zone	Demand	0.00	Fixed	232.56	65.14
CV-35	82.00	Zone	Demand	4.30	Fixed	233.66	65.62
CV-36	83.00	Zone	Demand	0.00	Fixed	234.97	65.75

Scenario: FF @ CV-1 w Brookfield
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	2,027.19	Fixed	211.68	55.24
CV-2	85.00	Zone	Demand	81.60	Fixed	214.39	55.98
CV-3	85.00	Zone	Demand	134.72	Fixed	219.22	58.07
CV-4	84.00	Zone	Demand	89.62	Fixed	225.17	61.08
CV-5	83.00	Zone	Demand	1,879.84	Fixed	228.52	62.96
CV-6	86.00	Zone	Demand	2.77	Fixed	228.79	61.78
CV-7	96.00	Zone	Demand	124.96	Fixed	228.84	57.48
CV-10	92.00	Zone	Demand	133.98	Fixed	229.23	59.37
CV-11	92.00	Zone	Demand	33.86	Fixed	229.22	59.37
CV-12	92.00	Zone	Demand	34.25	Fixed	229.15	59.34
CV-13	95.00	Zone	Demand	54.49	Fixed	228.98	57.96
CV-14	85.00	Zone	Demand	69.56	Fixed	229.13	62.36
CV-15	84.00	Zone	Demand	196.50	Fixed	228.97	62.72
CV-20	88.00	Zone	Demand	31.68	Fixed	232.14	62.36
CV-21	86.00	Zone	Demand	69.44	Fixed	232.14	63.23
CV-22	78.00	Zone	Demand	113.51	Fixed	232.12	66.68
CV-23	79.00	Zone	Demand	78.89	Fixed	232.13	66.25
CV-24	80.00	Zone	Demand	1.00	Fixed	232.06	65.79
CV-25	79.00	Zone	Demand	164.97	Fixed	232.70	66.50
CV-30	90.00	Zone	Demand	27.09	Fixed	232.21	61.53
CV-31	90.00	Zone	Demand	40.13	Fixed	232.22	61.53
CV-32	88.00	Zone	Demand	22.56	Fixed	232.40	62.48
CV-33	86.00	Zone	Demand	0.00	Fixed	232.90	63.56
CV-34	82.00	Zone	Demand	0.00	Fixed	234.08	65.80
CV-35	82.00	Zone	Demand	2.53	Fixed	235.05	66.22
CV-36	83.00	Zone	Demand	0.00	Fixed	236.20	66.28

Scenario: FF @ CV-5 w Brookfield
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	27.19	Fixed	211.38	55.11
CV-2	85.00	Zone	Demand	81.60	Fixed	211.38	54.68
CV-3	85.00	Zone	Demand	134.72	Fixed	211.39	54.68
CV-4	84.00	Zone	Demand	89.62	Fixed	211.50	55.16
CV-5	83.00	Zone	Demand	6,379.84	Fixed	208.51	54.30
CV-6	86.00	Zone	Demand	2.77	Fixed	211.16	54.15
CV-7	96.00	Zone	Demand	124.96	Fixed	211.63	50.03
CV-10	92.00	Zone	Demand	133.98	Fixed	212.72	52.23
CV-11	92.00	Zone	Demand	33.86	Fixed	212.69	52.22
CV-12	92.00	Zone	Demand	34.25	Fixed	212.55	52.16
CV-13	95.00	Zone	Demand	54.49	Fixed	212.16	50.69
CV-14	85.00	Zone	Demand	69.56	Fixed	212.53	55.18
CV-15	84.00	Zone	Demand	196.50	Fixed	212.17	55.45
CV-20	88.00	Zone	Demand	31.68	Fixed	219.14	56.74
CV-21	86.00	Zone	Demand	69.44	Fixed	219.13	57.60
CV-22	78.00	Zone	Demand	113.51	Fixed	219.10	61.05
CV-23	79.00	Zone	Demand	78.89	Fixed	219.10	60.61
CV-24	80.00	Zone	Demand	1.00	Fixed	218.82	60.06
CV-25	79.00	Zone	Demand	164.97	Fixed	220.19	61.09
CV-30	90.00	Zone	Demand	27.09	Fixed	219.29	55.94
CV-31	90.00	Zone	Demand	40.13	Fixed	219.30	55.94
CV-32	88.00	Zone	Demand	22.56	Fixed	219.63	56.95
CV-33	86.00	Zone	Demand	0.00	Fixed	220.54	58.21
CV-34	82.00	Zone	Demand	0.00	Fixed	222.94	60.98
CV-35	82.00	Zone	Demand	2.53	Fixed	224.90	61.83
CV-36	83.00	Zone	Demand	0.00	Fixed	227.22	62.40

Scenario: FF @ CV-12 w Brookfield
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	27.19	Fixed	212.20	55.47
CV-2	85.00	Zone	Demand	81.60	Fixed	212.20	55.03
CV-3	85.00	Zone	Demand	134.72	Fixed	212.22	55.04
CV-4	84.00	Zone	Demand	89.62	Fixed	212.33	55.52
CV-5	83.00	Zone	Demand	1,879.84	Fixed	212.05	55.83
CV-6	86.00	Zone	Demand	2.77	Fixed	212.33	54.66
CV-7	96.00	Zone	Demand	124.96	Fixed	210.44	49.51
CV-10	92.00	Zone	Demand	133.98	Fixed	212.72	52.23
CV-11	92.00	Zone	Demand	33.86	Fixed	212.22	52.01
CV-12	92.00	Zone	Demand	4,534.25	Composite	208.07	50.22
CV-13	95.00	Zone	Demand	54.49	Fixed	209.51	49.54
CV-14	85.00	Zone	Demand	69.56	Fixed	211.62	54.78
CV-15	84.00	Zone	Demand	196.50	Fixed	209.92	54.48
CV-20	88.00	Zone	Demand	31.68	Fixed	219.14	56.74
CV-21	86.00	Zone	Demand	69.44	Fixed	219.13	57.60
CV-22	78.00	Zone	Demand	113.51	Fixed	219.10	61.05
CV-23	79.00	Zone	Demand	78.89	Fixed	219.10	60.61
CV-24	80.00	Zone	Demand	1.00	Fixed	218.82	60.06
CV-25	79.00	Zone	Demand	164.97	Fixed	220.19	61.09
CV-30	90.00	Zone	Demand	27.09	Fixed	219.29	55.94
CV-31	90.00	Zone	Demand	40.13	Fixed	219.30	55.94
CV-32	88.00	Zone	Demand	22.56	Fixed	219.63	56.95
CV-33	86.00	Zone	Demand	0.00	Fixed	220.54	58.21
CV-34	82.00	Zone	Demand	0.00	Fixed	222.94	60.98
CV-35	82.00	Zone	Demand	2.53	Fixed	224.90	61.83
CV-36	83.00	Zone	Demand	0.00	Fixed	227.22	62.40

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Scenario: FF @ CV-15 w Brookfield
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	27.19	Fixed	226.06	61.46
CV-2	85.00	Zone	Demand	81.60	Fixed	226.06	61.03
CV-3	85.00	Zone	Demand	134.72	Fixed	226.08	61.04
CV-4	84.00	Zone	Demand	89.62	Fixed	226.19	61.52
CV-5	83.00	Zone	Demand	1,879.84	Fixed	225.91	61.83
CV-6	86.00	Zone	Demand	2.77	Fixed	226.19	60.65
CV-7	96.00	Zone	Demand	124.96	Fixed	224.91	55.77
CV-10	92.00	Zone	Demand	133.98	Fixed	226.54	58.21
CV-11	92.00	Zone	Demand	33.86	Fixed	226.38	58.14
CV-12	92.00	Zone	Demand	34.25	Fixed	225.89	57.93
CV-13	95.00	Zone	Demand	54.49	Fixed	224.33	55.96
CV-14	85.00	Zone	Demand	69.56	Fixed	224.58	60.39
CV-15	84.00	Zone	Demand	2,666.32	Fixed	218.97	58.39
CV-20	88.00	Zone	Demand	31.68	Fixed	230.01	61.44
CV-21	86.00	Zone	Demand	69.44	Fixed	230.01	62.31
CV-22	78.00	Zone	Demand	113.51	Fixed	229.99	65.76
CV-23	79.00	Zone	Demand	78.89	Fixed	230.00	65.33
CV-24	80.00	Zone	Demand	1.00	Fixed	229.90	64.85
CV-25	79.00	Zone	Demand	164.97	Fixed	230.65	65.61
CV-30	90.00	Zone	Demand	27.09	Fixed	230.09	60.61
CV-31	90.00	Zone	Demand	40.13	Fixed	230.10	60.62
CV-32	88.00	Zone	Demand	22.56	Fixed	230.32	61.57
CV-33	86.00	Zone	Demand	0.00	Fixed	230.88	62.68
CV-34	82.00	Zone	Demand	0.00	Fixed	232.26	65.01
CV-35	82.00	Zone	Demand	2.53	Fixed	233.39	65.50
CV-36	83.00	Zone	Demand	0.00	Fixed	234.73	65.65

Scenario: FF @ CV-20 w Brookfield
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	27.19	Fixed	228.61	62.56
CV-2	85.00	Zone	Demand	81.60	Fixed	228.61	62.13
CV-3	85.00	Zone	Demand	134.72	Fixed	228.62	62.14
CV-4	84.00	Zone	Demand	89.62	Fixed	228.73	62.62
CV-5	83.00	Zone	Demand	1,879.84	Fixed	228.48	62.94
CV-6	86.00	Zone	Demand	2.77	Fixed	228.75	61.76
CV-7	96.00	Zone	Demand	124.96	Fixed	228.75	57.44
CV-10	92.00	Zone	Demand	133.98	Fixed	228.97	59.26
CV-11	92.00	Zone	Demand	33.86	Fixed	228.95	59.25
CV-12	92.00	Zone	Demand	34.25	Fixed	228.91	59.24
CV-13	95.00	Zone	Demand	54.49	Fixed	228.80	57.89
CV-14	85.00	Zone	Demand	69.56	Fixed	228.89	62.25
CV-15	84.00	Zone	Demand	196.50	Fixed	228.78	62.64
CV-20	88.00	Zone	Demand	2,531.68	Fixed	221.30	57.67
CV-21	86.00	Zone	Demand	69.44	Fixed	225.20	60.22
CV-22	78.00	Zone	Demand	113.51	Fixed	226.16	64.10
CV-23	79.00	Zone	Demand	78.89	Fixed	227.55	64.27
CV-24	80.00	Zone	Demand	1.00	Fixed	230.03	64.91
CV-25	79.00	Zone	Demand	164.97	Fixed	230.70	65.63
CV-30	90.00	Zone	Demand	27.09	Fixed	225.63	58.68
CV-31	90.00	Zone	Demand	40.13	Fixed	225.90	58.80
CV-32	88.00	Zone	Demand	22.56	Fixed	228.06	60.60
CV-33	86.00	Zone	Demand	0.00	Fixed	230.69	62.60
CV-34	82.00	Zone	Demand	0.00	Fixed	232.13	64.96
CV-35	82.00	Zone	Demand	2.53	Fixed	233.28	65.45
CV-36	83.00	Zone	Demand	0.00	Fixed	234.63	65.60

Scenario: FF @ CV-25 w Brookfield
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	27.19	Fixed	221.09	59.31
CV-2	85.00	Zone	Demand	81.60	Fixed	221.09	58.88
CV-3	85.00	Zone	Demand	134.72	Fixed	221.11	58.89
CV-4	84.00	Zone	Demand	89.62	Fixed	221.22	59.37
CV-5	83.00	Zone	Demand	1,879.84	Fixed	220.96	59.69
CV-6	86.00	Zone	Demand	2.77	Fixed	221.24	58.51
CV-7	96.00	Zone	Demand	124.96	Fixed	221.24	54.19
CV-10	92.00	Zone	Demand	133.98	Fixed	221.45	56.01
CV-11	92.00	Zone	Demand	33.86	Fixed	221.44	56.00
CV-12	92.00	Zone	Demand	34.25	Fixed	221.40	55.98
CV-13	95.00	Zone	Demand	54.49	Fixed	221.29	54.64
CV-14	85.00	Zone	Demand	69.56	Fixed	221.38	59.00
CV-15	84.00	Zone	Demand	196.50	Fixed	221.27	59.39
CV-20	88.00	Zone	Demand	31.68	Fixed	222.69	58.27
CV-21	86.00	Zone	Demand	69.44	Fixed	222.69	59.14
CV-22	78.00	Zone	Demand	113.51	Fixed	222.67	62.59
CV-23	79.00	Zone	Demand	78.89	Fixed	222.67	62.16
CV-24	80.00	Zone	Demand	1.00	Fixed	222.51	61.66
CV-25	79.00	Zone	Demand	4,164.97	Fixed	221.36	61.59
CV-30	90.00	Zone	Demand	27.09	Fixed	222.80	57.45
CV-31	90.00	Zone	Demand	40.13	Fixed	222.81	57.46
CV-32	88.00	Zone	Demand	22.56	Fixed	223.06	58.43
CV-33	86.00	Zone	Demand	0.00	Fixed	223.74	59.59
CV-34	82.00	Zone	Demand	0.00	Fixed	225.45	62.06
CV-35	82.00	Zone	Demand	2.53	Fixed	227.19	62.82
CV-36	83.00	Zone	Demand	0.00	Fixed	229.25	63.27

Scenario: ADD w Brookfiled
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-4.76	0.01	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	36.04	0.10	0.00	0.01
P-CV-3	804.00	12.0	130.0	Open	103.40	0.29	0.03	0.04
P-CV-4	1,189.00	12.0	130.0	Open	35.34	0.10	0.01	0.01
P-CV-6	1,075.00	12.0	130.0	Open	-11.50	0.03	0.00	0.00
P-CV-10	402.00	24.0	130.0	Open	254.82	0.18	0.00	0.01
P-CV-11	652.00	16.0	130.0	Open	142.57	0.23	0.01	0.02
P-CV-12	539.00	12.0	130.0	Open	125.44	0.36	0.03	0.05
P-CV-14	1,826.00	12.0	130.0	Open	60.53	0.17	0.03	0.01
P-CV-16	708.00	16.0	130.0	Open	-357.12	0.57	0.07	0.09
P-CV-20	399.00	12.0	130.0	Open	2.03	0.01	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	18.60	0.05	0.00	0.00
P-CV-22	1,096.00	12.0	130.0	Open	-30.79	0.09	0.00	0.00
P-CV-23	512.00	12.0	130.0	Open	-4.05	0.01	0.00	0.00
P-CV-25	1,208.00	16.0	130.0	Open	-439.61	0.70	0.16	0.14
P-CV-30	393.00	12.0	130.0	Open	-27.36	0.08	0.00	0.00
P-CV-31	816.00	12.0	130.0	Open	-91.53	0.26	0.02	0.03
P-CV-32	511.00	12.0	130.0	Open	-195.70	0.56	0.06	0.12
P-CV-33	1,032.00	24.0	130.0	Open	-1,253.23	0.89	0.14	0.13
P-CV-34	492.00	24.0	130.0	Open	-1,692.83	1.20	0.11	0.23
P-CV-35	581.00	24.0	130.0	Open	-1,694.10	1.20	0.13	0.23
P-CV-101	3,102.00	8.0	130.0	Open	-18.36	0.12	0.03	0.01
P-CV-104	1,094.00	12.0	130.0	Open	-131.22	0.37	0.06	0.06
P-CV-105	988.00	24.0	130.0	Open	939.92	0.67	0.08	0.08
P-CV-106	719.00	24.0	130.0	Open	965.15	0.68	0.06	0.08
P-CV-107	715.00	12.0	130.0	Open	73.99	0.21	0.01	0.02
P-CV-110	1,745.00	24.0	130.0	Open	1,418.19	1.01	0.29	0.17
P-CV-111	521.00	12.0	130.0	Open	95.32	0.27	0.02	0.03
P-CV-113	934.00	12.0	130.0	Open	-24.22	0.07	0.00	0.00
P-CV-120	1,004.00	8.0	130.0	Open	-13.81	0.09	0.01	0.01
P-CV-121	1,003.00	12.0	130.0	Open	44.11	0.13	0.01	0.01
P-CV-122	1,062.00	12.0	130.0	Open	25.96	0.07	0.00	0.00
P-CV-123	1,005.00	12.0	130.0	Open	-92.89	0.26	0.03	0.03
P-CV-124	983.00	24.0	130.0	Open	1,057.53	0.75	0.09	0.10
P-CV-136	4,450.00	24.0	130.0	Open	-1,694.10	1.20	1.02	0.23

Scenario: MDD w Brookfield
Fire Flow Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-9.52	0.03	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	72.08	0.20	0.01	0.02
P-CV-3	804.00	12.0	130.0	Open	206.80	0.59	0.11	0.14
P-CV-4	1,189.00	12.0	130.0	Open	69.84	0.20	0.02	0.02
P-CV-6	1,075.00	12.0	130.0	Open	-12.94	0.04	0.00	0.00
P-CV-10	402.00	24.0	130.0	Open	526.57	0.37	0.01	0.03
P-CV-11	652.00	16.0	130.0	Open	294.01	0.47	0.04	0.06
P-CV-12	539.00	12.0	130.0	Open	259.76	0.74	0.11	0.21
P-CV-14	1,826.00	12.0	130.0	Open	129.14	0.37	0.10	0.06
P-CV-16	708.00	16.0	130.0	Open	-720.94	1.15	0.24	0.34
P-CV-20	399.00	12.0	130.0	Open	3.60	0.01	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	36.18	0.10	0.00	0.01
P-CV-22	1,096.00	12.0	130.0	Open	-61.32	0.17	0.02	0.01
P-CV-23	512.00	12.0	130.0	Open	-11.04	0.03	0.00	0.00
P-CV-25	1,208.00	16.0	130.0	Open	-885.91	1.41	0.60	0.50
P-CV-30	393.00	12.0	130.0	Open	-55.18	0.16	0.00	0.01
P-CV-31	816.00	12.0	130.0	Open	-184.35	0.52	0.09	0.11
P-CV-32	511.00	12.0	130.0	Open	-394.34	1.12	0.23	0.45
P-CV-33	1,032.00	24.0	130.0	Open	-2,526.71	1.79	0.50	0.48
P-CV-34	492.00	24.0	130.0	Open	-3,412.62	2.42	0.41	0.84
P-CV-35	581.00	24.0	130.0	Open	-3,415.15	2.42	0.49	0.84
P-CV-101	3,102.00	8.0	130.0	Open	-36.71	0.23	0.12	0.04
P-CV-104	1,094.00	12.0	130.0	Open	-263.29	0.75	0.23	0.21
P-CV-105	988.00	24.0	130.0	Open	1,879.84	1.33	0.28	0.28
P-CV-106	719.00	24.0	130.0	Open	1,939.52	1.38	0.21	0.30
P-CV-107	715.00	12.0	130.0	Open	137.90	0.39	0.05	0.06
P-CV-110	1,745.00	24.0	130.0	Open	2,863.36	2.03	1.06	0.61
P-CV-111	521.00	12.0	130.0	Open	198.70	0.56	0.07	0.13
P-CV-113	934.00	12.0	130.0	Open	-67.36	0.19	0.02	0.02
P-CV-120	1,004.00	8.0	130.0	Open	-28.09	0.18	0.02	0.02
P-CV-121	1,003.00	12.0	130.0	Open	89.05	0.25	0.03	0.03
P-CV-122	1,062.00	12.0	130.0	Open	52.19	0.15	0.01	0.01
P-CV-123	1,005.00	12.0	130.0	Open	-187.43	0.53	0.11	0.11
P-CV-124	983.00	24.0	130.0	Open	2,132.37	1.51	0.35	0.35
P-CV-136	4,450.00	24.0	130.0	Open	-3,415.15	2.42	3.75	0.84

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Scenario: PHD w Brookfield
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-16.19	0.05	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	122.53	0.35	0.04	0.05
P-CV-3	804.00	12.0	130.0	Open	351.56	1.00	0.29	0.37
P-CV-4	1,189.00	12.0	130.0	Open	120.16	0.34	0.06	0.05
P-CV-6	1,075.00	12.0	130.0	Open	-39.11	0.11	0.01	0.01
P-CV-10	402.00	24.0	130.0	Open	866.38	0.61	0.03	0.07
P-CV-11	652.00	16.0	130.0	Open	484.74	0.77	0.11	0.16
P-CV-12	539.00	12.0	130.0	Open	426.51	1.21	0.28	0.52
P-CV-14	1,826.00	12.0	130.0	Open	205.82	0.58	0.25	0.14
P-CV-16	708.00	16.0	130.0	Open	1,226.62	1.96	0.65	0.91
P-CV-20	399.00	12.0	130.0	Open	6.33	0.02	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	61.42	0.17	0.01	0.01
P-CV-22	1,096.00	12.0	130.0	Open	-104.22	0.30	0.04	0.04
P-CV-23	512.00	12.0	130.0	Open	-19.18	0.05	0.00	0.00
P-CV-25	1,208.00	16.0	130.0	Open	1,507.07	2.40	1.61	1.33
P-CV-30	393.00	12.0	130.0	Open	-93.59	0.27	0.01	0.03
P-CV-31	816.00	12.0	130.0	Open	-313.50	0.89	0.24	0.30
P-CV-32	511.00	12.0	130.0	Open	-670.78	1.90	0.62	1.21
P-CV-33	1,032.00	24.0	130.0	Open	4,298.48	3.05	1.33	1.29
P-CV-34	492.00	24.0	130.0	Open	5,805.56	4.12	1.11	2.25
P-CV-35	581.00	24.0	130.0	Open	5,809.86	4.12	1.31	2.25
P-CV-101	3,102.00	8.0	130.0	Open	-62.41	0.40	0.33	0.11
P-CV-104	1,094.00	12.0	130.0	Open	-446.16	1.27	0.62	0.57
P-CV-105	988.00	24.0	130.0	Open	3,195.73	2.27	0.74	0.74
P-CV-106	719.00	24.0	130.0	Open	3,281.49	2.33	0.56	0.78
P-CV-107	715.00	12.0	130.0	Open	251.54	0.71	0.14	0.20
P-CV-110	1,745.00	24.0	130.0	Open	4,871.80	3.46	2.84	1.63
P-CV-111	521.00	12.0	130.0	Open	324.08	0.92	0.16	0.31
P-CV-113	934.00	12.0	130.0	Open	-82.33	0.23	0.02	0.02
P-CV-120	1,004.00	8.0	130.0	Open	-47.53	0.30	0.07	0.06
P-CV-121	1,003.00	12.0	130.0	Open	151.70	0.43	0.08	0.08
P-CV-122	1,062.00	12.0	130.0	Open	88.74	0.25	0.03	0.03
P-CV-123	1,005.00	12.0	130.0	Open	-318.93	0.90	0.31	0.31
P-CV-124	983.00	24.0	130.0	Open	3,627.70	2.57	0.93	0.94
P-CV-136	4,450.00	24.0	130.0	Open	5,809.86	4.12	10.03	2.25

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Scenario: FF @ CV-1 w Brookfield
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	1,566.43	4.44	2.71	5.82
P-CV-2	757.00	12.0	130.0	Open	1,648.03	4.68	4.84	6.39
P-CV-3	804.00	12.0	130.0	Open	1,782.75	5.06	5.95	7.39
P-CV-4	1,189.00	12.0	130.0	Open	1,104.39	3.13	3.62	3.05
P-CV-6	1,075.00	12.0	130.0	Open	-117.55	0.33	0.05	0.05
P-CV-10	402.00	24.0	130.0	Open	631.18	0.45	0.01	0.04
P-CV-11	652.00	16.0	130.0	Open	366.33	0.58	0.06	0.10
P-CV-12	539.00	12.0	130.0	Open	332.08	0.94	0.18	0.33
P-CV-14	1,826.00	12.0	130.0	Open	161.43	0.46	0.16	0.09
P-CV-16	708.00	16.0	130.0	Open	-1,219.84	1.95	0.64	0.90
P-CV-20	399.00	12.0	130.0	Open	-18.30	0.05	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	-40.58	0.12	0.01	0.01
P-CV-22	1,096.00	12.0	130.0	Open	-50.19	0.14	0.01	0.01
P-CV-23	512.00	12.0	130.0	Open	-210.15	0.60	0.07	0.14
P-CV-25	1,208.00	16.0	130.0	Open	-1,384.81	2.21	1.38	1.14
P-CV-30	393.00	12.0	130.0	Open	-77.07	0.22	0.01	0.02
P-CV-31	816.00	12.0	130.0	Open	-272.24	0.77	0.19	0.23
P-CV-32	511.00	12.0	130.0	Open	-593.44	1.68	0.49	0.96
P-CV-33	1,032.00	24.0	130.0	Open	-4,027.81	2.86	1.18	1.14
P-CV-34	492.00	24.0	130.0	Open	-5,412.62	3.84	0.97	1.98
P-CV-35	581.00	24.0	130.0	Open	-5,415.15	3.84	1.15	1.98
P-CV-101	3,102.00	8.0	130.0	Open	-460.76	2.94	13.49	4.35
P-CV-104	1,094.00	12.0	130.0	Open	-1,228.74	3.49	4.06	3.71
P-CV-105	988.00	24.0	130.0	Open	1,879.84	1.33	0.28	0.28
P-CV-106	719.00	24.0	130.0	Open	2,869.45	2.04	0.44	0.61
P-CV-107	715.00	12.0	130.0	Open	242.51	0.69	0.13	0.18
P-CV-110	1,745.00	24.0	130.0	Open	4,863.35	3.45	2.83	1.62
P-CV-111	521.00	12.0	130.0	Open	230.99	0.66	0.09	0.17
P-CV-113	934.00	12.0	130.0	Open	-35.07	0.10	0.00	0.01
P-CV-120	1,004.00	8.0	130.0	Open	-49.98	0.32	0.07	0.07
P-CV-121	1,003.00	12.0	130.0	Open	155.04	0.44	0.08	0.08
P-CV-122	1,062.00	12.0	130.0	Open	63.32	0.18	0.02	0.02
P-CV-123	1,005.00	12.0	130.0	Open	-298.65	0.85	0.27	0.27
P-CV-124	983.00	24.0	130.0	Open	3,434.36	2.44	0.84	0.85
P-CV-136	4,450.00	24.0	130.0	Open	-5,415.15	3.84	8.80	1.98

Scenario: FF @ CV-5 w Brookfield
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-9.52	0.03	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	72.08	0.20	0.01	0.02
P-CV-3	804.00	12.0	130.0	Open	206.80	0.59	0.11	0.14
P-CV-4	1,189.00	12.0	130.0	Open	-307.91	0.87	0.34	0.29
P-CV-6	1,075.00	12.0	130.0	Open	-388.06	1.10	0.47	0.44
P-CV-10	402.00	24.0	130.0	Open	901.69	0.64	0.03	0.07
P-CV-11	652.00	16.0	130.0	Open	547.10	0.87	0.13	0.20
P-CV-12	539.00	12.0	130.0	Open	512.85	1.45	0.40	0.74
P-CV-14	1,826.00	12.0	130.0	Open	251.17	0.71	0.36	0.20
P-CV-16	708.00	16.0	130.0	Open	-1,844.88	2.94	1.37	1.94
P-CV-20	399.00	12.0	130.0	Open	-43.43	0.12	0.00	0.01
P-CV-21	819.00	12.0	130.0	Open	-108.07	0.31	0.03	0.04
P-CV-22	1,096.00	12.0	130.0	Open	-17.34	0.05	0.00	0.00
P-CV-23	512.00	12.0	130.0	Open	-441.70	1.25	0.29	0.56
P-CV-25	1,208.00	16.0	130.0	Open	-2,009.85	3.21	2.75	2.27
P-CV-30	393.00	12.0	130.0	Open	-102.21	0.29	0.01	0.04
P-CV-31	816.00	12.0	130.0	Open	-372.58	1.06	0.33	0.41
P-CV-32	511.00	12.0	130.0	Open	-825.00	2.34	0.91	1.77
P-CV-33	1,032.00	24.0	130.0	Open	-5,902.77	4.19	2.39	2.32
P-CV-34	492.00	24.0	130.0	Open	-7,912.62	5.61	1.96	3.99
P-CV-35	581.00	24.0	130.0	Open	-7,915.15	5.61	2.32	4.00
P-CV-101	3,102.00	8.0	130.0	Open	-36.71	0.23	0.12	0.04
P-CV-104	1,094.00	12.0	130.0	Open	-641.04	1.82	1.22	1.11
P-CV-105	988.00	24.0	130.0	Open	6,379.84	4.52	2.65	2.68
P-CV-106	719.00	24.0	130.0	Open	5,686.64	4.03	1.56	2.17
P-CV-107	715.00	12.0	130.0	Open	513.02	1.46	0.53	0.74
P-CV-110	1,745.00	24.0	130.0	Open	7,363.36	5.22	6.10	3.49
P-CV-111	521.00	12.0	130.0	Open	320.73	0.91	0.16	0.31
P-CV-113	934.00	12.0	130.0	Open	54.67	0.16	0.01	0.01
P-CV-120	1,004.00	8.0	130.0	Open	-75.11	0.48	0.15	0.15
P-CV-121	1,003.00	12.0	130.0	Open	230.24	0.65	0.17	0.17
P-CV-122	1,062.00	12.0	130.0	Open	96.17	0.27	0.04	0.03
P-CV-123	1,005.00	12.0	130.0	Open	-429.86	1.22	0.53	0.53
P-CV-124	983.00	24.0	130.0	Open	5,077.77	3.60	1.73	1.76
P-CV-136	4,450.00	24.0	130.0	Open	-7,915.15	5.61	17.78	4.00

Scenario: FF @ CV-12 w Brookfield
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-9.52	0.03	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	72.08	0.20	0.01	0.02
P-CV-3	804.00	12.0	130.0	Open	206.80	0.59	0.11	0.14
P-CV-4	1,189.00	12.0	130.0	Open	-12.93	0.04	0.00	0.00
P-CV-6	1,075.00	12.0	130.0	Open	821.31	2.33	1.89	1.76
P-CV-10	402.00	24.0	130.0	Open	4,192.32	2.97	0.49	1.23
P-CV-11	652.00	16.0	130.0	Open	3,505.45	5.59	4.15	6.37
P-CV-12	539.00	12.0	130.0	Open	-1,028.80	2.92	1.44	2.67
P-CV-14	1,826.00	12.0	130.0	Open	583.44	1.66	1.71	0.93
P-CV-16	708.00	16.0	130.0	Open	-1,844.88	2.94	1.37	1.94
P-CV-20	399.00	12.0	130.0	Open	-43.43	0.12	0.00	0.01
P-CV-21	819.00	12.0	130.0	Open	-108.07	0.31	0.03	0.04
P-CV-22	1,096.00	12.0	130.0	Open	-17.34	0.05	0.00	0.00
P-CV-23	512.00	12.0	130.0	Open	-441.70	1.25	0.29	0.56
P-CV-25	1,208.00	16.0	130.0	Open	-2,009.85	3.21	2.75	2.27
P-CV-30	393.00	12.0	130.0	Open	-102.21	0.29	0.01	0.04
P-CV-31	816.00	12.0	130.0	Open	-372.58	1.06	0.33	0.41
P-CV-32	511.00	12.0	130.0	Open	-825.00	2.34	0.91	1.77
P-CV-33	1,032.00	24.0	130.0	Open	-5,902.77	4.19	2.39	2.32
P-CV-34	492.00	24.0	130.0	Open	-7,912.62	5.61	1.96	3.99
P-CV-35	581.00	24.0	130.0	Open	-7,915.15	5.61	2.32	4.00
P-CV-101	3,102.00	8.0	130.0	Open	-36.71	0.23	0.12	0.04
P-CV-104	1,094.00	12.0	130.0	Open	-346.07	0.98	0.39	0.36
P-CV-105	988.00	24.0	130.0	Open	1,879.84	1.33	0.28	0.28
P-CV-106	719.00	24.0	130.0	Open	2,690.99	1.91	0.39	0.54
P-CV-107	715.00	12.0	130.0	Open	-696.35	1.98	0.93	1.30
P-CV-110	1,745.00	24.0	130.0	Open	7,363.36	5.22	6.10	3.49
P-CV-111	521.00	12.0	130.0	Open	653.00	1.85	0.60	1.15
P-CV-113	934.00	12.0	130.0	Open	386.94	1.10	0.41	0.44
P-CV-120	1,004.00	8.0	130.0	Open	-75.11	0.48	0.15	0.15
P-CV-121	1,003.00	12.0	130.0	Open	230.24	0.65	0.17	0.17
P-CV-122	1,062.00	12.0	130.0	Open	96.17	0.27	0.04	0.03
P-CV-123	1,005.00	12.0	130.0	Open	-429.86	1.22	0.53	0.53
P-CV-124	983.00	24.0	130.0	Open	5,077.77	3.60	1.73	1.76
P-CV-136	4,450.00	24.0	130.0	Open	-7,915.15	5.61	17.78	4.00

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Scenario: FF @ CV-15 w Brookfield
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-9.52	0.03	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	72.08	0.20	0.01	0.02
P-CV-3	804.00	12.0	130.0	Open	206.80	0.59	0.11	0.14
P-CV-4	1,189.00	12.0	130.0	Open	4.52	0.01	0.00	0.00
P-CV-6	1,075.00	12.0	130.0	Open	664.22	1.88	1.28	1.19
P-CV-10	402.00	24.0	130.0	Open	2,319.23	1.64	0.17	0.41
P-CV-11	652.00	16.0	130.0	Open	1,105.55	1.76	0.49	0.75
P-CV-12	539.00	12.0	130.0	Open	1,071.30	3.04	1.55	2.88
P-CV-14	1,826.00	12.0	130.0	Open	1,110.26	3.15	5.62	3.08
P-CV-16	708.00	16.0	130.0	Open	1,337.25	2.13	0.76	1.07
P-CV-20	399.00	12.0	130.0	Open	-23.02	0.07	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	-54.92	0.16	0.01	0.01
P-CV-22	1,096.00	12.0	130.0	Open	-45.36	0.13	0.01	0.01
P-CV-23	512.00	12.0	130.0	Open	-254.34	0.72	0.10	0.20
P-CV-25	1,208.00	16.0	130.0	Open	1,502.22	2.40	1.60	1.33
P-CV-30	393.00	12.0	130.0	Open	-81.80	0.23	0.01	0.02
P-CV-31	816.00	12.0	130.0	Open	-291.41	0.83	0.21	0.26
P-CV-32	511.00	12.0	130.0	Open	-637.63	1.81	0.56	1.10
P-CV-33	1,032.00	24.0	130.0	Open	4,380.22	3.11	1.38	1.34
P-CV-34	492.00	24.0	130.0	Open	5,882.44	4.17	1.13	2.31
P-CV-35	581.00	24.0	130.0	Open	5,884.97	4.17	1.34	2.31
P-CV-101	3,102.00	8.0	130.0	Open	-36.71	0.23	0.12	0.04
P-CV-104	1,094.00	12.0	130.0	Open	-328.61	0.93	0.35	0.32
P-CV-105	988.00	24.0	130.0	Open	1,879.84	1.33	0.28	0.28
P-CV-106	719.00	24.0	130.0	Open	2,551.35	1.81	0.35	0.49
P-CV-107	715.00	12.0	130.0	Open	-539.26	1.53	0.58	0.81
P-CV-110	1,745.00	24.0	130.0	Open	5,333.18	3.78	3.36	1.92
P-CV-111	521.00	12.0	130.0	Open	1,179.82	3.35	1.79	3.44
P-CV-113	934.00	12.0	130.0	Open	1,556.06	4.41	5.37	5.75
P-CV-120	1,004.00	8.0	130.0	Open	-54.71	0.35	0.08	0.08
P-CV-121	1,003.00	12.0	130.0	Open	169.49	0.48	0.09	0.09
P-CV-122	1,062.00	12.0	130.0	Open	68.15	0.19	0.02	0.02
P-CV-123	1,005.00	12.0	130.0	Open	-323.66	0.92	0.32	0.31
P-CV-124	983.00	24.0	130.0	Open	3,742.59	2.65	0.98	1.00
P-CV-136	4,450.00	24.0	130.0	Open	5,884.97	4.17	10.27	2.31

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Scenario: FF @ CV-20 w Brookfield
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-9.70	0.03	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	71.90	0.20	0.01	0.02
P-CV-3	804.00	12.0	130.0	Open	206.62	0.59	0.11	0.14
P-CV-4	1,189.00	12.0	130.0	Open	69.84	0.20	0.02	0.02
P-CV-6	1,075.00	12.0	130.0	Open	-12.94	0.04	0.00	0.00
P-CV-10	402.00	24.0	130.0	Open	526.57	0.37	0.01	0.03
P-CV-11	652.00	16.0	130.0	Open	294.01	0.47	0.04	0.06
P-CV-12	539.00	12.0	130.0	Open	259.76	0.74	0.11	0.21
P-CV-14	1,826.00	12.0	130.0	Open	129.14	0.37	0.10	0.06
P-CV-16	708.00	16.0	130.0	Open	-1,252.41	2.00	0.67	0.95
P-CV-20	399.00	12.0	130.0	Open	2,072.60	5.88	3.90	9.77
P-CV-21	819.00	12.0	130.0	Open	1,069.83	3.03	2.35	2.87
P-CV-22	1,096.00	12.0	130.0	Open	-687.74	1.95	1.39	1.27
P-CV-23	512.00	12.0	130.0	Open	1,417.36	4.02	2.48	4.84
P-CV-25	1,208.00	16.0	130.0	Open	-1,417.38	2.26	1.44	1.19
P-CV-30	393.00	12.0	130.0	Open	-486.17	1.38	0.26	0.67
P-CV-31	816.00	12.0	130.0	Open	-1,024.28	2.91	2.16	2.65
P-CV-32	511.00	12.0	130.0	Open	-1,465.93	4.16	2.63	5.15
P-CV-33	1,032.00	24.0	130.0	Open	-4,495.24	3.19	1.45	1.40
P-CV-34	492.00	24.0	130.0	Open	-5,912.62	4.19	1.15	2.33
P-CV-35	581.00	24.0	130.0	Open	-5,915.15	4.20	1.35	2.33
P-CV-101	3,102.00	8.0	130.0	Open	-36.89	0.24	0.12	0.04
P-CV-104	1,094.00	12.0	130.0	Open	-263.29	0.75	0.23	0.21
P-CV-105	988.00	24.0	130.0	Open	1,879.84	1.33	0.28	0.28
P-CV-106	719.00	24.0	130.0	Open	1,939.52	1.38	0.21	0.30
P-CV-107	715.00	12.0	130.0	Open	137.90	0.39	0.05	0.06
P-CV-110	1,745.00	24.0	130.0	Open	2,863.36	2.03	1.06	0.61
P-CV-111	521.00	12.0	130.0	Open	198.70	0.56	0.07	0.13
P-CV-113	934.00	12.0	130.0	Open	-67.36	0.19	0.02	0.02
P-CV-120	1,004.00	8.0	130.0	Open	-459.08	2.93	4.34	4.32
P-CV-121	1,003.00	12.0	130.0	Open	497.98	1.41	0.70	0.70
P-CV-122	1,062.00	12.0	130.0	Open	-574.23	1.63	0.96	0.91
P-CV-123	1,005.00	12.0	130.0	Open	-419.09	1.19	0.51	0.51
P-CV-124	983.00	24.0	130.0	Open	3,029.31	2.15	0.66	0.67
P-CV-136	4,450.00	24.0	130.0	Open	-5,915.15	4.20	10.37	2.33

Scenario: FF @ CV-25 w Brookfield
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-9.52	0.03	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	72.08	0.20	0.01	0.02
P-CV-3	804.00	12.0	130.0	Open	206.80	0.59	0.11	0.14
P-CV-4	1,189.00	12.0	130.0	Open	69.84	0.20	0.02	0.02
P-CV-6	1,075.00	12.0	130.0	Open	-12.94	0.04	0.00	0.00
P-CV-10	402.00	24.0	130.0	Open	526.57	0.37	0.01	0.03
P-CV-11	652.00	16.0	130.0	Open	294.01	0.47	0.04	0.06
P-CV-12	539.00	12.0	130.0	Open	259.76	0.74	0.11	0.21
P-CV-14	1,826.00	12.0	130.0	Open	129.14	0.37	0.10	0.06
P-CV-16	708.00	16.0	130.0	Open	1,675.16	2.67	1.15	1.62
P-CV-20	399.00	12.0	130.0	Open	-30.23	0.09	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	-75.26	0.21	0.02	0.02
P-CV-22	1,096.00	12.0	130.0	Open	-36.58	0.10	0.01	0.01
P-CV-23	512.00	12.0	130.0	Open	-321.61	0.91	0.16	0.31
P-CV-25	1,208.00	16.0	130.0	Open	-2,489.81	3.97	4.08	3.38
P-CV-30	393.00	12.0	130.0	Open	-89.00	0.25	0.01	0.03
P-CV-31	816.00	12.0	130.0	Open	-320.52	0.91	0.25	0.31
P-CV-32	511.00	12.0	130.0	Open	-704.91	2.00	0.68	1.33
P-CV-33	1,032.00	24.0	130.0	Open	-4,922.81	3.49	1.71	1.66
P-CV-34	492.00	24.0	130.0	Open	-7,412.62	5.26	1.74	3.54
P-CV-35	581.00	24.0	130.0	Open	-7,415.15	5.26	2.06	3.54
P-CV-101	3,102.00	8.0	130.0	Open	-36.71	0.23	0.12	0.04
P-CV-104	1,094.00	12.0	130.0	Open	-263.29	0.75	0.23	0.21
P-CV-105	988.00	24.0	130.0	Open	1,879.84	1.33	0.28	0.28
P-CV-106	719.00	24.0	130.0	Open	1,939.52	1.38	0.21	0.30
P-CV-107	715.00	12.0	130.0	Open	137.90	0.39	0.05	0.06
P-CV-110	1,745.00	24.0	130.0	Open	2,863.36	2.03	1.06	0.61
P-CV-111	521.00	12.0	130.0	Open	198.70	0.56	0.07	0.13
P-CV-113	934.00	12.0	130.0	Open	-67.36	0.19	0.02	0.02
P-CV-120	1,004.00	8.0	130.0	Open	-61.91	0.40	0.11	0.11
P-CV-121	1,003.00	12.0	130.0	Open	191.39	0.54	0.12	0.12
P-CV-122	1,062.00	12.0	130.0	Open	76.93	0.22	0.02	0.02
P-CV-123	1,005.00	12.0	130.0	Open	-361.82	1.03	0.39	0.39
P-CV-124	983.00	24.0	130.0	Open	4,217.91	2.99	1.22	1.25
P-CV-136	4,450.00	24.0	130.0	Open	-7,415.15	5.26	15.75	3.54

Scenario: MDD w Brookfield
Fire Flow Analysis
Fire Flow Report

Label	Zone	Fire Flow Balanced?	Satisfies Fire Flow Constraints?	Needed Fire Flow (gpm)	Total Flow Needed (gpm)	Calculated Residual Pressure @ Total Flow Needed (psi)	Calculated Minimum Zone Pressure @ Total Flow Needed (psi)	Calculated Minimum Zone Junction @ Total Flow Needed	Total Flow Available (gpm)	Calculated Residual Pressure @ Total Flow Available (psi)	Calculated Minimum Zone Pressure @ Total Flow Available (psi)	Minimum Zone Junction @ Total Flow Available
CV-1	Zone	true	true	2,000.00	2,027.19	55.24	55.98	CV-2	2,729.39	48.39	50.00	CV-2
CV-2	Zone	true	true	2,000.00	2,081.60	55.75	56.27	CV-1	2,802.69	49.41	50.00	CV-1
CV-3	Zone	true	true	2,000.00	2,134.72	57.67	57.48	CV-7	3,223.30	49.88	50.00	CV-2
CV-4	Zone	true	true	2,500.00	2,589.62	59.10	56.21	CV-7	4,349.03	50.49	50.00	CV-2
CV-5	Zone	true	true	4,500.00	6,379.84	54.30	50.03	CV-7	6,388.18	54.27	50.00	CV-7
CV-6	Zone	true	true	2,500.00	2,502.77	60.38	56.13	CV-7	4,511.11	54.12	50.00	CV-7
CV-7	Zone	true	true	2,500.00	2,624.96	54.21	55.93	CV-13	4,293.19	46.36	50.00	CV-13
CV-10	Zone	true	true	2,500.00	2,633.98	58.13	56.31	CV-7	4,755.57	51.82	50.00	CV-7
CV-11	Zone	true	true	2,500.00	2,533.86	58.03	56.27	CV-7	4,609.94	51.70	50.00	CV-7
CV-12	Zone	true	false	4,500.00	4,534.25	50.22	49.51	CV-7	4,398.51	50.77	50.00	CV-7
CV-13	Zone	true	true	2,500.00	2,554.49	55.36	55.36	CV-7	4,045.12	49.37	50.00	CV-7
CV-14	Zone	true	true	2,500.00	2,569.56	59.14	56.06	CV-7	4,518.16	49.90	50.00	CV-7
CV-15	Zone	true	true	2,500.00	2,696.50	58.25	55.68	CV-7	4,322.24	49.04	50.00	CV-13
CV-20	Zone	true	true	2,500.00	2,531.68	57.67	57.44	CV-7	4,680.38	45.04	50.00	CV-30
CV-21	Zone	true	true	2,500.00	2,569.44	60.13	57.43	CV-7	4,733.86	50.80	50.00	CV-20
CV-22	Zone	true	true	2,000.00	2,113.51	64.47	58.39	CV-7	5,177.19	48.05	50.00	CV-20
CV-23	Zone	true	true	2,500.00	2,578.89	64.07	57.42	CV-7	5,402.27	53.79	50.00	CV-30
CV-24	Zone	true	true	4,000.00	4,001.00	61.35	53.88	CV-7	5,428.22	57.47	50.00	CV-7
CV-25	Zone	true	true	4,000.00	4,164.97	61.59	54.19	CV-7	5,778.40	56.81	50.00	CV-7
CV-30	Zone	true	true	2,500.00	2,527.09	56.58	57.44	CV-7	4,376.31	45.58	50.00	CV-31
CV-31	Zone	true	true	2,500.00	2,540.13	58.03	57.44	CV-7	4,328.64	49.89	50.00	CV-30
CV-32	Zone	true	true	2,500.00	2,522.56	60.30	57.46	CV-7	5,330.10	50.21	50.00	CV-31
CV-33	Zone	true	true	4,000.00	4,000.00	59.31	54.35	CV-7	5,682.07	54.93	50.00	CV-7
CV-34	Zone	true	true	4,500.00	4,500.00	60.98	54.00	CV-7	6,147.79	56.97	50.00	CV-7
CV-35	Zone	true	true	4,500.00	4,502.53	61.83	54.67	CV-7	6,572.22	57.15	50.00	CV-7
CV-36	Zone	true	true	4,500.00	4,500.00	62.40	55.47	CV-7	7,162.14	56.93	50.00	CV-7

CSP Only

Scenario: CSP Average Day
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	13.60	Fixed	244.56	69.47
CV-2	85.00	Zone	Demand	40.80	Fixed	244.56	69.03
CV-3	85.00	Zone	Demand	67.36	Fixed	244.57	69.04
CV-4	84.00	Zone	Demand	44.81	Fixed	244.60	69.48
CV-5	83.00	Zone	Demand	0.00	Fixed	244.62	69.93
CV-6	86.00	Zone	Demand	1.39	Fixed	244.62	68.63
CV-7	96.00	Zone	Demand	62.49	Fixed	244.61	64.30
CV-10	92.00	Zone	Demand	67.00	Fixed	244.63	66.04
CV-11	92.00	Zone	Demand	16.93	Fixed	244.63	66.04
CV-12	92.00	Zone	Demand	17.13	Fixed	244.62	66.03
CV-13	95.00	Zone	Demand	27.24	Fixed	244.61	64.73
CV-14	85.00	Zone	Demand	34.78	Fixed	244.62	69.06
CV-15	84.00	Zone	Demand	84.75	Fixed	244.60	69.49
CV-20	88.00	Zone	Demand	15.84	Fixed	244.65	67.78
CV-21	86.00	Zone	Demand	34.72	Fixed	244.65	68.64
CV-22	78.00	Zone	Demand	56.75	Fixed	244.65	72.10
CV-23	79.00	Zone	Demand	39.44	Fixed	244.66	71.67
CV-24	80.00	Zone	Demand	0.50	Fixed	244.67	71.24
CV-25	79.00	Zone	Demand	82.49	Fixed	244.68	71.68
CV-30	90.00	Zone	Demand	13.55	Fixed	244.65	66.91
CV-31	90.00	Zone	Demand	20.06	Fixed	244.65	66.91
CV-32	88.00	Zone	Demand	11.28	Fixed	244.66	67.78
CV-33	86.00	Zone	Demand	0.00	Fixed	244.69	68.66
CV-34	82.00	Zone	Demand	0.00	Fixed	244.72	70.40
CV-35	82.00	Zone	Demand	1.26	Fixed	244.74	70.41
CV-36	83.00	Zone	Demand	0.00	Fixed	244.77	69.99

Scenario: CSP Max Day
Fire Flow Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	27.19	Fixed	243.38	68.96
CV-2	85.00	Zone	Demand	81.60	Fixed	243.38	68.53
CV-3	85.00	Zone	Demand	134.72	Fixed	243.40	68.53
CV-4	84.00	Zone	Demand	89.62	Fixed	243.51	69.01
CV-5	83.00	Zone	Demand	0.00	Fixed	243.60	69.48
CV-6	86.00	Zone	Demand	2.77	Fixed	243.60	68.18
CV-7	96.00	Zone	Demand	124.96	Fixed	243.55	63.84
CV-10	92.00	Zone	Demand	133.98	Fixed	243.63	65.60
CV-11	92.00	Zone	Demand	33.86	Fixed	243.63	65.60
CV-12	92.00	Zone	Demand	34.25	Fixed	243.60	65.59
CV-13	95.00	Zone	Demand	45.49	Fixed	243.56	64.27
CV-14	85.00	Zone	Demand	69.56	Fixed	243.58	68.61
CV-15	84.00	Zone	Demand	196.50	Fixed	243.52	69.02
CV-20	88.00	Zone	Demand	31.68	Fixed	243.71	67.37
CV-21	86.00	Zone	Demand	69.44	Fixed	243.71	68.24
CV-22	78.00	Zone	Demand	113.51	Fixed	243.71	71.69
CV-23	79.00	Zone	Demand	78.89	Fixed	243.73	71.27
CV-24	80.00	Zone	Demand	1.00	Fixed	243.78	70.86
CV-25	79.00	Zone	Demand	164.97	Fixed	243.81	71.30
CV-30	90.00	Zone	Demand	27.09	Fixed	243.72	66.51
CV-31	90.00	Zone	Demand	40.13	Fixed	243.72	66.51
CV-32	88.00	Zone	Demand	22.56	Fixed	243.76	67.39
CV-33	86.00	Zone	Demand	0.00	Fixed	243.84	68.29
CV-34	82.00	Zone	Demand	0.00	Fixed	243.95	70.07
CV-35	82.00	Zone	Demand	2.53	Fixed	244.05	70.11
CV-36	83.00	Zone	Demand	0.00	Fixed	244.16	69.72

Scenario: CSP Peak Hour
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	46.23	Fixed	240.63	67.77
CV-2	85.00	Zone	Demand	138.72	Fixed	240.63	67.33
CV-3	85.00	Zone	Demand	229.03	Fixed	240.67	67.35
CV-4	84.00	Zone	Demand	152.35	Fixed	240.96	67.91
CV-5	83.00	Zone	Demand	0.00	Fixed	241.20	68.44
CV-6	86.00	Zone	Demand	4.72	Fixed	241.20	67.15
CV-7	96.00	Zone	Demand	212.43	Fixed	241.09	62.77
CV-10	92.00	Zone	Demand	277.77	Fixed	241.29	64.59
CV-11	92.00	Zone	Demand	57.57	Fixed	241.28	64.58
CV-12	92.00	Zone	Demand	58.23	Fixed	241.22	64.56
CV-13	95.00	Zone	Demand	92.63	Fixed	241.10	63.21
CV-14	85.00	Zone	Demand	118.26	Fixed	241.16	67.56
CV-15	84.00	Zone	Demand	288.15	Fixed	241.03	67.94
CV-20	88.00	Zone	Demand	53.86	Fixed	241.52	66.42
CV-21	86.00	Zone	Demand	118.05	Fixed	241.52	67.29
CV-22	78.00	Zone	Demand	192.96	Fixed	241.51	70.74
CV-23	79.00	Zone	Demand	134.11	Fixed	241.57	70.34
CV-24	80.00	Zone	Demand	1.70	Fixed	241.68	69.95
CV-25	79.00	Zone	Demand	280.45	Fixed	241.77	70.42
CV-30	90.00	Zone	Demand	46.06	Fixed	241.53	65.56
CV-31	90.00	Zone	Demand	68.22	Fixed	241.54	65.56
CV-32	88.00	Zone	Demand	38.36	Fixed	241.65	66.48
CV-33	86.00	Zone	Demand	0.00	Fixed	241.87	67.44
CV-34	82.00	Zone	Demand	0.00	Fixed	242.17	69.30
CV-35	82.00	Zone	Demand	4.30	Fixed	242.42	69.40
CV-36	83.00	Zone	Demand	0.00	Fixed	242.72	69.10

Scenario: Fire Flow @ CV-1
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	2,027.19	Fixed	220.48	59.05
CV-2	85.00	Zone	Demand	81.60	Fixed	223.18	59.79
CV-3	85.00	Zone	Demand	134.72	Fixed	228.02	61.88
CV-4	84.00	Zone	Demand	89.62	Fixed	233.97	64.88
CV-5	83.00	Zone	Demand	0.00	Fixed	237.59	66.88
CV-6	86.00	Zone	Demand	2.77	Fixed	237.59	65.59
CV-7	96.00	Zone	Demand	124.96	Fixed	237.65	61.28
CV-10	92.00	Zone	Demand	133.98	Fixed	238.03	63.18
CV-11	92.00	Zone	Demand	33.86	Fixed	238.02	63.17
CV-12	92.00	Zone	Demand	34.25	Fixed	237.95	63.15
CV-13	95.00	Zone	Demand	45.49	Fixed	237.78	61.77
CV-14	85.00	Zone	Demand	69.56	Fixed	237.93	66.17
CV-15	84.00	Zone	Demand	196.50	Fixed	237.77	66.53
CV-20	88.00	Zone	Demand	31.68	Fixed	239.17	65.40
CV-21	86.00	Zone	Demand	69.44	Fixed	239.17	66.27
CV-22	78.00	Zone	Demand	113.51	Fixed	239.15	69.72
CV-23	79.00	Zone	Demand	78.89	Fixed	239.17	69.30
CV-24	80.00	Zone	Demand	1.00	Fixed	239.17	68.86
CV-25	79.00	Zone	Demand	164.97	Fixed	239.43	69.41
CV-30	90.00	Zone	Demand	27.09	Fixed	239.19	64.55
CV-31	90.00	Zone	Demand	40.13	Fixed	239.20	64.55
CV-32	88.00	Zone	Demand	22.56	Fixed	239.29	65.46
CV-33	86.00	Zone	Demand	0.00	Fixed	239.54	66.43
CV-34	82.00	Zone	Demand	0.00	Fixed	240.06	68.39
CV-35	82.00	Zone	Demand	2.53	Fixed	240.50	68.58
CV-36	83.00	Zone	Demand	0.00	Fixed	241.02	68.37

Scenario: Fire Flow @ CV-5
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	27.19	Fixed	237.06	66.22
CV-2	85.00	Zone	Demand	81.60	Fixed	237.06	65.79
CV-3	85.00	Zone	Demand	134.72	Fixed	237.07	65.79
CV-4	84.00	Zone	Demand	89.62	Fixed	237.18	66.28
CV-5	83.00	Zone	Demand	2,000.00	Fixed	234.81	65.68
CV-6	86.00	Zone	Demand	2.77	Fixed	237.04	65.35
CV-7	96.00	Zone	Demand	124.96	Fixed	237.29	61.13
CV-10	92.00	Zone	Demand	133.98	Fixed	238.03	63.18
CV-11	92.00	Zone	Demand	33.86	Fixed	238.01	63.17
CV-12	92.00	Zone	Demand	34.25	Fixed	237.91	63.13
CV-13	95.00	Zone	Demand	45.49	Fixed	237.62	61.71
CV-14	85.00	Zone	Demand	69.56	Fixed	237.88	66.14
CV-15	84.00	Zone	Demand	196.50	Fixed	237.62	66.47
CV-20	88.00	Zone	Demand	31.68	Fixed	239.17	65.40
CV-21	86.00	Zone	Demand	69.44	Fixed	239.17	66.27
CV-22	78.00	Zone	Demand	113.51	Fixed	239.15	69.72
CV-23	79.00	Zone	Demand	78.89	Fixed	239.17	69.30
CV-24	80.00	Zone	Demand	1.00	Fixed	239.17	68.86
CV-25	79.00	Zone	Demand	164.97	Fixed	239.43	69.41
CV-30	90.00	Zone	Demand	27.09	Fixed	239.19	64.55
CV-31	90.00	Zone	Demand	40.13	Fixed	239.20	64.55
CV-32	88.00	Zone	Demand	22.56	Fixed	239.29	65.46
CV-33	86.00	Zone	Demand	0.00	Fixed	239.54	66.43
CV-34	82.00	Zone	Demand	0.00	Fixed	240.06	68.39
CV-35	82.00	Zone	Demand	2.53	Fixed	240.50	68.58
CV-36	83.00	Zone	Demand	0.00	Fixed	241.02	68.37

Scenario: Fire Flow @ CV-12
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	27.19	Fixed	225.24	61.11
CV-2	85.00	Zone	Demand	81.60	Fixed	225.24	60.68
CV-3	85.00	Zone	Demand	134.72	Fixed	225.26	60.68
CV-4	84.00	Zone	Demand	89.62	Fixed	225.37	61.16
CV-5	83.00	Zone	Demand	0.00	Fixed	225.37	61.60
CV-6	86.00	Zone	Demand	2.77	Fixed	225.37	60.30
CV-7	96.00	Zone	Demand	124.96	Fixed	223.46	55.15
CV-10	92.00	Zone	Demand	133.98	Fixed	225.69	57.84
CV-11	92.00	Zone	Demand	33.86	Fixed	225.20	57.63
CV-12	92.00	Zone	Demand	4,534.25	Composite	221.07	55.84
CV-13	95.00	Zone	Demand	45.49	Fixed	222.53	55.17
CV-14	85.00	Zone	Demand	69.56	Fixed	224.61	60.40
CV-15	84.00	Zone	Demand	196.50	Fixed	222.93	60.11
CV-20	88.00	Zone	Demand	31.68	Fixed	229.34	61.15
CV-21	86.00	Zone	Demand	69.44	Fixed	229.34	62.02
CV-22	78.00	Zone	Demand	113.51	Fixed	229.32	65.47
CV-23	79.00	Zone	Demand	78.89	Fixed	229.33	65.04
CV-24	80.00	Zone	Demand	1.00	Fixed	229.22	64.56
CV-25	79.00	Zone	Demand	164.97	Fixed	230.01	65.34
CV-30	90.00	Zone	Demand	27.09	Fixed	229.43	60.32
CV-31	90.00	Zone	Demand	40.13	Fixed	229.44	60.33
CV-32	88.00	Zone	Demand	22.56	Fixed	229.66	61.29
CV-33	86.00	Zone	Demand	0.00	Fixed	230.24	62.41
CV-34	82.00	Zone	Demand	0.00	Fixed	231.68	64.76
CV-35	82.00	Zone	Demand	2.53	Fixed	232.87	65.27
CV-36	83.00	Zone	Demand	0.00	Fixed	234.27	65.45

Scenario: Fire Flow @ CV-15
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	27.19	Fixed	235.76	65.66
CV-2	85.00	Zone	Demand	81.60	Fixed	235.76	65.23
CV-3	85.00	Zone	Demand	134.72	Fixed	235.78	65.23
CV-4	84.00	Zone	Demand	89.62	Fixed	235.89	65.71
CV-5	83.00	Zone	Demand	0.00	Fixed	235.90	66.15
CV-6	86.00	Zone	Demand	2.77	Fixed	235.90	64.85
CV-7	96.00	Zone	Demand	124.96	Fixed	234.59	59.96
CV-10	92.00	Zone	Demand	133.98	Fixed	236.15	62.37
CV-11	92.00	Zone	Demand	33.86	Fixed	235.99	62.30
CV-12	92.00	Zone	Demand	34.25	Fixed	235.51	62.09
CV-13	95.00	Zone	Demand	45.49	Fixed	234.00	60.14
CV-14	85.00	Zone	Demand	69.56	Fixed	234.20	64.55
CV-15	84.00	Zone	Demand	2,666.32	Composite	228.61	62.57
CV-20	88.00	Zone	Demand	31.68	Fixed	237.65	64.75
CV-21	86.00	Zone	Demand	69.44	Fixed	237.65	65.61
CV-22	78.00	Zone	Demand	113.51	Fixed	237.64	69.07
CV-23	79.00	Zone	Demand	78.89	Fixed	237.65	68.64
CV-24	80.00	Zone	Demand	1.00	Fixed	237.64	68.20
CV-25	79.00	Zone	Demand	164.97	Fixed	237.98	68.78
CV-30	90.00	Zone	Demand	27.09	Fixed	237.69	63.90
CV-31	90.00	Zone	Demand	40.13	Fixed	237.69	63.90
CV-32	88.00	Zone	Demand	22.56	Fixed	237.81	64.81
CV-33	86.00	Zone	Demand	0.00	Fixed	238.11	65.81
CV-34	82.00	Zone	Demand	0.00	Fixed	238.78	67.83
CV-35	82.00	Zone	Demand	2.53	Fixed	239.33	68.07
CV-36	83.00	Zone	Demand	0.00	Fixed	239.99	67.92

Scenario: Fire Flow @ CV-20
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	27.19	Fixed	237.36	66.35
CV-2	85.00	Zone	Demand	81.60	Fixed	237.36	65.92
CV-3	85.00	Zone	Demand	134.72	Fixed	237.37	65.92
CV-4	84.00	Zone	Demand	89.62	Fixed	237.48	66.40
CV-5	83.00	Zone	Demand	0.00	Fixed	237.57	66.87
CV-6	86.00	Zone	Demand	2.77	Fixed	237.57	65.58
CV-7	96.00	Zone	Demand	124.96	Fixed	237.53	61.23
CV-10	92.00	Zone	Demand	133.98	Fixed	237.60	63.00
CV-11	92.00	Zone	Demand	33.86	Fixed	237.60	62.99
CV-12	92.00	Zone	Demand	34.25	Fixed	237.58	62.98
CV-13	95.00	Zone	Demand	45.49	Fixed	237.53	61.66
CV-14	85.00	Zone	Demand	69.56	Fixed	237.55	66.00
CV-15	84.00	Zone	Demand	196.50	Fixed	237.49	66.41
CV-20	88.00	Zone	Demand	2,531.68	Fixed	228.81	60.92
CV-21	86.00	Zone	Demand	69.44	Fixed	232.72	63.48
CV-22	78.00	Zone	Demand	113.51	Fixed	233.69	67.36
CV-23	79.00	Zone	Demand	78.89	Fixed	235.10	67.54
CV-24	80.00	Zone	Demand	1.00	Fixed	237.75	68.25
CV-25	79.00	Zone	Demand	164.97	Fixed	238.02	68.80
CV-30	90.00	Zone	Demand	27.09	Fixed	233.13	61.93
CV-31	90.00	Zone	Demand	40.13	Fixed	233.39	62.04
CV-32	88.00	Zone	Demand	22.56	Fixed	235.51	63.82
CV-33	86.00	Zone	Demand	0.00	Fixed	237.97	65.75
CV-34	82.00	Zone	Demand	0.00	Fixed	238.69	67.79
CV-35	82.00	Zone	Demand	2.53	Fixed	239.25	68.04
CV-36	83.00	Zone	Demand	0.00	Fixed	239.92	67.89

Scenario: Fire Flow @ CV-25
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Hydraulic Grade (ft)	Pressure (psi)
CV-1	84.00	Zone	Demand	27.19	Fixed	231.74	63.92
CV-2	85.00	Zone	Demand	81.60	Fixed	231.74	63.49
CV-3	85.00	Zone	Demand	134.72	Fixed	231.75	63.49
CV-4	84.00	Zone	Demand	89.62	Fixed	231.87	63.97
CV-5	83.00	Zone	Demand	0.00	Fixed	231.95	64.44
CV-6	86.00	Zone	Demand	2.77	Fixed	231.95	63.15
CV-7	96.00	Zone	Demand	124.96	Fixed	231.91	58.80
CV-10	92.00	Zone	Demand	133.98	Fixed	231.99	60.57
CV-11	92.00	Zone	Demand	33.86	Fixed	231.98	60.56
CV-12	92.00	Zone	Demand	34.25	Fixed	231.96	60.55
CV-13	95.00	Zone	Demand	45.49	Fixed	231.91	59.23
CV-14	85.00	Zone	Demand	69.56	Fixed	231.93	63.57
CV-15	84.00	Zone	Demand	196.50	Fixed	231.88	63.98
CV-20	88.00	Zone	Demand	31.68	Fixed	232.16	62.37
CV-21	86.00	Zone	Demand	69.44	Fixed	232.16	63.24
CV-22	78.00	Zone	Demand	113.51	Fixed	232.15	66.69
CV-23	79.00	Zone	Demand	78.89	Fixed	232.16	66.27
CV-24	80.00	Zone	Demand	1.00	Fixed	232.13	65.82
CV-25	79.00	Zone	Demand	4,181.52	Composite	230.49	65.54
CV-30	90.00	Zone	Demand	27.09	Fixed	232.21	61.53
CV-31	90.00	Zone	Demand	40.13	Fixed	232.22	61.53
CV-32	88.00	Zone	Demand	22.56	Fixed	232.36	62.46
CV-33	86.00	Zone	Demand	0.00	Fixed	232.74	63.49
CV-34	82.00	Zone	Demand	0.00	Fixed	233.59	65.59
CV-35	82.00	Zone	Demand	2.53	Fixed	234.61	66.03
CV-36	83.00	Zone	Demand	0.00	Fixed	235.81	66.11

Scenario: CSP Average Day
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-4.76	0.01	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	36.04	0.10	0.00	0.01
P-CV-3	804.00	12.0	130.0	Open	103.40	0.29	0.03	0.04
P-CV-4	1,189.00	12.0	130.0	Open	73.88	0.21	0.02	0.02
P-CV-6	1,075.00	12.0	130.0	Open	50.78	0.14	0.01	0.01
P-CV-10	402.00	24.0	130.0	Open	192.54	0.14	0.00	0.00
P-CV-11	652.00	16.0	130.0	Open	98.01	0.16	0.01	0.01
P-CV-12	539.00	12.0	130.0	Open	80.88	0.23	0.01	0.02
P-CV-14	1,826.00	12.0	130.0	Open	42.82	0.12	0.01	0.01
P-CV-16	708.00	16.0	130.0	Open	-120.18	0.19	0.01	0.01
P-CV-20	399.00	12.0	130.0	Open	9.95	0.03	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	41.48	0.12	0.01	0.01
P-CV-22	1,096.00	12.0	130.0	Open	-39.89	0.11	0.01	0.01
P-CV-23	512.00	12.0	130.0	Open	78.63	0.22	0.01	0.02
P-CV-25	1,208.00	16.0	130.0	Open	-202.67	0.32	0.04	0.03
P-CV-30	393.00	12.0	130.0	Open	-19.43	0.06	0.00	0.00
P-CV-31	816.00	12.0	130.0	Open	-59.56	0.17	0.01	0.01
P-CV-32	511.00	12.0	130.0	Open	-113.02	0.32	0.02	0.04
P-CV-33	1,032.00	24.0	130.0	Open	-550.24	0.39	0.03	0.03
P-CV-34	492.00	24.0	130.0	Open	-752.91	0.53	0.03	0.05
P-CV-35	581.00	24.0	130.0	Open	-754.18	0.53	0.03	0.05
P-CV-101	3,102.00	8.0	130.0	Open	-18.36	0.12	0.03	0.01
P-CV-104	1,094.00	12.0	130.0	Open	-92.69	0.26	0.03	0.03
P-CV-105	988.00	16.0	130.0	Open	0.00	0.00	0.00	0.00
P-CV-106	719.00	16.0	130.0	Open	126.04	0.20	0.01	0.01
P-CV-107	715.00	12.0	130.0	Open	11.71	0.03	0.00	0.00
P-CV-110	1,745.00	24.0	130.0	Open	478.27	0.34	0.04	0.02
P-CV-111	521.00	12.0	130.0	Open	77.60	0.22	0.01	0.02
P-CV-113	934.00	12.0	130.0	Open	-41.93	0.12	0.01	0.01
P-CV-120	1,004.00	8.0	130.0	Open	-5.89	0.04	0.00	0.00
P-CV-121	1,003.00	12.0	130.0	Open	20.06	0.06	0.00	0.00
P-CV-122	1,062.00	12.0	130.0	Open	16.86	0.05	0.00	0.00
P-CV-123	1,005.00	12.0	130.0	Open	-42.18	0.12	0.01	0.01
P-CV-124	983.00	24.0	130.0	Open	437.22	0.31	0.02	0.02
P-CV-136	4,450.00	24.0	130.0	Open	-754.18	0.53	0.23	0.05

Scenario: CSP Max Day
Fire Flow Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-9.52	0.03	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	72.08	0.20	0.01	0.02
P-CV-3	804.00	12.0	130.0	Open	206.80	0.59	0.11	0.14
P-CV-4	1,189.00	12.0	130.0	Open	147.36	0.42	0.09	0.07
P-CV-6	1,075.00	12.0	130.0	Open	105.45	0.30	0.04	0.04
P-CV-10	402.00	24.0	130.0	Open	399.18	0.28	0.01	0.02
P-CV-11	652.00	16.0	130.0	Open	201.24	0.32	0.02	0.03
P-CV-12	539.00	12.0	130.0	Open	166.99	0.47	0.05	0.09
P-CV-14	1,826.00	12.0	130.0	Open	94.51	0.27	0.06	0.03
P-CV-16	708.00	16.0	130.0	Open	-244.99	0.39	0.03	0.05
P-CV-20	399.00	12.0	130.0	Open	19.75	0.06	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	82.70	0.23	0.02	0.03
P-CV-22	1,096.00	12.0	130.0	Open	-79.65	0.23	0.03	0.02
P-CV-23	512.00	12.0	130.0	Open	156.14	0.44	0.04	0.08
P-CV-25	1,208.00	16.0	130.0	Open	-409.96	0.65	0.14	0.12
P-CV-30	393.00	12.0	130.0	Open	-39.03	0.11	0.00	0.01
P-CV-31	816.00	12.0	130.0	Open	-119.50	0.34	0.04	0.05
P-CV-32	511.00	12.0	130.0	Open	-227.16	0.64	0.08	0.16
P-CV-33	1,032.00	24.0	130.0	Open	-1,113.82	0.79	0.11	0.11
P-CV-34	492.00	24.0	130.0	Open	-1,523.78	1.08	0.09	0.19
P-CV-35	581.00	24.0	130.0	Open	-1,526.31	1.08	0.11	0.19
P-CV-101	3,102.00	8.0	130.0	Open	-36.71	0.23	0.12	0.04
P-CV-104	1,094.00	12.0	130.0	Open	-185.77	0.53	0.12	0.11
P-CV-105	988.00	16.0	130.0	Open	0.00	0.00	0.00	0.00
P-CV-106	719.00	16.0	130.0	Open	255.58	0.41	0.04	0.05
P-CV-107	715.00	12.0	130.0	Open	19.51	0.06	0.00	0.00
P-CV-110	1,745.00	24.0	130.0	Open	974.52	0.69	0.14	0.08
P-CV-111	521.00	12.0	130.0	Open	164.08	0.47	0.05	0.09
P-CV-113	934.00	12.0	130.0	Open	-101.99	0.29	0.03	0.04
P-CV-120	1,004.00	8.0	130.0	Open	-11.94	0.08	0.00	0.00
P-CV-121	1,003.00	12.0	130.0	Open	40.35	0.11	0.01	0.01
P-CV-122	1,062.00	12.0	130.0	Open	33.86	0.10	0.01	0.00
P-CV-123	1,005.00	12.0	130.0	Open	-85.09	0.24	0.03	0.03
P-CV-124	983.00	24.0	130.0	Open	886.66	0.63	0.07	0.07
P-CV-136	4,450.00	24.0	130.0	Open	-1,526.31	1.08	0.84	0.19

Scenario: CSP Peak Hour
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-16.18	0.05	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	122.54	0.35	0.04	0.05
P-CV-3	804.00	12.0	130.0	Open	351.56	1.00	0.29	0.37
P-CV-4	1,189.00	12.0	130.0	Open	251.18	0.71	0.23	0.20
P-CV-6	1,075.00	12.0	130.0	Open	172.63	0.49	0.11	0.10
P-CV-10	402.00	24.0	130.0	Open	654.63	0.46	0.02	0.04
P-CV-11	652.00	16.0	130.0	Open	333.22	0.53	0.05	0.08
P-CV-12	539.00	12.0	130.0	Open	274.99	0.78	0.13	0.23
P-CV-14	1,826.00	12.0	130.0	Open	145.58	0.41	0.13	0.07
P-CV-16	708.00	16.0	130.0	Open	-421.48	0.67	0.09	0.13
P-CV-20	399.00	12.0	130.0	Open	33.63	0.10	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	140.35	0.40	0.05	0.07
P-CV-22	1,096.00	12.0	130.0	Open	-135.27	0.38	0.07	0.06
P-CV-23	512.00	12.0	130.0	Open	264.24	0.75	0.11	0.22
P-CV-25	1,208.00	16.0	130.0	Open	-701.93	1.12	0.39	0.32
P-CV-30	393.00	12.0	130.0	Open	-66.28	0.19	0.01	0.02
P-CV-31	816.00	12.0	130.0	Open	-203.51	0.58	0.11	0.13
P-CV-32	511.00	12.0	130.0	Open	-387.36	1.10	0.22	0.44
P-CV-33	1,032.00	24.0	130.0	Open	-1,907.90	1.35	0.30	0.29
P-CV-34	492.00	24.0	130.0	Open	-2,609.83	1.85	0.25	0.51
P-CV-35	581.00	24.0	130.0	Open	-2,614.13	1.85	0.30	0.51
P-CV-101	3,102.00	8.0	130.0	Open	-62.41	0.40	0.33	0.11
P-CV-104	1,094.00	12.0	130.0	Open	-315.14	0.89	0.33	0.30
P-CV-105	988.00	16.0	130.0	Open	0.00	0.00	0.00	0.00
P-CV-106	719.00	16.0	130.0	Open	428.53	0.68	0.09	0.13
P-CV-107	715.00	12.0	130.0	Open	39.80	0.11	0.00	0.01
P-CV-110	1,745.00	24.0	130.0	Open	1,676.08	1.19	0.39	0.23
P-CV-111	521.00	12.0	130.0	Open	263.84	0.75	0.11	0.21
P-CV-113	934.00	12.0	130.0	Open	-142.57	0.40	0.06	0.07
P-CV-120	1,004.00	8.0	130.0	Open	-20.22	0.13	0.01	0.01
P-CV-121	1,003.00	12.0	130.0	Open	69.02	0.20	0.02	0.02
P-CV-122	1,062.00	12.0	130.0	Open	57.69	0.16	0.01	0.01
P-CV-123	1,005.00	12.0	130.0	Open	-145.49	0.41	0.07	0.07
P-CV-124	983.00	24.0	130.0	Open	1,520.54	1.08	0.19	0.19
P-CV-136	4,450.00	24.0	130.0	Open	-2,614.13	1.85	2.28	0.51

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Scenario: Fire Flow @ CV-1
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	1,566.43	4.44	2.71	5.82
P-CV-2	757.00	12.0	130.0	Open	1,648.03	4.68	4.84	6.39
P-CV-3	804.00	12.0	130.0	Open	1,782.75	5.06	5.95	7.39
P-CV-4	1,189.00	12.0	130.0	Open	1,104.45	3.13	3.62	3.05
P-CV-6	1,075.00	12.0	130.0	Open	-120.32	0.34	0.05	0.05
P-CV-10	402.00	24.0	130.0	Open	624.95	0.44	0.01	0.04
P-CV-11	652.00	16.0	130.0	Open	362.09	0.58	0.06	0.10
P-CV-12	539.00	12.0	130.0	Open	327.84	0.93	0.17	0.32
P-CV-14	1,826.00	12.0	130.0	Open	159.43	0.45	0.15	0.08
P-CV-16	708.00	16.0	130.0	Open	-748.60	1.19	0.26	0.37
P-CV-20	399.00	12.0	130.0	Open	2.35	0.01	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	32.12	0.09	0.00	0.00
P-CV-22	1,096.00	12.0	130.0	Open	-60.32	0.17	0.02	0.01
P-CV-23	512.00	12.0	130.0	Open	-22.94	0.07	0.00	0.00
P-CV-25	1,208.00	16.0	130.0	Open	-913.57	1.46	0.64	0.53
P-CV-30	393.00	12.0	130.0	Open	-56.42	0.16	0.00	0.01
P-CV-31	816.00	12.0	130.0	Open	-189.41	0.54	0.09	0.12
P-CV-32	511.00	12.0	130.0	Open	-406.24	1.15	0.24	0.48
P-CV-33	1,032.00	24.0	130.0	Open	-2,610.21	1.85	0.53	0.51
P-CV-34	492.00	24.0	130.0	Open	-3,523.78	2.50	0.44	0.89
P-CV-35	581.00	24.0	130.0	Open	-3,526.31	2.50	0.52	0.89
P-CV-101	3,102.00	8.0	130.0	Open	-460.76	2.94	13.49	4.35
P-CV-104	1,094.00	12.0	130.0	Open	-1,228.68	3.49	4.06	3.71
P-CV-105	988.00	16.0	130.0	Open	0.00	0.00	0.00	0.00
P-CV-106	719.00	16.0	130.0	Open	986.90	1.57	0.44	0.61
P-CV-107	715.00	12.0	130.0	Open	245.28	0.70	0.13	0.19
P-CV-110	1,745.00	24.0	130.0	Open	2,974.51	2.11	1.14	0.65
P-CV-111	521.00	12.0	130.0	Open	228.99	0.65	0.09	0.17
P-CV-113	934.00	12.0	130.0	Open	-37.07	0.11	0.01	0.01
P-CV-120	1,004.00	8.0	130.0	Open	-29.33	0.19	0.03	0.03
P-CV-121	1,003.00	12.0	130.0	Open	92.87	0.26	0.03	0.03
P-CV-122	1,062.00	12.0	130.0	Open	53.19	0.15	0.01	0.01
P-CV-123	1,005.00	12.0	130.0	Open	-194.26	0.55	0.12	0.12
P-CV-124	983.00	24.0	130.0	Open	2,203.97	1.56	0.37	0.37
P-CV-136	4,450.00	24.0	130.0	Open	-3,526.31	2.50	3.98	0.89

Scenario: Fire Flow @ CV-5
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-9.52	0.03	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	72.08	0.20	0.01	0.02
P-CV-3	804.00	12.0	130.0	Open	206.80	0.59	0.11	0.14
P-CV-4	1,189.00	12.0	130.0	Open	-193.82	0.55	0.14	0.12
P-CV-6	1,075.00	12.0	130.0	Open	-275.34	0.78	0.25	0.23
P-CV-10	402.00	24.0	130.0	Open	779.97	0.55	0.02	0.05
P-CV-11	652.00	16.0	130.0	Open	465.38	0.74	0.10	0.15
P-CV-12	539.00	12.0	130.0	Open	431.13	1.22	0.29	0.53
P-CV-14	1,826.00	12.0	130.0	Open	211.16	0.60	0.26	0.14
P-CV-16	708.00	16.0	130.0	Open	-748.60	1.19	0.26	0.37
P-CV-20	399.00	12.0	130.0	Open	2.35	0.01	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	32.12	0.09	0.00	0.00
P-CV-22	1,096.00	12.0	130.0	Open	-60.32	0.17	0.02	0.01
P-CV-23	512.00	12.0	130.0	Open	-22.94	0.07	0.00	0.00
P-CV-25	1,208.00	16.0	130.0	Open	-913.57	1.46	0.64	0.53
P-CV-30	393.00	12.0	130.0	Open	-56.42	0.16	0.00	0.01
P-CV-31	816.00	12.0	130.0	Open	-189.41	0.54	0.09	0.12
P-CV-32	511.00	12.0	130.0	Open	-406.24	1.15	0.24	0.48
P-CV-33	1,032.00	24.0	130.0	Open	-2,610.21	1.85	0.53	0.51
P-CV-34	492.00	24.0	130.0	Open	-3,523.78	2.50	0.44	0.89
P-CV-35	581.00	24.0	130.0	Open	-3,526.31	2.50	0.52	0.89
P-CV-101	3,102.00	8.0	130.0	Open	-36.71	0.23	0.12	0.04
P-CV-104	1,094.00	12.0	130.0	Open	-526.95	1.49	0.85	0.77
P-CV-105	988.00	16.0	130.0	Open	2,000.00	3.19	2.23	2.25
P-CV-106	719.00	16.0	130.0	Open	1,533.61	2.45	0.99	1.38
P-CV-107	715.00	12.0	130.0	Open	400.30	1.14	0.33	0.47
P-CV-110	1,745.00	24.0	130.0	Open	2,974.52	2.11	1.14	0.65
P-CV-111	521.00	12.0	130.0	Open	280.73	0.80	0.13	0.24
P-CV-113	934.00	12.0	130.0	Open	14.66	0.04	0.00	0.00
P-CV-120	1,004.00	8.0	130.0	Open	-29.33	0.19	0.03	0.03
P-CV-121	1,003.00	12.0	130.0	Open	92.87	0.26	0.03	0.03
P-CV-122	1,062.00	12.0	130.0	Open	53.19	0.15	0.01	0.01
P-CV-123	1,005.00	12.0	130.0	Open	-194.26	0.55	0.12	0.12
P-CV-124	983.00	24.0	130.0	Open	2,203.97	1.56	0.37	0.37
P-CV-136	1,450.00	24.0	130.0	Open	-3,526.31	2.50	3.98	0.89

Scenario: Fire Flow @ CV-12
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-9.52	0.03	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	72.08	0.20	0.01	0.02
P-CV-3	804.00	12.0	130.0	Open	206.80	0.59	0.11	0.14
P-CV-4	1,189.00	12.0	130.0	Open	16.66	0.05	0.00	0.00
P-CV-6	1,075.00	12.0	130.0	Open	824.44	2.34	1.91	1.77
P-CV-10	402.00	24.0	130.0	Open	4,180.19	2.96	0.49	1.22
P-CV-11	652.00	16.0	130.0	Open	3,497.52	5.58	4.14	6.34
P-CV-12	539.00	12.0	130.0	Open	-1,036.73	2.94	1.46	2.71
P-CV-14	1,826.00	12.0	130.0	Open	579.24	1.64	1.68	0.92
P-CV-16	708.00	16.0	130.0	Open	-1,372.58	2.19	0.79	1.12
P-CV-20	399.00	12.0	130.0	Open	-24.44	0.07	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	-59.05	0.17	0.01	0.01
P-CV-22	1,096.00	12.0	130.0	Open	-43.76	0.12	0.01	0.01
P-CV-23	512.00	12.0	130.0	Open	-267.54	0.76	0.11	0.22
P-CV-25	1,208.00	16.0	130.0	Open	-1,537.55	2.45	1.67	1.38
P-CV-30	393.00	12.0	130.0	Open	-83.21	0.24	0.01	0.03
P-CV-31	816.00	12.0	130.0	Open	-297.13	0.84	0.22	0.27
P-CV-32	511.00	12.0	130.0	Open	-650.84	1.85	0.58	1.14
P-CV-33	1,032.00	24.0	130.0	Open	-4,486.23	3.18	1.44	1.40
P-CV-34	492.00	24.0	130.0	Open	-6,023.78	4.27	1.19	2.41
P-CV-35	581.00	24.0	130.0	Open	-6,026.31	4.27	1.40	2.41
P-CV-101	3,102.00	8.0	130.0	Open	-36.71	0.23	0.12	0.04
P-CV-104	1,094.00	12.0	130.0	Open	-316.47	0.90	0.33	0.30
P-CV-105	988.00	16.0	130.0	Open	0.00	0.00	0.00	0.00
P-CV-106	719.00	16.0	130.0	Open	843.87	1.35	0.33	0.46
P-CV-107	715.00	12.0	130.0	Open	-699.48	1.98	0.93	1.31
P-CV-110	1,745.00	24.0	130.0	Open	5,474.52	3.88	3.52	2.02
P-CV-111	521.00	12.0	130.0	Open	648.80	1.84	0.59	1.14
P-CV-113	934.00	12.0	130.0	Open	382.74	1.09	0.40	0.43
P-CV-120	1,004.00	8.0	130.0	Open	-56.12	0.36	0.09	0.09
P-CV-121	1,003.00	12.0	130.0	Open	173.79	0.49	0.10	0.10
P-CV-122	1,062.00	12.0	130.0	Open	69.74	0.20	0.02	0.02
P-CV-123	1,005.00	12.0	130.0	Open	-331.15	0.94	0.33	0.33
P-CV-124	983.00	24.0	130.0	Open	3,835.39	2.72	1.03	1.04
P-CV-136	4,450.00	24.0	130.0	Open	-6,026.31	4.27	10.73	2.41

Scenario: Fire Flow @ CV-15
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-9.52	0.03	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	72.08	0.20	0.01	0.02
P-CV-3	804.00	12.0	130.0	Open	206.80	0.59	0.11	0.14
P-CV-4	1,189.00	12.0	130.0	Open	52.94	0.15	0.01	0.01
P-CV-6	1,075.00	12.0	130.0	Open	672.96	1.91	1.31	1.22
P-CV-10	402.00	24.0	130.0	Open	2,301.49	1.63	0.16	0.41
P-CV-11	652.00	16.0	130.0	Open	1,090.61	1.74	0.48	0.73
P-CV-12	539.00	12.0	130.0	Open	1,056.36	3.00	1.51	2.81
P-CV-14	1,826.00	12.0	130.0	Open	1,107.45	3.14	5.59	3.06
P-CV-16	708.00	16.0	130.0	Open	-865.64	1.38	0.34	0.48
P-CV-20	399.00	12.0	130.0	Open	-2.97	0.01	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	14.09	0.04	0.00	0.00
P-CV-22	1,096.00	12.0	130.0	Open	-57.15	0.16	0.01	0.01
P-CV-23	512.00	12.0	130.0	Open	-71.59	0.20	0.01	0.02
P-CV-25	1,208.00	16.0	130.0	Open	-1,030.61	1.64	0.80	0.66
P-CV-30	393.00	12.0	130.0	Open	-61.74	0.18	0.01	0.01
P-CV-31	816.00	12.0	130.0	Open	-210.61	0.60	0.12	0.14
P-CV-32	511.00	12.0	130.0	Open	-454.88	1.29	0.30	0.59
P-CV-33	1,032.00	24.0	130.0	Open	-2,962.99	2.10	0.67	0.65
P-CV-34	492.00	24.0	130.0	Open	-3,993.60	2.83	0.55	1.13
P-CV-35	581.00	24.0	130.0	Open	-3,996.13	2.83	0.65	1.13
P-CV-101	3,102.00	8.0	130.0	Open	-36.71	0.23	0.12	0.04
P-CV-104	1,094.00	12.0	130.0	Open	-280.19	0.79	0.26	0.24
P-CV-105	988.00	16.0	130.0	Open	0.00	0.00	0.00	0.00
P-CV-106	719.00	16.0	130.0	Open	728.68	1.16	0.25	0.35
P-CV-107	715.00	12.0	130.0	Open	-548.00	1.55	0.59	0.83
P-CV-110	1,745.00	24.0	130.0	Open	3,444.34	2.44	1.49	0.86
P-CV-111	521.00	12.0	130.0	Open	1,177.02	3.34	1.79	3.43
P-CV-113	934.00	12.0	130.0	Open	-1,558.87	4.42	5.39	5.77
P-CV-120	1,004.00	8.0	130.0	Open	-34.65	0.22	0.04	0.04
P-CV-121	1,003.00	12.0	130.0	Open	108.74	0.31	0.04	0.04
P-CV-122	1,062.00	12.0	130.0	Open	56.36	0.16	0.01	0.01
P-CV-123	1,005.00	12.0	130.0	Open	-221.71	0.63	0.16	0.16
P-CV-124	983.00	24.0	130.0	Open	2,508.11	1.78	0.47	0.48
P-CV-136	4,450.00	24.0	130.0	Open	-3,996.13	2.83	5.01	1.13

Scenario: Fire Flow @ CV-20
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-9.70	0.03	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	71.90	0.20	0.01	0.02
P-CV-3	804.00	12.0	130.0	Open	206.62	0.59	0.11	0.14
P-CV-4	1,189.00	12.0	130.0	Open	147.36	0.42	0.09	0.07
P-CV-6	1,075.00	12.0	130.0	Open	105.45	0.30	0.04	0.04
P-CV-10	402.00	24.0	130.0	Open	399.18	0.28	0.01	0.02
P-CV-11	652.00	16.0	130.0	Open	201.24	0.32	0.02	0.03
P-CV-12	539.00	12.0	130.0	Open	166.99	0.47	0.05	0.09
P-CV-14	1,826.00	12.0	130.0	Open	94.51	0.27	0.06	0.03
P-CV-16	708.00	16.0	130.0	Open	-771.97	1.23	0.27	0.39
P-CV-20	399.00	12.0	130.0	Open	2,073.71	5.88	3.90	9.78
P-CV-21	819.00	12.0	130.0	Open	1,076.43	3.05	2.38	2.90
P-CV-22	1,096.00	12.0	130.0	Open	-691.66	1.96	1.40	1.28
P-CV-23	512.00	12.0	130.0	Open	1,470.71	4.17	2.65	5.18
P-CV-25	1,208.00	16.0	130.0	Open	-936.94	1.50	0.67	0.55
P-CV-30	393.00	12.0	130.0	Open	-485.06	1.38	0.26	0.66
P-CV-31	816.00	12.0	130.0	Open	-1,013.76	2.88	2.12	2.60
P-CV-32	511.00	12.0	130.0	Open	-1,412.58	4.01	2.46	4.81
P-CV-33	1,032.00	24.0	130.0	Open	-3,086.84	2.19	0.72	0.70
P-CV-34	492.00	24.0	130.0	Open	-4,023.78	2.85	0.56	1.14
P-CV-35	581.00	24.0	130.0	Open	-4,026.31	2.86	0.66	1.14
P-CV-101	3,102.00	8.0	130.0	Open	-36.89	0.24	0.12	0.04
P-CV-104	1,094.00	12.0	130.0	Open	-185.77	0.53	0.12	0.11
P-CV-105	988.00	16.0	130.0	Open	0.00	0.00	0.00	0.00
P-CV-106	719.00	16.0	130.0	Open	255.58	0.41	0.04	0.05
P-CV-107	715.00	12.0	130.0	Open	19.51	0.06	0.00	0.00
P-CV-110	1,745.00	24.0	130.0	Open	974.52	0.69	0.14	0.08
P-CV-111	521.00	12.0	130.0	Open	164.08	0.47	0.05	0.09
P-CV-113	934.00	12.0	130.0	Open	-101.99	0.29	0.03	0.04
P-CV-120	1,004.00	8.0	130.0	Open	-457.97	2.92	4.32	4.30
P-CV-121	1,003.00	12.0	130.0	Open	488.57	1.39	0.67	0.67
P-CV-122	1,062.00	12.0	130.0	Open	-578.15	1.64	0.98	0.92
P-CV-123	1,005.00	12.0	130.0	Open	-376.26	1.07	0.42	0.41
P-CV-124	983.00	24.0	130.0	Open	1,674.26	1.19	0.22	0.22
P-CV-136	4,450.00	24.0	130.0	Open	-4,026.31	2.86	5.08	1.14

Scenario: Fire Flow @ CV-25
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Hazen-Williams C	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-CV-1	465.00	12.0	130.0	Open	-9.52	0.03	0.00	0.00
P-CV-2	757.00	12.0	130.0	Open	72.08	0.20	0.01	0.02
P-CV-3	804.00	12.0	130.0	Open	206.80	0.59	0.11	0.14
P-CV-4	1,189.00	12.0	130.0	Open	147.36	0.42	0.09	0.07
P-CV-6	1,075.00	12.0	130.0	Open	105.45	0.30	0.04	0.04
P-CV-10	402.00	24.0	130.0	Open	399.18	0.28	0.01	0.02
P-CV-11	652.00	16.0	130.0	Open	201.24	0.32	0.02	0.03
P-CV-12	539.00	12.0	130.0	Open	166.99	0.47	0.05	0.09
P-CV-14	1,826.00	12.0	130.0	Open	94.51	0.27	0.06	0.03
P-CV-16	708.00	16.0	130.0	Open	2,033.34	3.24	1.64	2.32
P-CV-20	399.00	12.0	130.0	Open	-9.37	0.03	0.00	0.00
P-CV-21	819.00	12.0	130.0	Open	-10.27	0.03	0.00	0.00
P-CV-22	1,096.00	12.0	130.0	Open	-55.78	0.16	0.01	0.01
P-CV-23	512.00	12.0	130.0	Open	-128.69	0.37	0.03	0.06
P-CV-25	1,208.00	16.0	130.0	Open	-2,148.18	3.43	3.11	2.57
P-CV-30	393.00	12.0	130.0	Open	-68.14	0.19	0.01	0.02
P-CV-31	816.00	12.0	130.0	Open	-236.34	0.67	0.14	0.18
P-CV-32	511.00	12.0	130.0	Open	-511.99	1.45	0.37	0.73
P-CV-33	1,032.00	24.0	130.0	Open	-3,392.15	2.41	0.86	0.83
P-CV-34	492.00	24.0	130.0	Open	-5,540.33	3.93	1.02	2.06
P-CV-35	581.00	24.0	130.0	Open	-5,542.86	3.93	1.20	2.07
P-CV-101	3,102.00	8.0	130.0	Open	-36.71	0.23	0.12	0.04
P-CV-104	1,094.00	12.0	130.0	Open	-185.77	0.53	0.12	0.11
P-CV-105	988.00	16.0	130.0	Open	0.00	0.00	0.00	0.00
P-CV-106	719.00	16.0	130.0	Open	255.58	0.41	0.04	0.05
P-CV-107	715.00	12.0	130.0	Open	19.51	0.06	0.00	0.00
P-CV-110	1,745.00	24.0	130.0	Open	974.52	0.69	0.14	0.08
P-CV-111	521.00	12.0	130.0	Open	164.08	0.47	0.05	0.09
P-CV-113	934.00	12.0	130.0	Open	-101.99	0.29	0.03	0.04
P-CV-120	1,004.00	8.0	130.0	Open	-41.05	0.26	0.05	0.05
P-CV-121	1,003.00	12.0	130.0	Open	128.07	0.36	0.06	0.06
P-CV-122	1,062.00	12.0	130.0	Open	57.72	0.16	0.01	0.01
P-CV-123	1,005.00	12.0	130.0	Open	-253.09	0.72	0.20	0.20
P-CV-124	983.00	24.0	130.0	Open	2,880.16	2.04	0.60	0.61
P-CV-136	4,450.00	24.0	130.0	Open	-5,542.86	3.93	9.19	2.07

Scenario: CSP Max Day
Fire Flow Analysis
Fire Flow Report

Label	Zone	Fire Flow Balanced?	Satisfies Fire Flow Constraints?	Needed Fire Flow (gpm)	Total Flow Needed (gpm)	Calculated Residual Pressure @ Total Flow Needed (psi)	Calculated Minimum Zone Pressure @ Total Flow Needed (psi)	Calculated Minimum Zone Junction @ Total Flow Needed	Total Flow Available (gpm)	Calculated Residual Pressure @ Total Flow Available (psi)	Calculated Minimum Zone Pressure @ Total Flow Available (psi)	Minimum Zone Junction @ Total Flow Available
CV-1	Zone	true	true	2,000.00	2,027.19	59.05	59.79	CV-2	3,196.27	47.68	50.00	CV-2
CV-2	Zone	true	true	2,000.00	2,081.60	59.55	60.07	CV-1	3,259.99	49.36	50.00	CV-1
CV-3	Zone	true	true	2,000.00	2,134.72	61.48	61.28	CV-7	3,804.08	49.82	50.00	CV-2
CV-4	Zone	true	true	2,500.00	2,589.62	63.26	60.37	CV-7	5,333.51	50.49	50.00	CV-2
CV-5	Zone	true	true	2,000.00	2,000.00	65.68	61.13	CV-7	6,042.83	47.03	50.00	CV-7
CV-6	Zone	true	true	2,500.00	2,502.77	64.30	60.15	CV-7	6,045.55	53.20	50.00	CV-7
CV-7	Zone	true	true	2,500.00	2,624.96	58.37	60.11	CV-13	5,742.81	43.88	50.00	CV-13
CV-10	Zone	true	true	2,500.00	2,633.98	62.31	60.55	CV-7	6,661.63	51.76	50.00	CV-7
CV-11	Zone	true	true	2,500.00	2,533.86	62.21	60.48	CV-7	6,466.02	51.61	50.00	CV-7
CV-12	Zone	true	true	4,500.00	4,534.25	55.84	55.15	CV-7	6,034.89	50.16	50.00	CV-13
CV-13	Zone	true	true	2,500.00	2,545.49	59.55	59.55	CV-7	5,449.96	48.60	50.00	CV-7
CV-14	Zone	true	true	2,500.00	2,569.56	63.33	60.28	CV-7	6,291.25	45.75	50.00	CV-13
CV-15	Zone	true	true	2,500.00	2,696.50	62.44	59.89	CV-7	5,760.17	45.01	50.00	CV-13
CV-20	Zone	true	true	2,500.00	2,531.68	60.92	61.23	CV-7	5,649.92	42.63	50.00	CV-30
CV-21	Zone	true	true	2,500.00	2,569.44	63.38	61.23	CV-7	5,644.50	50.77	50.00	CV-20
CV-22	Zone	true	true	2,000.00	2,113.51	67.45	61.91	CV-7	6,236.55	45.47	50.00	CV-20
CV-23	Zone	true	true	2,500.00	2,578.89	67.33	61.22	CV-7	6,640.68	53.40	50.00	CV-20
CV-24	Zone	true	true	4,000.00	4,001.00	65.57	58.56	CV-7	7,471.39	57.02	50.00	CV-7
CV-25	Zone	true	true	4,000.00	4,164.97	65.58	58.83	CV-7	7,935.58	54.91	50.00	CV-7
CV-30	Zone	true	true	2,500.00	2,527.09	59.83	61.24	CV-7	5,233.37	43.84	50.00	CV-31
CV-31	Zone	true	true	2,500.00	2,540.13	61.28	61.24	CV-7	5,164.92	49.84	50.00	CV-30
CV-32	Zone	true	true	2,500.00	2,522.56	63.53	61.25	CV-7	6,567.46	49.82	50.00	CV-31
CV-33	Zone	true	true	4,000.00	4,000.00	63.29	58.86	CV-7	7,749.52	54.41	50.00	CV-7
CV-34	Zone	true	true	4,500.00	4,500.00	64.76	58.53	CV-7	8,316.23	56.23	50.00	CV-7
CV-35	Zone	true	true	4,500.00	4,502.53	65.27	59.00	CV-7	8,811.31	56.27	50.00	CV-7
CV-36	Zone	true	true	4,500.00	4,500.00	65.45	59.56	CV-7	9,496.80	55.88	50.00	CV-7