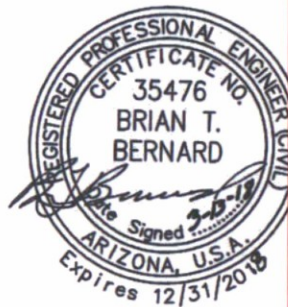


Sewer Basis of Design Report

Sereno Canyon Phase 4



prepared for:

Toll Brothers Inc.
8767 E. Via de Ventura, Suite
Scottsdale, Arizona 85258
480 951 0782

prepared by:



ARGUS CONSULTING
A CIVIL ENGINEERING COMPANY, PC

10115 E. Bell Road, Suite 107 - #104
Scottsdale, Arizona 85260
480 596 1131

February 20, 2018

FINAL Basis of Design Report

- APPROVED
 APPROVED AS NOTED
 REVISE AND RESUBMIT



Disclaimer: If approved; the approval is granted under the condition that the final construction documents submitted for city review will match the information herein. Any subsequent changes in the water or sewer design that materially impact design criteria or standards will require re-analysis, re-submittal, and approval of a revised basis of design report prior to the plan review submission.; this approval is not a guarantee of construction document acceptance. For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.

BY scan

DATE 4/20/2018

16-PP-2017
03/26/18

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1.0 INTRODUCTION

1.1 General Description

This Sewer Basis of Design Report has been prepared to describe how sanitary sewer services will be provided to the proposed Sereno Canyon Phase 4 and Resort development, for Toll Brothers' Arizona Construction Company. The project is located within the City of Scottsdale, Arizona. This is the final phase of the Sereno Canyon Development that was developed by Crown Development in 2005. The development was to be subdivided into four phases. Phase 1 improvements have been completed. Phase 2 and Phase 3 will be completed in the future. Phase 4 of the project is approximately 121.65 acres with a total of 268 residential dwelling units and 29 Resort Casitas and a Health Center/Spa with 14,500 square feet. The Health Center/Spa is to be used by the residents of Sereno Canyon. The Health Center/Spa is not going to be a public restaurant. The property is located on rolling terrain. The southern and western portions of the property slope to the north and to the east. The southeast portion of the property slope to the northeast and to the east. The site is within the elevation range from 2688 to 2855.

This analysis will present the design requirements for the collection system for the entire project and offsite lots *See Figure 2: Sewer Distribution Map.*

1.2 Location

The project is located in Section 11, Township 4 North, Range 5 East of the Gila and Salt River Baseline and Meridian, Maricopa County, Arizona. It is bound on south by Pinnacle Peak Road Alignment, west by 122nd Street and Phase 2 of Sereno Canyon, and on the north by Phase 1 and Phase 3 of Sereno Canyon and the East Alameda Road, and east by N. 128th Street and rural residential parcels. This property is located within Quarter Section map 45-57, and 45-58. *See Figure 1, Vicinity Map.*

1.3 Purpose

This report has been prepared to analyze the construction of the sanitary sewer system that will serve this project. The report shall provide technical information for the sanitary sewer distribution system for the entire project. This report analyzes the final design for the sewer distribution system. The lift station detailed design will be completed during the construction document process. The city will operate the Lift Station. The lift station is to be designed per the City's Lift Station Design Criteria, Dated Oct. 15th, 2015.

2.0 COLLECTION SYSTEM DESCRIPTION

2.1 Existing Collection System

Phase 4 of the Sereno Canyon development will connect to the City of Scottsdale existing sewer system. Approximately 97 dwelling units from phase 4 will convey their sewer flows to the existing 8 inch sewer pipe within East Alameda Road. The remaining 171 dwelling units will convey their sewer flows to the existing 8 inch sewer line within the East Ranch Gate Road. This 8 inch line within the East Ranch Gate Road alignment conveys flows to an existing sewer lift station located east of the Sereno Canyon project at the intersection of 128th St. and W. Buckskin Trail. This existing lift station has a 350 gpm capacity. Both 8 inch sewer lines have adequate capacity to include the additional sewer flows from the Sereno Canyon Development. See Table 1 for the project sewer flow conveyance. The development is subject to agreement 2010-169-COS-A1. The development does not increase the existing facilities per the agreement.

Table 1. Sewer Flow conveyance

	E, Alameda RD.	E. Ranch Gate Rd. Lift Station	Total
Phase 1	2	54	56
Phase 2	14	0	14
Phase 3	0	19	19
Phase 4	97	171	268
Resort	0	29	29
	113	273	386

2.2 Proposed Collection System

The proposed collection system will convey the wastewater demand flows within a gravity pipe system. Of the 268 dwelling units and the 29 Resort Casitas and Health Center/Spa, sewer flows from 97 units will be conveyed to the existing 8 inch sewer line within the E. Alameda Road alignment. The remaining 171 units and the 29 casitas and Health Center/Spa will be conveyed to the 8 inch sewer line within the E. Ranch Gate Road alignment along the northern property boundary of Phase 1 of the Sereno Canyon Development. Of the 171 units, 130 dwelling units will be conveyed in an 8 inch sewer pipe line to a local proposed on-site lift station. This lift station is design for a 170 gpm capacity. No off-site flows are proposed to be conveyed to this proposed lift station. The location of the on-site lift station is near the northeast property of Phase 4. The lift station will discharge the demand flows from the lift station within a 3 inch force main to the proposed Biofilter site located near the intersection of the collector road and the Health Center/Spa. From the biofilter the flows will connect to the proposed SSMH-(56) then gravity feed north thru Phase 3 of Sereno Canyon and connect to the existing 8 inch sewer line within the E. Ranch Gate Road alignment. From the connection to the existing 8 inch sewer line in E. Ranch Gate Rd, the flows will be conveyed to the existing lift station located east of the project at the intersection of N. 128th Street and E. Buckskin Trail. All pipes within the project are to be gravity 8-inch diameter sewer pipe lines. See Figure 2. Sewer Distribution Map.

3.0 BASIS OF DESIGN

FIGURE IS LABELED AS WATER

3.1 Design Flow Rates

As per the City of Scottsdale this Basis of Sewer Design Report was prepared according Design Standards & Policies Manual, dated January 2010. The following is a summary of the design criteria upon which this study is based.

Basis of Sewer Design

- The total number of units phase 4 = 268 dwelling unit plus 29 Resort Casitas

- Per the City of Scottsdale design standards section 7-1.403 residential design flow will be 100 gallons per capita day with 2.5 persons per dwelling unit.
- Resort demand flows will be 380 gallons per casita (room)
- Health Center/Spa flows will be 1.2 gpd per square foot
- A peaking factor of 4 will be used for residential dwellings
- A peaking factor of 4.5 will be used for the casitas
- A peaking factor of 6 will be used for Spa

Sewer flow was calculated as follows:

Total residential units = 268

Total Resort Casitas = 29

Total average day Flow = 100 gpcd x 2.5 persons x 268 units = 67,000 gpd

Total average day flows = 29 casitas x 380 = 11,020 gpd

Restaurant at Resort = 14,500 sf Spa x 1.2 = 17,400 gpd

Average Daily Flow = 81.54 gpm = 0.1816 cfs

Residential Peak Day Flow = 46.53 gpm x 4 = 186.11 gpm = 0.4147 cfs

Spa Casitas Peak Day Flows = 7.65 gpm x 4.5 = 34.44 gpm = 0.0767 cfs

Spa Peak Day Flow = 12 gpm x 6 = 72.5 gpm = 0.1615 cfs

Peak Hour Flow = 0.6529 cfs x 1.7 = 1.1099 cfs

The collection system design criterion is based on the City of Scottsdale DSPM. The following represents the design criteria for the collection system:

- Mean full flow velocity = 2.5 feet per second
- Peak Flow velocity = 10.0 feet per second maximum.
- The Manning's roughness coefficient, $n=0.013$ for all pipe materials.
- Maximum sewer capacity: $d/D=65\%$ at peak flow conditions.
- Manhole spacing shall not exceed 500 feet for sewer lines less than 18 inches in diameter
- The minimum drop in elevation from the invert to the outlet of a manhole shall be 0.1 feet.

- The minimum manhole diameter shall be 48 inches for manholes less than 10 feet deep and the pipe is less than 15 inches in diameter.
- MAG Standard 601 and 615 and any subsequent MAG specification and details, shall be followed for trench bedding.
- Minimum slopes: Use the minimum slope of 0.52% calculated from Manning's Formula using a sewage velocity of 2.5 feet per second when flowing full.
- Force Main shall be designed per the DSPM under section 7-1.403. and City of Scottsdale Sewer Lift Station Design Criteria Revised 10/15/2015.
- Lift Station design shall include an allowance of 35 gpm per pump for swimming pool discharge.
- Line separation shall be designed per the DSPM under section 7-1.407.

3.2 Sewer Capacity

The Sereno Canyon Phase 4 development will accumulate 95,420 gallons per day average day flow at buildout. At Peak Day Flows the Phase 4 development will accumulate 421,991 gallons per day at buildout for Phase 4 of the development. The existing lift station located east of the Sereno Canyon Development has a design capacity of 350 gpm. The peak dry weather flows contributing from the development to the existing lift station are 290.09 gpm. These flows include the required 35 gpm allowance per pump for swimming pool discharge. The Peak Wet Weather Flows are calculated to be 318.86 gpm. Based on the analysis the existing sewage lift station has adequate capacity for the development.

4.0 On-site Improvements

The collection system for the community is to be a gravity sewer system. The pipes shall be constructed within the proposed streets and dedicated sewer easements. The onsite gravity sewer collection system will collect and convey portions of the sewer flows to the existing 8 inch sewer line in E. Alameda Road, and a proposed Lift Station that will be constructed near the east property boundary of phase 4. This lift station is to discharge the sewer flows within a 3-inch diameter force main. The force main will be constructed within the proposed street section for the project. The force main will connect to a proposed odor control discharge divergence structure (Biofilter) located in a tract to be deeded to the City of Scottsdale, along the north right of way line of the collector street and the entry to the resort. From this structure, the flows will be discharged to a proposed sewer manhole depicted as SSMH-(56). Flows within this proposed 8 inch sewer line system are conveyed to the north within the N. 125th Street alignment to an existing manhole within phase 1 of Sereno Canyon, depicted as Exist SSMH- (6). From this existing manhole an 8- inch gravity pipe is constructed within the N. 125th Place alignment which connects to an existing 8 inch sewer line within the E. Ranch Gate Road alignment. Then the flows will be conveyed to the existing lift station located east of the Sereno Canyon Development at the northeast corner of the intersection of 128th Street and E. Buckskin Trail. See *Figure 2: Sewer Distribution Map*.

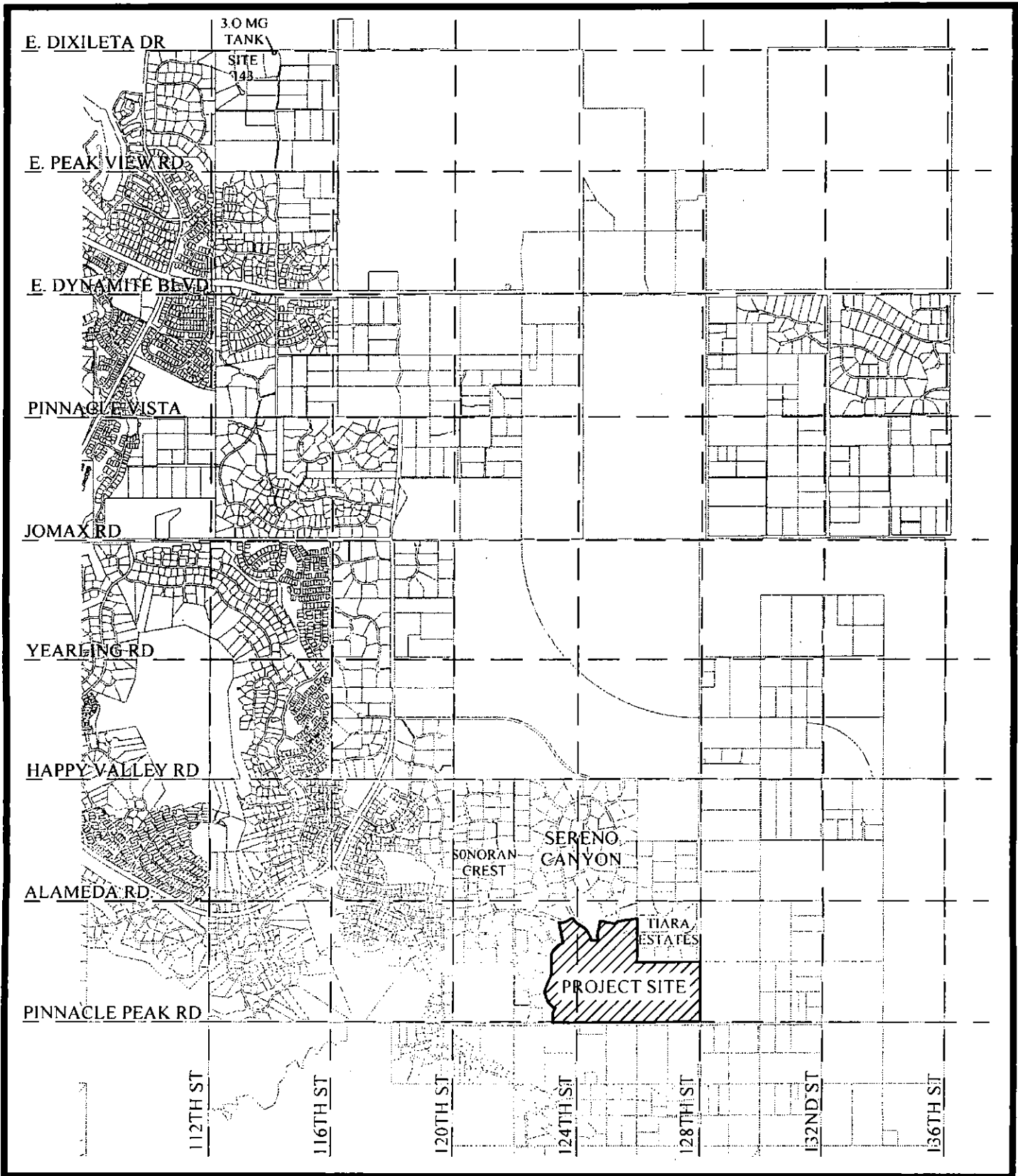
The proposed Lift Station will be designed per the minimum requirements per Scottsdale DSPM, Section 7-1.403 and City of Scottsdale Sewer Lift Station Design Criteria Revised 10/15/2015. The total peak dry weather flows for the dwelling units being conveyed to the proposed on-site lift station are calculated to be 131.31 gpm plus the required 35 gpm flow allowance for swimming pool discharge for a total of

FIGURE IS LABELED "WATER"

166.31 gpm. The proposed lift station should have a minimum capacity of 170 gpm. Final design calculations for the Lift Station will be completed with the final design phase of the project. The elevation difference from the order control structure and the proposed Lift Station is 51 feet. The flow velocities in the force main must be between 4 and 6 feet per second.

See Appendix A for calculations and a summary of the proposed system design and capacity. The appendix shows the proposed sewer slopes, projected peak flows, and pipe flow capacities meeting minimum design standards. Final hydraulics will be included in a Final Basis of Design Report.

Figure 1: Vicinity Map



SERENO CANYON
 PHASE 4
 SCOTTSDALE, AZ

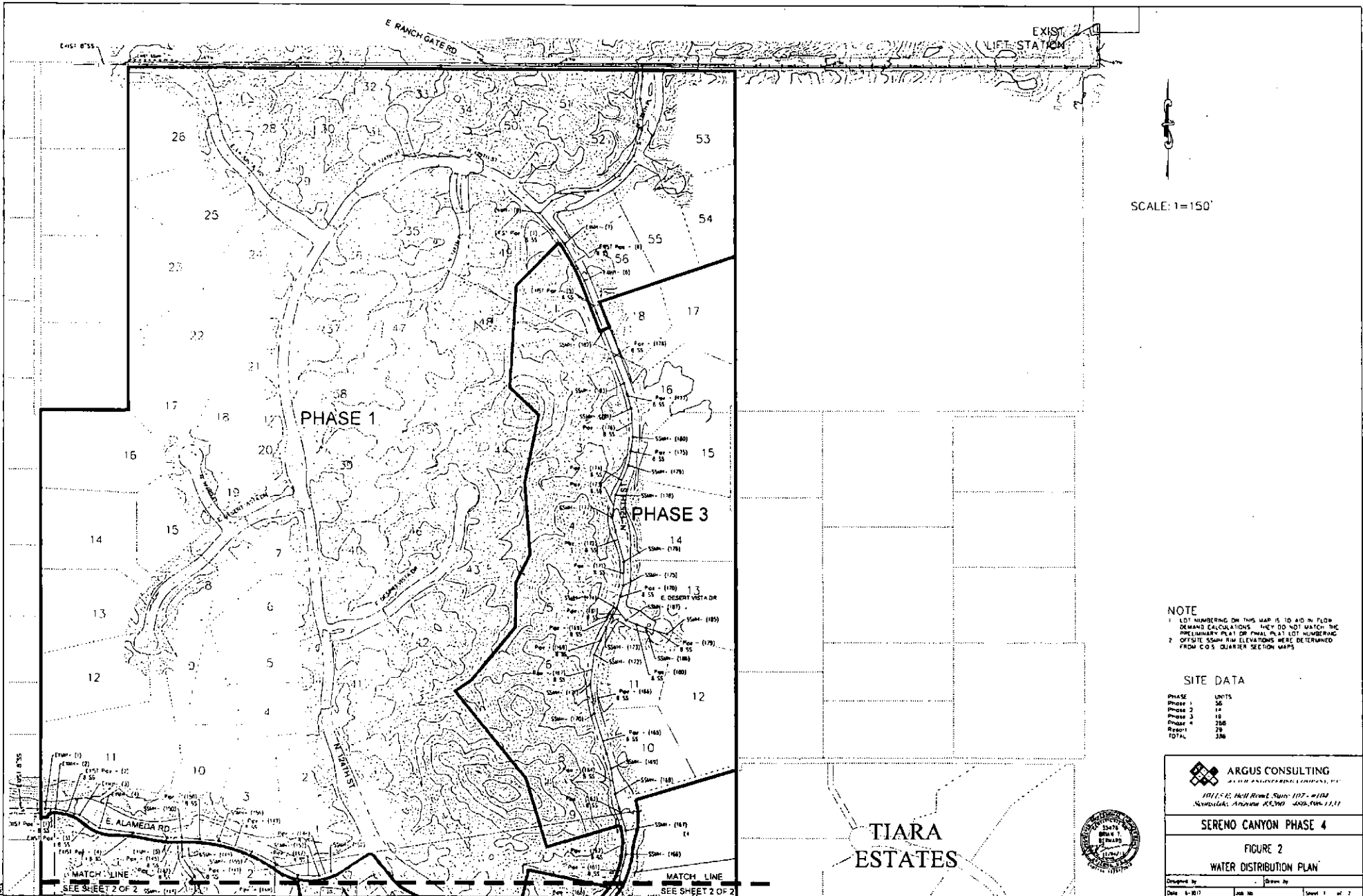
VICINITY MAP
 FIGURE 1



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 A CIVIL ENGINEERING COMPANY, P.C.

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 Scottsdale, Arizona 85260 480-596-1131

Figure 2: Sewer Distribution Map



SCALE: 1"=150'



NOTE

1. LOT NUMBERING ON THIS MAP IS TO AID IN FLOW DEMAND CALCULATIONS. THEY DO NOT MATCH THE PRELIMINARY PLAT OR FINAL PLAT LOT NUMBERING.
2. OFFSITE 55MM R/W ELEVATIONS WERE DETERMINED FROM CO'S QUARTER SECTION MAPS.

SITE DATA

PHASE	UNITS
Phase 1	36
Phase 2	14
Phase 3	10
Phase 4	28
Grand TOTAL	88

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 A DIVISION OF ARGUS CONSULTING, INC.
 10115 E. Holt Road, Suite 107 - #108
 Scottsdale, Arizona 85258 (480) 344-1111

SERENO CANYON PHASE 4

FIGURE 2
WATER DISTRIBUTION PLAN

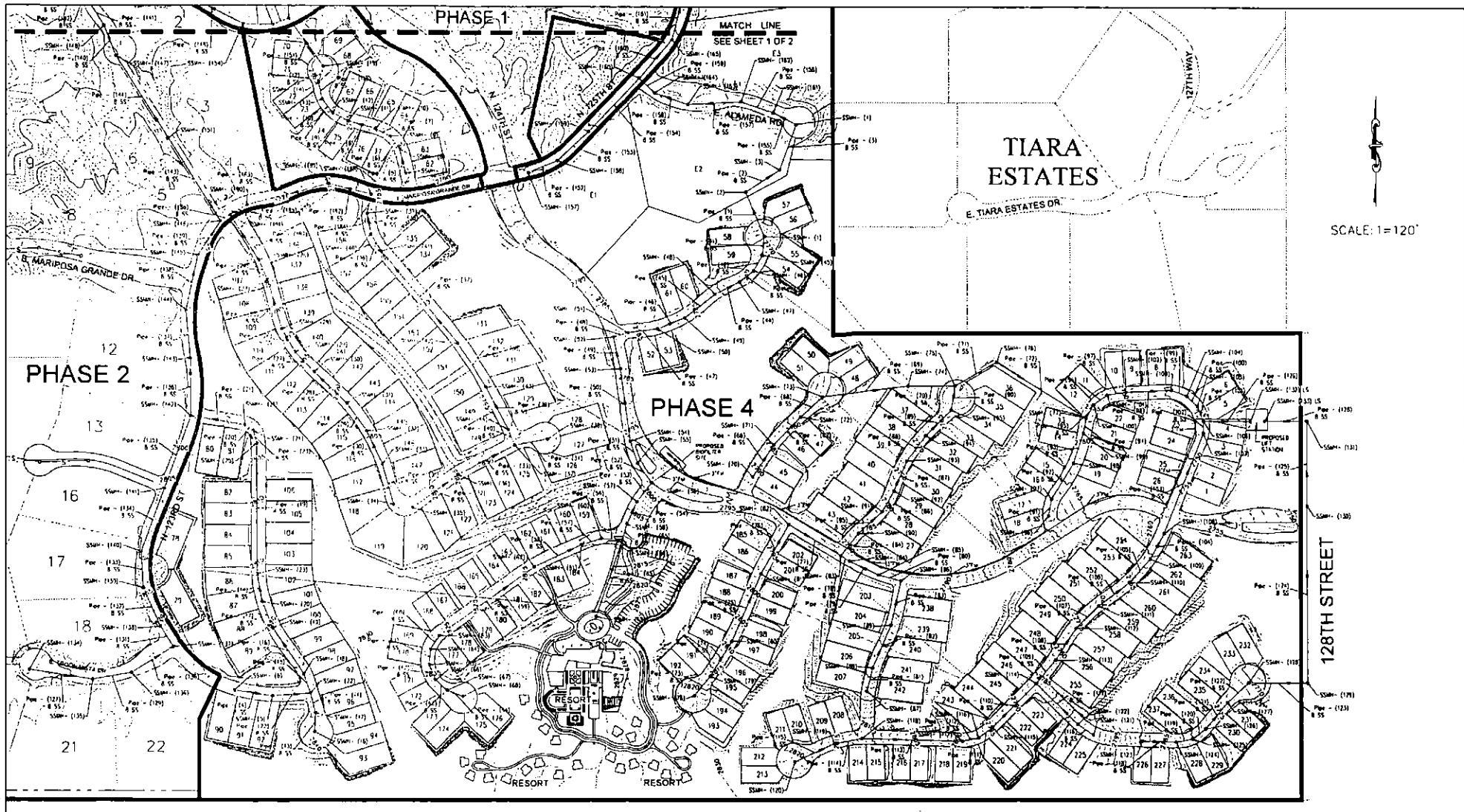
Designed by: _____ Drawn by: _____
 Date: 6-10-17 Job No: _____ Sheet 1 of 2



TIARA
ESTATES

SEE SHEET 2 OF 2

SEE SHEET 2 OF 2



SCALE: 1"=120'

ARGUS CONSULTING
 A CIVIL ENGINEERING FIRM, INC.
 10115 E. Hill Road, Suite 107 - 108
 Scottsdale, Arizona 85250 480.706.1171

SERENO CANYON PHASE 4
FIGURE 2
WATER DISTRIBUTION PLAN

Designed by: _____ Drawn by: _____
 Date: 8-2011 Job No: _____ Sheet 7 of 7



11/20/11 8:28 AM C:\Users\BWilliams\Documents\Sereno Canyon Phase 4\DWG\WATER.DWG Plot Date: 8/20/11 8:28 AM

Appendix A: Proposed System Design and Capacity

Sewer Model Node Demand Assignment													
Project Location	Sereno Canyon Phase 4 Scottsdale, AZ												
SSMH	Phase	Rim Elevation	# of Units	Persons Per Unit (PPU)	Total Pop.	Daily Flow Factor (gal/cap-day)	Residential gal/units	Average Daily Flow (gpm)	Average Daily Flow (gpm)	Peaking Factor	Demand Flow with peaking factor (gpm)	Demand Flow with peaking factor (cfs)	
1	4	2789.45	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
2	4	2781.89	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
3	4	2758.01	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
4	4	2762.73	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
5	4	2831.55	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
6	4	2832.86	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
7	4	2788.9	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
8	4	2785.33	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
9	4	2782.57	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
10	4	2779.75	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
11	4	2774.74	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
12	4	2770.74	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
13	4	2767.29	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
14	4	2765.21	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
15	4	2763.84	4	2.5	10.0	100	250	1000	0.69	4.00	2.778	0.0062	
16	4	2838.32	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
17	4	2834.2	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
18	4	2826.45	5	2.5	12.5	100	250	1250	0.87	4.00	3.472	0.0077	
19	4	2820.37	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
20	4	2818.1	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
21	4	2787.06	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
22	4	2830	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
23	4	2815.87	10	2.5	25.0	100	250	2500	1.74	4.00	6.944	0.0155	
24	4	2799.18	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
25	4	2801.92	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
26	4	2776.29	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
27	4	2779.72	8	2.5	15.0	100	250	1500	1.04	4.00	4.167	0.0093	
28	4	2788.21	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
29	4	2782.76	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
30	4	2797.11	4	2.5	10.0	100	250	1000	0.69	4.00	2.778	0.0062	
31	4	2801.29	4	2.5	10.0	100	250	1000	0.69	4.00	2.778	0.0062	
32	4	2804.34	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
33	4	2807.55	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
34	4	2812.29	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
35	4	2813.43	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
36	4	2804.59	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
37	4	2797.26	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
38	4	2787.86	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
39	4	2780.57	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
40	4	2779.72	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
41	4	2779.76	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
42	4	2792.05	7	2.5	17.5	100	250	1750	1.22	4.00	4.861	0.0108	
43	4	2793.06	4	2.5	10.0	100	250	1000	0.69	4.00	2.778	0.0062	
44	4	2795.26	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
45	4	2771.86	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
46	4	2773.99	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
47	4	2776.51	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
48	4	2780.87	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
49	4	2785.58	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
50	4	2788.99	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
51	4	2783.4	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
52	4	2782.72	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
53	4	2783.72	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
54	4	2796.67	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
55	4	2798.79	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
56	4	2799	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
57	4	2802.82	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
58	4	2807.4	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
59	4	2810.15	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
60	4	2809.54	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
61	4	2810.09	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
62	4	2814.06	4	2.5	10.0	100	250	1000	0.69	4.00	2.778	0.0062	
63	4	2827.13	11	2.5	27.5	100	250	2750	1.91	4.00	7.639	0.0170	
64	4	2830.21	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
65	4	2833.17	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
66	4	2836.28	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
67	4	2838.03	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
68	4	2838.82	4	2.5	10.0	100	250	1000	0.69	4.00	2.778	0.0062	
69	4	2841.15	78	2.5	72.5	100	380	11020	7.65	4.50	34.348	0.0767	
69	Reson Restaurant	2827.79	14500	41	41	1.2	17400	12.08	6.00	72.500	0.1615		
70	4	2751.77	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
71	4	2784.42	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
72	4	2776.21	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
73	4	2775.32	4	2.5	10.0	100	250	1000	0.69	4.00	2.778	0.0062	
74	4	2768.13	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
75	4	2761.68	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
76	4	2756.02	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
77	4	2756.62	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
78	4	2821.54	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
79	4	2816.7	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
80	4	2808.7	8	2.5	20.0	100	250	2000	1.39	4.00	5.556	0.0124	
81	4	2797.42	4	2.5	10.0	100	250	1000	0.69	4.00	2.778	0.0062	
82	4	2792.67	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
83	4	2791.55	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
84	4	2791.64	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
85	4	2791.24	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
86	4	2790.98	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
87	4	2802.83	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
88	4	2798.62	4	2.5	10.0	100	250	1000	0.69	4.00	2.778	0.0062	
89	4	2792.17	4	2.5	10.0	100	250	1000	0.69	4.00	2.778	0.0062	
90	4	2768.74	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
91	4	2761.38	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
92	4	2777.17	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
93	4	2772.53	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
94	4	2768.28	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
95	4	2751.12	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
96	4	2758.52	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
97	4	2759.99	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
98	4	2782.67	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
99	4	2758.75	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
100	4	2754.57	3	2.5	7.5	100	250	750	0.52	4.00	3.063	0.0046	
101	4	2752.31	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
102	4	2748.75	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
103	4	2744.71	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
104	4	2744.4	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
105	4	2744.6	1	2.5	2.5	100	250	250	0.17	4.00	0.		

Sewer Model Node Demand Assignment

Project:		Sereno Canyon Phase 4											
Location:		Scottsdale, AZ											
SSM#	Phase	Rim Elevation	# of Units	Persons Per Unit (PPU)	Total Pop.	Daily Flow Factor (gal/cap-day)	Residential gallons/unit/day	Average Daily Flow (gpd)	Average Daily Flow (gpm)	Peaking Factor	Demand Flow with peaking factor (gpm)	Demand Flow with peaking factor (cfs)	
108	4	2758.26	6	2.5	15.0	100	250	1500	1.04	4.00	4.167	0.0033	
109	4	2760.57	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
110	4	2761.17	3	2.5	7.5	100	250	750	0.52	4.00	2.083	0.0046	
111	4	2770.98	4	2.5	10.0	100	250	1000	0.69	4.00	2.778	0.0062	
112	4	2775.76	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
113	4	2781.48	5	2.5	12.5	100	250	1250	0.87	4.00	3.472	0.0077	
114	4	2785.83	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
115	4	2794.66	4	2.5	10.0	100	250	1000	0.69	4.00	2.778	0.0062	
116	4	2797.09	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
117	4	2798.22	3	2.5	7.5	100	250	750	0.52	4.00	2.083	0.0046	
118	4	2811.43	3	2.5	7.5	100	250	750	0.52	4.00	2.083	0.0046	
119	4	2815.28	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
120	4	2821.44	4	2.5	10.0	100	250	1000	0.69	4.00	2.778	0.0062	
121	4	2798.43	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
122	4	2787.44	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
123	4	2789.51	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
124	4	2782.75	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
125	4	2780.13	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
126	4	2777.9	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
127	4	2773.9	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
128	4	2770.5	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
129	4	2769.8	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
130	4	2748.07	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
131	4	2738.13	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
132	4	2750.84	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
133	4	2745.18	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
134	2	2815.85	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
135	2	2821.08	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
136	2	2799.88	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
137	2	2825	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
138	4	2821	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
139	4	2813.8	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
140	4	2809.75	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
141	2	2806	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
142	4	2798.19	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
143	4	2782.3	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
144	4	2785.01	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
145	4	2776	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
146	2	2773.5	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
147	2	2752	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
148	2	2748	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
149	2	2744	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
150	2	2743	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
151	2	2757	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
152	4	2785.8	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
153	4	2766.2	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
154	4	2765	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
155	4	2756.94	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
156	4	2749.7	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
157	3	2780.5	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
158	3	2778.6	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
159	3	2771.4	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
160	3	2764.01	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
161	4	2755.72	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
162	4	2754.72	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
163	4	2764.82	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
164	4	2753.32	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
165	4	2760.53	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
166	4	2756.73	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
167	3	2753.14	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
168	3	2747.84	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
169	3	2747.63	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
170	3	2743.3	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
171	3	2738.44	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
172	3	2736.68	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
173	3	2732.54	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
174	3	2729.38	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
175	3	2727.4	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
176	3	2726.07	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
177	3	2720.8	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
178	3	2717.57	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
179	3	2711.18	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
180	3	2707.55	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
181	3	2704.24	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
182	3	2700.7	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
183	3	2701.3	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
185	3	2733.2	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
186	3	2724.55	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
187	3	2728.83	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
189	4	2783.3	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
189	4	2787	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
190	4	2772.3	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
191	4	2773.2	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
EXMH-1	1	2721.58	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
EXMH-2	1	2725.04	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
EXMH-3	1	2730.33	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
EXMH-4	1	2731.01	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
EXMH-5	1	2735.72	1	2.5	2.5	100	250	250	0.17	4.00	0.694	0.0015	
EXMH-6	1	2699.2	2	2.5	5.0	100	250	500	0.35	4.00	1.389	0.0031	
EXMH-7	1	2701.79	0	2.5	0.0	100	250	0	0.00	4.00	0.000	0.0000	
EXMH-8	1	2703.28	52	2.5	130.0	100	250	13000	9.93	4.00	36.111	0.0885	
Total			14885		963			117420	81.5417		354.160	0.7891	

	E. Alameda RD	E. Ranch Gate Rd.	Total		Average Daily Flow (gpd)	Average Daily Flow (gpm)	Peaking Factor	Demand Flow with peaking factor (gpm)	Demand Flow with peaking factor (cfs)
Phase 1	2	54	55	Phase 1	14,000	9,722	4.00	38,885	0.0666
Phase 2	14	0	14	Phase 2	3,500	2,436	4.00	9,722	0.0217
Phase 3	0	19	19	Phase 3	4,500	3,125	4.00	12,500	0.0279
Phase 4	97	171	268	Phase 4	67,000	45,577.8	4.00	185,111	0.4147
Resort	0	29	29	Resort	11,020	7,652.8	4.00	34,438	0.0767
	113	273	386	Restaurant	17,400	12	6.00	72,500	0.1615
					117,420	81,541.7		354,160	0.7891

Name	US Node	DS Node	US Invert (ft)	DS Invert (ft)	2D Length (ft) center-to-center edge-to-edge	% Slope	Size (in)	Tributary Pipes	Peak Cumulative Flow (cfs)	Depth to Diameter Ratio (d/D)	Peak Flow Velocity (ft/s)
E. Alameda Road Sewer outfall											
Pipe - (5)	SSMH- (7)	SSMH- (8)	2780.51	2777.03	70.03 66.03	4.96	8		0.0015	0.0298	0.4800
Pipe - (6)	SSMH- (8)	SSMH- (9)	2776.94	2774.28	46.29 42.29	5.74	8		0.0031	0.0440	0.9900
Pipe - (7)	SSMH- (9)	SSMH- (10)	2774.18	2771.46	47.17 43.17	5.77	8		0.0062	0.0440	1.7400
Pipe - (8)	SSMH- (10)	SSMH- (11)	2771.36	2766.45	81.44 77.44	6.02	8		0.0093	0.0440	1.6200
Pipe - (9)	SSMH- (11)	SSMH- (12)	2766.35	2762.45	49.61 45.61	7.87	8		0.0124	0.0440	2.1600
Pipe - (10)	SSMH- (12)	SSMH- (13)	2762.35	2759	48.38 44.38	6.92	8		0.0155	0.0597	1.7900
Pipe - (11)	SSMH- (13)	SSMH- (14)	2758.9	2757.85	48.19 44.19	2.18	8		0.0170	0.0746	1.4100
Pipe - (12)	SSMH- (14)	SSMH- (15)	2757.75	2756.69	48.1 44.1	2.21	8		0.0186	0.0746	1.5500
Pipe - (151)	SSMH- (15)	SSMH- (152)	2756.59	2755.66	168.48 164.48	0.55	8		0.0248	0.1190	1.0200
Pipe - (146)	SSMH- (152)	SSMH- (153)	2755.56	2755.28	47.65 43.65	0.6	8		0.0248	0.1040	1.0100
Pipe - (147)	SSMH- (153)	SSMH- (154)	2755.18	2754.69	81.96 77.96	0.6	8		0.0248	0.1040	1.0100
Pipe - (148)	SSMH- (154)	SSMH- (155)	2754.59	2748.94	194.84 190.84	2.9	8		0.0248	0.0746	1.6600
Pipe - (149)	SSMH- (155)	SSMH- (156)	2748.84	2741.7	134.42 130.42	5.31	8		0.0248	0.0746	2.0600
Pipe - (150)	SSMH- (156)	SSMH- (150)	2741.6	2735	135.93 131.93	4.86	8		0.0248	0.0746	2.0600
Pipe - (13)	SSMH- (16)	SSMH- (17)	2829.93	2825.81	53.97 49.97	7.62	8		0.0046	0.0298	1.4700
Pipe - (14)	SSMH- (17)	SSMH- (22)	2825.72	2821.91	57.3 53.3	6.64	8		0.0062	0.0447	1.0800
Pipe - (4)	SSMH- (6)	SSMH- (5)	2826.79	2825.36	108.09 104.09	1.32	8		0.0015	0.0299	0.4800
Pipe - (22)	SSMH- (5)	SSMH- (22)	2825.26	2821.93	107.38 103.38	3.11	8		0.0062	0.0448	1.0800
Pipe - (15)	SSMH- (22)	SSMH- (18)	2821.81	2818.16	58.18 54.18	6.27	8	PIPE 22	0.0124	0.0597	1.4400
Pipe - (16)	SSMH- (18)	SSMH- (19)	2817.96	2811.75	157 153	3.96	8		0.0201	0.0746	1.6700
Pipe - (17)	SSMH- (19)	SSMH- (20)	2811.65	2808.68	79.97 75.97	3.72	8		0.0232	0.0746	1.9300
Pipe - (18)	SSMH- (20)	SSMH- (23)	2808.58	2806.63	79.01 75.01	2.46	8		0.0263	0.0895	1.6700
Pipe - (19)	SSMH- (23)	SSMH- (25)	2806.53	2793.53	368.97 364.97	3.52	8		0.0418	0.1045	2.1200
Pipe - (23)	SSMH- (25)	SSMH- (24)	2793.43	2790.79	36.56 32.56	7.23	8		0.0418	0.0896	2.6500
Pipe - (20)	SSMH- (24)	SSMH- (21)	2790.69	2788.67	28.85 24.85	7	8		0.0418	0.0896	2.6500
Pipe - (21)	SSMH- (21)	SSMH- (142)	2788.57	2787.66	152.04 148.04	0.6	8		0.0449	0.1490	1.3600
Pipe - (127)	SSMH- (134)	SSMH- (135)	2809.9	2808.8	181.23 177.23	0.61	8		0.0031	0.0448	0.5400
Pipe - (129)	SSMH- (135)	SSMH- (136)	2808.7	2808.1	108.96 104.96	0.55	8		0.0046	0.0597	0.5300
Pipe - (130)	SSMH- (136)	SSMH- (137)	2808	2807	138.35 134.35	0.72	8		0.0062	0.0597	0.7200
Pipe - (131)	SSMH- (137)	SSMH- (138)	2806.9	2806.49	68.46 64.46	0.6	8		0.0077	0.0746	0.6400
Pipe - (132)	SSMH- (138)	SSMH- (139)	2806.4	2805.69	118.6 114.6	0.6	8		0.0093	0.0746	0.7700
Pipe - (133)	SSMH- (139)	SSMH- (140)	2805.6	2801.75	102.61 98.61	3.75	8		0.0108	0.0597	1.2500
Pipe - (134)	SSMH- (140)	SSMH- (141)	2801.65	2798	189.71 185.71	1.92	8		0.0124	0.0746	1.0300
Pipe - (135)	SSMH- (141)	SSMH- (142)	2797.9	2787.66	218.69 214.69	4.68	8		0.0155	0.0597	1.7900
Pipe - (136)	SSMH- (142)	SSMH- (143)	2787.56	2784.3	162.71 158.71	2	8	PIPE-21	0.0603	0.1340	2.1000
Pipe - (137)	SSMH- (143)	SSMH- (144)	2784.2	2777	135.57 131.57	5.31	8		0.0619	0.1045	3.1400
Pipe - (138)	SSMH- (144)	SSMH- (145)	2776.9	2768	158.87 154.87	5.6	8		0.0619	0.1045	3.1400
Pipe - (139)	SSMH- (145)	SSMH- (146)	2767.9	2765.5	116.08 112.08	2.07	8		0.0619	0.1343	2.1600
Pipe - (31)	SSMH- (34)	SSMH- (33)	2803.9	2799.26	118.69 114.69	3.91	8		0.0031	0.0299	0.9900
Pipe - (30)	SSMH- (33)	SSMH- (32)	2799.16	2796.05	102.82 98.82	3.02	8		0.0062	0.0448	1.0800
Pipe - (29)	SSMH- (32)	SSMH- (31)	2795.95	2793	97.61 93.61	3.02	8		0.0108	0.0597	1.2500
Pipe - (28)	SSMH- (31)	SSMH- (30)	2792.9	2788.82	127.35 123.35	3.2	8		0.0170	0.0746	1.4100
Pipe - (27)	SSMH- (30)	SSMH- (29)	2788.72	2784.47	78.84 74.84	5.4	8		0.0232	0.0746	1.9300
Pipe - (26)	SSMH- (29)	SSMH- (28)	2784.37	2779.78	74.72 70.72	6.15	8		0.0263	0.0746	2.1900
Pipe - (25)	SSMH- (28)	SSMH- (27)	2779.68	2771.43	144.3 140.3	5.72	8		0.0279	0.0746	2.3200
Pipe - (24)	SSMH- (27)	SSMH- (26)	2771.33	2768	61.43 57.43	5.42	8		0.0371	0.0896	2.3500
Pipe - (187)	SSMH- (26)	SSMH- (191)	2767.9	2766.07	149.44 145.44	1.22	8		0.0387	0.1194	1.6000
Pipe - (32)	SSMH- (35)	SSMH- (36)	2805.05	2796.3	160.74 156.74	5.45	8		0.0046	0.0299	1.4700
Pipe - (33)	SSMH- (36)	SSMH- (37)	2796.2	2788.77	182.64 178.64	4.07	8		0.0077	0.0448	1.3400
Pipe - (34)	SSMH- (38)	SSMH- (37)	2789.26	2788.77	95.04 91.04	0.52	8		0.0046	0.0597	0.5300
Pipe - (40)	SSMH- (37)	SSMH- (44)	2788.67	2786.87	48.53 44.53	3.7	8	Pipes 33, 34	0.0139	0.0597	1.6100
Pipe - (39)	SSMH- (44)	SSMH- (43)	2786.77	2784.67	134.41 130.41	1.57	8		0.0186	0.0896	1.1800

Name	US Node	DS Node	US Invert (ft)	DS Invert (ft)	2D Length (ft) center-to-center edge-to-edge	% Slope	Size (in)	Tributary Pipes	Peak Cumulative Flow (cfs)	Depth to Diameter Ratio (d/D)	Peak Flow Velocity (ft/s)
Pipe - (38)	SSMH- (43)	SSMH- (42)	2784.57	2783.66	148.31 144.31	0.61	8		0.0248	0.1194	1.0200
Pipe - (37)	SSMH- (42)	SSMH- (41)	2783.56	2771.37	340.28 336.28	2.35	8		0.0356	0.1045	1.8100
Pipe - (36)	SSMH- (41)	SSMH- (40)	2771.37	2771.07	56.69 52.69	0.52	8		0.0387	0.1490	1.1700
Pipe - (35)	SSMH- (40)	SSMH- (39)	2770.97	2770.67	58.8 54.8	0.52	8		0.0418	0.1490	1.2600
Pipe - (184)	SSMH- (39)	SSMH- (188)	2770.57	2770.28	55.45 51.45	0.52	8		0.0418	0.1490	1.2600
Pipe - (182)	SSMH- (188)	SSMH- (189)	2770.18	2769.53	125.12 121.12	0.52	8		0.0418	0.1490	1.2600
Pipe - (183)	SSMH- (189)	SSMH- (190)	2769.43	2767.05	237.68 233.68	1	8		0.0418	0.1343	1.4600
Pipe - (185)	SSMH- (190)	SSMH- (191)	2766.95	2766.07	54.83 50.83	1.6	8		0.0418	0.1194	1.7300
Pipe - (186)	SSMH- (191)	SSMH- (146)	2765.97	2765.5	32.32 28.32	1.45	8	Pipes 185,187	0.0805	0.1642	2.1300
Pipe - (143)	SSMH- (146)	SSMH- (151)	2765.4	2749	275.89 271.89	5.94	8	Pipes 139,186	0.1454	0.1642	3.8400
Pipe - (144)	SSMH- (151)	SSMH- (147)	2748.9	2744	275.89 271.89	1.78	8		0.1485	0.2089	2.7700
Pipe - (140)	SSMH- (147)	SSMH- (148)	2743.9	2740	92.54 88.54	4.21	8		0.1516	0.1791	3.5300
Pipe - (141)	SSMH- (148)	SSMH- (149)	2739.9	2736	87.07 83.07	4.48	8		0.1516	0.1642	4.0000
Pipe - (142)	SSMH- (149)	SSMH- (150)	2735.9	2735	73.51 69.51	1.22	8		0.1516	0.2388	2.3200
Pipe - (145)	SSMH- (150)	EXIST SSMH- (5)	2735.8	2730	54.08 50.08	10.72	8	Pipes 142, 150	0.1779	0.1493	5.3700
EXIST Pipe - (4)	EXIST SSMH- (5)	EXIST SSMH- (4)	2730	2722.5	257.01 253.01	2.92	8		0.1795	0.2089	3.3500
EXIST Pipe - (3)	EXIST SSMH- (4)	EXIST SSMH- (3)	2722.4	2721.8	91.26 87.26	0.66	8		0.1795	0.2985	2.0100
EXIST Pipe - (2)	EXIST SSMH- (3)	EXIST SSMH- (2)	2721.7	2715.9	92.83 88.83	6.25	8		0.1795	0.1642	4.7400
EXIST Pipe - (1)	EXIST SSMH- (2)	EXIST SSMH- (1)	2715.8	2713.5	38 34	6.05	8		0.1810	0.1791	4.2100
E. Ranch Gate Road (Happy Valley Rd) Sewer outfall											
Pipe - (118)	SSMH- (123)	SSMH- (124)	2781.12	2774.36	95.81 91.81	7.06	8		0.0031	0.0299	0.4800
Pipe - (119)	SSMH- (124)	SSMH- (125)	2774.26	2771.74	46.88 42.88	5.38	8		0.0062	0.0299	1.4700
Pipe - (120)	SSMH- (125)	SSMH- (126)	2771.64	2769.51	46.88 42.88	4.54	8		0.0093	0.0448	1.3400
Pipe - (121)	SSMH- (126)	SSMH- (127)	2769.41	2765.11	96.5 92.5	4.45	8		0.0124	0.0597	1.2500
Pipe - (122)	SSMH- (127)	SSMH- (128)	2765.02	2762.11	81.93 77.93	3.55	8		0.0155	0.0597	1.6100
Pipe - (123)	SSMH- (128)	SSMH- (129)	2762.01	2761.14	167.03 163.03	0.52	8		0.0186	0.1045	0.8600
Pipe - (124)	SSMH- (129)	SSMH- (130)	2761.04	2739.68	500 496	4.27	8		0.0186	0.0597	1.9700
Pipe - (125)	SSMH- (130)	SSMH- (131)	2739.58	2729.74	240.78 236.78	4.08	8		0.0186	0.0597	1.9700
Pipe - (128)	SSMH- (131)	SSMH- (133) Lift Station (LS)	2729.65	2729.03	119.16 115.16	0.52	8		0.0186	0.1045	0.8600
Pipe - (73)	SSMH- (78)	SSMH- (79)	2813.55	2808.51	71.72 67.72	7.02	8		0.0046	0.0299	1.4700
Pipe - (74)	SSMH- (79)	SSMH- (80)	2808.41	2800.31	116.94 112.94	6.93	8		0.0093	0.0448	1.6200
Pipe - (75)	SSMH- (80)	SSMH- (81)	2800.21	2789.03	206.43 202.43	5.42	8		0.0217	0.0746	1.8000
Pipe - (76)	SSMH- (81)	SSMH- (82)	2788.93	2784.28	161.05 157.05	2.89	8		0.0279	0.0896	1.7700
Pipe - (77)	SSMH- (82)	SSMH- (83)	2784.28	2781.33	171.25 167.25	1.72	8		0.0279	0.1044	1.4200
Pipe - (81)	SSMH- (87)	SSMH- (88)	2794.44	2790.23	68.27 64.27	6.17	8		0.0031	0.0298	0.9900
Pipe - (82)	SSMH- (88)	SSMH- (89)	2790.13	2783.78	131.74 127.74	4.82	8		0.0093	0.0448	1.6200
Pipe - (83)	SSMH- (89)	SSMH- (86)	2783.68	2782.59	128.71 124.71	0.85	8		0.0155	0.0896	0.9800
Pipe - (80)	SSMH- (86)	SSMH- (85)	2782.49	2782.15	65.38 61.38	0.52	8		0.0155	0.1045	0.7900
Pipe - (79)	SSMH- (85)	SSMH- (84)	2782.05	2781.58	90.9 86.9	0.52	8		0.0155	0.1045	0.7900
Pipe - (78)	SSMH- (84)	SSMH- (83)	2781.48	2781.33	28.12 24.12	0.52	8		0.0155	0.1045	0.7900
Pipe - (84)	SSMH- (83)	SSMH- (90)	2781.23	2778.44	79.49 75.49	3.51	8	Pipes 77,78	0.0433	0.1045	2.2000
Pipe - (85)	SSMH- (90)	SSMH- (91)	2778.35	2773.09	92.98 88.98	5.65	8		0.0480	0.0896	3.0500
Pipe - (86)	SSMH- (91)	SSMH- (92)	2772.99	2769.48	66.42 62.42	5.29	8		0.0511	0.1045	2.5900
Pipe - (87)	SSMH- (92)	SSMH- (93)	2769.38	2764.64	92.14 88.14	5.15	8		0.0557	0.1044	2.8300
Pipe - (88)	SSMH- (93)	SSMH- (94)	2764.54	2759.97	89.06 85.06	5.13	8		0.0603	0.1045	3.0600
Pipe - (89)	SSMH- (94)	SSMH- (95)	2759.87	2754.84	102.83 98.83	4.89	8		0.0650	0.1194	2.6900
Pipe - (90)	SSMH- (95)	SSMH- (75)	2754.74	2753.27	69.49 65.49	2.12	8		0.0665	0.1343	2.3200
Pipe - (66)	SSMH- (70)	SSMH- (71)	2783.38	2776.03	108.07 104.07	6.81	8		0.0031	0.0299	0.9900
Pipe - (67)	SSMH- (71)	SSMH- (72)	2776.03	2769.82	109.55 105.55	5.67	8		0.0062	0.0447	1.0800
Pipe - (68)	SSMH- (72)	SSMH- (73)	2769.82	2766.93	84.71 80.71	3.41	8		0.0062	0.0447	1.0800
Pipe - (69)	SSMH- (73)	SSMH- (74)	2766.83	2759.74	243.97 239.97	2.91	8		0.0124	0.0597	1.4400
Pipe - (70)	SSMH- (74)	SSMH- (75)	2759.64	2753.27	133.03 129.03	4.79	8		0.0124	0.0597	1.4400
Pipe - (71)	SSMH- (75)	SSMH- (76)	2753.17	2749.63	135.51 131.51	2.61	8	Pipes 70,90	0.0820	0.1493	2.4800

Name	US Node	DS Node	US Invert (ft)	DS Invert (ft)	2D Length (ft) center-to-center edge-to-edge	% Slope	Size (in)	Tributary Pipes	Peak Cumulative Flow (cfs)	Depth to Diameter Ratio (d/D)	Peak Flow Velocity (ft/s)
Pipe - (72)	SSMH- (76)	SSMH- (77)	2749.53	2747.98	297.52 293.52	0.52	8		0.0820	0.2090	1.5300
Pipe - (91)	SSMH- (96)	SSMH- (97)	2760.13	2758.6	47.67 43.67	3.21	8		0.0031	0.0299	0.9900
Pipe - (92)	SSMH- (97)	SSMH- (98)	2758.5	2754.48	119.36 115.36	3.37	8		0.0062	0.0448	1.0800
Pipe - (93)	SSMH- (98)	SSMH- (99)	2754.38	2750.36	89.23 85.23	4.5	8		0.0108	0.0597	1.2500
Pipe - (94)	SSMH- (99)	SSMH- (77)	2750.26	2747.98	43.89 39.89	5.21	8		0.0139	0.0597	1.6100
Pipe - (95)	SSMH- (77)	SSMH- (100)	2747.88	2746	43.33 39.33	4.34	8	Pipes 72,94	0.0959	0.1343	3.3400
Pipe - (96)	SSMH- (100)	SSMH- (101)	2745.9	2743.84	47.39 43.39	4.35	8		0.1006	0.1343	3.5000
Pipe - (97)	SSMH- (101)	SSMH- (102)	2743.74	2741.36	53.4 49.4	4.45	8		0.1021	0.1343	3.5500
Pipe - (98)	SSMH- (102)	SSMH- (103)	2741.26	2736.32	129.04 125.04	3.83	8		0.1052	0.1495	3.1800
Pipe - (99)	SSMH- (103)	SSMH- (104)	2736.23	2735.99	46.22 42.22	0.52	8		0.1068	0.2388	1.6400
Pipe - (100)	SSMH- (104)	SSMH- (105)	2735.89	2735.67	41.31 37.31	0.52	8		0.1083	0.2388	1.6400
Pipe - (101)	SSMH- (105)	SSMH- (106)	2735.58	2735.34	45.98 41.98	0.52	8		0.1099	0.2388	1.6600
Pipe - (115)	SSMH- (120)	SSMH- (119)	2813.05	2806.89	124.06 120.06	4.97	8		0.0062	0.0448	1.0800
Pipe - (114)	SSMH- (119)	SSMH- (118)	2806.79	2803.04	78.17 74.17	4.79	8		0.0093	0.0448	1.6200
Pipe - (113)	SSMH- (118)	SSMH- (117)	2802.94	2790.83	284.06 280.06	4.26	8		0.0139	0.0597	1.6100
Pipe - (112)	SSMH- (117)	SSMH- (116)	2790.73	2788.7	46.18 42.18	4.41	8		0.0186	0.0746	1.5500
Pipe - (111)	SSMH- (116)	SSMH- (115)	2788.6	2786.27	50.08 46.08	4.64	8		0.0217	0.0746	1.8000
Pipe - (110)	SSMH- (115)	SSMH- (114)	2786.17	2777.54	176.43 172.43	4.89	8		0.0279	0.0746	2.3200
Pipe - (116)	SSMH- (121)	SSMH- (122)	2790.04	2789.05	53.67 49.67	1.86	8		0.0015	0.0299	0.4800
Pipe - (117)	SSMH- (122)	SSMH- (114)	2788.95	2777.54	164.71 160.71	6.92	8		0.0031	0.0299	0.9900
Pipe - (109)	SSMH- (114)	SSMH- (113)	2777.44	2773.09	85.24 81.24	5.1	8	Pipes 110,117	0.0340	0.0896	2.1600
Pipe - (108)	SSMH- (113)	SSMH- (112)	2772.99	2767.37	108.08 104.08	5.2	8		0.0418	0.0896	2.5600
Pipe - (107)	SSMH- (112)	SSMH- (111)	2767.27	2762.59	89.68 85.68	5.22	8		0.0449	0.0896	2.7500
Pipe - (106)	SSMH- (111)	SSMH- (110)	2762.49	2756.78	110.34 106.34	5.17	8		0.0511	0.1045	2.4400
Pipe - (105)	SSMH- (110)	SSMH- (109)	2756.68	2752.18	88.08 84.08	5.11	8		0.0557	0.1045	2.5900
Pipe - (104)	SSMH- (109)	SSMH- (108)	2752.08	2748.93	81.99 77.99	3.85	8		0.0588	0.1194	2.3000
Pipe - (103)	SSMH- (108)	SSMH- (107)	2748.83	2736.75	305.06 301.06	3.96	8		0.0681	0.1194	2.4900
Pipe - (102)	SSMH- (107)	SSMH- (106)	2736.65	2735.34	33.58 29.58	3.93	8		0.0681	0.1194	2.4900
Pipe - (126)	SSMH- (106)	SSMH- (132) LIR Station (LS)	2735.24	2734.55	133.29 129.29	0.52	8	Pipes 101,102	0.1810	0.2985	1.9300
Pipe - (64)	SSMH- (68)	SSMH- (67)	2830.23	2829.64	47.52 43.52	1.25	8		0.0062	0.0597	0.7200
Pipe - (63)	SSMH- (67)	SSMH- (66)	2829.54	2827.89	44.25 40.25	3.72	8		0.0077	0.0448	1.3400
Pipe - (62)	SSMH- (66)	SSMH- (65)	2827.79	2824.78	46.16 42.16	6.53	8		0.0093	0.0448	1.6200
Pipe - (61)	SSMH- (65)	SSMH- (64)	2824.68	2821.82	43.93 39.93	6.5	8		0.0108	0.0448	1.8800
Pipe - (60)	SSMH- (64)	SSMH- (63)	2821.72	2818.74	45.92 41.92	6.51	8		0.0139	0.0597	1.6100
Pipe - (59)	SSMH- (63)	SSMH- (62)	2818.64	2805.77	334.99 330.99	3.84	8		0.0309	0.0896	1.9600
Pipe - (58)	SSMH- (62)	SSMH- (61)	2805.67	2801.66	148.27 144.27	2.71	8		0.0371	0.1045	1.8800
Pipe - (57)	SSMH- (61)	SSMH- (60)	2801.56	2801.25	59.43 55.43	0.52	8		0.0402	0.1493	1.2100
Pipe - (56)	SSMH- (60)	SSMH- (59)	2801.15	2800.84	59.88 55.88	0.52	8		0.0402	0.1493	1.2100
Pipe - (65)	SSMH- (69)	SSMH- (59)	2819.4	2800.84	230.33 226.33	8.06	8		0.2383	0.1045	2.9800
Pipe - (55)	SSMH- (59)	SSMH- (58)	2800.73	2798.26	47.07 43.07	5.26	8	Pipes 56,65	0.2785	0.1343	3.4500
Pipe - (54)	SSMH- (58)	SSMH- (57)	2798.16	2794.43	68.12 64.12	5.48	8		0.2785	0.1343	3.4500
Pipe - (53)	SSMH- (57)	SSMH- (56)	2794.33	2790.61	67.69 63.69	5.49	8		0.2785	0.2239	4.6700
Pipe - (52)	SSMH- (56)	SSMH- (55)	2790.61	2790.25	68.46 64.46	0.52	8	Pipes 53, LS	0.4781	0.5224	2.5500
Pipe - (51)	SSMH- (55)	SSMH- (54)	2790.15	2788.28	64.92 60.92	2.89	8		0.4781	0.3284	4.7200
Pipe - (50)	SSMH- (54)	SSMH- (53)	2788.18	2775.33	207.6 203.6	6.19	8		0.4781	0.2687	6.2900
Pipe - (49)	SSMH- (53)	SSMH- (52)	2775.23	2773.61	92.11 88.11	1.76	8		0.4781	0.3731	4.0000
Pipe - (48)	SSMH- (52)	SSMH- (51)	2773.61	2773.38	43.41 39.41	0.52	8		0.4781	0.5373	2.4700
Pipe - (47)	SSMH- (51)	SSMH- (50)	2773.28	2772.84	85.58 81.58	0.52	8		0.4781	0.5373	2.4700
Pipe - (46)	SSMH- (50)	SSMH- (49)	2772.74	2772.31	82.86 78.86	0.52	8		0.4812	0.5373	2.4800
Pipe - (45)	SSMH- (49)	SSMH- (48)	2772.21	2771.64	108.41 104.41	0.52	8		0.4843	0.5373	2.5000
Pipe - (44)	SSMH- (48)	SSMH- (47)	2771.55	2766.06	76.41 72.41	7.18	8		0.4843	0.2687	6.2900
Pipe - (43)	SSMH- (47)	SSMH- (46)	2765.96	2762.48	50.83 46.83	6.86	8		0.4843	0.2688	6.3000
Pipe - (42)	SSMH- (46)	SSMH- (45)	2762.38	2758.85	51.4 47.4	6.86	8		0.4843	0.2688	6.3000

Name	US Node	DS Node	US Invert (ft)	DS Invert (ft)	2D Length (ft) center-to-center edge-to-edge	% Slope	Size (in)	Tributary Pipes	Peak Cumulative Flow (cfs)	Depth to Diameter Ratio (d/D)	Peak Flow Velocity (ft/s)
Pipe - (41)	SSMH- (45)	SSMH- (1)	2758.75	2755.09	52.66 48.66	6.96	8		0.4889	0.2089	6.4100
Pipe - (1)	SSMH- (1)	SSMH- (2)	2754.99	2754.31	135.9 131.9	0.5	8		0.4936	0.5522	2.4600
Pipe - (2)	SSMH- (2)	SSMH- (3)	2754.21	2753.61	115.13 111.13	0.52	8		0.4936	0.5522	2.4600
Pipe - (3)	SSMH- (3)	SSMH- (4)	2753.51	2752.8	137.13 133.13	0.52	8		0.4936	0.5522	2.4600
Pipe - (155)	SSMH- (4)	SSMH- (161)	2752.7	2752.2	72.61 68.61	0.69	8		0.4936	0.4478	2.8200
Pipe - (156)	SSMH- (161)	SSMH- (162)	2752.1	2751.2	96.39 92.39	0.93	8		0.4936	0.4478	3.1900
Pipe - (157)	SSMH- (162)	SSMH- (163)	2751.1	2750.5	145.91 145.91	0.4	8		0.4936	0.5821	2.2900
Pipe - (158)	SSMH- (163)	SSMH- (164)	2750.4	2749.8	95.44 95.44	0.6	8		0.4966	0.5224	2.6500
Pipe - (159)	SSMH- (164)	SSMH- (160)	2749.7	2749.3	60.16 56.16	0.66	8		0.4966	0.5075	2.7700
Pipe - (152)	SSMH- (157)	SSMH- (158)	2771.4	2770	89.98 85.98	1.56	8		0.0000	0.0000	0.0000
Pipe - (153)	SSMH- (158)	SSMH- (159)	2769.9	2761.7	121.47 117.47	6.75	8		0.0015	0.2985	0.4800
Pipe - (154)	SSMH- (159)	SSMH- (160)	2761.6	2749.3	209.77 205.77	5.86	8		0.0015	0.2985	0.4800
Pipe - (160)	SSMH- (160)	SSMH- (165)	2749.2	2745.1	143.68 139.68	2.85	8	Pipes 154, 159	0.4997	0.3433	4.6400
Pipe - (161)	SSMH- (165)	SSMH- (166)	2745	2744.2	124.8 124.8	0.62	8		0.4997	0.5224	2.6700
Pipe - (162)	SSMH- (166)	SSMH- (167)	2744.1	2743.5	90.22 86.22	0.67	8		0.4997	0.5075	2.7700
Pipe - (163)	SSMH- (167)	SSMH- (168)	2743.4	2739	145.5 141.5	3.02	8		0.4997	0.3284	4.9200
Pipe - (164)	SSMH- (168)	SSMH- (169)	2738.9	2738.2	38.27 34.27	0.71	8		0.5013	0.4925	2.8800
Pipe - (165)	SSMH- (169)	SSMH- (170)	2738.1	2735	219.28 215.28	1.41	8		0.5044	0.4179	3.5900
Pipe - (166)	SSMH- (170)	SSMH- (171)	2734.9	2729.5	113.56 109.56	4.76	8		0.5059	0.2985	5.6800
Pipe - (167)	SSMH- (171)	SSMH- (172)	2729.4	2728	113.56 109.56	1.23	8		0.5059	0.4328	3.4700
Pipe - (168)	SSMH- (172)	SSMH- (173)	2727.9	2723.5	113.71 109.71	3.87	8		0.5075	0.3134	5.3500
Pipe - (169)	SSMH- (173)	SSMH- (174)	2723.4	2719.6	81.32 77.32	4.67	8		0.5090	0.2985	5.7100
Pipe - (179)	SSMH- (185)	SSMH- (186)	2725.9	2720.7	82.07 78.07	6.34	8		0.0031	0.0299	0.9900
Pipe - (180)	SSMH- (186)	SSMH- (187)	2720.6	2720.1	81.55 77.55	0.61	8		0.0046	0.0597	0.5300
Pipe - (181)	SSMH- (187)	SSMH- (174)	2720	2719.6	56.96 52.96	0.7	8		0.0046	0.0597	0.5300
Pipe - (170)	SSMH- (174)	SSMH- (175)	2719.5	2718	90.8 86.8	1.65	8	Pipes 169, 181	0.5137	0.4030	3.8300
Pipe - (171)	SSMH- (175)	SSMH- (176)	2717.9	2717	90.69 86.69	0.99	8		0.5152	0.4627	3.2100
Pipe - (172)	SSMH- (176)	SSMH- (177)	2716.9	2711.1	173.48 169.48	3.34	8		0.5152	0.2985	5.0700
Pipe - (173)	SSMH- (177)	SSMH- (178)	2711	2709	86.17 82.17	2.32	8		0.5183	0.3731	4.3200
Pipe - (174)	SSMH- (178)	SSMH- (179)	2708.9	2701	123.31 119.31	6.41	8		0.5183	0.2836	6.3000
Pipe - (175)	SSMH- (179)	SSMH- (180)	2700.9	2698	108.83 104.83	2.66	8		0.5183	0.3582	4.5700
Pipe - (176)	SSMH- (180)	SSMH- (181)	2697.9	2695	108.83 104.83	2.66	8		0.5214	0.3582	4.5800
Pipe - (177)	SSMH- (181)	SSMH- (183)	2694.9	2688.8	95.37 95.37	6.14	8		0.5229	0.2836	6.3300
Pipe - (178)	SSMH- (183)	SSMH- (182)	2688.7	2687.6	215.53 213.53	0.51	8		0.5229	0.5672	2.5100
EXIST Pipe - (5)	SSMH- (182)	EXIST SSMH- (6)	2688.7	2687.5	207.54 200.54	0.59	8		0.5260	0.5821	2.7600
EXIST Pipe - (6)	EXIST SSMH- (6)	EXIST SSMH- (7)	2687.4	2686.4	157.2 153.2	0.64	8		0.5291	0.5224	2.8200
EXIST Pipe - (7)	EXIST SSMH- (7)	EXIST SSMH- (8)	2686.3	2685.1	145.17 145.17	0.8	8		0.5291	0.4925	3.0500

LIFT STATION DESIGN

Project: Sereno Canyon
 Location: Scottsdale Arizona

LIFT STATION	TOTAL DESIGN CAPACITY (GPM)	Non Residential Peak (GPM)	No. Sereno Canyon Dwelling Units	No. Sereno Canyon Resort Units	Average Daily Flow (GPM)	Peaking Factor	Demand Flow with Peaking Factor (GPM)	Peak Dry Weather Flow (GPM)*	Peak Wet Weather Flows (GPM)**	35 GPM flow allowance (GPM)
PROPOSED ON-SITE	170		130		23	4	125	131.31	164.14	166.31
EXISTING	350	72.50	244	29	50	4	235	255.09	318.86	290.09
Total										

* Peak Dry Weather Flow in gpm = 17 x (no. of dwelling Units) * 0.42 per Title 18, Chapter 9 of AZ Administrative Code regarding lift station sizing

** Peak Wet Weather Flow = 125% of Peak Dry Weather Flow

Add 35 gpm flow allowance for swimming pool discharge per pump to Peak Dry Weather Flows

Sereno Canyon Phase 4 Max Day fire flow J27



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.73	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1421.24	0.00	-283.41	Open Pump
1	1421.23	4.03	0.00	Open Valve

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                   *
*                               Version 2.0                                 *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J28.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J28

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J28

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J28

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.58	101.17	101.17	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-28	1000.00	2986.74	97.81	0.00
J-32	3.44	2998.19	89.78	0.00
J-36	3.80	2998.23	74.19	0.00
J-37	1.72	2998.23	70.73	0.00
J-30	4.48	2997.63	98.41	0.00
J-38	5.52	2997.11	81.51	0.00
J-39	3.44	2996.91	87.92	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2996.52	93.60	0.00
J-40	2.06	2996.91	87.71	0.00
J-27	2.07	2995.97	90.11	0.00
J-2	1.38	2997.35	94.61	0.00
J-3	0.00	2997.28	87.82	0.00
J-4	1.38	2997.26	88.72	0.00
J-41	5.52	2997.25	89.72	0.00
J-14	6.90	2997.21	92.82	0.00
J-11	4.14	2997.20	99.74	0.00
J-12	49.90	2997.19	93.68	0.00
J-9	0.00	2997.20	108.41	0.00
J-6	2.07	2997.23	90.66	0.00
J-19	3.44	2997.26	82.44	0.00
J-24	6.20	2997.25	82.43	0.00
J-20	31.00	2997.25	74.42	0.00
J-21	12.40	2997.25	74.42	0.00
J-22	3.10	2997.25	74.20	0.00
J-5	2.76	2997.24	90.23	0.00
J-17	3.10	2997.24	103.23	0.00

Sereno Canyon Phase 4 Max Day fire flow J28

J-18	1.38	2997.26	97.17	0.00
J-7	4.14	2997.22	100.19	0.00
J-13	3.45	2997.21	110.58	0.00
J-8	3.80	2997.21	104.52	0.00
J-15	3.44	2997.22	82.21	0.00
J-16	2.06	2997.22	77.66	0.00
J-23	9.30	2997.25	72.04	0.00
J-303	11.48	2997.42	111.54	0.00
J-301	2.02	2997.59	116.38	0.00
J-10	47.88	2997.19	115.34	0.00
J-26	2.07	2997.37	100.25	0.00
J-1	0.00	2997.40	95.50	0.00
J-102	2.70	2998.27	101.08	0.00
J-105	3.38	2998.27	108.88	0.00
J-107	4.72	2998.27	113.64	0.00
J-111	4.06	2998.27	116.68	0.00
J-112	1.36	2998.15	125.29	0.00
J-114	1.36	2998.10	126.57	0.00
J-115	1.36	2998.05	127.85	0.00
J-118	1.36	2998.02	128.26	0.00
J-300	7.42	2997.59	117.25	0.00
J-302	2.70	2997.42	109.37	0.00
J-304	2.02	2997.41	102.44	0.00
J-42	0.00	2997.85	99.16	0.00
J-31	0.00	2998.12	96.24	0.00
J-35	0.00	2998.25	76.80	0.00
J-101	4.72	2999.24	115.15	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.27	116.68	0.00
J-33	0.00	2998.21	84.58	0.00
J-123	3.38	2998.21	92.82	0.00
J-100	0.00	3000.25	121.87	0.00
J-103	3.38	2998.74	109.08	0.00
J-104	3.38	2998.45	85.12	0.00
J-117	2.02	2998.10	123.53	0.00
J-110	4.06	2998.27	108.88	0.00
J-108	2.02	2998.27	108.44	0.00
J-109	2.02	2998.27	107.58	0.00
J-305	1.36	2997.38	103.29	0.00
S145	0.00	3000.51	123.71	0.00
J-207	2.70	2998.35	114.11	0.00

Sereno Canyon Phase 4 Max Day fire flow J28

J-208	0.68	2998.35	116.71	0.00
J-206	0.68	2998.42	135.80	0.00
J-204	2.70	2998.70	128.99	0.00
J-205	2.70	2998.70	120.76	0.00
J-203	12.82	2999.30	121.45	0.00
J-200	7.42	3000.10	126.13	0.00
J-211	0.00	2999.46	118.06	0.00
J-201	3.38	2999.87	136.44	0.00
J-202	10.12	2999.87	117.80	0.00
J-119	0.00	2998.02	132.16	0.00
J-120	2.02	2998.02	136.50	0.00
J-121	0.00	2998.02	136.50	0.00
J-122	45.90	2998.01	139.09	0.00
J-210	4.06	2998.39	137.53	0.00
J-209	0.68	2998.41	135.37	0.00
J-113	1.36	2998.15	124.42	0.00
J-116	0.68	2998.05	127.41	0.00
J-25	5.52	2997.25	70.09	0.00
J-34	0.68	2998.23	82.43	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1419.86	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-36.20	0.23	0.04	Open
P-2	1.72	0.01	0.00	Open
P-3	148.85	0.95	0.54	Open
P-4	143.33	0.91	0.50	Open
P-5	137.83	0.88	0.47	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-1000.00	6.38	18.27	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J28

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	35.66	0.23	0.04	Open
P-36	-178.60	0.51	0.10	Open
P-37	-652.34	1.85	1.15	Open
P-38	-2.40	0.01	0.00	Open
P-39	-9.16	0.03	0.00	Open
P-40	-21.98	0.06	0.00	Open
P-41	102.90	0.66	0.27	Open
P-42	100.18	0.64	0.26	Open
P-43	96.80	0.62	0.24	Open
P-44	94.76	0.60	0.23	Open
P-45	102.56	0.65	0.27	Open
P-46	93.12	0.59	0.23	Open
P-47	78.94	0.22	0.02	Open
P-48	37.83	0.11	0.01	Open
P-49	511.58	3.27	5.28	Open
P-50	-490.49	3.13	4.88	Open
P-51	-355.43	2.27	2.69	Open
P-52	-508.75	3.25	5.23	Open
P-53	-247.39	1.58	1.37	Open
P-54	41.72	0.27	0.05	Open



 Link ID Flow GPM Velocity fps Unit Headloss ft/Kft Status

Sereno Canyon Phase 4 Max Day fire flow J28

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	267.17	1.71	1.58	Open
P-58	98.80	0.63	0.25	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1185.89	3.36	3.48	Open
P-62	918.73	2.61	2.17	Open
P-63	-128.94	0.37	0.06	Open
P-64	0.68	0.00	0.00	Open
P-65	-132.32	0.38	0.06	Open
P-66	-194.83	1.24	0.88	Open
P-67	-2.70	0.02	0.00	Open
P-68	-200.23	1.28	0.93	Open
P-69	109.81	0.70	0.31	Open
P-70	109.81	0.70	0.31	Open
P-71	-103.23	0.66	0.27	Open
P-72	233.97	1.49	1.24	Open
P-73	116.73	0.75	0.34	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-11.19	0.07	0.00	Open
P-77	-61.15	0.17	0.01	Open
P-78	-61.83	0.18	0.01	Open
P-79	12.43	0.08	0.00	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	652.64	1.85	1.15	Open
P-84	261.37	1.67	1.52	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	9.17	0.06	0.00	Open
P-90	-57.09	0.36	0.09	Open
P-91	45.90	0.29	0.06	Open
P-92	-53.02	0.34	0.08	Open
P-93	-85.78	0.55	0.19	Open
P-94	161.61	1.03	0.62	Open
P-95	-56.40	0.36	0.09	Open
P-96	-57.08	0.36	0.09	Open
P-97	102.18	0.65	0.27	Open
P-98	-39.09	0.25	0.05	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1419.86	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J28



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.73	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1419.87	0.00	-283.51	Open Pump
1	1419.86	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J29

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                *
*                               Analysis for Pipe Networks                  *
*                               Version 2.0                                *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J29.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J29

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12

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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J29

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-86	J-113	J-112	191.9	8
P-87	J-117	J-114	573.8	8
P-88	J-116	J-115	172.9	8
P-89	J-119	J-118	421	8
P-90	J-121	J-210	4137	8
P-91	J-121	J-122	131.6	8
P-92	J-32	J-33	221	8
P-93	J-31	J-32	387	8
P-94	J-103	J-31	1000	8
P-95	J-33	J-34	245	8
P-96	J-34	J-35	223.9	8
P-97	J-103	J-104	1106	8
P-98	J-305	J-304	506.9	8
P-99	J-303	J-302	412.7	12
P-100	J-301	J-300	178.5	8
P-101	R-1	J-400	10	24
P-21	J-26	J-305	427	8
PUMP1	J-400	J-401	#N/A	#N/A Pump
PUMP2	J-400	J-401	#N/A	#N/A Pump
PUMP3	J-400	J-401	#N/A	#N/A Pump
PUMP4	J-400	J-401	#N/A	#N/A Pump
1	J-401	S145	#N/A	12 Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J29

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.37	101.20	101.20	0.00

Demand Charge: 0.00
 Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	1000.00	2995.91	93.34	0.00
J-32	3.44	2997.88	89.64	0.00
J-36	3.80	2997.92	74.06	0.00
J-37	1.72	2997.92	70.59	0.00
J-30	4.48	2997.22	98.24	0.00
J-38	5.52	2996.62	81.29	0.00
J-39	3.44	2996.38	87.69	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-40	2.06	2996.38	87.47	0.00
J-28	3.45	2996.39	101.99	0.00
J-27	2.07	2996.39	90.30	0.00
J-2	1.38	2997.52	94.69	0.00
J-3	0.00	2997.46	87.90	0.00
J-4	1.38	2997.44	88.80	0.00
J-41	5.52	2997.43	89.79	0.00
J-14	6.90	2997.39	92.89	0.00
J-11	4.14	2997.37	99.82	0.00
J-12	49.90	2997.37	93.75	0.00
J-9	0.00	2997.38	108.49	0.00
J-6	2.07	2997.41	90.74	0.00
J-19	3.44	2997.44	82.52	0.00
J-24	6.20	2997.43	82.51	0.00
J-20	31.00	2997.43	74.50	0.00
J-21	12.40	2997.43	74.50	0.00
J-22	3.10	2997.43	74.28	0.00
J-5	2.76	2997.42	90.31	0.00

Sereno Canyon Phase 4 Max Day fire flow J29

J-17	3.10	2997.42	103.31	0.00
J-18	1.38	2997.44	97.25	0.00
J-7	4.14	2997.39	100.26	0.00
J-13	3.45	2997.39	110.66	0.00
J-8	3.80	2997.39	104.59	0.00
J-15	3.44	2997.40	82.28	0.00
J-16	2.06	2997.40	77.73	0.00
J-23	9.30	2997.42	72.11	0.00
J-303	11.48	2997.59	111.61	0.00
J-301	2.02	2997.74	116.44	0.00
J-10	47.88	2997.37	115.42	0.00
J-26	2.07	2997.54	100.33	0.00
J-1	0.00	2997.58	95.58	0.00
J-102	2.70	2998.35	101.11	0.00
J-105	3.38	2998.35	108.91	0.00
J-107	4.72	2998.35	113.68	0.00
J-111	4.06	2998.35	116.71	0.00
J-112	1.36	2998.24	125.33	0.00
J-114	1.36	2998.19	126.61	0.00
J-115	1.36	2998.15	127.89	0.00
J-118	1.36	2998.11	128.31	0.00
J-300	7.42	2997.74	117.31	0.00
J-302	2.70	2997.59	109.45	0.00
J-304	2.02	2997.58	102.51	0.00
J-42	0.00	2997.49	99.01	0.00
J-31	0.00	2997.79	96.10	0.00
J-35	0.00	2997.95	76.67	0.00
J-101	4.72	2999.21	115.13	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.35	116.71	0.00
J-33	0.00	2997.90	84.45	0.00
J-123	3.38	2997.90	92.68	0.00
J-100	0.00	3000.19	121.84	0.00
J-103	3.38	2998.50	108.97	0.00
J-104	3.38	2998.16	85.00	0.00
J-117	2.02	2998.19	123.57	0.00
J-110	4.06	2998.35	108.91	0.00
J-108	2.02	2998.35	108.48	0.00
J-109	2.02	2998.35	107.61	0.00
J-305	1.36	2997.56	103.37	0.00
S145	0.00	3000.46	123.69	0.00

Sereno Canyon Phase 4 Max Day fire flow J29

J-207	2.70	2998.43	114.14	0.00
J-208	0.68	2998.43	116.74	0.00
J-206	0.68	2998.49	135.83	0.00
J-204	2.70	2998.75	129.01	0.00
J-205	2.70	2998.75	120.78	0.00
J-203	12.82	2999.31	121.46	0.00
J-200	7.42	3000.07	126.12	0.00
J-211	0.00	2999.47	118.06	0.00
J-201	3.38	2999.86	136.43	0.00
J-202	10.12	2999.85	117.79	0.00
J-119	0.00	2998.12	132.21	0.00
J-120	2.02	2998.12	136.54	0.00
J-121	0.00	2998.12	136.54	0.00
J-122	45.90	2998.11	139.14	0.00
J-210	4.06	2998.47	137.56	0.00
J-209	0.68	2998.48	135.40	0.00
J-113	1.36	2998.24	124.46	0.00
J-116	0.68	2998.15	127.45	0.00
J-25	5.52	2997.43	70.16	0.00
J-34	0.68	2997.92	82.29	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1420.55	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-38.90	0.25	0.04	Open
P-2	1.72	0.01	0.00	Open
P-3	162.99	1.04	0.63	Open
P-4	157.47	1.01	0.60	Open
P-5	151.97	0.97	0.56	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open

Sereno Canyon Phase 4 Max Day fire flow J29

P-13	-34.10	0.10	0.00	Open
P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	35.41	0.23	0.04	Open
P-36	-178.85	0.51	0.10	Open
P-37	-610.86	1.73	1.02	Open
P-38	-2.67	0.01	0.00	Open
P-39	-9.43	0.03	0.00	Open
P-40	-22.25	0.06	0.00	Open
P-41	98.26	0.63	0.25	Open
P-42	95.54	0.61	0.24	Open
P-43	92.16	0.59	0.22	Open
P-44	90.12	0.58	0.21	Open
P-45	95.61	0.61	0.24	Open
P-46	86.17	0.55	0.19	Open
P-47	71.99	0.20	0.02	Open
P-48	31.12	0.09	0.00	Open
P-49	463.14	2.96	4.39	Open
P-50	457.62	2.92	4.29	Open
P-51	-390.41	2.49	3.20	Open
P-52	-557.88	3.56	6.20	Open
P-53	-265.00	1.69	1.56	Open
P-54	44.42	0.28	0.06	Open



 Link ID Flow GPM Velocity fps Unit Headloss ft/Kft Status

Sereno Canyon Phase 4 Max Day fire flow J29

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	284.78	1.82	1.78	Open
P-58	105.45	0.67	0.28	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1193.28	3.39	3.52	Open
P-62	908.50	2.58	2.12	Open
P-63	-124.57	0.35	0.05	Open
P-64	0.68	0.00	0.00	Open
P-65	-127.95	0.36	0.06	Open
P-66	-188.13	1.20	0.83	Open
P-67	-2.70	0.02	0.00	Open
P-68	-193.53	1.24	0.87	Open
P-69	106.42	0.68	0.29	Open
P-70	106.42	0.68	0.29	Open
P-71	-99.93	0.64	0.26	Open
P-72	227.27	1.45	1.17	Open
P-73	113.43	0.72	0.32	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-8.86	0.06	0.00	Open
P-77	-58.82	0.17	0.01	Open
P-78	-59.50	0.17	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	610.90	1.73	1.02	Open
P-84	292.89	1.87	1.88	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	6.84	0.04	0.00	Open
P-90	-54.76	0.35	0.08	Open
P-91	45.90	0.29	0.06	Open
P-92	-56.97	0.36	0.09	Open
P-93	-92.43	0.59	0.22	Open
P-94	172.57	1.10	0.71	Open
P-95	-60.35	0.39	0.10	Open
P-96	-61.03	0.39	0.10	Open
P-97	108.83	0.69	0.30	Open
P-98	-38.84	0.25	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1420.55	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J29



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.48	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1420.56	0.00	-283.46	Open Pump
1	1420.55	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J30

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12/2/2017 10:33:16 AM

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                   *
*                               Version 2.0                                 *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J30.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J30

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J30

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day

Sereno Canyon Phase 4 Max Day fire flow J30

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.91	101.13	101.13	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	3.44	2997.41	89.44	0.00
J-36	3.80	2997.46	73.86	0.00
J-37	1.72	2997.46	70.39	0.00
J-30	1000.00	2996.55	97.95	0.00
J-38	5.52	2996.77	81.36	0.00
J-39	3.44	2996.87	87.90	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.11	93.86	0.00
J-40	2.06	2996.87	87.69	0.00
J-28	3.45	2997.41	102.44	0.00
J-27	2.07	2997.41	90.74	0.00
J-2	1.38	2998.10	94.94	0.00
J-3	0.00	2998.04	88.15	0.00
J-4	1.38	2998.02	89.05	0.00
J-41	5.52	2998.01	90.04	0.00
J-14	6.90	2997.97	93.15	0.00
J-11	4.14	2997.96	100.07	0.00
J-12	49.90	2997.95	94.01	0.00
J-9	0.00	2997.96	108.74	0.00
J-6	2.07	2997.99	90.99	0.00
J-19	3.44	2998.02	82.77	0.00
J-24	6.20	2998.01	82.76	0.00
J-20	31.00	2998.01	74.75	0.00
J-21	12.40	2998.01	74.75	0.00
J-22	3.10	2998.01	74.53	0.00
J-5	2.76	2998.00	90.56	0.00
J-17	3.10	2998.00	103.56	0.00

Sereno Canyon Phase 4 Max Day fire flow J30

J-18	1.38	2998.02	97.50	0.00
J-7	4.14	2997.97	100.51	0.00
J-13	3.45	2997.97	110.91	0.00
J-8	3.80	2997.97	104.84	0.00
J-15	3.44	2997.98	82.53	0.00
J-16	2.06	2997.98	77.98	0.00
J-23	9.30	2998.01	72.36	0.00
J-303	11.48	2998.17	111.86	0.00
J-301	2.02	2998.27	116.68	0.00
J-10	47.88	2997.95	115.67	0.00
J-26	2.07	2998.12	100.58	0.00
J-1	0.00	2998.16	95.83	0.00
J-102	2.70	2998.74	101.28	0.00
J-105	3.38	2998.74	109.08	0.00
J-107	4.72	2998.74	113.84	0.00
J-111	4.06	2998.74	116.88	0.00
J-112	1.36	2998.65	125.51	0.00
J-114	1.36	2998.61	126.79	0.00
J-115	1.36	2998.57	128.07	0.00
J-118	1.36	2998.55	128.49	0.00
J-300	7.42	2998.27	117.54	0.00
J-302	2.70	2998.17	109.70	0.00
J-304	2.02	2998.16	102.76	0.00
J-42	0.00	2996.91	98.75	0.00
J-31	0.00	2997.30	95.89	0.00
J-35	0.00	2997.49	76.47	0.00
J-101	4.72	2999.38	115.21	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.74	116.88	0.00
J-33	0.00	2997.43	84.25	0.00
J-123	3.38	2997.43	92.48	0.00
J-100	0.00	3000.32	121.90	0.00
J-103	3.38	2998.19	108.84	0.00
J-104	3.38	2997.77	84.83	0.00
J-117	2.02	2998.61	123.75	0.00
J-110	4.06	2998.74	109.08	0.00
J-108	2.02	2998.74	108.64	0.00
J-109	2.02	2998.74	107.78	0.00
J-305	1.36	2998.14	103.62	0.00
S145	0.00	3000.59	123.74	0.00
J-207	2.70	2998.81	114.31	0.00

Sereno Canyon Phase 4 Max Day fire flow J30

J-208	0.68	2998.81	116.91	0.00
J-206	0.68	2998.86	135.99	0.00
J-204	2.70	2999.09	129.16	0.00
J-205	2.70	2999.09	120.93	0.00
J-203	12.82	2999.57	121.57	0.00
J-200	7.42	3000.24	126.20	0.00
J-211	0.00	2999.71	118.17	0.00
J-201	3.38	3000.05	136.51	0.00
J-202	10.12	3000.05	117.88	0.00
J-119	0.00	2998.55	132.39	0.00
J-120	2.02	2998.55	136.73	0.00
J-121	0.00	2998.55	136.73	0.00
J-122	45.90	2998.54	139.32	0.00
J-210	4.06	2998.84	137.72	0.00
J-209	0.68	2998.86	135.56	0.00
J-113	1.36	2998.65	124.64	0.00
J-116	0.68	2998.57	127.64	0.00
J-25	5.52	2998.01	70.42	0.00
J-34	0.68	2997.46	82.09	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1418.83	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-44.62	0.28	0.06	Open
P-2	1.72	0.01	0.00	Open
P-3	-94.49	0.60	0.23	Open
P-4	-100.01	0.64	0.26	Open
P-5	-105.51	0.67	0.28	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J30

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	35.02	0.22	0.04	Open
P-36	-179.24	0.51	0.11	Open
P-37	-523.17	1.48	0.76	Open
P-38	-3.37	0.01	0.00	Open
P-39	-10.13	0.03	0.00	Open
P-40	-22.95	0.07	0.00	Open
P-41	88.43	0.56	0.20	Open
P-42	85.71	0.55	0.19	Open
P-43	82.33	0.53	0.18	Open
P-44	80.29	0.51	0.17	Open
P-45	80.83	0.52	0.17	Open
P-46	71.39	0.46	0.14	Open
P-47	57.21	0.16	0.01	Open
P-48	16.74	0.05	0.00	Open
P-49	360.67	2.30	2.76	Open
P-50	355.15	2.27	2.68	Open
P-51	246.88	1.58	1.37	Open
P-52	-658.63	4.20	8.43	Open
P-53	-302.27	1.93	1.99	Open
P-54	50.14	0.32	0.07	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J30

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	322.05	2.06	2.24	Open
P-58	119.52	0.76	0.36	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1205.63	3.42	3.58	Open
P-62	883.58	2.51	2.02	Open
P-63	-115.43	0.33	0.05	Open
P-64	0.68	0.00	0.00	Open
P-65	-118.81	0.34	0.05	Open
P-66	-174.06	1.11	0.72	Open
P-67	-2.70	0.02	0.00	Open
P-68	-179.46	1.15	0.76	Open
P-69	99.28	0.63	0.25	Open
P-70	99.28	0.63	0.25	Open
P-71	-93.00	0.59	0.22	Open
P-72	213.20	1.36	1.04	Open
P-73	106.50	0.68	0.29	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-3.92	0.03	0.00	Open
P-77	-53.88	0.15	0.01	Open
P-78	-54.56	0.15	0.01	Open
P-79	12.43	0.08	0.00	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	522.50	1.48	0.76	Open
P-84	356.36	2.27	2.70	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	1.90	0.01	0.00	Open
P-90	-49.82	0.32	0.07	Open
P-91	45.90	0.29	0.06	Open
P-92	-65.32	0.42	0.12	Open
P-93	-106.50	0.68	0.29	Open
P-94	195.77	1.25	0.89	Open
P-95	-68.70	0.44	0.13	Open
P-96	-69.38	0.44	0.13	Open
P-97	122.90	0.78	0.38	Open
P-98	-38.45	0.25	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1418.83	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J30



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.09	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1418.84	0.00	-283.59	Open Pump
1	1418.83	4.02	0.00	Open Valve


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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                   *
*                               Version 2.0                                 *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J31.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J31

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J31

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-86	J-113	J-112	191.9	8
P-87	J-117	J-114	573.8	8
P-88	J-116	J-115	172.9	8
P-89	J-119	J-118	421	8
P-90	J-121	J-210	4137	8
P-91	J-121	J-122	131.6	8
P-92	J-32	J-33	221	8
P-93	J-31	J-32	387	8
P-94	J-103	J-31	1000	8
P-95	J-33	J-34	245	8
P-96	J-34	J-35	223.9	8
P-97	J-103	J-104	1106	8
P-98	J-305	J-304	506.9	8
P-99	J-303	J-302	412.7	12
P-100	J-301	J-300	178.5	8
P-101	R-1	J-400	10	24
P-21	J-26	J-305	427	8
PUMP1	J-400	J-401	#N/A	#N/A Pump
PUMP2	J-400	J-401	#N/A	#N/A Pump
PUMP3	J-400	J-401	#N/A	#N/A Pump
PUMP4	J-400	J-401	#N/A	#N/A Pump
1	J-401	S145	#N/A	12 Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J31

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1186.50	101.33	101.33	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-31	1000.00	2995.45	95.09	0.00
J-32	3.44	2995.62	88.66	0.00
J-36	3.80	2995.71	73.10	0.00
J-37	1.72	2995.71	69.64	0.00
J-30	4.48	2996.97	98.13	0.00
J-38	5.52	2997.12	81.51	0.00
J-39	3.44	2997.20	88.04	0.00

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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.37	93.97	0.00
J-40	2.06	2997.20	87.83	0.00
J-28	3.45	2997.59	102.51	0.00
J-27	2.07	2997.59	90.81	0.00
J-2	1.38	2998.07	94.92	0.00
J-3	0.00	2998.01	88.14	0.00
J-4	1.38	2997.99	89.04	0.00
J-41	5.52	2997.98	90.03	0.00
J-14	6.90	2997.94	93.13	0.00
J-11	4.14	2997.92	100.06	0.00
J-12	49.90	2997.92	93.99	0.00
J-9	0.00	2997.93	108.73	0.00
J-6	2.07	2997.96	90.98	0.00
J-19	3.44	2997.99	82.75	0.00
J-24	6.20	2997.98	82.75	0.00
J-20	31.00	2997.98	74.73	0.00
J-21	12.40	2997.98	74.73	0.00
J-22	3.10	2997.98	74.52	0.00
J-5	2.76	2997.97	90.55	0.00

Sereno Canyon Phase 4 Max Day fire flow J31

J-17	3.10	2997.97	103.55	0.00
J-18	1.38	2997.99	97.49	0.00
J-7	4.14	2997.94	100.50	0.00
J-13	3.45	2997.94	110.90	0.00
J-8	3.80	2997.94	104.83	0.00
J-15	3.44	2997.95	82.52	0.00
J-16	2.06	2997.95	77.97	0.00
J-23	9.30	2997.98	72.35	0.00
J-303	11.48	2998.14	111.85	0.00
J-301	2.02	2998.22	116.65	0.00
J-10	47.88	2997.92	115.66	0.00
J-26	2.07	2998.09	100.57	0.00
J-1	0.00	2998.13	95.82	0.00
J-102	2.70	2998.61	101.22	0.00
J-105	3.38	2998.61	109.02	0.00
J-107	4.72	2998.61	113.79	0.00
J-111	4.06	2998.61	116.82	0.00
J-112	1.36	2998.53	125.45	0.00
J-114	1.36	2998.50	126.74	0.00
J-115	1.36	2998.47	128.03	0.00
J-118	1.36	2998.44	128.45	0.00
J-300	7.42	2998.22	117.52	0.00
J-302	2.70	2998.14	109.68	0.00
J-304	2.02	2998.13	102.75	0.00
J-42	0.00	2996.89	98.75	0.00
J-35	0.00	2995.76	75.72	0.00
J-101	4.72	2999.16	115.11	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.61	116.82	0.00
J-33	0.00	2995.66	83.48	0.00
J-123	3.38	2995.66	91.71	0.00
J-100	0.00	2999.98	121.75	0.00
J-103	3.38	2996.79	108.23	0.00
J-104	3.38	2996.17	84.14	0.00
J-117	2.02	2998.50	123.71	0.00
J-110	4.06	2998.61	109.02	0.00
J-108	2.02	2998.61	108.59	0.00
J-109	2.02	2998.61	107.72	0.00
J-305	1.36	2998.11	103.61	0.00
S145	0.00	3000.25	123.60	0.00
J-207	2.70	2998.67	114.25	0.00

Sereno Canyon Phase 4 Max Day fire flow J31

J-208	0.68	2998.67	116.85	0.00
J-206	0.68	2998.72	135.93	0.00
J-204	2.70	2998.92	129.09	0.00
J-205	2.70	2998.92	120.85	0.00
J-203	12.82	2999.35	121.47	0.00
J-200	7.42	2999.94	126.07	0.00
J-211	0.00	2999.47	118.06	0.00
J-201	3.38	2999.77	136.39	0.00
J-202	10.12	2999.77	117.76	0.00
J-119	0.00	2998.44	132.35	0.00
J-120	2.02	2998.44	136.68	0.00
J-121	0.00	2998.44	136.68	0.00
J-122	45.90	2998.43	139.28	0.00
J-210	4.06	2998.70	137.66	0.00
J-209	0.68	2998.71	135.50	0.00
J-113	1.36	2998.53	124.59	0.00
J-116	0.68	2998.47	127.59	0.00
J-25	5.52	2997.98	70.40	0.00
J-34	0.68	2995.71	81.34	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1423.31	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-56.56	0.36	0.09	Open
P-2	1.72	0.01	0.00	Open
P-3	-78.00	0.50	0.16	Open
P-4	-83.52	0.53	0.18	Open
P-5	-89.02	0.57	0.21	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J31

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.89	0.22	0.04	Open
P-36	-179.37	0.51	0.11	Open
P-37	-474.47	1.35	0.64	Open
P-38	0.01	0.00	0.00	Open
P-39	-6.75	0.02	0.00	Open
P-40	-19.57	0.06	0.00	Open
P-41	83.20	0.53	0.18	Open
P-42	80.48	0.51	0.17	Open
P-43	77.10	0.49	0.16	Open
P-44	75.06	0.48	0.15	Open
P-45	72.34	0.46	0.14	Open
P-46	62.90	0.40	0.11	Open
P-47	48.72	0.14	0.01	Open
P-48	8.38	0.02	0.00	Open
P-49	303.47	1.94	2.01	Open
P-50	297.95	1.90	1.94	Open
P-51	206.17	1.32	0.98	Open
P-52	279.69	1.79	1.72	Open
P-53	619.87	3.96	7.53	Open
P-54	62.08	0.40	0.11	Open



Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J31

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	399.91	2.55	3.35	Open
P-58	148.90	0.95	0.54	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1221.99	3.47	3.68	Open
P-62	822.07	2.33	1.76	Open
P-63	-106.83	0.30	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-110.21	0.31	0.04	Open
P-66	-162.18	1.04	0.63	Open
P-67	-2.70	0.02	0.00	Open
P-68	-167.58	1.07	0.67	Open
P-69	93.26	0.60	0.23	Open
P-70	93.26	0.60	0.23	Open
P-71	-87.14	0.56	0.20	Open
P-72	201.32	1.29	0.94	Open
P-73	100.64	0.64	0.26	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-0.66	0.00	0.00	Open
P-77	-50.62	0.14	0.01	Open
P-78	-51.30	0.15	0.01	Open
P-79	12.43	0.08	0.00	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	477.18	1.35	0.64	Open
P-84	340.17	2.17	2.48	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-1.36	0.01	0.00	Open
P-90	-46.56	0.30	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	-82.76	0.53	0.18	Open
P-93	-135.88	0.87	0.45	Open
P-94	244.25	1.56	1.34	Open
P-95	-86.14	0.55	0.20	Open
P-96	-86.82	0.55	0.20	Open
P-97	152.28	0.97	0.56	Open
P-98	-38.32	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1423.31	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J31



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.96	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1423.32	0.00	-283.25	Open Pump
1	1423.31	4.04	0.00	Open Valve

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                 *
*                               Version 2.0                               *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J32.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J32

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12

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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J32

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-86	J-113	J-112	191.9	8
P-87	J-117	J-114	573.8	8
P-88	J-116	J-115	172.9	8
P-89	J-119	J-118	421	8
P-90	J-121	J-210	4137	8
P-91	J-121	J-122	131.6	8
P-92	J-32	J-33	221	8
P-93	J-31	J-32	387	8
P-94	J-103	J-31	1000	8
P-95	J-33	J-34	245	8
P-96	J-34	J-35	223.9	8
P-97	J-103	J-104	1106	8
P-98	J-305	J-304	506.9	8
P-99	J-303	J-302	412.7	12
P-100	J-301	J-300	178.5	8
P-101	R-1	J-400	10	24
P-21	J-26	J-305	427	8
PUMP1	J-400	J-401	#N/A	#N/A Pump
PUMP2	J-400	J-401	#N/A	#N/A Pump
PUMP3	J-400	J-401	#N/A	#N/A Pump
PUMP4	J-400	J-401	#N/A	#N/A Pump
1	J-401	S145	#N/A	12 Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J32

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.58	101.17	101.17	0.00

Demand Charge: 0.00
 Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	1000.00	2992.36	87.25	0.00
J-36	3.80	2992.69	71.79	0.00
J-37	1.72	2992.69	68.33	0.00
J-30	4.48	2997.48	98.35	0.00
J-38	5.52	2997.62	81.73	0.00
J-39	3.44	2997.68	88.25	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.83	94.17	0.00
J-40	2.06	2997.68	88.04	0.00
J-28	3.45	2998.03	102.70	0.00
J-27	2.07	2998.03	91.00	0.00
J-2	1.38	2998.45	95.09	0.00
J-3	0.00	2998.38	88.30	0.00
J-4	1.38	2998.37	89.20	0.00
J-41	5.52	2998.36	90.19	0.00
J-14	6.90	2998.31	93.29	0.00
J-11	4.14	2998.30	100.22	0.00
J-12	49.90	2998.30	94.15	0.00
J-9	0.00	2998.30	108.89	0.00
J-6	2.07	2998.33	91.14	0.00
J-19	3.44	2998.36	82.92	0.00
J-24	6.20	2998.35	82.91	0.00
J-20	31.00	2998.35	74.90	0.00
J-21	12.40	2998.35	74.90	0.00
J-22	3.10	2998.35	74.68	0.00
J-5	2.76	2998.35	90.71	0.00
J-17	3.10	2998.35	103.71	0.00

Sereno Canyon Phase 4 Max Day fire flow J32

J-18	1.38	2998.37	97.65	0.00
J-7	4.14	2998.32	100.66	0.00
J-13	3.45	2998.31	111.06	0.00
J-8	3.80	2998.31	104.99	0.00
J-15	3.44	2998.32	82.68	0.00
J-16	2.06	2998.32	78.13	0.00
J-23	9.30	2998.35	72.51	0.00
J-303	11.48	2998.51	112.01	0.00
J-301	2.02	2998.59	116.81	0.00
J-10	47.88	2998.30	115.82	0.00
J-26	2.07	2998.47	100.73	0.00
J-1	0.00	2998.51	95.98	0.00
J-102	2.70	2998.96	101.37	0.00
J-105	3.38	2998.96	109.17	0.00
J-107	4.72	2998.96	113.94	0.00
J-111	4.06	2998.96	116.97	0.00
J-112	1.36	2998.88	125.61	0.00
J-114	1.36	2998.85	126.89	0.00
J-115	1.36	2998.82	128.18	0.00
J-118	1.36	2998.79	128.60	0.00
J-300	7.42	2998.59	117.68	0.00
J-302	2.70	2998.51	109.85	0.00
J-304	2.02	2998.51	102.91	0.00
J-42	0.00	2997.42	98.97	0.00
J-31	0.00	2996.13	95.38	0.00
J-35	0.00	2992.85	74.46	0.00
J-101	4.72	2999.47	115.25	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.96	116.97	0.00
J-33	0.00	2992.51	82.12	0.00
J-123	3.38	2992.51	90.35	0.00
J-100	0.00	3000.23	121.86	0.00
J-103	3.38	2996.54	108.13	0.00
J-104	3.38	2994.35	83.35	0.00
J-117	2.02	2998.85	123.86	0.00
J-110	4.06	2998.96	109.17	0.00
J-108	2.02	2998.96	108.74	0.00
J-109	2.02	2998.96	107.87	0.00
J-305	1.36	2998.49	103.77	0.00
S145	0.00	3000.51	123.71	0.00
J-207	2.70	2999.01	114.40	0.00

Sereno Canyon Phase 4 Max Day fire flow J32

J-208	0.68	2999.01	117.00	0.00
J-206	0.68	2999.05	136.08	0.00
J-204	2.70	2999.24	129.23	0.00
J-205	2.70	2999.24	121.00	0.00
J-203	12.82	2999.65	121.61	0.00
J-200	7.42	3000.21	126.18	0.00
J-211	0.00	2999.76	118.19	0.00
J-201	3.38	3000.05	136.51	0.00
J-202	10.12	3000.05	117.88	0.00
J-119	0.00	2998.79	132.50	0.00
J-120	2.02	2998.79	136.83	0.00
J-121	0.00	2998.79	136.83	0.00
J-122	45.90	2998.79	139.43	0.00
J-210	4.06	2999.04	137.81	0.00
J-209	0.68	2999.05	135.65	0.00
J-113	1.36	2998.88	124.74	0.00
J-116	0.68	2998.82	127.74	0.00
J-25	5.52	2998.35	70.56	0.00
J-34	0.68	2992.69	80.03	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1419.87	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-116.98	0.75	0.34	Open
P-2	1.72	0.01	0.00	Open
P-3	-72.36	0.46	0.14	Open
P-4	-77.88	0.50	0.16	Open
P-5	-83.38	0.53	0.18	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J32

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.86	0.22	0.04	Open
P-36	-179.40	0.51	0.11	Open
P-37	-457.85	1.30	0.60	Open
P-38	2.15	0.01	0.00	Open
P-39	-4.61	0.01	0.00	Open
P-40	-17.43	0.05	0.00	Open
P-41	81.47	0.52	0.18	Open
P-42	78.75	0.50	0.17	Open
P-43	75.37	0.48	0.15	Open
P-44	73.33	0.47	0.15	Open
P-45	69.37	0.44	0.13	Open
P-46	59.93	0.38	0.10	Open
P-47	45.75	0.13	0.01	Open
P-48	5.44	0.02	0.00	Open
P-49	283.89	1.81	1.77	Open
P-50	278.37	1.78	1.71	Open
P-51	192.23	1.23	0.86	Open
P-52	260.11	1.66	1.51	Open
P-53	583.01	3.72	6.73	Open
P-54	122.50	0.78	0.37	Open



 Link ID Flow GPM Velocity fps Unit Headloss ft/Kft Status

Sereno Canyon Phase 4 Max Day fire flow J32

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	433.33	2.77	3.88	Open
P-58	297.63	1.90	1.94	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1223.66	3.47	3.68	Open
P-62	790.32	2.24	1.64	Open
P-63	-102.96	0.29	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-106.34	0.30	0.04	Open
P-66	-157.07	1.00	0.59	Open
P-67	-2.70	0.02	0.00	Open
P-68	-162.47	1.04	0.63	Open
P-69	90.67	0.58	0.21	Open
P-70	90.67	0.58	0.21	Open
P-71	-84.62	0.54	0.19	Open
P-72	196.21	1.25	0.89	Open
P-73	98.12	0.63	0.25	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	0.59	0.00	0.00	Open
P-77	-49.37	0.14	0.01	Open
P-78	-50.05	0.14	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	462.70	1.31	0.61	Open
P-84	322.90	2.06	2.25	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-2.61	0.02	0.00	Open
P-90	-45.31	0.29	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	-171.07	1.09	0.69	Open
P-93	711.95	4.54	9.74	Open
P-94	128.94	0.82	0.41	Open
P-95	-174.45	1.11	0.72	Open
P-96	-175.13	1.12	0.73	Open
P-97	301.01	1.92	1.98	Open
P-98	-38.29	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1419.87	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J32



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.93	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1419.88	0.00	-283.51	Open Pump
1	1419.87	4.03	0.00	Open Valve

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality              *
*                               Analysis for Pipe Networks                *
*                               Version 2.0                              *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J33.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J33

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J33

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J33

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1186.50	101.33	101.33	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-33	1000.00	2990.61	81.29	0.00
J-32	3.44	2992.27	87.21	0.00
J-36	3.80	2992.13	71.55	0.00
J-37	1.72	2992.13	68.08	0.00
J-30	4.48	2997.23	98.24	0.00
J-38	5.52	2997.36	81.62	0.00
J-39	3.44	2997.43	88.15	0.00



Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.58	94.06	0.00
J-40	2.06	2997.43	87.93	0.00
J-28	3.45	2997.77	102.59	0.00
J-27	2.07	2997.77	90.89	0.00
J-2	1.38	2998.19	94.98	0.00
J-3	0.00	2998.13	88.19	0.00
J-4	1.38	2998.11	89.09	0.00
J-41	5.52	2998.10	90.08	0.00
J-14	6.90	2998.06	93.18	0.00
J-11	4.14	2998.04	100.11	0.00
J-12	49.90	2998.04	94.04	0.00
J-9	0.00	2998.05	108.78	0.00
J-6	2.07	2998.08	91.03	0.00
J-19	3.44	2998.11	82.81	0.00
J-24	6.20	2998.10	82.80	0.00
J-20	31.00	2998.10	74.79	0.00
J-21	12.40	2998.10	74.79	0.00
J-22	3.10	2998.10	74.57	0.00
J-5	2.76	2998.09	90.60	0.00

Sereno Canyon Phase 4 Max Day fire flow J33

J-17	3.10	2998.09	103.60	0.00
J-18	1.38	2998.11	97.54	0.00
J-7	4.14	2998.06	100.55	0.00
J-13	3.45	2998.06	110.95	0.00
J-8	3.80	2998.06	104.88	0.00
J-15	3.44	2998.07	82.57	0.00
J-16	2.06	2998.07	78.02	0.00
J-23	9.30	2998.10	72.40	0.00
J-303	11.48	2998.26	111.90	0.00
J-301	2.02	2998.33	116.70	0.00
J-10	47.88	2998.04	115.71	0.00
J-26	2.07	2998.21	100.62	0.00
J-1	0.00	2998.25	95.87	0.00
J-102	2.70	2998.70	101.26	0.00
J-105	3.38	2998.70	109.06	0.00
J-107	4.72	2998.70	113.83	0.00
J-111	4.06	2998.70	116.86	0.00
J-112	1.36	2998.62	125.49	0.00
J-114	1.36	2998.59	126.78	0.00
J-115	1.36	2998.56	128.07	0.00
J-118	1.36	2998.54	128.49	0.00
J-300	7.42	2998.33	117.57	0.00
J-302	2.70	2998.26	109.74	0.00
J-304	2.02	2998.25	102.80	0.00
J-42	0.00	2997.16	98.86	0.00
J-31	0.00	2995.88	95.27	0.00
J-35	0.00	2992.07	74.12	0.00
J-101	4.72	2999.21	115.13	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.70	116.86	0.00
J-123	3.38	2990.61	89.52	0.00
J-100	0.00	2999.97	121.75	0.00
J-103	3.38	2996.21	107.98	0.00
J-104	3.38	2993.76	83.09	0.00
J-117	2.02	2998.59	123.75	0.00
J-110	4.06	2998.70	109.06	0.00
J-108	2.02	2998.70	108.63	0.00
J-109	2.02	2998.70	107.76	0.00
J-305	1.36	2998.23	103.66	0.00
S145	0.00	3000.25	123.60	0.00
J-207	2.70	2998.76	114.29	0.00

Sereno Canyon Phase 4 Max Day fire flow J33

J-208	0.68	2998.76	116.89	0.00
J-206	0.68	2998.80	135.97	0.00
J-204	2.70	2998.99	129.12	0.00
J-205	2.70	2998.99	120.88	0.00
J-203	12.82	2999.39	121.49	0.00
J-200	7.42	2999.96	126.07	0.00
J-211	0.00	2999.51	118.08	0.00
J-201	3.38	2999.79	136.40	0.00
J-202	10.12	2999.79	117.77	0.00
J-119	0.00	2998.54	132.39	0.00
J-120	2.02	2998.54	136.72	0.00
J-121	0.00	2998.54	136.72	0.00
J-122	45.90	2998.53	139.32	0.00
J-210	4.06	2998.78	137.70	0.00
J-209	0.68	2998.80	135.53	0.00
J-113	1.36	2998.62	124.63	0.00
J-116	0.68	2998.56	127.63	0.00
J-25	5.52	2998.10	70.45	0.00
J-34	0.68	2991.37	79.45	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1423.31	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	74.00	0.47	0.15	Open
P-2	1.72	0.01	0.00	Open
P-3	-72.20	0.46	0.14	Open
P-4	-77.72	0.50	0.16	Open
P-5	-83.22	0.53	0.18	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J33

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.86	0.22	0.04	Open
P-36	-179.40	0.51	0.11	Open
P-37	-457.38	1.30	0.60	Open
P-38	2.15	0.01	0.00	Open
P-39	-4.61	0.01	0.00	Open
P-40	-17.43	0.05	0.00	Open
P-41	81.42	0.52	0.18	Open
P-42	78.70	0.50	0.17	Open
P-43	75.32	0.48	0.15	Open
P-44	73.28	0.47	0.15	Open
P-45	69.29	0.44	0.13	Open
P-46	59.85	0.38	0.10	Open
P-47	45.67	0.13	0.01	Open
P-48	5.35	0.02	0.00	Open
P-49	283.33	1.81	1.77	Open
P-50	277.81	1.77	1.70	Open
P-51	191.83	1.22	0.86	Open
P-52	259.55	1.66	1.51	Open
P-53	581.96	3.71	6.70	Open
P-54	-68.48	0.44	0.13	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J33

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	437.82	2.79	3.96	Open
P-58	316.92	2.02	2.17	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1227.17	3.48	3.70	Open
P-62	789.35	2.24	1.64	Open
P-63	-102.91	0.29	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-106.29	0.30	0.04	Open
P-66	-157.00	1.00	0.59	Open
P-67	-2.70	0.02	0.00	Open
P-68	-162.40	1.04	0.63	Open
P-69	90.63	0.58	0.21	Open
P-70	90.63	0.58	0.21	Open
P-71	-84.59	0.54	0.19	Open
P-72	196.14	1.25	0.89	Open
P-73	98.09	0.63	0.25	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	0.61	0.00	0.00	Open
P-77	-49.35	0.14	0.01	Open
P-78	-50.03	0.14	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	462.23	1.31	0.61	Open
P-84	322.40	2.06	2.24	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-2.63	0.02	0.00	Open
P-90	-45.29	0.29	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	618.66	3.95	7.51	Open
P-93	696.10	4.44	9.34	Open
P-94	114.15	0.73	0.33	Open
P-95	-384.72	2.46	3.11	Open
P-96	-385.40	2.46	3.12	Open
P-97	320.30	2.04	2.22	Open
P-98	-38.29	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1423.31	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J33



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.93	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1423.31	0.00	-283.25	Open Pump
1	1423.31	4.04	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J34

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                   *
*                               Version 2.0                                 *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J34.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J34

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J34

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8

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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day

Sereno Canyon Phase 4 Max Day fire flow J34

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1186.71	101.30	101.30	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-34	1000.00	2990.33	79.00	0.00
J-32	3.44	2992.58	87.34	0.00
J-36	3.80	2991.84	71.43	0.00
J-37	1.72	2991.84	67.96	0.00
J-30	4.48	2997.31	98.27	0.00
J-38	5.52	2997.44	81.65	0.00
J-39	3.44	2997.50	88.18	0.00



Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.65	94.09	0.00
J-40	2.06	2997.50	87.96	0.00
J-28	3.45	2997.84	102.62	0.00
J-27	2.07	2997.84	90.92	0.00
J-2	1.38	2998.26	95.00	0.00
J-3	0.00	2998.19	88.22	0.00
J-4	1.38	2998.18	89.12	0.00
J-41	5.52	2998.16	90.11	0.00
J-14	6.90	2998.12	93.21	0.00
J-11	4.14	2998.11	100.14	0.00
J-12	49.90	2998.10	94.07	0.00
J-9	0.00	2998.11	108.81	0.00
J-6	2.07	2998.14	91.05	0.00
J-19	3.44	2998.17	82.83	0.00
J-24	6.20	2998.16	82.83	0.00
J-20	31.00	2998.16	74.81	0.00
J-21	12.40	2998.16	74.81	0.00
J-22	3.10	2998.16	74.60	0.00
J-5	2.76	2998.15	90.63	0.00

Sereno Canyon Phase 4 Max Day fire flow J34

J-17	3.10	2998.15	103.62	0.00
J-18	1.38	2998.18	97.57	0.00
J-7	4.14	2998.13	100.58	0.00
J-13	3.45	2998.12	110.98	0.00
J-8	3.80	2998.12	104.91	0.00
J-15	3.44	2998.13	82.60	0.00
J-16	2.06	2998.13	78.05	0.00
J-23	9.30	2998.16	72.43	0.00
J-303	11.48	2998.32	111.93	0.00
J-301	2.02	2998.39	116.73	0.00
J-10	47.88	2998.10	115.74	0.00
J-26	2.07	2998.28	100.65	0.00
J-1	0.00	2998.31	95.90	0.00
J-102	2.70	2998.76	101.29	0.00
J-105	3.38	2998.76	109.09	0.00
J-107	4.72	2998.76	113.85	0.00
J-111	4.06	2998.76	116.89	0.00
J-112	1.36	2998.68	125.52	0.00
J-114	1.36	2998.65	126.81	0.00
J-115	1.36	2998.62	128.09	0.00
J-118	1.36	2998.60	128.52	0.00
J-300	7.42	2998.39	117.59	0.00
J-302	2.70	2998.32	109.76	0.00
J-304	2.02	2998.31	102.83	0.00
J-42	0.00	2997.24	98.90	0.00
J-31	0.00	2995.97	95.31	0.00
J-35	0.00	2991.52	73.89	0.00
J-101	4.72	2999.27	115.16	0.00

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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.76	116.89	0.00
J-33	0.00	2991.50	81.68	0.00
J-123	3.38	2991.50	89.91	0.00
J-100	0.00	3000.02	121.77	0.00
J-103	3.38	2996.21	107.98	0.00
J-104	3.38	2993.43	82.95	0.00
J-117	2.02	2998.65	123.77	0.00
J-110	4.06	2998.76	109.09	0.00
J-108	2.02	2998.76	108.65	0.00
J-109	2.02	2998.76	107.79	0.00
J-305	1.36	2998.29	103.69	0.00
S145	0.00	3000.30	123.62	0.00

Sereno Canyon Phase 4 Max Day fire flow J34

J-207	2.70	2998.82	114.31	0.00
J-208	0.68	2998.82	116.91	0.00
J-206	0.68	2998.86	135.99	0.00
J-204	2.70	2999.04	129.14	0.00
J-205	2.70	2999.04	120.91	0.00
J-203	12.82	2999.45	121.52	0.00
J-200	7.42	3000.01	126.09	0.00
J-211	0.00	2999.56	118.10	0.00
J-201	3.38	2999.84	136.42	0.00
J-202	10.12	2999.84	117.79	0.00
J-119	0.00	2998.60	132.42	0.00
J-120	2.02	2998.60	136.75	0.00
J-121	0.00	2998.60	136.75	0.00
J-122	45.90	2998.59	139.34	0.00
J-210	4.06	2998.84	137.72	0.00
J-209	0.68	2998.85	135.56	0.00
J-113	1.36	2998.68	124.65	0.00
J-116	0.68	2998.62	127.66	0.00
J-25	5.52	2998.16	70.48	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1422.63	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	180.84	1.15	0.77	Open
P-2	1.72	0.01	0.00	Open
P-3	-71.61	0.46	0.14	Open
P-4	-77.13	0.49	0.16	Open
P-5	-82.63	0.53	0.18	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.01	Open

Sereno Canyon Phase 4 Max Day fire flow J34

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.86	0.22	0.04	Open
P-36	-179.40	0.51	0.11	Open
P-37	-455.64	1.29	0.59	Open
P-38	2.38	0.01	0.00	Open
P-39	-4.38	0.01	0.00	Open
P-40	-17.20	0.05	0.00	Open
P-41	81.24	0.52	0.17	Open
P-42	78.52	0.50	0.17	Open
P-43	75.14	0.48	0.15	Open
P-44	73.10	0.47	0.14	Open
P-45	68.97	0.44	0.13	Open
P-46	59.53	0.38	0.10	Open
P-47	45.35	0.13	0.01	Open
P-48	5.05	0.01	0.00	Open
P-49	281.28	1.80	1.74	Open
P-50	275.76	1.76	1.68	Open
P-51	190.37	1.22	0.85	Open
P-52	257.50	1.64	1.48	Open
P-53	578.10	3.69	6.62	Open
P-54	-175.32	1.12	0.73	Open



Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J34

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	441.00	2.81	4.01	Open
P-58	339.04	2.16	2.46	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1227.03	3.48	3.70	Open
P-62	786.03	2.23	1.62	Open
P-63	-102.50	0.29	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-105.88	0.30	0.04	Open
P-66	-156.46	1.00	0.59	Open
P-67	-2.70	0.02	0.00	Open
P-68	-161.86	1.03	0.63	Open
P-69	90.36	0.58	0.21	Open
P-70	90.36	0.58	0.21	Open
P-71	-84.32	0.54	0.19	Open
P-72	195.60	1.25	0.89	Open
P-73	97.82	0.62	0.25	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	0.74	0.00	0.00	Open
P-77	-49.22	0.14	0.01	Open
P-78	-49.90	0.14	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	460.71	1.31	0.60	Open
P-84	320.60	2.05	2.22	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-2.76	0.02	0.00	Open
P-90	-45.16	0.29	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	489.01	3.12	4.86	Open
P-93	673.30	4.30	8.78	Open
P-94	95.20	0.61	0.23	Open
P-95	485.63	3.10	4.79	Open
P-96	-514.37	3.28	5.33	Open
P-97	342.42	2.19	2.51	Open
P-98	-38.29	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1422.63	1.01	0.17	Open



Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.93	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1422.64	0.00	-283.30	Open Pump
1	1422.63	4.04	0.00	Open Valve

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality              *
*                               Analysis for Pipe Networks                *
*                               Version 2.0                              *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J35.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J35

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J35

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day

Sereno Canyon Phase 4 Max Day fire flow J35

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1186.50	101.33	101.33	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-35	1000.00	2990.70	73.53	0.00
J-32	3.44	2992.80	87.44	0.00
J-36	3.80	2991.34	71.21	0.00
J-37	1.72	2991.34	67.74	0.00
J-30	4.48	2997.27	98.26	0.00
J-38	5.52	2997.41	81.64	0.00
J-39	3.44	2997.47	88.16	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.62	94.08	0.00
J-40	2.06	2997.47	87.95	0.00
J-28	3.45	2997.81	102.61	0.00
J-27	2.07	2997.81	90.91	0.00
J-2	1.38	2998.21	94.99	0.00
J-3	0.00	2998.15	88.20	0.00
J-4	1.38	2998.13	89.10	0.00
J-41	5.52	2998.12	90.09	0.00
J-14	6.90	2998.08	93.19	0.00
J-11	4.14	2998.07	100.12	0.00
J-12	49.90	2998.06	94.05	0.00
J-9	0.00	2998.07	108.79	0.00
J-6	2.07	2998.10	91.04	0.00
J-19	3.44	2998.13	82.82	0.00
J-24	6.20	2998.12	82.81	0.00
J-20	31.00	2998.12	74.80	0.00
J-21	12.40	2998.12	74.80	0.00
J-22	3.10	2998.12	74.58	0.00
J-5	2.76	2998.11	90.61	0.00

Sereno Canyon Phase 4 Max Day fire flow J35

J-17	3.10	2998.11	103.61	0.00
J-18	1.38	2998.13	97.55	0.00
J-7	4.14	2998.08	100.56	0.00
J-13	3.45	2998.08	110.96	0.00
J-8	3.80	2998.08	104.89	0.00
J-15	3.44	2998.09	82.58	0.00
J-16	2.06	2998.09	78.03	0.00
J-23	9.30	2998.12	72.41	0.00
J-303	11.48	2998.28	111.91	0.00
J-301	2.02	2998.35	116.71	0.00
J-10	47.88	2998.06	115.72	0.00
J-26	2.07	2998.23	100.63	0.00
J-1	0.00	2998.27	95.88	0.00
J-102	2.70	2998.72	101.27	0.00
J-105	3.38	2998.72	109.07	0.00
J-107	4.72	2998.72	113.84	0.00
J-111	4.06	2998.72	116.87	0.00
J-112	1.36	2998.64	125.50	0.00
J-114	1.36	2998.61	126.79	0.00
J-115	1.36	2998.58	128.07	0.00
J-118	1.36	2998.55	128.50	0.00
J-300	7.42	2998.35	117.58	0.00
J-302	2.70	2998.28	109.74	0.00
J-304	2.02	2998.27	102.81	0.00
J-42	0.00	2997.21	98.88	0.00
J-31	0.00	2995.96	95.31	0.00
J-101	4.72	2999.22	115.14	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.72	116.87	0.00
J-33	0.00	2992.12	81.95	0.00
J-123	3.38	2992.12	90.18	0.00
J-100	0.00	2999.97	121.75	0.00
J-103	3.38	2996.10	107.93	0.00
J-104	3.38	2992.90	82.72	0.00
J-117	2.02	2998.61	123.75	0.00
J-110	4.06	2998.72	109.07	0.00
J-108	2.02	2998.72	108.64	0.00
J-109	2.02	2998.72	107.77	0.00
J-305	1.36	2998.25	103.67	0.00
S145	0.00	3000.25	123.60	0.00
J-207	2.70	2998.77	114.29	0.00

Sereno Canyon Phase 4 Max Day fire flow J35

J-208	0.68	2998.77	116.89	0.00
J-206	0.68	2998.81	135.97	0.00
J-204	2.70	2999.00	129.12	0.00
J-205	2.70	2999.00	120.89	0.00
J-203	12.82	2999.40	121.50	0.00
J-200	7.42	2999.96	126.07	0.00
J-211	0.00	2999.51	118.08	0.00
J-201	3.38	2999.80	136.40	0.00
J-202	10.12	2999.79	117.77	0.00
J-119	0.00	2998.55	132.40	0.00
J-120	2.02	2998.55	136.73	0.00
J-121	0.00	2998.55	136.73	0.00
J-122	45.90	2998.55	139.33	0.00
J-210	4.06	2998.80	137.70	0.00
J-209	0.68	2998.81	135.54	0.00
J-113	1.36	2998.64	124.63	0.00
J-116	0.68	2998.58	127.64	0.00
J-25	5.52	2998.12	70.46	0.00
J-34	0.68	2991.38	79.46	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1423.31	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	261.44	1.67	1.52	Open
P-2	1.72	0.01	0.00	Open
P-3	-71.14	0.45	0.14	Open
P-4	-76.66	0.49	0.16	Open
P-5	-82.16	0.52	0.18	Open
P-6	2.06	0.01	0.00	Open

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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J35

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.86	0.22	0.04	Open
P-36	-179.40	0.51	0.11	Open
P-37	-454.25	1.29	0.59	Open
P-38	2.53	0.01	0.00	Open
P-39	-4.23	0.01	0.00	Open
P-40	-17.05	0.05	0.00	Open
P-41	81.09	0.52	0.17	Open
P-42	78.37	0.50	0.16	Open
P-43	74.99	0.48	0.15	Open
P-44	72.95	0.47	0.14	Open
P-45	68.73	0.44	0.13	Open
P-46	59.29	0.38	0.10	Open
P-47	45.11	0.13	0.01	Open
P-48	4.80	0.01	0.00	Open
P-49	279.64	1.78	1.73	Open
P-50	274.12	1.75	1.66	Open
P-51	189.21	1.21	0.84	Open
P-52	255.86	1.63	1.47	Open
P-53	575.02	3.67	6.55	Open
P-54	-255.92	1.63	1.46	Open

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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J35

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	444.76	2.84	4.07	Open
P-58	365.94	2.34	2.84	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1228.12	3.48	3.71	Open
P-62	783.36	2.22	1.61	Open
P-63	-102.20	0.29	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-105.58	0.30	0.04	Open
P-66	-156.05	1.00	0.59	Open
P-67	-2.70	0.02	0.00	Open
P-68	-161.45	1.03	0.62	Open
P-69	90.15	0.58	0.21	Open
P-70	90.15	0.58	0.21	Open
P-71	-84.12	0.54	0.19	Open
P-72	195.19	1.25	0.89	Open
P-73	97.62	0.62	0.25	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	0.85	0.01	0.00	Open
P-77	-49.11	0.14	0.01	Open
P-78	-49.79	0.14	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	459.48	1.30	0.60	Open
P-84	319.16	2.04	2.20	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-2.87	0.02	0.00	Open
P-90	-45.05	0.29	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	382.20	2.44	3.08	Open
P-93	647.08	4.13	8.16	Open
P-94	72.06	0.46	0.14	Open
P-95	378.82	2.42	3.03	Open
P-96	378.14	2.41	3.02	Open
P-97	369.32	2.36	2.89	Open
P-98	-38.29	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1423.31	1.01	0.17	Open



Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.93	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1423.32	0.00	-283.25	Open Pump
1	1423.31	4.04	0.00	Open Valve

```
*****
*                               *
*             E P A N E T       *
*       Hydraulic and Water Quality *
*       Analysis for Pipe Networks *
*             Version 2.0       *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J36.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J36

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12

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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J36

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8

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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-86	J-113	J-112	191.9	8
P-87	J-117	J-114	573.8	8
P-88	J-116	J-115	172.9	8
P-89	J-119	J-118	421	8
P-90	J-121	J-210	4137	8
P-91	J-121	J-122	131.6	8
P-92	J-32	J-33	221	8
P-93	J-31	J-32	387	8
P-94	J-103	J-31	1000	8
P-95	J-33	J-34	245	8
P-96	J-34	J-35	223.9	8
P-97	J-103	J-104	1106	8
P-98	J-305	J-304	506.9	8
P-99	J-303	J-302	412.7	12
P-100	J-301	J-300	178.5	8
P-101	R-1	J-400	10	24
P-21	J-26	J-305	427	8
PUMP1	J-400	J-401	#N/A	#N/A Pump
PUMP2	J-400	J-401	#N/A	#N/A Pump
PUMP3	J-400	J-401	#N/A	#N/A Pump
PUMP4	J-400	J-401	#N/A	#N/A Pump
1	J-401	S145	#N/A	12 Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day

Sereno Canyon Phase 4 Max Day fire flow J36

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.69	101.16	101.16	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	3.44	2992.80	87.44	0.00
J-36	1000.00	2989.11	70.24	0.00
J-37	1.72	2989.11	66.77	0.00
J-30	4.48	2997.55	98.38	0.00
J-38	5.52	2997.68	81.76	0.00
J-39	3.44	2997.74	88.28	0.00

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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.90	94.20	0.00
J-40	2.06	2997.74	88.07	0.00
J-28	3.45	2998.08	102.73	0.00
J-27	2.07	2998.08	91.03	0.00
J-2	1.38	2998.50	95.11	0.00
J-3	0.00	2998.43	88.32	0.00
J-4	1.38	2998.41	89.22	0.00
J-41	5.52	2998.40	90.21	0.00
J-14	6.90	2998.36	93.31	0.00
J-11	4.14	2998.35	100.24	0.00
J-12	49.90	2998.34	94.17	0.00
J-9	0.00	2998.35	108.91	0.00
J-6	2.07	2998.38	91.16	0.00
J-19	3.44	2998.41	82.94	0.00
J-24	6.20	2998.40	82.93	0.00
J-20	31.00	2998.40	74.92	0.00
J-21	12.40	2998.40	74.92	0.00
J-22	3.10	2998.40	74.70	0.00
J-5	2.76	2998.39	90.73	0.00
J-17	3.10	2998.39	103.73	0.00

Sereno Canyon Phase 4 Max Day fire flow J36

J-18	1.38	2998.41	97.67	0.00
J-7	4.14	2998.37	100.68	0.00
J-13	3.45	2998.36	111.08	0.00
J-8	3.80	2998.36	105.01	0.00
J-15	3.44	2998.37	82.70	0.00
J-16	2.06	2998.37	78.15	0.00
J-23	9.30	2998.40	72.53	0.00
J-303	11.48	2998.56	112.03	0.00
J-301	2.02	2998.63	116.83	0.00
J-10	47.88	2998.34	115.84	0.00
J-26	2.07	2998.51	100.75	0.00
J-1	0.00	2998.55	96.00	0.00
J-102	2.70	2999.00	101.39	0.00
J-105	3.38	2999.00	109.19	0.00
J-107	4.72	2999.00	113.96	0.00
J-111	4.06	2999.00	116.99	0.00
J-112	1.36	2998.92	125.62	0.00
J-114	1.36	2998.89	126.91	0.00
J-115	1.36	2998.86	128.20	0.00
J-118	1.36	2998.84	128.62	0.00
J-300	7.42	2998.63	117.70	0.00
J-302	2.70	2998.56	109.87	0.00
J-304	2.02	2998.55	102.93	0.00
J-42	0.00	2997.49	99.00	0.00
J-31	0.00	2996.22	95.42	0.00
J-35	0.00	2991.93	74.06	0.00
J-101	4.72	2999.51	115.26	0.00

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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2999.00	116.99	0.00
J-33	0.00	2992.52	82.12	0.00
J-123	3.38	2992.52	90.35	0.00
J-100	0.00	3000.26	121.87	0.00
J-103	3.38	2996.47	108.10	0.00
J-104	3.38	2993.78	83.10	0.00
J-117	2.02	2998.89	123.88	0.00
J-110	4.06	2999.00	109.19	0.00
J-108	2.02	2999.00	108.76	0.00
J-109	2.02	2999.00	107.89	0.00
J-305	1.36	2998.53	103.79	0.00
S145	0.00	3000.53	123.72	0.00
J-207	2.70	2999.05	114.41	0.00

Sereno Canyon Phase 4 Max Day fire flow J36

J-208	0.68	2999.05	117.01	0.00
J-206	0.68	2999.09	136.10	0.00
J-204	2.70	2999.28	129.25	0.00
J-205	2.70	2999.28	121.01	0.00
J-203	12.82	2999.68	121.62	0.00
J-200	7.42	3000.24	126.20	0.00
J-211	0.00	2999.80	118.20	0.00
J-201	3.38	3000.08	136.52	0.00
J-202	10.12	3000.08	117.89	0.00
J-119	0.00	2998.84	132.52	0.00
J-120	2.02	2998.84	136.85	0.00
J-121	0.00	2998.84	136.85	0.00
J-122	45.90	2998.83	139.45	0.00
J-210	4.06	2999.08	137.82	0.00
J-209	0.68	2999.09	135.66	0.00
J-113	1.36	2998.92	124.76	0.00
J-116	0.68	2998.86	127.76	0.00
J-25	5.52	2998.40	70.58	0.00
J-34	0.68	2992.21	79.82	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1419.51	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	432.52	2.76	3.87	Open
P-2	1.72	0.01	0.00	Open
P-3	-71.42	0.46	0.14	Open
P-4	-76.94	0.49	0.16	Open
P-5	-82.44	0.53	0.18	Open
P-6	2.06	0.01	0.00	Open

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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J36

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.86	0.22	0.04	Open
P-36	-179.40	0.51	0.11	Open
P-37	-455.07	1.29	0.59	Open
P-38	2.50	0.01	0.00	Open
P-39	-4.26	0.01	0.00	Open
P-40	-17.08	0.05	0.00	Open
P-41	81.18	0.52	0.18	Open
P-42	78.46	0.50	0.16	Open
P-43	75.08	0.48	0.15	Open
P-44	73.04	0.47	0.14	Open
P-45	68.87	0.44	0.13	Open
P-46	59.43	0.38	0.10	Open
P-47	45.25	0.13	0.01	Open
P-48	4.94	0.01	0.00	Open
P-49	280.61	1.79	1.74	Open
P-50	275.09	1.76	1.67	Open
P-51	189.90	1.21	0.84	Open
P-52	256.83	1.64	1.48	Open
P-53	576.86	3.68	6.59	Open
P-54	569.20	3.63	6.43	Open

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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J36

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	439.12	2.80	3.98	Open
P-58	333.58	2.13	2.39	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1224.14	3.47	3.69	Open
P-62	785.02	2.23	1.62	Open
P-63	-102.32	0.29	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-105.70	0.30	0.04	Open
P-66	-156.23	1.00	0.59	Open
P-67	-2.70	0.02	0.00	Open
P-68	-161.63	1.03	0.62	Open
P-69	90.24	0.58	0.21	Open
P-70	90.24	0.58	0.21	Open
P-71	-84.21	0.54	0.19	Open
P-72	195.37	1.25	0.89	Open
P-73	97.71	0.62	0.25	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	0.79	0.01	0.00	Open
P-77	-49.17	0.14	0.01	Open
P-78	-49.85	0.14	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	460.28	1.31	0.60	Open
P-84	320.02	2.04	2.21	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-2.81	0.02	0.00	Open
P-90	-45.11	0.29	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	239.68	1.53	1.30	Open
P-93	675.64	4.31	8.84	Open
P-94	98.78	0.63	0.25	Open
P-95	236.30	1.51	1.26	Open
P-96	235.62	1.50	1.26	Open
P-97	336.96	2.15	2.44	Open
P-98	-38.29	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1419.51	1.01	0.17	Open

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.93	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1419.52	0.00	-283.54	Open Pump
1	1419.51	4.03	0.00	Open Valve

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                *
*                               Analysis for Pipe Networks                  *
*                               Version 2.0                                *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J37.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J37

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J37

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day

Sereno Canyon Phase 4 Max Day fire flow J37

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.04	101.25	101.25	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	3.44	2992.62	87.36	0.00
J-36	3.80	2988.91	70.15	0.00
J-37	1000.00	2986.69	65.73	0.00
J-30	4.48	2997.38	98.31	0.00
J-38	5.52	2997.52	81.68	0.00
J-39	3.44	2997.58	88.21	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.73	94.13	0.00
J-40	2.06	2997.58	87.99	0.00
J-28	3.45	2997.92	102.66	0.00
J-27	2.07	2997.92	90.96	0.00
J-2	1.38	2998.33	95.04	0.00
J-3	0.00	2998.27	88.25	0.00
J-4	1.38	2998.25	89.15	0.00
J-41	5.52	2998.24	90.14	0.00
J-14	6.90	2998.20	93.24	0.00
J-11	4.14	2998.19	100.17	0.00
J-12	49.90	2998.18	94.11	0.00
J-9	0.00	2998.19	108.84	0.00
J-6	2.07	2998.22	91.09	0.00
J-19	3.44	2998.25	82.87	0.00
J-24	6.20	2998.24	82.86	0.00
J-20	31.00	2998.24	74.85	0.00
J-21	12.40	2998.24	74.85	0.00
J-22	3.10	2998.24	74.63	0.00
J-5	2.76	2998.23	90.66	0.00
J-17	3.10	2998.23	103.66	0.00

Sereno Canyon Phase 4 Max Day fire flow J37

J-18	1.38	2998.25	97.60	0.00
J-7	4.14	2998.20	100.61	0.00
J-13	3.45	2998.20	111.01	0.00
J-8	3.80	2998.20	104.94	0.00
J-15	3.44	2998.21	82.63	0.00
J-16	2.06	2998.21	78.08	0.00
J-23	9.30	2998.24	72.46	0.00
J-303	11.48	2998.40	111.96	0.00
J-301	2.02	2998.47	116.76	0.00
J-10	47.88	2998.18	115.77	0.00
J-26	2.07	2998.35	100.68	0.00
J-1	0.00	2998.39	95.93	0.00
J-102	2.70	2998.84	101.32	0.00
J-105	3.38	2998.84	109.12	0.00
J-107	4.72	2998.84	113.89	0.00
J-111	4.06	2998.84	116.92	0.00
J-112	1.36	2998.76	125.55	0.00
J-114	1.36	2998.73	126.84	0.00
J-115	1.36	2998.70	128.13	0.00
J-118	1.36	2998.68	128.55	0.00
J-300	7.42	2998.47	117.63	0.00
J-302	2.70	2998.40	109.80	0.00
J-304	2.02	2998.39	102.86	0.00
J-42	0.00	2997.32	98.93	0.00
J-31	0.00	2996.05	95.35	0.00
J-35	0.00	2991.74	73.98	0.00
J-101	4.72	2999.35	115.19	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.84	116.92	0.00
J-33	0.00	2992.33	82.04	0.00
J-123	3.38	2992.33	90.27	0.00
J-100	0.00	3000.10	121.80	0.00
J-103	3.38	2996.30	108.02	0.00
J-104	3.38	2993.60	83.02	0.00
J-117	2.02	2998.73	123.81	0.00
J-110	4.06	2998.84	109.12	0.00
J-108	2.02	2998.84	108.69	0.00
J-109	2.02	2998.84	107.82	0.00
J-305	1.36	2998.37	103.72	0.00
S145	0.00	3000.38	123.65	0.00
J-207	2.70	2998.89	114.35	0.00

Sereno Canyon Phase 4 Max Day fire flow J37

J-208	0.68	2998.89	116.94	0.00
J-206	0.68	2998.94	136.03	0.00
J-204	2.70	2999.12	129.18	0.00
J-205	2.70	2999.12	120.94	0.00
J-203	12.82	2999.52	121.55	0.00
J-200	7.42	3000.09	126.13	0.00
J-211	0.00	2999.64	118.13	0.00
J-201	3.38	2999.92	136.46	0.00
J-202	10.12	2999.92	117.82	0.00
J-119	0.00	2998.68	132.45	0.00
J-120	2.02	2998.68	136.78	0.00
J-121	0.00	2998.68	136.78	0.00
J-122	45.90	2998.67	139.38	0.00
J-210	4.06	2998.92	137.75	0.00
J-209	0.68	2998.93	135.59	0.00
J-113	1.36	2998.76	124.69	0.00
J-116	0.68	2998.70	127.69	0.00
J-25	5.52	2998.24	70.52	0.00
J-34	0.68	2992.02	79.74	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1421.59	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	433.42	2.77	3.88	Open
P-2	1000.00	6.38	18.27	Open
P-3	-71.61	0.46	0.14	Open
P-4	-77.13	0.49	0.16	Open
P-5	-82.63	0.53	0.18	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J37

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.86	0.22	0.04	Open
P-36	-179.40	0.51	0.11	Open
P-37	-455.64	1.29	0.59	Open
P-38	2.39	0.01	0.00	Open
P-39	-4.37	0.01	0.00	Open
P-40	-17.19	0.05	0.00	Open
P-41	81.24	0.52	0.18	Open
P-42	78.52	0.50	0.16	Open
P-43	75.14	0.48	0.15	Open
P-44	73.10	0.47	0.14	Open
P-45	68.97	0.44	0.13	Open
P-46	59.53	0.38	0.10	Open
P-47	45.35	0.13	0.01	Open
P-48	5.05	0.01	0.00	Open
P-49	281.29	1.80	1.74	Open
P-50	275.77	1.76	1.68	Open
P-51	190.38	1.22	0.85	Open
P-52	257.51	1.64	1.48	Open
P-53	578.12	3.69	6.62	Open
P-54	570.38	3.64	6.46	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J37

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	439.94	2.81	3.99	Open
P-58	334.26	2.13	2.40	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1226.01	3.48	3.70	Open
P-62	786.07	2.23	1.62	Open
P-63	-102.49	0.29	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-105.87	0.30	0.04	Open
P-66	-156.44	1.00	0.59	Open
P-67	-2.70	0.02	0.00	Open
P-68	-161.84	1.03	0.63	Open
P-69	90.35	0.58	0.21	Open
P-70	90.35	0.58	0.21	Open
P-71	-84.31	0.54	0.19	Open
P-72	195.58	1.25	0.89	Open
P-73	97.81	0.62	0.25	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	0.75	0.00	0.00	Open
P-77	-49.21	0.14	0.01	Open
P-78	-49.89	0.14	0.01	Open
P-79	12.43	0.08	0.00	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	460.74	1.31	0.60	Open
P-84	320.61	2.05	2.22	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-2.77	0.02	0.00	Open
P-90	-45.15	0.29	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	240.18	1.53	1.30	Open
P-93	677.04	4.32	8.87	Open
P-94	98.92	0.63	0.25	Open
P-95	236.80	1.51	1.27	Open
P-96	236.12	1.51	1.26	Open
P-97	337.64	2.16	2.45	Open
P-98	-38.29	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1421.59	1.01	0.17	Open



Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.93	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1421.60	0.00	-283.38	Open Pump
1	1421.59	4.03	0.00	Open Valve

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                *
*                               Analysis for Pipe Networks                  *
*                               Version 2.0                                *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J38.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J38

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J38

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8

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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-86	J-113	J-112	191.9	8
P-87	J-117	J-114	573.8	8
P-88	J-116	J-115	172.9	8
P-89	J-119	J-118	421	8
P-90	J-121	J-210	4137	8
P-91	J-121	J-122	131.6	8
P-92	J-32	J-33	221	8
P-93	J-31	J-32	387	8
P-94	J-103	J-31	1000	8
P-95	J-33	J-34	245	8
P-96	J-34	J-35	223.9	8
P-97	J-103	J-104	1106	8
P-98	J-305	J-304	506.9	8
P-99	J-303	J-302	412.7	12
P-100	J-301	J-300	178.5	8
P-101	R-1	J-400	10	24
P-21	J-26	J-305	427	8
PUMP1	J-400	J-401	#N/A	#N/A Pump
PUMP2	J-400	J-401	#N/A	#N/A Pump
PUMP3	J-400	J-401	#N/A	#N/A Pump
PUMP4	J-400	J-401	#N/A	#N/A Pump
1	J-401	S145	#N/A	12 Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J38

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1188.23	101.08	101.08	0.00

Demand Charge: 0.00
 Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	3.44	2997.71	89.57	0.00
J-36	3.80	2997.76	73.99	0.00
J-37	1.72	2997.76	70.52	0.00
J-30	4.48	2996.92	98.11	0.00
J-38	1000.00	2991.36	79.02	0.00
J-39	3.44	2993.10	86.27	0.00

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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2996.85	93.75	0.00
J-40	2.06	2993.10	86.05	0.00
J-28	3.45	2997.21	102.35	0.00
J-27	2.07	2997.21	90.65	0.00
J-2	1.38	2998.04	94.91	0.00
J-3	0.00	2997.97	88.12	0.00
J-4	1.38	2997.96	89.02	0.00
J-41	5.52	2997.95	90.02	0.00
J-14	6.90	2997.90	93.12	0.00
J-11	4.14	2997.89	100.04	0.00
J-12	49.90	2997.89	93.98	0.00
J-9	0.00	2997.89	108.71	0.00
J-6	2.07	2997.92	90.96	0.00
J-19	3.44	2997.95	82.74	0.00
J-24	6.20	2997.94	82.73	0.00
J-20	31.00	2997.94	74.72	0.00
J-21	12.40	2997.94	74.72	0.00
J-22	3.10	2997.94	74.50	0.00
J-5	2.76	2997.94	90.53	0.00
J-17	3.10	2997.94	103.53	0.00

Sereno Canyon Phase 4 Max Day fire flow J38

J-18	1.38	2997.96	97.47	0.00
J-7	4.14	2997.91	100.49	0.00
J-13	3.45	2997.90	110.88	0.00
J-8	3.80	2997.90	104.82	0.00
J-15	3.44	2997.91	82.51	0.00
J-16	2.06	2997.91	77.96	0.00
J-23	9.30	2997.94	72.34	0.00
J-303	11.48	2998.10	111.84	0.00
J-301	2.02	2998.22	116.65	0.00
J-10	47.88	2997.89	115.64	0.00
J-26	2.07	2998.06	100.55	0.00
J-1	0.00	2998.10	95.80	0.00
J-102	2.70	2998.73	101.28	0.00
J-105	3.38	2998.73	109.08	0.00
J-107	4.72	2998.73	113.84	0.00
J-111	4.06	2998.74	116.88	0.00
J-112	1.36	2998.64	125.50	0.00
J-114	1.36	2998.60	126.78	0.00
J-115	1.36	2998.56	128.07	0.00
J-118	1.36	2998.53	128.49	0.00
J-300	7.42	2998.22	117.52	0.00
J-302	2.70	2998.10	109.67	0.00
J-304	2.02	2998.10	102.73	0.00
J-42	0.00	2997.25	98.90	0.00
J-31	0.00	2997.60	96.02	0.00
J-35	0.00	2997.79	76.60	0.00
J-101	4.72	2999.45	115.24	0.00

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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.73	116.88	0.00
J-33	0.00	2997.73	84.38	0.00
J-123	3.38	2997.73	92.61	0.00
J-100	0.00	3000.40	121.93	0.00
J-103	3.38	2998.43	108.94	0.00
J-104	3.38	2998.04	84.94	0.00
J-117	2.02	2998.60	123.75	0.00
J-110	4.06	2998.73	109.08	0.00
J-108	2.02	2998.73	108.64	0.00
J-109	2.02	2998.73	107.78	0.00
J-305	1.36	2998.08	103.59	0.00
S145	0.00	3000.66	123.78	0.00
J-207	2.70	2998.81	114.31	0.00

Sereno Canyon Phase 4 Max Day fire flow J38

J-208	0.68	2998.81	116.91	0.00
J-206	0.68	2998.86	136.00	0.00
J-204	2.70	2999.10	129.17	0.00
J-205	2.70	2999.10	120.93	0.00
J-203	12.82	2999.61	121.59	0.00
J-200	7.42	3000.31	126.22	0.00
J-211	0.00	2999.75	118.18	0.00
J-201	3.38	3000.11	136.54	0.00
J-202	10.12	3000.10	117.90	0.00
J-119	0.00	2998.53	132.39	0.00
J-120	2.02	2998.53	136.72	0.00
J-121	0.00	2998.53	136.72	0.00
J-122	45.90	2998.52	139.32	0.00
J-210	4.06	2998.84	137.72	0.00
J-209	0.68	2998.86	135.56	0.00
J-113	1.36	2998.64	124.63	0.00
J-116	0.68	2998.56	127.63	0.00
J-25	5.52	2997.94	70.39	0.00
J-34	0.68	2997.76	82.22	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1417.79	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-42.58	0.27	0.05	Open
P-2	1.72	0.01	0.00	Open
P-3	538.73	3.44	5.81	Open
P-4	-461.27	2.94	4.36	Open
P-5	-466.77	2.98	4.45	Open
P-6	2.06	0.01	0.00	Open

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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.01	Open

Sereno Canyon Phase 4 Max Day fire flow J38

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	35.13	0.22	0.04	Open
P-36	-179.13	0.51	0.10	Open
P-37	-552.44	1.57	0.84	Open
P-38	-2.97	0.01	0.00	Open
P-39	-9.73	0.03	0.00	Open
P-40	-22.55	0.06	0.00	Open
P-41	91.73	0.59	0.22	Open
P-42	89.01	0.57	0.21	Open
P-43	85.63	0.55	0.19	Open
P-44	83.59	0.53	0.18	Open
P-45	85.77	0.55	0.19	Open
P-46	76.33	0.49	0.16	Open
P-47	62.15	0.18	0.02	Open
P-48	21.57	0.06	0.00	Open
P-49	394.88	2.52	3.27	Open
P-50	389.36	2.49	3.18	Open
P-51	-80.17	0.51	0.17	Open
P-52	-623.38	3.98	7.61	Open
P-53	-288.98	1.84	1.83	Open
P-54	48.10	0.31	0.07	Open



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Sereno Canyon

Link Results: (continued)

 Link Flow Velocity Unit Headloss Status
 ID GPM fps ft/Kft

Sereno Canyon Phase 4 Max Day fire flow J38

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	308.76	1.97	2.07	Open
P-58	114.50	0.73	0.33	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1200.05	3.40	3.55	Open
P-62	891.29	2.53	2.05	Open
P-63	-118.34	0.34	0.05	Open
P-64	0.68	0.00	0.00	Open
P-65	-121.72	0.35	0.05	Open
P-66	-178.60	1.14	0.75	Open
P-67	-2.70	0.02	0.00	Open
P-68	-184.00	1.17	0.79	Open
P-69	101.59	0.65	0.26	Open
P-70	101.59	0.65	0.26	Open
P-71	-95.23	0.61	0.23	Open
P-72	217.74	1.39	1.09	Open
P-73	108.73	0.69	0.30	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-5.56	0.04	0.00	Open
P-77	-55.52	0.16	0.01	Open
P-78	-56.20	0.16	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	552.17	1.57	0.84	Open
P-84	334.40	2.13	2.40	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	3.54	0.02	0.00	Open
P-90	-51.46	0.33	0.08	Open
P-91	45.90	0.29	0.06	Open
P-92	-62.34	0.40	0.11	Open
P-93	-101.48	0.65	0.26	Open
P-94	187.50	1.20	0.82	Open
P-95	-65.72	0.42	0.12	Open
P-96	-66.40	0.42	0.12	Open
P-97	117.88	0.75	0.35	Open
P-98	-38.56	0.25	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1417.79	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J38

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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.20	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1417.80	0.00	-283.67	Open Pump
1	1417.79	4.02	0.00	Open Valve


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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                *
*                               Analysis for Pipe Networks                  *
*                               Version 2.0                                *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J39.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J39

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12

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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

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P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day

Sereno Canyon Phase 4 Max Day fire flow J39

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.58	101.17	101.17	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	3.44	2997.60	89.52	0.00
J-36	3.80	2997.65	73.94	0.00
J-37	1.72	2997.65	70.48	0.00
J-30	4.48	2996.84	98.07	0.00
J-38	5.52	2992.91	79.69	0.00
J-39	1000.00	2991.31	85.49	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2996.58	93.63	0.00
J-40	2.06	2991.31	85.28	0.00
J-28	3.45	2996.96	102.24	0.00
J-27	2.07	2996.96	90.54	0.00
J-2	1.38	2997.83	94.82	0.00
J-3	0.00	2997.77	88.03	0.00
J-4	1.38	2997.75	88.93	0.00
J-41	5.52	2997.74	89.93	0.00
J-14	6.90	2997.69	93.03	0.00
J-11	4.14	2997.68	99.95	0.00
J-12	49.90	2997.68	93.89	0.00
J-9	0.00	2997.68	108.62	0.00
J-6	2.07	2997.72	90.87	0.00
J-19	3.44	2997.75	82.65	0.00
J-24	6.20	2997.73	82.64	0.00
J-20	31.00	2997.73	74.63	0.00
J-21	12.40	2997.73	74.63	0.00
J-22	3.10	2997.73	74.41	0.00
J-5	2.76	2997.73	90.44	0.00
J-17	3.10	2997.73	103.44	0.00

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J-18	1.38	2997.75	97.38	0.00
J-7	4.14	2997.70	100.40	0.00
J-13	3.45	2997.70	110.79	0.00
J-8	3.80	2997.69	104.73	0.00
J-15	3.44	2997.70	82.42	0.00
J-16	2.06	2997.70	77.87	0.00
J-23	9.30	2997.73	72.25	0.00
J-303	11.48	2997.90	111.75	0.00
J-301	2.02	2998.02	116.57	0.00
J-10	47.88	2997.68	115.55	0.00
J-26	2.07	2997.85	100.46	0.00
J-1	0.00	2997.89	95.71	0.00
J-102	2.70	2998.55	101.20	0.00
J-105	3.38	2998.55	109.00	0.00
J-107	4.72	2998.55	113.76	0.00
J-111	4.06	2998.55	116.80	0.00
J-112	1.36	2998.45	125.42	0.00
J-114	1.36	2998.41	126.70	0.00
J-115	1.36	2998.37	127.98	0.00
J-118	1.36	2998.34	128.40	0.00
J-300	7.42	2998.02	117.43	0.00
J-302	2.70	2997.90	109.58	0.00
J-304	2.02	2997.89	102.64	0.00
J-42	0.00	2997.16	98.86	0.00
J-31	0.00	2997.50	95.98	0.00
J-35	0.00	2997.68	76.56	0.00
J-101	4.72	2999.28	115.16	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.55	116.79	0.00
J-33	0.00	2997.63	84.33	0.00
J-123	3.38	2997.63	92.56	0.00
J-100	0.00	3000.24	121.86	0.00
J-103	3.38	2998.31	108.89	0.00
J-104	3.38	2997.93	84.90	0.00
J-117	2.02	2998.41	123.67	0.00
J-110	4.06	2998.55	109.00	0.00
J-108	2.02	2998.55	108.56	0.00
J-109	2.02	2998.55	107.70	0.00
J-305	1.36	2997.87	103.50	0.00
S145	0.00	3000.51	123.71	0.00
J-207	2.70	2998.62	114.23	0.00

Sereno Canyon Phase 4 Max Day fire flow J39

J-208	0.68	2998.62	116.83	0.00
J-206	0.68	2998.68	135.92	0.00
J-204	2.70	2998.92	129.09	0.00
J-205	2.70	2998.92	120.86	0.00
J-203	12.82	2999.44	121.51	0.00
J-200	7.42	3000.15	126.15	0.00
J-211	0.00	2999.58	118.11	0.00
J-201	3.38	2999.94	136.47	0.00
J-202	10.12	2999.94	117.83	0.00
J-119	0.00	2998.34	132.30	0.00
J-120	2.02	2998.34	136.64	0.00
J-121	0.00	2998.34	136.64	0.00
J-122	45.90	2998.33	139.23	0.00
J-210	4.06	2998.66	137.64	0.00
J-209	0.68	2998.67	135.48	0.00
J-113	1.36	2998.45	124.55	0.00
J-116	0.68	2998.37	127.55	0.00
J-25	5.52	2997.74	70.30	0.00
J-34	0.68	2997.66	82.18	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1419.87	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-42.07	0.27	0.05	Open
P-2	1.72	0.01	0.00	Open
P-3	446.54	2.85	4.10	Open
P-4	441.02	2.81	4.01	Open
P-5	-561.04	3.58	6.26	Open
P-6	2.06	0.01	0.00	Open

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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J39

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	35.17	0.22	0.04	Open
P-36	-179.09	0.51	0.10	Open
P-37	-562.12	1.59	0.87	Open
P-38	-3.01	0.01	0.00	Open
P-39	-9.77	0.03	0.00	Open
P-40	-22.59	0.06	0.00	Open
P-41	92.80	0.59	0.22	Open
P-42	90.08	0.57	0.21	Open
P-43	86.70	0.55	0.20	Open
P-44	84.66	0.54	0.19	Open
P-45	87.41	0.56	0.20	Open
P-46	77.97	0.50	0.16	Open
P-47	63.79	0.18	0.02	Open
P-48	23.16	0.07	0.00	Open
P-49	406.19	2.59	3.44	Open
P-50	400.67	2.56	3.36	Open
P-51	-163.13	1.04	0.64	Open
P-52	-614.15	3.92	7.40	Open
P-53	-285.63	1.82	1.79	Open
P-54	47.59	0.30	0.07	Open

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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J39

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	305.41	1.95	2.03	Open
P-58	113.24	0.72	0.32	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1200.46	3.41	3.56	Open
P-62	895.04	2.54	2.06	Open
P-63	-119.45	0.34	0.05	Open
P-64	0.68	0.00	0.00	Open
P-65	-122.83	0.35	0.05	Open
P-66	-180.27	1.15	0.76	Open
P-67	-2.70	0.02	0.00	Open
P-68	-185.67	1.19	0.81	Open
P-69	102.43	0.65	0.27	Open
P-70	102.43	0.65	0.27	Open
P-71	-96.06	0.61	0.24	Open
P-72	219.41	1.40	1.10	Open
P-73	109.56	0.70	0.30	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-6.12	0.04	0.00	Open
P-77	-56.08	0.16	0.01	Open
P-78	-56.76	0.16	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	561.81	1.59	0.87	Open
P-84	328.51	2.10	2.32	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	4.10	0.03	0.00	Open
P-90	-52.02	0.33	0.08	Open
P-91	45.90	0.29	0.06	Open
P-92	-61.59	0.39	0.10	Open
P-93	-100.22	0.64	0.26	Open
P-94	185.42	1.18	0.81	Open
P-95	-64.97	0.41	0.12	Open
P-96	-65.65	0.42	0.12	Open
P-97	116.62	0.74	0.34	Open
P-98	-38.60	0.25	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1419.87	1.01	0.17	Open



Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.24	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1419.88	0.00	-283.51	Open Pump
1	1419.87	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J40

Page 1

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*                               *
*             E P A N E T       *
*       Hydraulic and Water Quality *
*       Analysis for Pipe Networks *
*             Version 2.0       *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J40.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J40

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12

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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J40

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.15	101.23	101.23	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-40	1000.00	2989.66	84.56	0.00
J-32	3.44	2997.49	89.47	0.00
J-36	3.80	2997.54	73.90	0.00
J-37	1.72	2997.54	70.43	0.00
J-30	4.48	2996.73	98.02	0.00
J-38	5.52	2992.79	79.64	0.00
J-39	3.44	2991.18	85.44	0.00

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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2996.47	93.58	0.00
J-28	3.45	2996.84	102.19	0.00
J-27	2.07	2996.84	90.49	0.00
J-2	1.38	2997.72	94.77	0.00
J-3	0.00	2997.66	87.98	0.00
J-4	1.38	2997.64	88.89	0.00
J-41	5.52	2997.63	89.88	0.00
J-14	6.90	2997.59	92.98	0.00
J-11	4.14	2997.57	99.91	0.00
J-12	49.90	2997.57	93.84	0.00
J-9	0.00	2997.58	108.57	0.00
J-6	2.07	2997.61	90.82	0.00
J-19	3.44	2997.64	82.60	0.00
J-24	6.20	2997.63	82.60	0.00
J-20	31.00	2997.63	74.58	0.00
J-21	12.40	2997.63	74.58	0.00
J-22	3.10	2997.63	74.37	0.00
J-5	2.76	2997.62	90.39	0.00
J-17	3.10	2997.62	103.39	0.00

Sereno Canyon Phase 4 Max Day fire flow J40

J-18	1.38	2997.64	97.34	0.00
J-7	4.14	2997.59	100.35	0.00
J-13	3.45	2997.59	110.75	0.00
J-8	3.80	2997.59	104.68	0.00
J-15	3.44	2997.60	82.37	0.00
J-16	2.06	2997.60	77.82	0.00
J-23	9.30	2997.62	72.20	0.00
J-303	11.48	2997.79	111.70	0.00
J-301	2.02	2997.91	116.52	0.00
J-10	47.88	2997.57	115.51	0.00
J-26	2.07	2997.74	100.41	0.00
J-1	0.00	2997.78	95.66	0.00
J-102	2.70	2998.44	101.15	0.00
J-105	3.38	2998.44	108.95	0.00
J-107	4.72	2998.44	113.72	0.00
J-111	4.06	2998.44	116.75	0.00
J-112	1.36	2998.34	125.37	0.00
J-114	1.36	2998.30	126.65	0.00
J-115	1.36	2998.26	127.94	0.00
J-118	1.36	2998.23	128.36	0.00
J-300	7.42	2997.91	117.39	0.00
J-302	2.70	2997.79	109.53	0.00
J-304	2.02	2997.78	102.60	0.00
J-42	0.00	2997.05	98.81	0.00
J-31	0.00	2997.39	95.93	0.00
J-35	0.00	2997.57	76.51	0.00
J-101	4.72	2999.18	115.12	0.00

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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.44	116.75	0.00
J-33	0.00	2997.52	84.28	0.00
J-123	3.38	2997.52	92.52	0.00
J-100	0.00	3000.14	121.82	0.00
J-103	3.38	2998.20	108.85	0.00
J-104	3.38	2997.82	84.85	0.00
J-117	2.02	2998.30	123.62	0.00
J-110	4.06	2998.44	108.95	0.00
J-108	2.02	2998.44	108.52	0.00
J-109	2.02	2998.44	107.65	0.00
J-305	1.36	2997.76	103.45	0.00
S145	0.00	3000.40	123.67	0.00
J-207	2.70	2998.51	114.18	0.00

Sereno Canyon Phase 4 Max Day fire flow J40

J-208	0.68	2998.51	116.78	0.00
J-206	0.68	2998.57	135.87	0.00
J-204	2.70	2998.81	129.04	0.00
J-205	2.70	2998.81	120.81	0.00
J-203	12.82	2999.33	121.47	0.00
J-200	7.42	3000.04	126.11	0.00
J-211	0.00	2999.48	118.06	0.00
J-201	3.38	2999.84	136.42	0.00
J-202	10.12	2999.84	117.79	0.00
J-119	0.00	2998.23	132.26	0.00
J-120	2.02	2998.23	136.59	0.00
J-121	0.00	2998.23	136.59	0.00
J-122	45.90	2998.22	139.19	0.00
J-210	4.06	2998.55	137.59	0.00
J-209	0.68	2998.57	135.43	0.00
J-113	1.36	2998.34	124.51	0.00
J-116	0.68	2998.26	127.50	0.00
J-25	5.52	2997.63	70.25	0.00
J-34	0.68	2997.55	82.13	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1421.25	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-42.12	0.27	0.05	Open
P-2	1.72	0.01	0.00	Open
P-3	447.14	2.85	4.11	Open
P-4	441.62	2.82	4.02	Open
P-5	-561.82	3.59	6.28	Open
P-6	1000.00	6.38	18.27	Open

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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J40

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	35.17	0.22	0.04	Open
P-36	-179.09	0.51	0.11	Open
P-37	-562.65	1.60	0.87	Open
P-38	-3.09	0.01	0.00	Open
P-39	-9.85	0.03	0.00	Open
P-40	-22.67	0.06	0.00	Open
P-41	92.86	0.59	0.22	Open
P-42	90.14	0.58	0.21	Open
P-43	86.76	0.55	0.20	Open
P-44	84.72	0.54	0.19	Open
P-45	87.50	0.56	0.20	Open
P-46	78.06	0.50	0.16	Open
P-47	63.88	0.18	0.02	Open
P-48	23.26	0.07	0.00	Open
P-49	406.82	2.60	3.45	Open
P-50	401.30	2.56	3.37	Open
P-51	-163.28	1.04	0.64	Open
P-52	-614.90	3.92	7.42	Open
P-53	-285.98	1.83	1.80	Open
P-54	47.64	0.30	0.06	Open

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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J40

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	305.76	1.95	2.04	Open
P-58	113.37	0.72	0.32	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1201.66	3.41	3.56	Open
P-62	895.90	2.54	2.07	Open
P-63	-119.58	0.34	0.05	Open
P-64	0.68	0.00	0.00	Open
P-65	-122.96	0.35	0.05	Open
P-66	-180.45	1.15	0.77	Open
P-67	-2.70	0.02	0.00	Open
P-68	-185.85	1.19	0.81	Open
P-69	102.52	0.65	0.27	Open
P-70	102.52	0.65	0.27	Open
P-71	-96.15	0.61	0.24	Open
P-72	219.59	1.40	1.10	Open
P-73	109.65	0.70	0.30	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-6.16	0.04	0.00	Open
P-77	-56.12	0.16	0.01	Open
P-78	-56.80	0.16	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	562.26	1.60	0.87	Open
P-84	328.92	2.10	2.33	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	4.14	0.03	0.00	Open
P-90	-52.06	0.33	0.08	Open
P-91	45.90	0.29	0.06	Open
P-92	-61.67	0.39	0.10	Open
P-93	-100.35	0.64	0.26	Open
P-94	185.63	1.18	0.81	Open
P-95	-65.05	0.42	0.12	Open
P-96	-65.73	0.42	0.12	Open
P-97	116.75	0.75	0.34	Open
P-98	-38.60	0.25	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1421.25	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J40

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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.24	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1421.26	0.00	-283.41	Open Pump
1	1421.25	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J41

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*             E P A N E T       *
*             Hydraulic and Water Quality *
*             Analysis for Pipe Networks *
*             Version 2.0       *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J41.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J41

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12

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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J41

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8

↑

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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day

Sereno Canyon Phase 4 Max Day fire flow J41

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1189.12	100.96	100.96	0.00

Demand Charge: 0.00
 Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-41	1000.00	2993.24	87.98	0.00
J-32	3.44	2999.15	90.19	0.00
J-36	3.80	2999.18	74.60	0.00
J-37	1.72	2999.18	71.14	0.00
J-30	4.48	2998.79	98.92	0.00
J-38	5.52	2998.49	82.11	0.00
J-39	3.44	2998.38	88.56	0.00

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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2998.16	94.31	0.00
J-40	2.06	2998.38	88.34	0.00
J-28	3.44	2997.85	102.63	0.00
J-27	2.06	2997.85	90.93	0.00
J-2	1.38	2995.71	93.90	0.00
J-3	0.00	2994.09	86.44	0.00
J-4	1.38	2993.61	87.14	0.00
J-14	6.90	2993.20	91.08	0.00
J-11	4.14	2993.19	98.01	0.00
J-12	49.90	2993.18	91.94	0.00
J-9	0.00	2993.19	106.67	0.00
J-6	2.06	2993.22	88.92	0.00
J-19	3.44	2993.84	80.96	0.00
J-24	3.44	2993.68	80.89	0.00
J-20	31.00	2993.69	72.88	0.00
J-21	12.40	2993.63	72.85	0.00
J-22	3.10	2993.64	72.64	0.00
J-5	2.76	2993.23	88.49	0.00
J-17	3.10	2993.23	101.49	0.00

Sereno Canyon Phase 4 Max Day fire flow J41

J-18	1.38	2993.61	95.59	0.00
J-7	4.14	2993.21	98.45	0.00
J-13	3.44	2993.20	108.85	0.00
J-8	3.80	2993.20	102.78	0.00
J-15	3.44	2993.21	80.47	0.00
J-16	2.06	2993.21	75.92	0.00
J-23	9.30	2993.64	70.47	0.00
J-303	11.48	2997.13	111.41	0.00
J-301	2.02	2997.37	116.28	0.00
J-10	47.88	2993.18	113.60	0.00
J-26	2.06	2996.21	99.75	0.00
J-1	0.00	2997.13	95.38	0.00
J-102	2.70	2998.28	101.08	0.00
J-105	3.38	2998.28	108.88	0.00
J-107	4.72	2998.28	113.65	0.00
J-111	4.06	2998.28	116.68	0.00
J-112	1.36	2998.13	125.28	0.00
J-114	1.36	2998.06	126.55	0.00
J-115	1.36	2998.00	127.82	0.00
J-118	1.36	2997.96	128.24	0.00
J-300	7.42	2997.37	117.15	0.00
J-302	2.70	2997.13	109.25	0.00
J-304	2.02	2997.11	102.31	0.00
J-42	0.00	2998.92	99.62	0.00
J-31	0.00	2999.10	96.67	0.00
J-35	0.00	2999.19	77.21	0.00
J-101	4.72	2999.57	115.29	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.28	116.68	0.00
J-33	0.00	2999.16	85.00	0.00
J-123	3.38	2999.16	93.23	0.00
J-100	0.00	3000.62	122.03	0.00
J-103	3.38	2999.54	109.43	0.00
J-104	3.38	2999.33	85.50	0.00
J-117	2.02	2998.06	123.52	0.00
J-110	4.06	2998.28	108.88	0.00
J-108	2.02	2998.28	108.45	0.00
J-109	2.02	2998.28	107.58	0.00
J-305	1.36	2996.62	102.96	0.00
S145	0.00	3000.87	123.87	0.00
J-207	2.70	2998.38	114.12	0.00

Sereno Canyon Phase 4 Max Day fire flow J41

J-208	0.68	2998.38	116.72	0.00
J-206	0.68	2998.45	135.82	0.00
J-204	2.70	2998.78	129.03	0.00
J-205	2.70	2998.78	120.79	0.00
J-203	12.82	2999.48	121.53	0.00
J-200	7.42	3000.41	126.27	0.00
J-211	0.00	2999.67	118.15	0.00
J-201	3.38	3000.15	136.55	0.00
J-202	10.12	3000.15	117.92	0.00
J-119	0.00	2997.96	132.14	0.00
J-120	2.02	2997.96	136.47	0.00
J-121	0.00	2997.97	136.47	0.00
J-122	45.90	2997.96	139.07	0.00
J-210	4.06	2998.42	137.54	0.00
J-209	0.68	2998.45	135.38	0.00
J-113	1.36	2998.13	124.41	0.00
J-116	0.68	2998.00	127.39	0.00
J-25	5.52	2993.73	68.56	0.00
J-34	0.68	2999.18	82.84	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1414.99	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.42	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.00	0.71	0.31	Open
P-4	105.48	0.67	0.28	Open
P-5	99.98	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open

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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1204.58	3.42	3.58	Open
P-9	985.77	2.80	2.47	Open
P-10	983.01	2.79	2.46	Open
P-11	19.96	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.08	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J41

P-14	218.81	1.40	1.10	Open
P-15	88.83	0.57	0.21	Open
P-16	-74.18	0.47	0.15	Open
P-17	-86.58	0.55	0.20	Open
P-18	-27.84	0.18	0.02	Open
P-19	-147.67	0.94	0.53	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.52	0.02	0.00	Open
P-25	-24.34	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	150.61	0.96	0.55	Open
P-29	133.62	0.38	0.06	Open
P-30	127.76	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.96	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	201.73	1.29	0.94	Open
P-36	-1004.23	2.85	2.55	Open
P-37	-759.41	2.15	1.52	Open
P-38	-0.56	0.00	0.00	Open
P-39	-7.32	0.02	0.00	Open
P-40	-20.14	0.06	0.00	Open
P-41	116.00	0.74	0.34	Open
P-42	113.28	0.72	0.32	Open
P-43	109.90	0.70	0.31	Open
P-44	107.86	0.69	0.30	Open
P-45	122.00	0.78	0.37	Open
P-46	112.56	0.72	0.32	Open
P-47	98.38	0.28	0.03	Open
P-48	-108.79	0.31	0.04	Open
P-49	-353.60	2.26	2.66	Open
P-50	-359.10	2.29	2.74	Open
P-51	-261.88	1.67	1.53	Open
P-52	-377.36	2.41	3.00	Open
P-53	-203.28	1.30	0.96	Open
P-54	34.94	0.22	0.04	Open

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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J41

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.06	1.42	1.13	Open
P-58	82.14	0.52	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1163.42	3.30	3.36	Open
P-62	940.36	2.67	2.26	Open
P-63	-140.20	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-143.58	0.41	0.07	Open
P-66	-212.42	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-217.82	1.39	1.09	Open
P-69	118.74	0.76	0.35	Open
P-70	118.74	0.76	0.35	Open
P-71	-111.91	0.71	0.32	Open
P-72	251.56	1.61	1.42	Open
P-73	125.41	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.53	0.11	0.01	Open
P-77	-67.49	0.19	0.02	Open
P-78	-68.17	0.19	0.02	Open
P-79	12.44	0.08	0.01	Open
P-80	29.84	0.19	0.03	Open
P-81	-62.18	0.40	0.11	Open
P-82	67.70	0.43	0.12	Open
P-83	761.55	2.16	1.53	Open
P-84	174.09	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.51	0.10	0.01	Open
P-90	-63.43	0.40	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.14	0.28	0.05	Open
P-93	-69.12	0.44	0.13	Open
P-94	134.16	0.86	0.44	Open
P-95	-46.52	0.30	0.06	Open
P-96	-47.20	0.30	0.06	Open
P-97	85.52	0.55	0.19	Open
P-98	-205.15	1.31	0.97	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1414.99	1.00	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J41

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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-203.79	1.30	0.96	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1414.99	0.00	-283.88	Open Pump
1	1414.98	4.01	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J42

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*****
*                               *
*             E P A N E T       *
*           Hydraulic and Water Quality *
*           Analysis for Pipe Networks *
*           Version 2.0         *
*****
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Input File: Sereno Canyon Phase 4 Max Day fire flow J42.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J42

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J42

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8

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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-86	J-113	J-112	191.9	8
P-87	J-117	J-114	573.8	8
P-88	J-116	J-115	172.9	8
P-89	J-119	J-118	421	8
P-90	J-121	J-210	4137	8
P-91	J-121	J-122	131.6	8
P-92	J-32	J-33	221	8
P-93	J-31	J-32	387	8
P-94	J-103	J-31	1000	8
P-95	J-33	J-34	245	8
P-96	J-34	J-35	223.9	8
P-97	J-103	J-104	1106	8
P-98	J-305	J-304	506.9	8
P-99	J-303	J-302	412.7	12
P-100	J-301	J-300	178.5	8
P-101	R-1	J-400	10	24
P-21	J-26	J-305	427	8
PUMP1	J-400	J-401	#N/A	#N/A Pump
PUMP2	J-400	J-401	#N/A	#N/A Pump
PUMP3	J-400	J-401	#N/A	#N/A Pump
PUMP4	J-400	J-401	#N/A	#N/A Pump
1	J-401	S145	#N/A	12 Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J42

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1186.50	101.33	101.33	0.00

Demand Charge: 0.00
 Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-42	1000.00	2996.37	98.52	0.00
J-32	3.44	2996.90	89.22	0.00
J-36	3.80	2996.96	73.64	0.00
J-37	1.72	2996.96	70.18	0.00
J-30	4.48	2996.47	97.91	0.00
J-38	5.52	2996.66	81.31	0.00
J-39	3.44	2996.76	87.85	0.00

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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2996.97	93.80	0.00
J-40	2.06	2996.76	87.64	0.00
J-28	3.45	2997.24	102.36	0.00
J-27	2.07	2997.24	90.66	0.00
J-2	1.38	2997.85	94.83	0.00
J-3	0.00	2997.78	88.04	0.00
J-4	1.38	2997.77	88.94	0.00
J-41	5.52	2997.76	89.93	0.00
J-14	6.90	2997.71	93.03	0.00
J-11	4.14	2997.70	99.96	0.00
J-12	49.90	2997.70	93.89	0.00
J-9	0.00	2997.70	108.63	0.00
J-6	2.07	2997.73	90.88	0.00
J-19	3.44	2997.76	82.66	0.00
J-24	6.20	2997.75	82.65	0.00
J-20	31.00	2997.75	74.64	0.00
J-21	12.40	2997.75	74.64	0.00
J-22	3.10	2997.75	74.42	0.00
J-5	2.76	2997.75	90.45	0.00

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J-17	3.10	2997.75	103.45	0.00
J-18	1.38	2997.77	97.39	0.00
J-7	4.14	2997.72	100.40	0.00
J-13	3.45	2997.71	110.80	0.00
J-8	3.80	2997.71	104.73	0.00
J-15	3.44	2997.72	82.42	0.00
J-16	2.06	2997.72	77.87	0.00
J-23	9.30	2997.75	72.25	0.00
J-303	11.48	2997.91	111.75	0.00
J-301	2.02	2998.01	116.56	0.00
J-10	47.88	2997.70	115.56	0.00
J-26	2.07	2997.87	100.47	0.00
J-1	0.00	2997.91	95.72	0.00
J-102	2.70	2998.45	101.15	0.00
J-105	3.38	2998.45	108.95	0.00
J-107	4.72	2998.45	113.72	0.00
J-111	4.06	2998.45	116.75	0.00
J-112	1.36	2998.36	125.38	0.00
J-114	1.36	2998.32	126.66	0.00
J-115	1.36	2998.29	127.95	0.00
J-118	1.36	2998.27	128.37	0.00
J-300	7.42	2998.01	117.43	0.00
J-302	2.70	2997.91	109.59	0.00
J-304	2.02	2997.91	102.65	0.00
J-31	0.00	2996.78	95.66	0.00
J-35	0.00	2996.99	76.26	0.00
J-101	4.72	2999.05	115.06	0.00

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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.45	116.75	0.00
J-33	0.00	2996.93	84.03	0.00
J-123	3.38	2996.93	92.26	0.00
J-100	0.00	2999.98	121.75	0.00
J-103	3.38	2997.72	108.64	0.00
J-104	3.38	2997.28	84.62	0.00
J-117	2.02	2998.32	123.63	0.00
J-110	4.06	2998.45	108.95	0.00
J-108	2.02	2998.45	108.52	0.00
J-109	2.02	2998.45	107.65	0.00
J-305	1.36	2997.89	103.51	0.00
S145	0.00	3000.25	123.60	0.00
J-207	2.70	2998.51	114.18	0.00

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J-208	0.68	2998.51	116.78	0.00
J-206	0.68	2998.56	135.87	0.00
J-204	2.70	2998.79	129.03	0.00
J-205	2.70	2998.79	120.80	0.00
J-203	12.82	2999.26	121.44	0.00
J-200	7.42	2999.92	126.05	0.00
J-211	0.00	2999.39	118.03	0.00
J-201	3.38	2999.73	136.37	0.00
J-202	10.12	2999.72	117.74	0.00
J-119	0.00	2998.27	132.27	0.00
J-120	2.02	2998.27	136.60	0.00
J-121	0.00	2998.27	136.60	0.00
J-122	45.90	2998.26	139.20	0.00
J-210	4.06	2998.55	137.59	0.00
J-209	0.68	2998.56	135.43	0.00
J-113	1.36	2998.36	124.51	0.00
J-116	0.68	2998.29	127.52	0.00
J-25	5.52	2997.75	70.30	0.00
J-34	0.68	2996.96	81.88	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1423.31	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-46.15	0.29	0.06	Open
P-2	1.72	0.01	0.00	Open
P-3	-88.37	0.56	0.20	Open
P-4	-93.89	0.60	0.23	Open
P-5	-99.39	0.63	0.25	Open
P-6	2.06	0.01	0.00	Open

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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J42

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.97	0.22	0.04	Open
P-36	-179.29	0.51	0.11	Open
P-37	-505.00	1.43	0.72	Open
P-38	-3.89	0.01	0.00	Open
P-39	-10.65	0.03	0.00	Open
P-40	-23.47	0.07	0.00	Open
P-41	86.36	0.55	0.20	Open
P-42	83.64	0.53	0.19	Open
P-43	80.26	0.51	0.17	Open
P-44	78.22	0.50	0.16	Open
P-45	77.78	0.50	0.16	Open
P-46	68.34	0.44	0.13	Open
P-47	54.16	0.15	0.01	Open
P-48	13.74	0.04	0.00	Open
P-49	339.45	2.17	2.47	Open
P-50	333.93	2.13	2.40	Open
P-51	231.78	1.48	1.22	Open
P-52	315.67	2.01	2.16	Open
P-53	-312.22	1.99	2.12	Open
P-54	51.67	0.33	0.08	Open

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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J42

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	332.00	2.12	2.37	Open
P-58	123.27	0.79	0.38	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1212.64	3.44	3.62	Open
P-62	880.65	2.50	2.00	Open
P-63	-113.89	0.32	0.05	Open
P-64	0.68	0.00	0.00	Open
P-65	-117.27	0.33	0.05	Open
P-66	-171.53	1.09	0.70	Open
P-67	-2.70	0.02	0.00	Open
P-68	-176.93	1.13	0.74	Open
P-69	98.00	0.63	0.25	Open
P-70	98.00	0.63	0.25	Open
P-71	-91.75	0.59	0.22	Open
P-72	210.67	1.34	1.02	Open
P-73	105.25	0.67	0.28	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-2.93	0.02	0.00	Open
P-77	-52.89	0.15	0.01	Open
P-78	-53.57	0.15	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	503.81	1.43	0.71	Open
P-84	372.11	2.38	2.93	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	0.91	0.01	0.00	Open
P-90	-48.83	0.31	0.07	Open
P-91	45.90	0.29	0.06	Open
P-92	-67.55	0.43	0.12	Open
P-93	-110.25	0.70	0.31	Open
P-94	201.97	1.29	0.94	Open
P-95	-70.93	0.45	0.14	Open
P-96	-71.61	0.46	0.14	Open
P-97	126.65	0.81	0.40	Open
P-98	-38.40	0.25	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1423.31	1.01	0.17	Open

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.04	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1423.32	0.00	-283.25	Open Pump
1	1423.31	4.04	0.00	Open Valve