APPENDIX K

Fire Service Availability Letters

and

Water System Analysis for the Salvation Army Campground (Ramona Municipal Water District)

COUNTY OF SAN DIEGO
DEPT. OF PLANNING & LAND USE
5201 RUFFIN ROAD, SUITE B
SAN DIEGO, CA 92123-1666
(858) 565-5981 • (858) 267-6770

PROJECT FACILITY AVAILABILITY FORM

WATER

W

Please type or use pen

The Salvation Army (619) 231-6000
Owner's Name Phone

825 Seventh Avenue
Owner's Mailing Address Street

San Diego CA 92101
City State Zip

ORG _____
ACCT _____
ACT _____
TASK _____
DATE _____ AMT $ _____
DISTRICT CASHIER'S USE ONLY

SECTION 1. PROJECT DESCRIPTION

TO BE COMPLETED BY APPLICANT

A. ☐ Major Subdivision (TM) ☐ Specific Plan or Specific Plan Amendment
☐ Minor Subdivision (TPM) ☐ Certificate of Compliance: _____
☒ Boundary Adjustment
☐ Rezone (Reclassification) from _____ to _____ zone.
☐ Major Use Permit (MUP), purpose: _____
☐ Time Extension ... Case No. _____
☐ Expired Map ... Case No. _____
☒ Other Modify Existing MUP

B. ☐ Residential ..... Total number of dwelling units _____
☐ Commercial ..... Gross floor area _____
☐ Industrial ..... Gross floor area _____
☒ Other Camp ..... Gross floor area ± 25,000 sqft

C. Total Project acreage 578 Total number of lots 1

D. Is the project proposing the use of groundwater? ☐ Yes ☒ No
Is the project proposing the use of reclaimed water? ☐ Yes ☒ No

Assessor's Parcel Number(s)
(Add extra if necessary)

322	030	01
322	030	02
322	030	10
322	031	01

Thomas Bros. Page 1171 Grid J6

Project address 14488 Mussey Grade Rd
Ramona Street CA 92065
Community Planning Area/Subregion Zip

Owner/Applicant agrees to pay all necessary construction costs, dedicate all district required easements to extend service to the project and COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: _____ Date: 5-4-2006

Address: 825 Seventh Ave San Diego CA 92101 Phone: 619-231-6000

(On completion of above, present to the water district to establish facility availability. Section 2 below.)

SECTION 2. FACILITY AVAILABILITY

TO BE COMPLETED BY DISTRICT

District name RAMONA MUNICIPAL WATER DISTRICT Service area —

A. ☐ Project is in the district.
☐ Project is not in the district but is within its Sphere of Influence boundary, owner must apply for annexation.
☐ Project is not in the district and is not within its Sphere of Influence boundary.
☒ The project is not located entirely within the district and a potential boundary issue exists with the RAMONA MUNICIPAL WATER District.
B. ☒ Facilities to serve the project ☒ ARE ☐ ARE NOT reasonably expected to be available within the next 5 years based on the capital facility plans of the district. Explain in space below or on attached ___ (Number of sheets)
☐ Project will not be served for the following reason(s): BASED ON WATER SYSTEM EVALUATION COMPLETED FOR PROJECT

C. ☒ **District conditions are attached. Number of sheets attached:** 1
☐ **District has specific water reclamation conditions which are attached. Number of sheets attached:** _____
☐ **District will submit conditions at a later date.**
D. ☐ **How far will the pipeline(s) have to be extended to serve the project?** _____

This Project Facility Availability Form is valid until final discretionary action is taken pursuant to the application for the proposed project or until it is withdrawn, unless a shorter expiration date is otherwise noted. EXPIRES 6/6/08

Authorized signature: Phillip Dauben Print name: PHILLIP DAUBEN

Print title: CIVIL ENGINEER Phone: 760-788-2200 Date: 6/6/06

NOTE: THIS DOCUMENT IS NOT A COMMITMENT OF SERVICE OR FACILITIES BY THE DISTRICT.

On completion of Section 2 by the district, applicant is to submit this form with application to the Zoning Counter at the Department of Planning and Land Use, 5201 Ruffin Road, Suite B, San Diego, CA 92123.

Attachment

3	2	2		0	3	1		0	2
3	2	2		0	3	1		0	5
3	2	2		0	6	0		0	8

Conditions for Water Availability Letter (Not in District)

a. The project is not within the District and not within its Sphere of Influence.

b. Water facilities are reasonably expected to become available within five (5) years, if the following conditions are met:

i. If a pre-annexation expansion agreement is signed by the owner/developer and approved by the District's Directors whereby the District will request consideration from LAFCO to expand the Water District to include the project area and the owner/developer will assure the District that all actual costs of the facilities required by the project, including, but not limited to, administrative costs, design costs, construction costs and the cost of a percentage of the value of the existing facilities, will be paid solely by the owner/developer in a timely fashion. The pre-annexation expansion agreement should state that the facilities required by the project will need to be completed before any connections shall be made.

ii. If the District adopts a resolution applying to LAFCO for expansion of its Water District to include the area.

iii. If LAFCO approves the annexation to include the area.

c. Developer shall make a deposit (minimum of $2,000) with the District to cover all costs for any planning, system evaluation, and annexation required by the District for addressing the facilities needed to serve this project. The amount of the deposit may vary depending on the project scope and additional deposit may be needed depending on actual costs. ***The Water System Evaluation shall be completed and a Water Service Agreement or Pre-Annexation Agreement executed before the Draft California Environmental Quality Act (CEQA) documents are prepared and before the District will sign a "Project Facility Commitment Form".***

d. Water availability and commitment letters are based on current ordinances, resolutions, rules, regulations, specifications, and guidelines of the District. ***Should these ordinances, resolutions, rules, regulations, specification, guidelines, and system conditions change from time to time, the applicant for shall be subject to the requirements in effect at the time of applying for water service.***

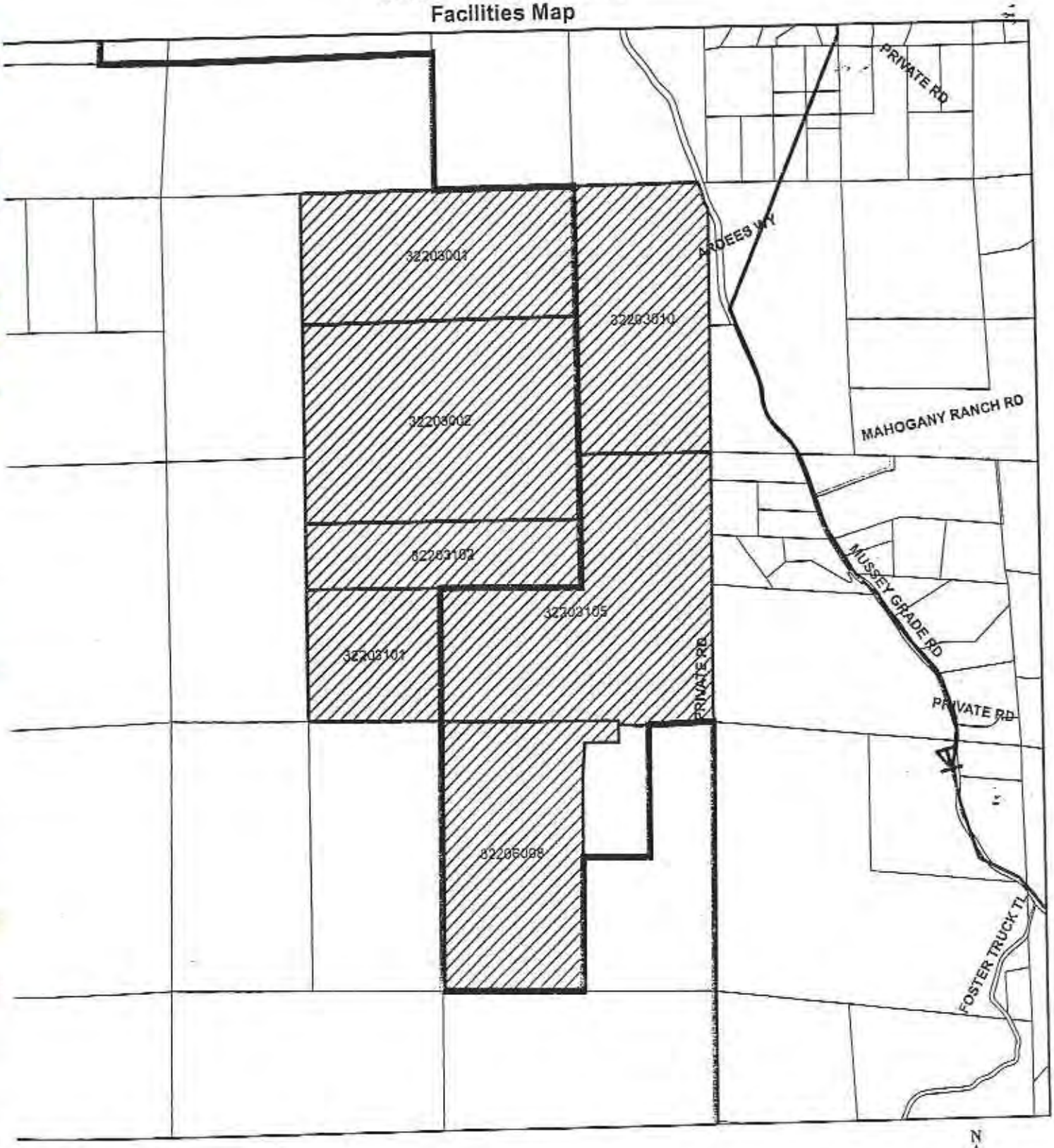
APNs: 322-030-01, 02, 10; 322-031-01
Mussey Grade Road
Owner: Salvation Army
Vicinity Map

Legend

RMWD Boundary

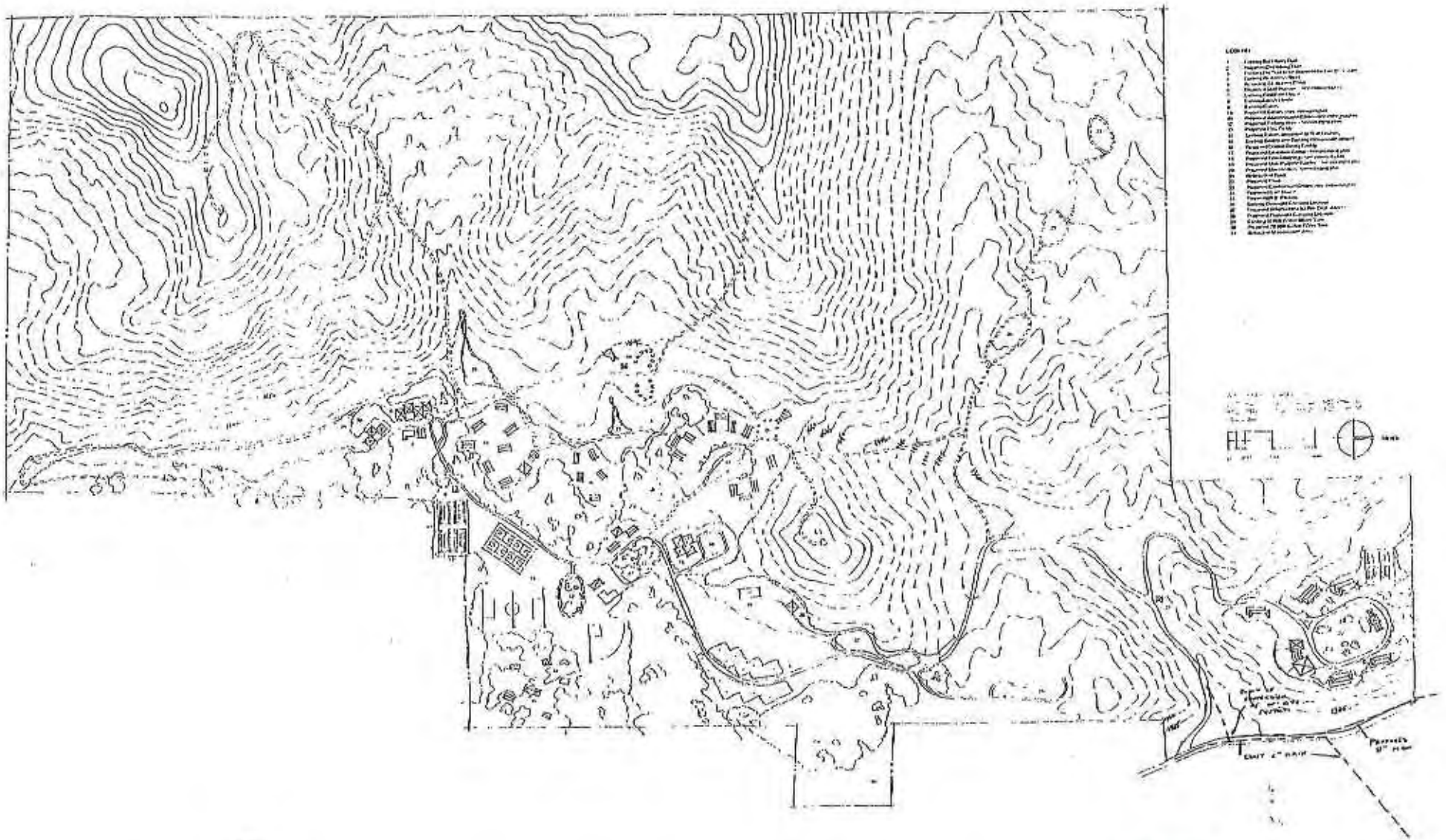
Subject Parcel selection

APNs: 322-030-01, 02, 10; 322-031-01
Mussey Grade Road
Owner: Salvation Army
Facilities Map



Legend

- RMWD Boundary
- Water System
- All Meters
- Subject_Parcel_Selection



The Salvation Army

PROPOSED MASTER PLAN
FOR A DIVISIONAL CAMP AND CONFERENCE CENTER

PROPOSED SITE PLAN

COUNTY OF SAN DIEGO
DEPT. OF PLANNING & LAND USE
5201 RUFFIN ROAD, SUITE B
SAN DIEGO, CA 92123-1666
565-5981 • (858) 267-5770

FIRE

ECT FACILITY AVAILABILITY FORM

Please type or use pen

Salvation Army (619) 231-6000
Name Phone

Seventh Avenue
Mailing Address Street

Diego CA 92101
State Zip

ORG ____
ACCT ____
ACT ____
TASK ____
DATE ____ AMT $ 15.00

DISTRICT CASHIER'S USE ONLY

TO BE COMPLETED BY APPLICANT

ON 1. PROJECT DESCRIPTION

Assessor's Parcel Number(s)
(Add extra if necessary)

3	2	2
3	2	2
3	2	2
3	2	2

0	3	0
0	3	0
0	3	0
0	3	1

0	1
0	2
1	0
0	1

Major Subdivision (TM)
Minor Subdivision (TPM)
Boundary Adjustment
Rezone (Reclassification) from ____ to ____ zone.
Major Use Permit (MUP), purpose: ____
Time Extension ... Case No. ____
Expired Map ... Case No. ____
Other Modify Existing MUP

☐ Specific Plan or Specific Plan Amendment
☐ Certificate of Compliance: ____

Residential ..... Total number of dwelling units ____
Commercial ..... Gross floor area ____
Industrial ..... Gross floor area ____
Other Camp ..... Gross floor area ± 250,000 sq ft.

Total Project acreage 576 Total lots 1 Smallest proposed lot ____

Thomas Bros. Page 1171 Grid J6

Project address 14498 Mussey Grade Rd
Street

Ramona CA 92065
Community Planning Area/Subregion Zip

I/APPLICANT AGREES TO COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: X [signature] Date: 5.4.2006

Address: 925 Seventh Ave San Diego CA 92101 Phone: 619-231-6000

(On completion of above, present to the district that provides fire protection to complete Sections 2 and 3 below.)

TO BE COMPLETED BY DISTRICT

TION 2. FACILITY AVAILABILITY

District name: Ramona Fire/CDF

State the location and distance of the primary fire station that will serve the proposed project: Station 32 - 2410 Dye Rd, Ramona 3 miles from project.

Project is in the District and eligible for service.
Project is not in the District but is within its Sphere of Influence boundary, owner must apply for annexation.
Project is not in the District and not within its Sphere of Influence boundary.
Project is not located entirely within the District and a potential boundary issue exists with the ____ District.
Based on the capacity and capability of the District's existing and planned facilities, fire protection facilities are currently adequate or will be adequate to serve the proposed project. The expected emergency travel time to the proposed project is 4 1/2 minutes.
Fire protection facilities are not expected to be adequate to serve the proposed development within the next five years.
District conditions are attached. Number of sheets attached: ____
District will submit conditions at a later date.

TION 3. FUELBREAK REQUIREMENTS

Note: The fuelbreak requirements prescribed by the fire district for the proposed project do not authorize any clearing prior to project approval by the Department of Planning and Land Use.

Within the proposed project ____ feet of clearing will be required around all structures.
The proposed project is located in a hazardous wildland fire area, and additional fuelbreak requirements may apply. Environmental mitigation requirements should be coordinated with the fire district to ensure that these requirements will not pose fire hazards.
Project Facility Availability Form is valid until final discretionary action is taken pursuant to the application for the proposed project or until it is withdrawn, unless a shorter expiration date is otherwise noted.

[signature] James Hollingsworth Fire Marshal 760-788-2244 6-7-06
Authorized signature Print name and title Phone Date

On completion of Sections 2 and 3 by the District, applicant is to submit this form with application to: Department of Planning and Land Use, 5201 Ruffin Road, Suite B, San Diego, CA 92123

Attachment

3	2	2		0	3	1		0	2
3	2	2		0	3	1		0	5
3	2	2		0	6	0		0	8

RAMONA MUNICIPAL WATER DISTRICT
In cooperation with the
CALIFORNIA DEPARTMENT OF FORESTRY
And FIRE PROTECTION

105 Earlham Street
Ramona, California 92065-1599

Telephone:
1-760-788-2244

RAMONA FIRE PREVENTION BUREAU

September 28, 2004

The Salvation Army, Sierra del Mar Division
Stephen A. Ball, Captain
2320 Fifth Avenue
San Diego, Ca. 92101

RE: Evacuation and Fire Safety Plan
Location: Salvation Army Camp, 14488 Mussey Grade Rd., Ramona, Ca. 92065

Dear Stephen,

The Evacuation and Fire Safety Plan that you have submitted has been reviewed by myself, and Chief Vogt of the Ramona Fire Department/CDF. All of the items that we requested were identified in the plan. We thank you for the hard work that went into putting together such a complete document. The Ramona Fire Department/CDF will accept the plan as it was submitted in the last draft dated 9-16-04.

Sincerely,

Steve Delgadillo/Fire Marshal
Ramona Fire Department/CDF

The Salvation Army
Sierra del Mar Divisional Camp and Retreat Center

EMERGENCY PROCEDURES

In the event of an emergency at the Sierra del Mar Divisional Camp and Conference Center, the following initial steps much be followed:

1. Notify on site assistance, including: Camp Nurse, Resident Director, Program Directors, and/or Divisional Youth Secretary.
2. Evaluate the situation; determine what requires immediate action and what can be given secondary attention.
3. Remember your overall responsibilities; you have a group of campers to look after as well as the need to assist in the emergency.
4. Make a plan and follow it; do not make hasty or haphazard attempts to help. Pause to think clearly.
5. If needed, dial **911** for emergency assistance from: Medics, Fire, Police. Each phone at camp allows this phone call to be made. Provide the camp location to the authorities.

   Location: **The Salvation Army**
   Divisional Camp and Conference Center
   14488 Mussey Grade Road
   Ramona, CA 92065
   (Located 1.5 miles off Hwy. 67 on Mussey Grade Road; Camp Office is 1.6 miles from camp entrance)

   Camp Phone: **760-788-3310** or **760-788-3311**

6. Send any available staff member to the MAIN GATE to direct emergency vehicle(s) into camp.

SPECIFIC POLICIES AND PROCEDURES

The danger of serious fire is high in the rural areas throughout San Diego County. Use extreme caution and take sensible precaution.

1. Prevent the accumulation of flammable rubbish and see that dried brush, grass, etc. are cleared from the immediate areas of all buildings to a distance of 100 feet.
2. Check cords of any small electrical appliances (no octopus type plug-ins).
3. Never start or permit the starting of fires with flammable liquids.
4. Carefully dispose of oil, paints, rags and all other combustible materials.
5. Be aware of and understand all Camp Fire Safety Policies and Procedures.
6. Conduct a Fire Drill the first day of every camp period. Review procedures with all staff and campers.
7. Conduct an annual Fire Drill/Fire Evacuation exercise with the Fire Department.

EMERGENCY TRANSPORTATION

In the event of an emergency, evacuation or transportation of a sick/injured camper, follow these guidelines:

1. If evacuation is necessary due to fire or other emergency, all persons will be transported by designated Salvation Army vehicles; These vehicles will consist of either two large capacity school buses or equivalent vans and buses and cars that are kept on the camp premises at all times when the camp has scheduled occupancy.
2. Sick or Injured campers or staff members: If an ambulance is not requested, a camp vehicle, designated as the Medical Van, will be available at all times for the use of emergency medical visits. Such trips must be arranged through the Administrative Staff. The vehicle will be maintained in a manner that will assure constant readiness for emergency use.

EVACUATION PLAN

In the event that an evacuation becomes necessary, all campers and staff will be evacuated in a safe, orderly manner as directed by the Resident Director or other designated representative.

1. As in the case of a fire emergency all campers and staff will assemble at the baseball field.
2. All Campers and staff must first be accounted for by conducting a roll call.
3. The designated buses and vans will be moved to the assembly field for loading.
4. The Camp Nurse will bring all camper and staff medical records to the assembly field and will distribute them to the appropriate Group Leader/Counselor prior to evacuation.
5. All campers will remain in cabin groups and will evacuate as a group. The Group Leader/Counselor will be given responsibility for the paperwork for each of his/her campers. These forms are to be held until the camper has been released into the custody of the Parent/or Legal Guardian.
6. It is the responsibility of all staff to maintain a feeling of calm and control in an emergency situation. Do not panic.
7. The Resident Director or other designated representative will direct the loading and evacuation of all vehicles to a predetermined drop-off location.
8. The Resident Director will communicate annually with Fire Department Personnel to determine which locations to designate as evacuation sites.
9. The Divisional Youth Secretary or Resident Director will call a designated person at Divisional Headquarters to inform them of the emergency and to ask for assistance where needed.
10. Once the camp is safely at the evacuation site, parents will be notified and arrangements made for campers to be picked up.

CAMPFIRES

Open campfires can only be used in designated campfire pits when the Fire Marshall has given his/her approval.

CAMPFIRES MUST:

1. Be approved by the Resident Director.
2. Have either a garden hose, large water-filled buckets or a fire extinguisher on hand.
3. Be built in a pit approved by the Fire Department.
4. Be supervised at all times.
5. Be completely extinguished and cool to touch before the leaving the area.

IN CASE OF A FIRE EMERGENCY

1. Sound the alarm throughout the camp.
2. Notify Fire Department (dial 911) and the Camp Administrative Staff.
3. Each staff member will report to the large, open baseball field with ALL campers for whom he/she is responsible.
4. Staff are to keep a watch for any stragglers or unaccompanied campers and encourage them to go immediately to the baseball field.
5. Once all are assembled specific staff will take charge and will assist in the emergency situation.
6. Both the *Camp Visitor Log* and the *Staff Sign-Out Log* will be taken to the baseball field by the Camp Secretary or other designated representative.
7. Camper and staff groups will form orderly single file lines so that an accurate accounting of all persons can be made.
8. The Resident Director or a designated representative will receive a report from each Camper or Staff Group Leader to determine if all persons in their group are present and/or accounted for. If any persons are missing, the Resident Director will appoint available staff to search for the individual(s). All staff will be notified and questioned about the whereabouts of any persons that are missing. Those searching for missing persons will look for the person(s) only as long as it is safe to do so or until directed by emergency personnel to return to the assembly area. If the missing persons cannot be located, the names will be reported to the Resident Director and Fire Department Personnel.
9. Campers and Staff will remain at this location until the Resident Director or Fire Department Personnel gives further instruction.
10. The Divisional Youth Secretary or Resident Director will call a designated person at Divisional Headquarters to inform them of the emergency and to ask for assistance where needed.

Note: *A large quantity of dust masks will be stored and maintained at the baseball field along with a heavy duty hose and spray nozzle.*

Most Importantly: **KEEP CALM!**

Steve Delgadillo, Fire Marshal
Ramona Fire Department/CDF
105 Earlham St.
Ramona, CA 92065-1599
(760) 788-2244 – Telephone
(760) 788-2202 – Facsimile

October 14, 2002

Mr. Gary L. Pryor, Director
Department of Planning & Land Use
County of San Diego
5201 Ruffin Rd., Ste. B
San Diego, CA 92123-1666

Re: Salvation Army Sierra Del Mar Divisional Camp & Retreat Center

Dear Mr. Pryor:

As a follow up to my letter of May 7, 2002 (see attached copy), please accept this as our request and support of the Salvation Army Sierra Del Mar Divisional Camp & Retreat Center's request for an Exception to a Road Standard. As set forth in my letter of May 7, 2002, the Ramona Fire Department/CDF has determined that the project as currently proposed will comply with all appropriate and necessary fire and life safety standards. The purpose of this request as indicated on the attached and signed Exhibit dated 10/1/02 is to detail those portions of the private road which will not be widened and paved to the full 24-foot requirement due to environmental constraints (i.e., impacts to oaks and wetlands). I have personally walked the site on numerous occasions and have determined that the exceptions proposed and as shown on this attached Exhibit dated 10/1/02 are acceptable.

Should you have any questions, please don't hesitate to call.

Sincerely,

Steve Delgadillo, Fire Marshal
Ramona Fire Department/CDF

cc: County of San Diego
Department of Public Works
County of San Diego
5201 Ruffin Rd., – MS O336, Ste. D
San Diego, CA 92123-1666

Clifford Hunter, Fire Code Specialist
Department of Planning & Land Use
5201 Ruffin Rd., Ste. B
San Diego, CA 92123-1666

RAMONA MUNICIPAL WATER DISTRICT
IN COOPERATION WITH THE
CALIFORNIA DEPARTMENT OF FORESTRY
AND FIRE PROTECTION

105 Earlham Street
Ramona, California 92065-1599

Telephone:
1-760-788-2244

RAMONA FIRE PREVENTION BUREAU

May 7, 2002

Mr. Joseph Farace
County of San Diego
Dept. of Planning and Land Use
5201 Ruffin Road, Suite B
San Diego, CA 92123-1666

RE: Fire Review of the Salvation Army Camp and Retreat
P70-37.9W2RPL

Dear Mr. Farace,

The proposed Specific Plan for the Salvation Army Divisional Camp and Retreat in Ramona shall include the following items:

1. Prior to issuance of building permits, a water system capable of handling the fire flow requirements associated with the existing and proposed buildings for this project shall be provided in the form of plans submitted to the Ramona Municipal Water District Engineering Department for approval. It has been determined that a 260,000-gallon water tank at an elevation of approximately 1665 MSL in combination with a 10" on site water line to connect to the existing 6" water main in Mussey Grade Road will meet fire flow requirements. At that time, fire hydrant amounts and locations on site shall be established.
2. Automatic sprinklers shall be installed in all existing and new buildings, consistent with the Ramona Fire Code Ordinance 99-199. This shall be determined after the water system plans are approved.
3. With the exception of the fire access roads designated as "existing access road to remain, road not to be paved", (item #4), and the roads depicted as "existing road width to remain, road to be paved," as shown on the enclosed exhibit, entitled "Fire Marshal Exhibit: Proposed Site Plan", dated 1/15/02, and revised 4/18/02, and 5/01/02, all other existing fire access roadways, and all new fire access roadways from Mussey Grade Road leading into and within the project shall be improved to a width of a minimum 24 feet of paved surfacing, where physically possible.
4. A lighted map directory shall be provided at every intersection within the proposed project denoting, with numbers, the areas on-site that the particular road leads to.

5. "No Parking Fire Lane" signs shall be posted on all roads that have the fire department required width of 24 feet. The number of signs and their placement shall be determined by the Ramona Fire Prevention Bureau.
6. A fuel modification zone a minimum of 100 feet in width, will be provided around the entire perimeter of the building site as depicted on the enclosed exhibit, entitled "Fire Marshal Exhibit: Proposed Site Plan", dated 1/15/02, and revised 4/18/02, and 5/01/02. A minimum 100-foot clearance around all structures on site shall be provided, consistent with Ramona Fire Code Ordinance 99-199.
7. A ten-foot wide fuel modification zone shall occur along each side of all fire access roadways.
8. The following exceptions to Items 6 and 7 are granted per the Fire Code:
   - Single specimens of trees, ornamental shrubbery or similar plants used as ground covers, provided that they do not form a means of rapidly transmitting fire from the native growth to any structure.
   - Grass and other vegetation located more than 30 feet from buildings or structures and less than 18 inches (457 mm) in height above the ground need not be removed where necessary to stabilize the soil and prevent erosion.
9. Prior to issuance of building permits, a fire alarm system shall be provided.
10. A response map update in a format compatible with current department mapping shall be provided, as specified in the Ramona Fire Code Ordinance 99-199.
11. The Salvation Army shall at all times have two large capacity school buses with drivers or other equivalent vans or buses on the premises at all times when the camp has scheduled occupancy for organized children groups.
12. The Salvation Army will prepare a fire evacuation/fire drill plan for the camp and conduct a fire drill the first day of every camp period. The plan will establish scheduled drop points for the occupants to facilitate complete evacuation, if necessary.
13. The fire department shall observe an annual fire evacuation/fire drill exercise. After this annual review and observation, the fire department may require additional buses or maintain the minimum number of buses to stand at the camp for evacuation purposes. The fire department may require buses for family or adult campers transported by buses, if the annual drill is ineffective and other drill improvement options are not appropriate.
15. The "Yirts" will have skirting installed in a manner similar to skirting on trailer or mobile homes.

With these conditions, the Ramona Fire Department/CDF has determined that the project will comply with appropriate and necessary fire and life safety standards.

Sincerely,

Steve Delgadillo, Fire Marshal
Ramona Fire Department/CDF

Approved.
Clifford F. Newby
5-13-2002

MATALON
Architecture & Planning

~~24~~ September 2001

Steve Delgadillo
Fire Marshal
Ramona Fire Dept/CDF
105 Earlham Street
Ramona, CA 92065-1599

RE: Fire Safety Issues;
The Salvation Army Divisional Camp/Retreat, Ramona

Dear Marshal Delgadillo,

Pursuant to our several meetings and correspondence, the proposed Specific Plan for the Salvation Army Divisional Camp and Retreat in Ramona has included the following items, to mitigate any fire concerns raised by your office:

1. Prior to issuance of building permits, a water system capable of handling the fire flow requirements associated with the existing and proposed buildings for this project shall be provided in the form of plans submitted to the Ramona Municipal Water District Engineering Department for approval. At that time, fire hydrant amounts and locations on site shall be established.
2. Automatic sprinklers shall be installed in all existing and new buildings, consistent with the Ramona Fire Code Ordinance 99-199. This shall be determined after the water system plans are approved.
3. All existing fire access roadways and all new fire access roadways from Mussey Grade Road leading into and within the project shall be improved to a width of a minimum 24 feet of paved surfacing, where not in conflict with biologically sensitive areas. Existing fire access roads within biologically sensitive areas shall remain in their current state.
4. A lighted map directory shall be provided at every intersection within the proposed project denoting, with numbers, the areas on-site that the particular road leads to.
5. "No Parking Fire Lane" signs shall be posted on all roads that have the fire department required width of 24 feet. The number of signs and their placement shall be determined by the Ramona Fire Prevention Bureau.
6. A minimum 100-foot clearance around all structures on site shall be provided, consistent with Ramona Fire Code Ordinance 99-199.
7. Prior to issuance of building permits, a fire alarm system shall be provided.

nue, Suite #203 | San Diego, California 92109 | (858) 483-6587 | Fax (858) 483-6787

8. A response map update in a format compatible with current department mapping shall be provided, as specified in the Ramona Fire Code Ordinance 99-199.
9. Clearance for on-site roadways shall be consistent with Table 17.2, Ramona Fire Code Ordinance 99-199.

It is our understanding that if these conditions are met, the Ramona Fire Department/CDF shall deem that the project may proceed as designed.

If you are in agreement with this, please note so by executing this letter below, and returning a copy to our office.

Thank you, Marshal Delgadillo, for your cooperation.

Sincerely,

Michael B. Matalon, AIA

Concurr,

Steve Delgadillo, Fire Marshal

C: File

RECEIVED
DEC 17
PLANNING

COUNTY OF SAN DIEGO • DEPARTMENT OF PLANNING AND LAND USE
BUILDING DIVISION

Date: December 13, 2001

To: Joe Farace -Department of Planning and Land Use

From: Clifford F. Hunter – Building Division – Fire Code Specialist CFH

Subject: Fire Review of the Salvation Army Camp and Retreat
P70-379 W2 RPL

Current Land Status

The following parcels numbers comprise the Salvation Army Camp and are either within the Ramona Fire Department or outside of the Ramona Fire Department.

Ramona Fire Department	California Department of Forestry and Fire Protection
322-030-10 – 79.42 ac	322-030-02 – 120 ac
322-031-05 – 120 ac	322-031-02 – 40 ac
322-060-08 – 82.47 ac	322-031-01 – 40 ac
	322-060-01 – 80 ac
Total Ac. = 281.89 ac	Total Ac. = 280.0

• See attached map

Current Fire Prevention Condition

Currently all structures are within the Ramona Fire Department and are constructed of fire resistive materials and have Class A roof covering. The average vegetation clearance from all structures is 100 foot. The current interior roads are well maintained and are looped. Land surrounding the camp has been used for pastureland providing more fuel modification and defensible space around the camp. There are several fire hydrants located in and around the looped roadways. Additionally access there is two existing private roads that connect to Mussey Grade Road from within the Camp and could provide emergency fire access if necessary.

Existing Fire Protection

The California Department of Forestry and Fire Protection provide fire protection outside of the Ramona Fire Department. The California Department of Forestry and Fire Protection does not operate year round. They generally operate with full staffing and open fire stations each year starting in May, and reduce staffing and

5201 RUFFIN ROAD, SUITE B, SAN DIEGO, CA 92123-1586 • (858) 565-5920 • (888) 338-7553
200 EAST MAIN ST.- SIXTH FLOOR, EL CAJON, CA 92020-3912 • (619) 441-4030
338 VIA VERA CRUZ - SUITE 201, SAN MARCOS, CA 92069-2620 • (760) 471-0730

close fire stations in November or early December of each year depending on weather conditions. Their primary responsibility is the protection of forest, range and watershed land, however, subject to availability of firefighting resources, they may respond to structural, vehicle, and other fires within state responsibility areas. Like other fire agencies, they also respond to a variety of non-fire emergencies.

Conditions

The following conditions should be included in the project review for fire safety and prevention for the Salvation Army Camp and retreat outside of the Ramona Fire Department.

1. Any development, which occurs in the 280 acres outside of the Ramona Fire Department, should be annexed to Ramona Fire Department (Ramona Water District). If the property is not annexed the following conditions shall apply.
2. Prior to the issuance of building permits, a water system capable of handling the required fire flow of 2,500 gallons per minute for duration of 2 hours shall be provided. The fire flow can be reduced if all existing and new structures are fire sprinkled by 50% to 75%.
3. All existing fire access roadways and all new fire access roadways from Mussey Grade Road leading into the project shall be improved to a width of a minimum 24 feet of paved surfacing and shall meet the County of San Diego Private Road Standards. No parking signs shall be provided on all 24-foot fire access roads. The number of signs and their placement shall be determined during development. Existing fire access roads within biologically sensitive areas shall remain in their current state.
4. Secondary emergency fire access is not necessary because all interior roads are looped and 24 foot in width. Vegetation clearance from all structures is adequate. Land surrounding the camp has been used for pastureland providing more fuel modification and defensible space around the camp. There are existing fire hydrants that will provide necessary firefighting water. Additionally there are two existing private roads that connect to Mussey Grade Road and could provide emergency fire access if necessary.
5. Fuel modification shall occur along each side of the fire access roadways and shall be 10 feet.
6. A Vegetation Management Plan shall be developed to provide a 100-foot fuel modification zone around the entire perimeter of the site.
7. A minimum of 100-foot fuel modification zone shall be provided and maintained around all new and existing structures.
8. Provide a lighted map directory at each intersection within the proposed project denoting, with numbers, the areas on site that the particular roadway leads to.

9. A fire alarm system shall be installed.
10. A response map update shall be provided in a format compatible with the County of San Diago GIS system.
11. All above ground fuel tank storage with gravity feed are prohibited. Tanks for above ground storage shall be designed, approved, and listed containers which have features incorporated into their design which mitigate concerns for exposure to heat (two hour fire resistive), ignition sources and mechanical damage. (Existing tanks cannot just be relocated. They must meet the above requirements.)

CC. Fire Marshal Steve Delgadillo, Ramona Fire Department
CDF –Chief Miller, Chief Maner, Chief Hill, Chief Porter
BRG Consulting -Kiersten R. Giugno
DPLU -Glen Russell
Diane Coklin, Mussey grade Road Alliance

COUNTY OF SAN DIEGO
DEPARTMENT OF PLANNING AND LAND USE
5201 RUFFIN ROAD, SUITE B, SAN DIEGO, CA 92123-1666

PROJECT FACILITY AVAILABILITY FORM

WATER

W

Please type or use pen

ORG _____
ACCT _____
ACT _____
TASK _____
DATE _____ AMT $ _____
DISTRICT CASHIER'S USE ONLY

Salvation Army (619) 446-0210
Owner's Name Phone

1320 Fifth Avenue
Owner's Mailing Address Street

San Diego, CA 92101
City State Zip

SECTION 1. PROJECT DESCRIPTION — TO BE COMPLETED BY APPLICANT

Assessor's Parcel Number(s) *(Add extra if necessary)*

322	030	02
322	031	02
322	031	05

A. ☐ Major Subdivision (TM) ☐ Specific Plan or Specific Plan Amendment
☐ Minor Subdivision (TPM) ☐ Certificate of Compliance: _____
☒ Boundary Adjustment
☐ Rezone (Reclassification) from _____ to _____ zone.
☐ Major Use Permit (MUP), purpose: _____
☐ Time Extension... Case No. _____
☐ Expired Map... Case No. _____
☐ Other _____

B. ☐ Residential . . . . . Total number of dwelling units _____
☐ Commercial . . . . . Gross floor area _____
☐ Industrial . . . . . Gross floor area _____
☐ Other . . . . . Gross floor area _____

Thomas Bros. Page 1151 Grid J5, J6

Project address Street

Community Planning Area/Subregion Zip

C. Total Project acreage _____ Total number of lots _____

D. Is the project proposing the use of groundwater? ☐ Yes ☐ No
Is the project proposing the use of reclaimed water? ☐ Yes ☐ No

Owner/Applicant agrees to pay all necessary construction costs, dedicate all district required easements to extend service to the project and COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: Jill Maria Date: 11-8-2001

Address: 4740 Ruffner St., San Diego, CA 92111 Phone: (858) 292-7770

(On completion of above, present to the water district to establish facility availability, Section 2 below)

SECTION 2. FACILITY AVAILABILITY — TO BE COMPLETED BY DISTRICT

District name Ramona Municipal Water District Service area Ramona

322-030-02 & 322-031-02 are outside District, 322-031-05 is inside District

A. ☒ Project is in the district.
☐ Project is not in the district but is within its Sphere of Influence boundary, owner must apply for annexation.
☒ Project is not in the district and is not within its Sphere of Influence boundary.
☐ The project is not located entirely within the district and a potential boundary issue exists with the _____ District.

B. ☒ Facilities to serve the project ☐ ARE ☐ ARE NOT reasonably expected to be available within the next 5 years based on the capital facility plans of the district. Explain in space below or on attached ___. (Number of sheets)
☐ Project will not be served for the following reason(s): _____
→ Facilities to serve project are expected to be available for parcel inside District

C. ☐ District conditions are attached. Number of sheets attached: _____
☐ District has specific water reclamation conditions which are attached. Number of sheets attached: _____
☒ District will submit conditions at a later date.

D. ☐ How far will the pipeline(s) have to be extended to serve the project? _____

Date: 11/27/01 Expiration date: _____ *(One year from date of issuance unless district indicates otherwise.)*

Authorized signature: Robert Schall Print name: Robert Schall

Print title: Assistant Engineer Phone: (760) 789-1330

NOTE: THIS DOCUMENT IS NOT A COMMITMENT OF SERVICE OR FACILITIES BY THE DISTRICT

On completion of Section 2 by the district, applicant is to submit this form with application to the Zoning Counter at the Department of Planning and Land Use, 5201 Ruffin Road, San Diego, CA 92123

DPLU #399W(9/97)

RAMONA MUNICIPAL WATER DISTRICT
IN COOPERATION WITH THE
CALIFORNIA DEPARTMENT OF FORESTRY
AND FIRE PROTECTION

105 Earlham Street
Ramona, California 92065-1599

Telephone:
1-760-788-2244

RAMONA FIRE PREVENTION BUREAU

May 7, 2002

Mr. Joseph Farace
County of San Diego
Dept. of Planning and Land Use
5201 Ruffin Road, Suite B
San Diego, CA 92123-1666

RE: Fire Review of the Salvation Army Camp and Retreat
P70-37.9W2RPL

Dear Mr. Farace,

The proposed Specific Plan for the Salvation Army Divisional Camp and Retreat in Ramona shall include the following items:

1. Prior to issuance of building permits, a water system capable of handling the fire flow requirements associated with the existing and proposed buildings for this project shall be provided in the form of plans submitted to the Ramona Municipal Water District Engineering Department for approval. It has been determined that a 260,000-gallon water tank at an elevation of approximately 1665 MSL in combination with a 10" on site water line to connect to the existing 6" water main in Mussey Grade Road will meet fire flow requirements. At that time, fire hydrant amounts and locations on site shall be established.
2. Automatic sprinklers shall be installed in all existing and new buildings, consistent with the Ramona Fire Code Ordinance 99-199. This shall be determined after the water system plans are approved.
3. With the exception of the fire access roads designated as "existing access road to remain, road not to be paved", (item #4), and the roads depicted as "existing road width to remain, road to be paved," as shown on the enclosed exhibit, entitled "Fire Marshal Exhibit: Proposed Site Plan", dated 1/15/02, and revised 4/18/02, and 5/01/02, all other existing fire access roadways, and all new fire access roadways from Mussey Grade Road leading into and within the project shall be improved to a width of a minimum 24 feet of paved surfacing, where physically possible.
4. A lighted map directory shall be provided at every intersection within the proposed project denoting, with numbers, the areas on-site that the particular road leads to.

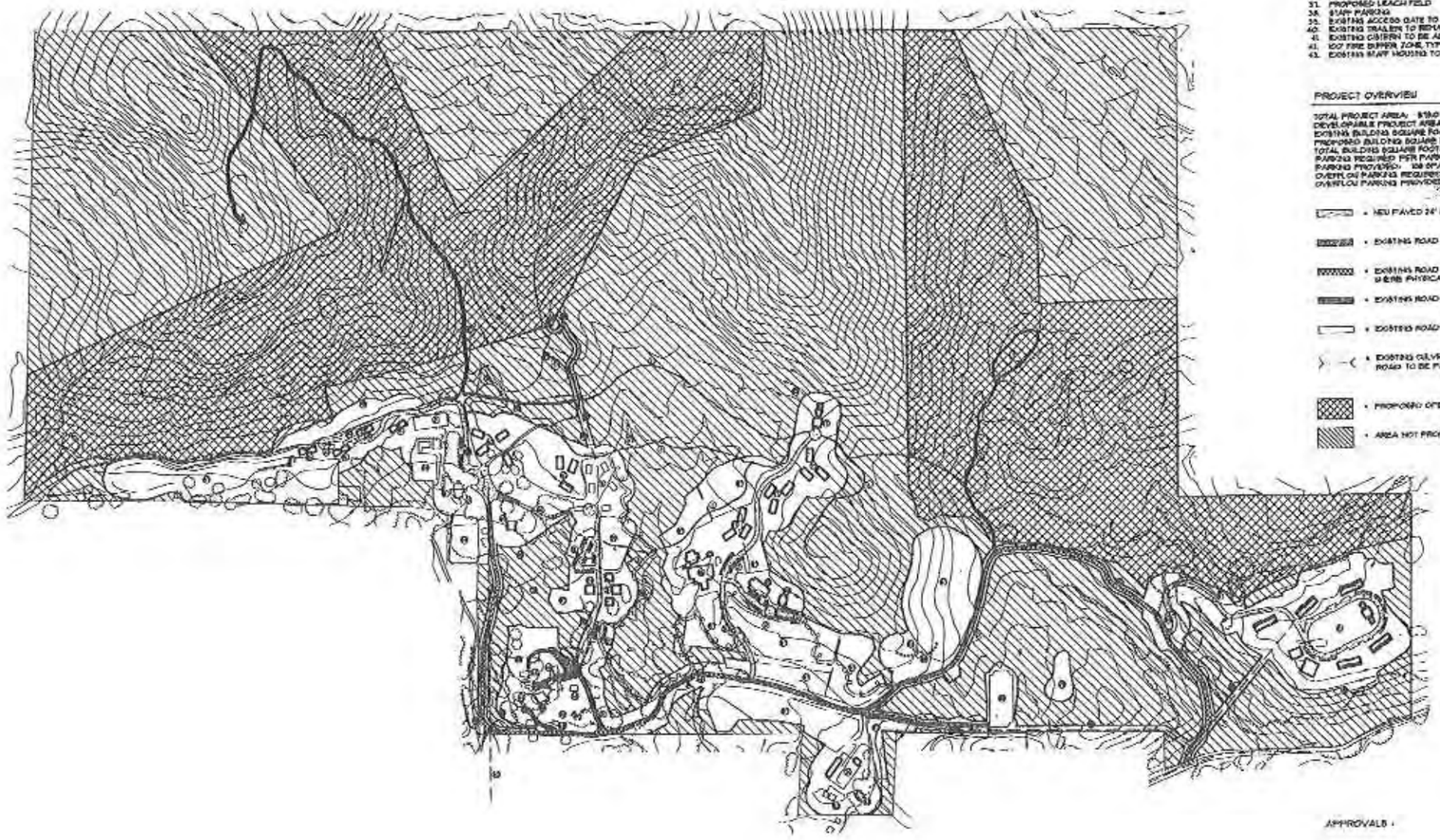
5. "No Parking Fire Lane" signs shall be posted on all roads that have the fire department required width of 24 feet. The number of signs and their placement shall be determined by the Ramona Fire Prevention Bureau.
6. A fuel modification zone a minimum of 100 feet in width, will be provided around the entire perimeter of the building site as depicted on the enclosed exhibit, entitled "Fire Marshal Exhibit: Proposed Site Plan", dated 1/15/02, and revised 4/18/02, and 5/01/02. A minimum 100-foot clearance around all structures on site shall be provided, consistent with Ramona Fire Code Ordinance 99-199.
7. A ten-foot wide fuel modification zone shall occur along each side of all fire access roadways.
8. The following exceptions to Items 6 and 7 are granted per the Fire Code:
   - Single specimens of trees, ornamental shrubbery or similar plants used as ground covers, provided that they do not form a means of rapidly transmitting fire from the native growth to any structure.
   - Grass and other vegetation located more than 30 feet from buildings or structures and less than 18 inches (457 mm) in height above the ground need not be removed where necessary to stabilize the soil and prevent erosion.
9. Prior to issuance of building permits, a fire alarm system shall be provided.
10. A response map update in a format compatible with current department mapping shall be provided, as specified in the Ramona Fire Code Ordinance 99-199.
11. The Salvation Army shall at all times have two large capacity school buses with drivers or other equivalent vans or buses on the premises at all times when the camp has scheduled occupancy for organized children groups.
12. The Salvation Army will prepare a fire evacuation/fire drill plan for the camp and conduct a fire drill the first day of every camp period. The plan will establish scheduled drop points for the occupants to facilitate complete evacuation, if necessary.
13. The fire department shall observe an annual fire evacuation/fire drill exercise. After this annual review and observation, the fire department may require additional buses or maintain the minimum number of buses to stand at the camp for evacuation purposes. The fire department may require buses for family or adult campers transported by buses, if the annual drill is ineffective and other drill improvement options are not appropriate.
15. The "Yirts" will have skirting installed in a manner similar to skirting on trailer or mobile homes.

With these conditions, the Ramona Fire Department/CDF has determined that the project will comply with appropriate and necessary fire and life safety standards.

Sincerely,

Steve Delgadillo, Fire Marshal
Ramona Fire Department/CDF

Approved.
Clifford F. Hunter
5-13-2002



LEGEND

1. EXISTING DIRT HIKING TRAIL TO REMAIN
2. EXISTING PRESENTATION AREA TO REMAIN
3. EXISTING SPORTS COURTS TO REMAIN
4. EXISTING ACCESS ROAD TO REMAIN
5. NEW 24' ACCESS ROAD
6. PROPOSED STAFF HOUSING - SEE ENLARGED PLAN
7. EXISTING POOL/RESTROOM/SHOWER FACILITIES
8. EXISTING RANCH HOUSE
9. EXISTING CABINS
10. PROPOSED CABIN - CAMP EXPANSION - SEE ENLARGED PLAN
11. PROPOSED ADMINISTRATION AND PROCLAMATION STATION AND SHOP/CANTEEN SEE ENLARGED PLAN
12. PROPOSED PARKING AREA - SEE ENLARGED PLAN
13. EXISTING PLAY FIELDS TO REMAIN
14. EXISTING CABIN CONVERTED TO STAFF HOUSING
15. EXISTING RETREAT BUILDING CONVERTED TO CHAPEL
16. PROPOSED DINING ROOM
17. PROPOSED EDUCATION CAMP - SEE ENLARGED PLAN
18. PROPOSED TENT CAMPING - SEE ENLARGED PLAN
19. PROPOSED MULTI-PURPOSE FACILITY - SEE ENLARGED PLAN
20. PROPOSED INDOOR TIME-TO-WATER - SEE ENLARGED PLAN
21. POND TO BE RETURNED
22. PRESENTATION AREA
23. PROPOSED RETREAT - SEE ENLARGED PLAN
24. PROPOSED GATE HOUSE
25. EXISTING LANDFILL TO BE REMOVED
26. PROPOSED 10" PRIVATE WATER LINE (TO REPLACE EXISTING 6" WATER LINE)
27. PROPOSED ROPE COURSE
28. PROPOSED 160,000 GALLON WATER TANK
29. EXISTING 10,000 GALLON WATER TANK
30. EXISTING 6" PRIVATE WATER LINE TO BE ABANDONED
31. RELOCATED MAINTENANCE AREA
32. EXISTING MAINTENANCE FACILITY TO BE RELOCATED
33. VAN PARKING
34. PROPOSED POOL AND BATHROOM/SHOWER
35. PROPOSED OVERFLOW PARKING
36. EXISTING LEACH FIELD
37. PROPOSED LEACH FIELD
38. STAFF PARKING
39. EXISTING ACCESS GATE TO WILDWOOD RANCH
40. EXISTING TRAILER TO REMAIN
41. EXISTING CISTERN TO BE ABANDONED/FILLED
42. 100' FIRE BUFFER ZONE, TYPICAL
43. EXISTING STAFF HOUSING TO REMAIN

PROJECT OVERVIEW

TOTAL PROJECT AREA: 8780 ACRES
DEVELOPABLE PROJECT AREA: 2882 ACRES
EXISTING BUILDING SQUARE FOOTAGE: 33,370 SF.
PROPOSED BUILDING SQUARE FOOTAGE: 150,750 SF.
TOTAL BUILDING SQUARE FOOTAGE: 124,520 SF.
PARKING REQUIRED PER PARKING STUDY DATED 8/20/01: 188 SPACES
PARKING PROVIDED: 108 SPACES
OVERFLOW PARKING REQUIRED PER PARKING STUDY DATED 8/20/01: 11 SPACES
OVERFLOW PARKING PROVIDED: 11 SPACES

- NEW PAVED 24' WIDE ROAD
- EXISTING ROAD TO BE WIDENED TO 24'-0" AND PAVED.
- EXISTING ROAD TO BE WIDENED TO 24'-0" WHERE PHYSICALLY POSSIBLE. ROAD TO BE PAVED.
- EXISTING ROAD WIDTH TO REMAIN, ROAD TO BE PAVED.
- EXISTING ROAD WIDTH TO REMAIN, ROAD NOT TO BE PAVED.
- EXISTING CULVERT. ROAD WIDTH TO REMAIN AT 100'-0". ROAD TO BE PAVED.
- PROPOSED OPEN SPACE EASEMENT
- AREA NOT PROPOSED FOR DEVELOPMENT UNDER MHP, P10-315 U2

APPROVALS:

STEVE DELGADILLO, FIRE MARSHAL
RAMONA FIRE DEPARTMENT/CDF

CLIFFORD F. HUNTER, FIRE CODE SPECIALIST
COUNTY OF SAN DIEGO

FIRE MARSHAL EXHIBIT:
PROPOSED SITE PLAN

SCALE: 1" = 300'-0"
0 300 600
NORTH

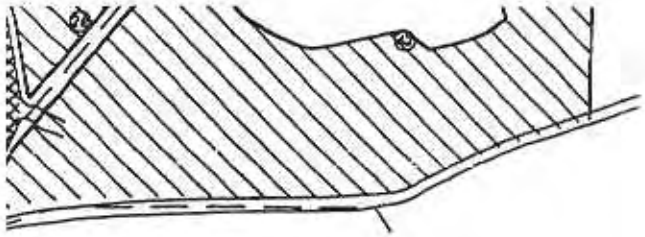
ARCHITECTURE + PLANNING
7596 EADS AVENUE, SUITE 120
SAN DIEGO, CALIFORNIA 92037
(858) 535-9371 FAX (858) 535-9367

PROPOSED MASTER PLAN FOR
THE SALVATION ARMY
DIVISIONAL CAMP AND RETREAT CENTER
RAMONA, CALIFORNIA

REVISIONS

SITE TESTING W/DELGADILLO & HUNTER	04.18.02
WATER TANK RELOCATION	05.01.02

DATE:	01.15.02
SCALE:	NOTED
DRAWN BY:	pv
PROJECT NO:	97021.01
SHEET:	F



APPROVALS :

Steve Delgadillo 5-2-02

STEVE DELGADILLO, FIRE MARSHAL
RAMONA FIRE DEPARTMENT/CDF

Clifford F Hunter 5-13-02

CLIFFORD F. HUNTER, FIRE CODE SPECIALIST
COUNTY OF SAN DIEGO

Approved
Steve Delgadillo 10-15-02

10/1/02

EXCEPTION
KD

SCALE 1" = 300'-0"

20 - 36 0 300 600

NORTH

APPROVED
RAMONA FIRE DEPT.
DATE: 10-15-02

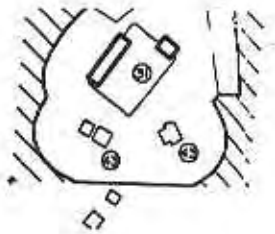
REVISIONS

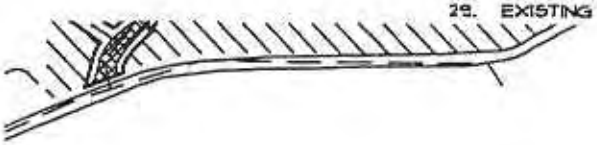
SITE MEETING W/DELGADILLO & HUNTER	04.18.02
WATER TANK RELOCATION	05.01.02
MEETING WITH DELGADILLO FOR DEVIATION, TO READ WIDTH STD. 9/25/02	10.01.02

DATE:	01.15.02
SCALE:	NOTED
DRAWN BY:	pv
PROJECT NO.:	97021.01

SHEET: F

18. PROPOSED TENT CAMPING - SEE ENLARGED PLAN
19. PROPOSED MULTI-PURPOSE FACILITY - SEE ENLARGED F
20. PROPOSED INDOOR MINI-THEATER - SEE ENLARGED PL
21. POND TO BE REFURBISHED
22. PRESENTATION AREA
23. PROPOSED RETREAT - SEE ENLARGED PLAN
24. PROPOSED GATE HOUSE
25. EXISTING LANDFILL TO BE REMOVED
26. PROPOSED 10" PRIVATE WATER LINE (TO REPLACE EXIST
27. PROPOSED ROPE COURSE
28. PROPOSED 260,000 GALLON WATER TANK
29. EXISTING 10,000 GALLON WATER TANK





APPROVALS :

5-2-02

STEVE DELGADILLO, FIRE MARSHAL
RAMONA FIRE DEPARTMENT/CDF

5-13-02

CLIFFORD F. HUNTER, FIRE CODE SPECIALIST
COUNTY OF SAN DIEGO

10/1/02

FIRE MARSHAL EXHIBIT: REQUEST FOR AN EXCEPTION TO A ROAD STANDARD
PROPOSED SITE PLAN

SCALE 1" = 300'-0"

0 300 600

NORTH

MUP 70-371W2 SP 00-06

A

DAT

RAMONA MUNICIPAL WATER DISTRICT
IN COOPERATION WITH THE
CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

2249 Jamacha Road
El Cajon, California 92019

Telephone:
1-619-590-3100

April 26, 2002

Dianne Conklin, Spokesperson
Mussey Grade Road Alliance
P.O. Box 683
Ramona, California 92065

Dear Ms. Conklin:

RE: Salvation Army Use Permit Fire Protection Conditions

Since our meeting November 20, 2001, much additional review has occurred on this project. apologize that the response is not within your expected timeframe, but it was my understanding at th meeting that you would be providing additional information. The Ramona Municipal Water District Fi Department (RMWDFD) has been working on this project regarding conditions prior to July 1998 (a inquiry) and the Water District Board Meeting of August 22, 2000. It seemed appropriate to not be impulsive with a response, but rather to consider the project after various details had been resolved.

It must be noted that this is a land use-planning project, which falls under the jurisdiction of th County. As explained to you during our meeting, CDF does not have jurisdiction on this matter. The County of San Diego Fire Code Specialist has jurisdiction over fire code conditions for property outsi of the Ramona Municipal Water District. At our request, Fire Code Specialist Cliff Hunter inspected the site with CDF/Ramona Municipal Water District fire personnel in December. He concurred that c established conditions considered safety needs and were appropriate for the project. RMWDFD caused Mr. Hunter to issue a letter of conditions December 13, 2001 (attached) similar to those already established in our jurisdiction.

As the Chief for the RMWDFD, conditions for the use permit have been established through n representative, Fire Marshall Steve Delgadillo, for the portion of the project within the District. Those conditions remain in effect for the project. Four additional conditions have been added to the project First, the Salvation Army shall at all times have two large capacity school buses with drivers or other equivalent buses on the premises at all times when the camp has scheduled occupancy for organize children groups. Second, the Salvation Army will prepare a fire evacuation/fire drill plan for the cam and conduct a fire drill the first day of every camp period. The plan will establish scheduled drop points for the occupants to facilitate complete evacuation, if necessary. Third, the fire department shall observe an annual fire evacuation/fire drill exercise. After this annual review and observation, the fire department may require additional buses or maintain the minimum number of buses to stand at the camp for evacuation purposes. The fire department may require buses for family or adult campers transported by buses, if the annual drill is ineffective and other drill improvement options ar not appropriate. Fourth, the "Yirts" will have skirting installed in a manner similar to skirting on trailer or mobile homes (suggested by Hunter).

A phased evacuation, if required, should be appropriate for the occupancy of school children during the summer months of June, July and a portion of August, which is outside the period for San Ana winds in Southern California. The property as inspected has much open space, will have 100 fo clearances around structures, 100 foot fuel modification zones around the perimeter, sprinklered buildings, and fire resistive construction. The Fire Marshall and the District Battalion Chief will devel emergency plans with the owner to consider safe operations at the facility.

An emergency access for fire service use only was examined in February 2002 and confirme useable for fire emergency vehicles. This cannot be made a condition of approval for the Salvation Army, as they do not control the emergency access. However, the property known as the McGuire Family, Shady Del Organics-Budbrook Ranch has an access road that will be utilized for fire access under emergency conditions, on the same basis that fire personnel use any other access road in the District.

You are also aware that the project must provide proper fire flow in one of two manners prior the occupancy of new facilities within the project. The Fire Marshall has established standing conditions for this project for several years. Those conditions are unchanged. The County of San Diego has now added conditions to the project, as a result of your interest. This letter will be submitted to the County of San Diego and the Fire Marshall to be sure that these new conditions are included for future development

We believe compliance with this set of conditions will provide necessary fire safety and protection measures for this project. Other land-use considerations rest with the County and are outside the jurisdiction of CDF or the Ramona Municipal Water District. . Your avenue for an appea the Department of Planning and Land Use through Joe Faraci at (858) 694-3690. The address for a appeal is 5201 Ruffin Road San Diego 92123.

Thank you for your continued interest in this matter.

kjm

Kenneth J. Miller, CDF Unit Chief
Ramona Municipal Water District Fire Chief

Enclosures

C: Joe Farace, Project Planner
Cliff Hunter Code Specialist
Jeff Collins, Staff to Supervisor
Tom Brammell, General Manager
Andrea Tuttle, Director
Mike Vogt, Battalion Chief
Steve Delgadillo, Fire Marshall ✓
A.D. Hill, Assistant Chief
File

County of San Diego

JOHN L. SNYDER
DIRECTOR

DEPARTMENT OF PUBLIC WORKS

5555 OVERLAND AVE, SAN DIEGO, CALIFORNIA 92123-1295

(858) 694-2233
FAX: (858) 268-0461

COUNTY ENGINEER
COUNTY ROAD COMMISSIONER
COUNTY SURVEYOR
COUNTY AIRPORTS
FLOOD CONTROL
WASTEWATER MANAGEMENT

February 21, 2003

The Salvation Army
2320 5th Avenue
San Diego, CA 92101

REQUEST FOR EXCEPTION TO ROAD STANDARDS – MUP 70-0379W2RPL

County Department of Public Works (DPW) reviewed your application for Exception to Road Standards dated October 25, 2002 requesting exception to requirement #3 of the Ramona Fire Department/CDF letter dated May 7, 2002. The request is for exception to onsite road improvements for existing fire access roadways and new fire access roadways (from Mussey Grade Road into and within the project) to a minimum graded width of twenty-eight feet (28') and a minimum improved width of twenty-four feet (24').

DPW can support your request for these roads because there is evidence of significant topographical constraints and environmental impacts associated with grading and improvement of these roads, and because of Fire Protection District approval of existing and proposed improvements, which will comply with all appropriate and necessary fire and life safety standards.

If you have any questions or need additional information, please contact Chris Kotitsa, Engineering Technician, at (858) 694-3867.

Sincerely,

RECEIVED
MAR - 4 2003
The Salvation Army
Sierra Del Mar Division

Chandra Wallar

CHANDRA WALLAR
Assistant Director

CLW:KJB:ck

cc: File MUP 70-0379; Construction Engineering (MS 090)

REQUEST FOR EXCEPTIONS TO ROAD STANDARDS – MUP 70-0379W2RPL

EXCEPTION APPROVED

NATURE OF REQUEST:

On February 6, 2003, the Department of Public Works received a letter, dated October 14, 2002 (along with a letter dated May 7, 2002 and an exhibit approved on October 15, 2002) from Fire Marshal Steve Delgadillo of the Ramona Fire Department/CDF, requesting the following:

> Grant exception to requirement #3 of the Ramona Fire Department/CDF letter dated May 7, 2002 regarding onsite road improvements for existing fire access roadways and new fire access roadways (from Mussey Grade Road into and within the project). The request is for reduced graded width and reduced improved width onsite because of topographical considerations and environmental impact of further grading.

BACKGROUND:

The May 7, 2002 letter from Fire Marshal Steve Delgadillo stated the requirement for certain existing fire access roadways and all new fire access roadways to be improved to a minimum 24' paved width. After submittal of an exhibit on October 1, 2002, the Fire Marshal agreed to approve the exceptions to the 24' paved width for the specific portions of the roads as shown on the plat. The Fire Marshal stated this in his letter of October 14, 2002 and by his stamped approval of the exhibit on October 15, 2002.

PROJECT MANAGEMENT TEAM REVIEW:

The request for exception to these roads can be supported by staff because:

1) There are significant topographical constraints and significant environmental impacts which would be encountered by improving all of these onsite fire access roads to current private road standards (widening the existing portions to a 24' improved width).

2) The portions of these roads, as shown and proposed on the exhibit (submitted on October 1, 2002 and approved on October 15, 2002) are to the satisfaction of the Ramona Fire Department/CDF per their letter of October 14, 2002, in accordance with County Private Road Standards Section 3.13.

DPW ACTION:

Request Recommended: Kenneth J. Brazell Date: 2/21/03

Request for Exception Approved: _____ Date: 2/21/03

Very truly yours,

MARTY ESLAMBOLCHI, Lead Project Manager
Department of Public Works

ME:CK:ck

Ramona Municipal Water District

Water System Analysis for the Salvation Army Campground

Prepared by the Ramona Municipal Water District Department of Engineering

Prepared By: Robert Scholl - Assistant Engineer

Approved By: Tim Stanton, P.E. - District Engineer

Ramona Municipal Water District

105 Earlham Street

Ramona, California 92065

Telephone: (760) 789-1330

January 23, 2002

RMWD Project Number: 10022-1

Ramona Municipal Water District

2nd Water System Analysis for the Salvation Army Campground

General Policy Statement

This hydraulic analysis is premised upon current criteria. It is not a representation, expressed or implied, that the Ramona Municipal Water District (District) will provide water at a future date. Applications for service are governed by separate District rules and regulations, and are the subject of distinct proceedings, apart from this hydraulic analysis.

Overall demands assumed for this analysis allow for typical domestic water consumption by residents and estimated consumption by commercial/industrial users, including an allowance for light irrigation. The assumed demands do not consider any high volume or high rate water usage for commercial or industrial processes or for irrigation of agriculture unless specifically stated.

The location of existing and proposed improvements and the recommendations of this hydraulic analysis are presented in schematic form only. It is the responsibility of the Developer/Engineer to design the final improvements, including independent investigation of existing conditions.

Introduction

The proposed Salvation Army Campground expansion is located at 14488 Mussey Grade Road in the Ramona Community Planning Area in Central San Diego County. The 575-acre property is situated on the western side of Mussey Grade Road, south of Highway 67 and north of the San Vicente Reservoir (portion of Section 6, Township 14 South, Range 1 West; and Section 1 and 12, Township 14 South, Range 1 East; San Vicente Reservoir 7.5-Minute USGS Quadrangle, San Bernardino Base Meridian).

The Ramona Municipal Water District boundary is shown in Figure 1. In the Water Master Plan performed for the District by Boyle Engineering in December 1998, the estimated population within the District boundary was estimated at 33,539 people in the year 2000. In the Water Master Plan for the years 1988 to 1997, the 10-year daily water usage average was found to be 173.2 gallons per capita per day. Based on these figures, the District's average daily demand would be 5.8 million gallons per day for the year 2000.

The Salvation Army Campground expansion will create a significant increase in water demand, mainly due to required fire flow, on the District's existing water system. The District's existing water infrastructure will not support such a development without proper improvements. For the 1st water system analysis performed for the Salvation Army Campground in March 2000, the District studied the effects of adding a looped water line within Mussey Grade Road from Dos Picos Park Road to the Salvation Army Campground site entrance. To supply the campground with 2,500 gpm fire flow without significantly hindering water pressure to nearby customers, the analysis concluded that additional pipeline improvements would be necessary beyond simply looping the water

main within Mussey Grade Road. More specifically, the Salvation Army would be responsible for upgrading the District's existing 20-inch water distribution main from the Mt. Woodson Reservoir to a 24-inch main.

Due to local opposition and the expense of these required improvements, the Salvation Army and its engineers asked the District to study the possibility of placing a water storage tank on-site at the campground to satisfy water demand requirements instead of performing the water line looping in Mussey Grade Road. Therefore, the purposes of this 2nd hydraulic analysis are:

1) To determine if a water storage tank located on the Salvation Army Campground will satisfy the water demand and fire flow requirements of the proposed expansion, and if so,

2) To determine the proper tank sizing, slab elevation, and inlet and outlet pipe sizing to meet water demand and fire flow requirements without significantly hindering water pressure to nearby customers.

Approach

Analysis of the proposed development is carried out using water distribution system computer models originally developed by Boyle Engineering and updated for the Ramona Municipal Water District. In these models, the water system is characterized by a series of links (pipes) and nodes (connection points). Nodes can also represent significant features in the water distribution system such as reservoirs, pump stations and valves (pressure reducing and pressure sustaining). Also, fire flow requirements can be placed at nodes to simulate fire flow conditions. Although the nodes do not represent the exact location of every fire hydrant, assuming one exists or will exist in the near vicinity of each node gives a general picture of the system's ability to provide the necessary flows.

Source of Water

The District has two sources of potable water. The primary water source is the Poway Pump Station (PPS) located outside the District's boundary, northeast of Lake Poway. The PPS is fed from a San Diego County Water Authority aqueduct connection and supplies the Mt. Woodson Reservoir and the West-End Reservoir, both located on the west side of the District. These reservoirs have respective high water level elevations of 1,816 and 1,737 feet above sea level and feed the Bargar-Woodson and Santa Maria Pressure Zones. The PPS is capable of delivering a maximum flow rate of 8.4 MGD to these reservoirs.

The secondary potable water source is from the Bargar Water Treatment Plant (WTP), which treats surface water from the Sutherland Reservoir. This plant has a rated capacity of 5.3 MGD and is located on the northeast side of the District. The WTP supports the Bargar-Woodson (1816) Pressure Zone.

The existing pipelines found near this project are fed by the Bargar-Woodson (1816) Pressure Zone. Water service would be provided to the Salvation Army Campground through connections to the District's:

- Existing 6-inch diameter pipeline within Mussey Grade Road at the campground site entrance.

- Proposed on-site piping from the Mussey Grade site entrance road to the proposed water storage tank. Construction of this piping and storage tank will require right-of-way and/or easements dedicated to the Ramona Municipal Water District for utility purposes.

Water Demands

The Salvation Army's project engineer, Nasland Engineering, has supplied the District with the estimated average daily potable water demands for the proposed Salvation Army Campground expansion. This expansion shall allow for a 720-person occupancy, 30 RV spaces and water hook-ups, 28 staff houses and a new pool. Based on an average water demand of 50 gallons per day per occupant, 150 gallons per day per RV space, 100 gallons per day per staff house and 5,000 gallons per day required by the pool, domestic water consumption has been estimated to be 50,000 gallons per day. Approximately 12 acres of drought-tolerant plant species will need to be irrigated as part of the expansion, as well. Assuming an average water need of 2,000 gallons per day per acre for this landscaping, irrigation water consumption is estimated to be 25,000 gallons per day. Therefore, the proposed Salvation Army Campground expansion stands to add an average demand of 75,000 gallons per day.

The Mussey Grade Road community is supplied potable water through one 6-inch water main. There are approximately 77 meter connections to this water main from the Salvation Army Campground to the terminus of the main in Fernbrook. The existing average daily demand on the Mussey Grade Road water main is approximately 56,814 gallons per day.

This community has the potential to grow considerably under the Ramona Community Planning Group's land use zoning. Current zoning for this area is classified as "Multiple Rural Use" which allows for one dwelling unit for every 4, 8, 20 and 40 acres. There are approximately 2217 acres of land within the Mussey Grade Road area to the south of the Salvation Army Campground. At a maximum zoning density of 1 dwelling unit for every 4 acres, the storage tank could serve a maximum of 554 dwelling units in addition to the Salvation Army Campground. Assuming 3.2 people per dwelling unit and 175 gallons per capita per day, and adding in the 75,000 gallons per day Salvation Army Campground demand, the ultimate average daily demand for the Mussey Grade Road community south of the Salvation Army Campground could be 385,240 gallons per day.

Design Criteria

The Mussey Grade Road water main is separated between the Bargar-Woodson (1816) Pressure Zone and the Mussey Grade (1255) Pressure Zone by the pressure-reducing valve (PRV) within Mussey Grade Road (see Figure 2 for PRV location). Because Mussey Grade Road drops from an elevation of 1430 feet at Hwy 67 to an elevation of 1200 feet at the terminus of the water main in Fernbrook, the PRV is required to curtail the increasing pressure. The PRV reduces water pressure from 225 psi to 180 psi. However, because this pipeline supplies potable water to residential locations over 300 feet higher than the elevation of the water main itself, the PRV cannot lower water pressure further. Any alterations to the existing system to benefit the Salvation Army Campground that

reduce water pressures to the PRV beyond this 180-psi requirement would be viewed by the District as significantly hindering water pressure to nearby customers, and additional improvements to remedy the problem would be necessary.

With this in mind, the system was analyzed for the following three conditions:

1) An average daily demand condition in which the minimum pressure is 40 psi for all customers north of the Salvation Army Campground and 180 psi at the PRV location.

2) A maximum daily demand condition, utilizing a peaking factor of 2.3 over average daily demand, in which the minimum pressure is 40 psi for all customers north of the Salvation Army Campground and 180 psi at the PRV location.

3) A maximum daily *plus* fire demand in which the minimum pressure must meet 20 psi in the vicinity of the fire *and* all adjacent water service areas.

Water System Analysis

Model Input

For the system analyses, all model inputs were set up as follows:

- All potable water storage reservoir levels were set at half full to represent normal operating conditions.

- A fixed average demand of 1,500 GPM and a fixed maximum demand of 2,500 GPM were placed at node 500 to represent the operation of the existing San Diego Country Estates Pump Station (SDCE PS) feeding off of the Bargar-Woodson (1816) Pressure Zone (see Figure 1 for location).

The proposed Salvation Army Campground water tank was modeled for average daily, maximum daily and maximum daily + fire flow demands for the following scenarios to determine the most effective improvement strategy that avoids detrimental impact to existing customers:

1) Existing distribution system settings with a single 8-inch pipeline extension from Node J-9000 to Node J-9001 (see Figure 2),

2) Installation of the proposed water storage tank at base elevation 1585 feet with a single 8-inch pipeline extension from Node J-9000 through the campground to the tank (see Figure 3),

3) Installation of the proposed water storage tank at base elevation 1585 feet with an 8-inch pipeline extension from Node J-9000 through the campground to the tank and an 8-inch pipeline extension from the tank to Node J-9004 (see Figure 4),

4) Installation of the proposed water storage tank at base elevation 1750 feet with a single 8-inch pipeline extension from Node J-9000 through the campground to the tank (see Figure 5),

5) Installation of the proposed water storage tank at base elevation 1750 feet with a single 10-inch pipeline extension from Node J-9000 through the campground to the tank (see Figure 6),

6) Installation of the proposed water storage tank at base elevation 1750 feet with an 8-inch pipeline extension from Node J-9000 through the campground to the tank and a 10-inch pipeline extension from the tank to Node J-9004 (see Figure 7),

7) Installation of the proposed water storage tank at base elevation 1665 feet with a single 10-inch pipeline extension from Node J-9000 through the campground to the tank (see Figure 8), and

8) Installation of the proposed water storage tank at base elevation 1665 feet with an 8-inch pipeline extension from Node J-9000 through the campground to the tank and a 10-inch pipeline extension from the tank to Node J-9004 (see Figure 9).

For each of the above scenarios, water pressure measurements were taken at specific nodes that represent nearby customers (J-186 and J-1067) as well as the Salvation Army Campground itself (J-9000 – J-9004) to determine if the campground expansion impacts the surrounding customers. Water pressure at Node J-236 was measured to determine if the Mussey Grade Road PRV is impacted. The proposed water storage tank net inflow/outflow and cycle rates were also measured to determine the feasibility of the tank's elevation.

Results and Conclusions

Results for the above analyses are shown in Table 1. The table also points-out potential problems or impacts for each scenario set. Please note that these impacts do not necessarily mean the given scenario will not work unless specifically stated otherwise. Every scenario presents its own difficulties. However, these can often be overcome or even taken advantage of, as is the case with the possible elimination for the need of the pressure reducing station in Mussey Grade Road in Scenario 8.

Node J-186 currently experiences 30 to 34 psi water pressures during average day and maximum day demand periods. This node currently utilizes a hydro pneumatic system to supply the area with sufficient pressure. In all eight scenarios studied, the campground's expansion does not significantly impact the water pressure supplied to this node.

Based on the results of the analyses, it has been determined that the installation of a water storage tank at elevation 1665 feet (Scenarios 7 and 8) could provide service to the Salvation Army Campground without significantly impacting nearby customers or the rest of the District's distribution system. All design criteria are met in these scenarios for average daily demand, maximum daily demand and maximum daily + fire flow demand conditions. Scenario 8 is preferred over scenario 7 by the District, however, because scenario 7 requires that the District keep its existing pressure reducing valve in service. In scenario 7, the proposed water storage tank and distribution infrastructure south of the Salvation Army Campground would be isolated from the Bargar-Woodson (1816) Pressure Zone at all times except when the tank requires refilling. But during this refilling time, the water pressure at the PRV will jump from 180 psi to 220 psi because it is opened to the Bargar-Woodson Pressure Zone. Thus, the PRV would still be required during these tank-refilling periods. In scenario 8, the dual pipeline arrangement allows the storage tank to be refilled without opening the infrastructure to the south of the Salvation Army Campground to the Bargar-Woodson (1816) Pressure Zone.

Water Storage Tank Sizing Analysis

The proposed water storage tank is sized for ultimate allowable build out of the Mussey Grade Road area south of the Salvation Army Campground. According to the District's Water Master Plan performed by Boyle Engineering in December 1998, tank sizing shall be based on the sum of the following demands for the area served:

- 25% of the Maximum Daily Demand
- One Average Day Demand
- Fire Flow of 2,500 gpm for a 2-hour Duration

The ultimate average daily demand for the Mussey Grade Road community south of the Salvation Army Campground was calculated to be 385,240 gallons per day. Utilizing the maximum daily to average daily demand peaking factor of 2.3, the maximum daily demand for the storage tank service area is 886,052 gallons, and 25% of the maximum daily demand is 221,513 gallons.

A fire flow of 2,500 gallons per minute for a 2-hour duration comes to 300,000 gallons.

Totaling the above maximum build-out demands for the storage tank service area, the tank should be sized for **906,753 gallons** of water storage.

1 million gallons of water storage was utilized in the tank water cycle rate calculations as reported in the results in Table 1. For scenarios 7 and 8, the average daily demand water cycle rate was 9.2 days, based on current demands. While it is not commonly preferred to have storage tanks cycle water longer than 4 to 5 days, lowering the tank water levels can reduce the cycle rates in scenarios 7 and 8 during times of less water demand.

Recommendations

The District recommends installation of a 1-million-gallon potable water storage tank at base elevation 1665 feet with an 8-inch pipeline extension from the Mussey Grade Road water main through the Salvation Army Campground to the tank, and a 10-inch pipeline extension from the tank back to the Mussey Grade Road water main. The two pipeline extensions should be connected to the Mussey Grade Road water main in a five-valve package to allow for operational flexibility. Implementation of this recommendation improves the Mussey Grade Road community water distribution system in the following ways:

1. Dramatically improves the fire flow to the Mussey Grade Road fire hydrant locations,
2. Allows for greater operational and emergency water storage should pipeline breaks or shut-downs occur, and
3. Eliminates the need for the Mussey Grade Pressure Reducing Valve since the tank elevation lowers pressures to the PRV location to approximately 180 psi.

Table 1

Results for Node Pressure, Net Tank Flow Rate and Cycle Rate Measurements for the Salvation Army Campground 2nd Water System Analysis

Scenario #1: Existing distribution system settings with a single 8-inch pipeline extension from Node J-9000 to Node J-9001

Junction	Average Day	Max Day	Max Day + Fire Flow	Potential Problems/Fallbacks
Tank Net Flow Rate	-	-	-	1) Minimum fire flow pressure cannot be met at campground or for surrounding customers **Scenario will not work**
Tank Cycle Rate	-	-	-	
J-9000 Pressure	201.2 psi	183.1 psi	(-923.6 psi)	
J-9001 Pressure	144.9 psi	126.5 psi	(-1,102.1 psi)	
J-9004 Pressure	201.2 psi	183.1 psi	(-923.6 psi)	
J-186 Pressure	33.8 psi	30.2 psi	27.7 psi	
J-1067 Pressure	110.2 psi	98.9 psi	(-2.6 psi)	
J-236 (PRV) Pressure	222.7 psi	203.5 psi	(-903.2 psi)	

Scenario #2: Installation of the proposed water storage tank at base elevation 1585 feet with a single 8-inch pipline extension from Node J-9000 through the campground to the tank

Junction	Average Day	Max Day	Max Day + Fire Flow	Potential Problems/Fallbacks
Tank Net Flow Rate	506-gpm inflow	357-gpm inflow	1,939-gpm outflow	1) Minimum fire flow pressure cannot be met at campground 2) Significant pressure reduction to Mussey Grade PRV **Scenario will not work**
Tank Cycle Rate	9.2 days	4.0 days	4.3 hours	
J-9000 Pressure	136.7 psi	132.7 psi	85.3 psi	
J-9001 Pressure	73.5 psi	71.5 psi	19.4 psi	
J-9004 Pressure	136.7 psi	132.7 psi	85.3 psi	
J-186 Pressure	33.4 psi	29.9 psi	29.7 psi	
J-1067 Pressure	103.5 psi	93.5 psi	88.6 psi	
J-236 (PRV) Pressure	158.2 psi	153.1 psi	105.7 psi	

Scenario #3: Installation of the proposed water storage tank at base elevation 1585 feet with an 8-inch pipeline extension from Node J-9000 through the campground to the tank and an 8-inch pipeline extension from the tank to Node J-9004

Junction	Average Day	Max Day	Max Day + Fire Flow	Potential Problems/Fallbacks
Tank Net Flow Rate	498-gpm inflow	337-gpm inflow	2,163-gpm outflow	1) Minimum fire flow pressure cannot be met at campground 2) Significant pressure reduction to Mussey Grade PRV **Scenario will not work**
Tank Cycle Rate	9.2 days	4.0 days	3.8 hours	
J-9000 Pressure	138.4 psi	136.5 psi	136.5 psi	
J-9001 Pressure	74.6 psi	73.8 psi	73.8 psi	
J-9002 Pressure	69.2 psi	68.7 psi	(-22.2 psi)	
J-9004 Pressure	125.5 psi	124.7 psi	33.9 psi	
J-186 Pressure	33.4 psi	29.9 psi	29.9 psi	
J-1067 Pressure	103.7 psi	93.9 psi	93.9 psi	
J-236 (PRV) Pressure	147.0 psi	145.1 psi	54.3 psi	

Scenario #4: Installation of the proposed water storage tank at base elevation 1750 feet with a single 8-inch pieline extension from Node J-9000 through the campground to the tank

Junction	Average Day	Max Day	Max Day + Fire Flow	Potential Problems/Fallbacks
Tank Net Flow Rate	58-gpm inflow	220-gpm outflow	2,115-gpm outflow	1) Water storage tank does not fill during high demand periods
Tank Cycle Rate	9.2 days	3.2 days	3.9 hours	
J-9000 Pressure	197.6 psi	195.6 psi	126.8 psi	
J-9001 Pressure	140.9 psi	139.7 psi	65.1 psi	**Scenario does not work**
J-9004 Pressure	197.5 psi	195.6 psi	126.8 psi	
J-186 Pressure	33.8 psi	30.4 psi	29.8 psi	
J-1067 Pressure	109.4 psi	102.2 psi	92.9 psi	
J-236 (PRV) Pressure	219.0 psi	216.0 psi	147.2 psi	

Scenario #5: Installation of the proposed water storage tank at base elevation 1750 feet with a single 10-inch pieline extension from Node J-9000 through the campground to the tank

Junction	Average Day	Max Day	Max Day + Fire Flow	Potential Problems/Fallbacks
Tank Net Flow Rate	59-gpm inflow	234-gpm outflow	2,352-gpm outflow	1) Water storage tank does not fill during high demand periods
Tank Cycle Rate	9.2 days	3.0 days	3.5 hours	
J-9000 Pressure	197.5 psi	196.2 psi	167.6 psi	
J-9001 Pressure	140.9 psi	140.4 psi	109.7 psi	**Scenario will not work**
J-9004 Pressure	197.5 psi	196.2 psi	167.6 psi	
J-186 Pressure	33.8 psi	30.4 psi	30.1 psi	
J-1067 Pressure	109.4 psi	102.4 psi	97.3 psi	
J-236 (PRV) Pressure	219.0 psi	216.6 psi	188.0 psi	

Scenario #6: Installation of the proposed water storage tank at base elevation 1750 feet with an 8-inch pipeline extension from Node J-9000 through the campground to the tank and a 10-inch pipeline extension from the tank to Node J-9004

Junction	Average Day	Max Day	Max Day + Fire Flow	Potential Problems/Fallbacks
Tank Net Flow Rate	51-gpm inflow	249-gpm outflow	2,749-gpm outflow	1) Water storage tank does not fill during high demand periods
Tank Cycle Rate	9.2 days	2.8 days	3.1 hours	
J-9000 Pressure	198.0 psi	196.9 psi	196.9 psi	
J-9001 Pressure	141.2 psi	140.7 psi	140.7 psi	**Scenario will not work**
J-9002 Pressure	140.8 psi	140.5 psi	101.0 psi	
J-9004 Pressure	197.0 psi	196.0 psi	157.0 psi	
J-186 Pressure	33.8 psi	30.4 psi	30.4 psi	
J-1067 Pressure	109.5 psi	102.6 psi	102.6 psi	
J-236 (PRV) Pressure	218.6 psi	217.0 psi	177.4 psi	

Table 1 (continued)

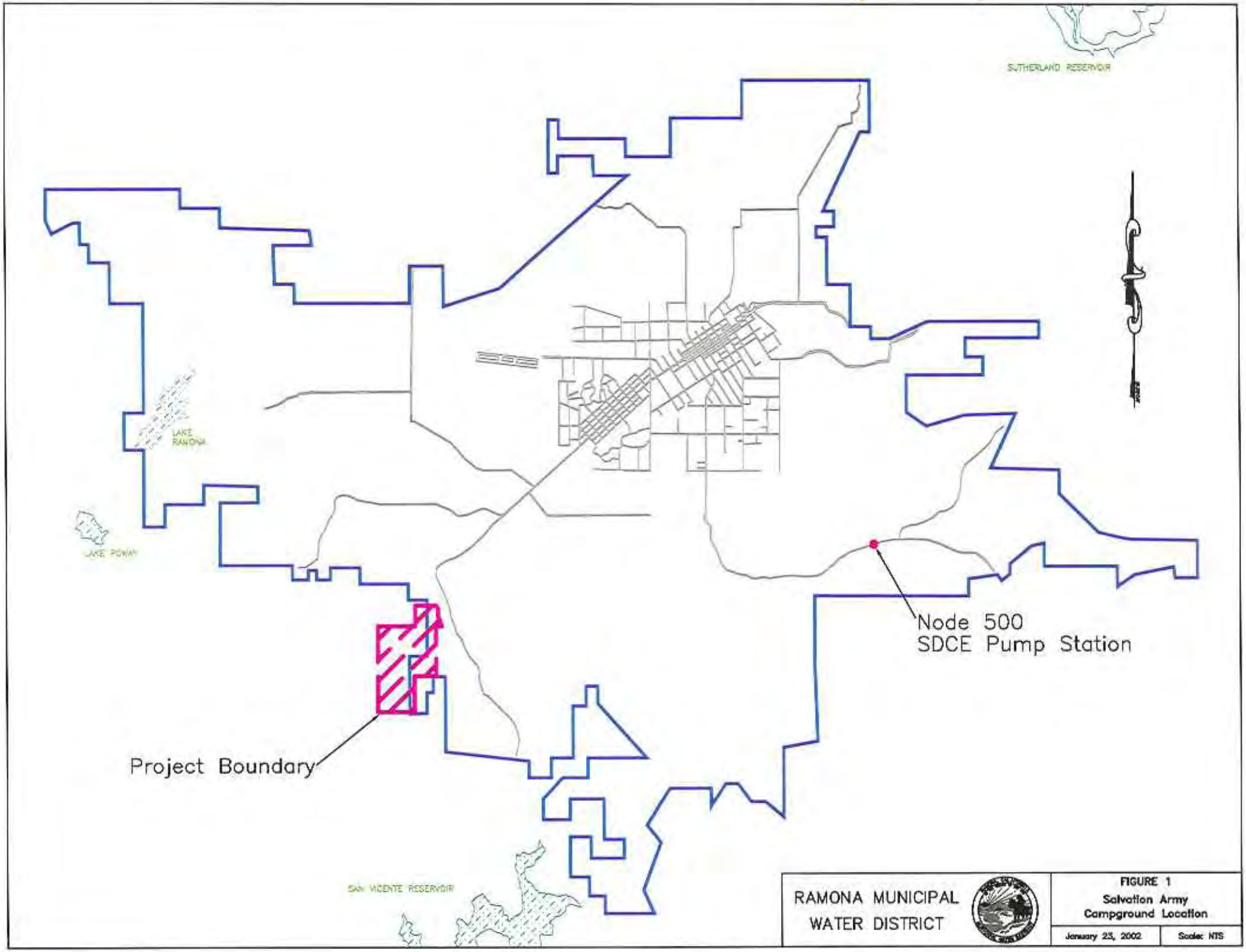
Scenario #7: Installation of the proposed water storage tank at base elevation 1665 feet with a single 10-inch pipeline extension from Node J-9000 through the campground to the tank

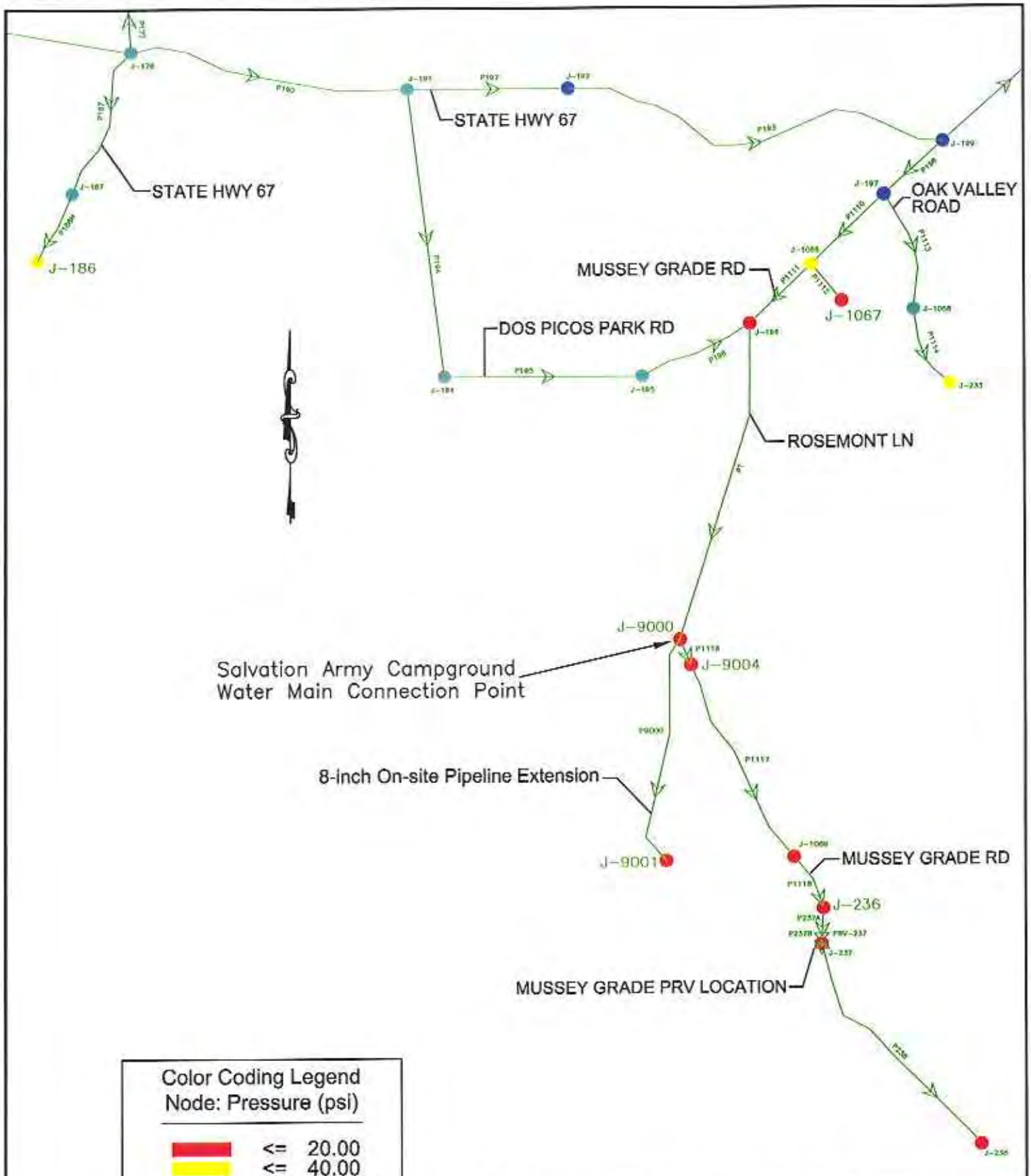
Junction	Average Day	Max Day	Max Day + Fire Flow	Potential Problems/Fallbacks
Tank Net Flow Rate	366-gpm inflow	193-gpm inflow	2,157-gpm outflow	1) Slight pressure reduction to Mussey Grade PRV
Tank Cycle Rate	9.2 days	4.0 days	3.9 hours	
J-9000 Pressure	162.7 psi	161.3 psi	135.4 psi	2) 40-psi pressure flux at PRV when tank line is opened to the distribution system
J-9001 Pressure	105.0 psi	104.3 psi	77.5 psi	
J-9004 Pressure	162.7 psi	161.3 psi	135.4 psi	
J-186 Pressure	33.5 psi	30.0 psi	29.9 psi	
J-1067 Pressure	106.0 psi	96.6 psi	93.8 psi	
J-236 (PRV) Pressure	184.2 psi	181.7 psi	155.8 psi	

Scenario #8: Installation of the proposed water storage tank at base elevation 1665 feet with an 8-inch pipeline extension from Node J-9000 through the campground to the tank and a 10-inch pipeline extension from the tank to Node J-9004

Junction	Average Day	Max Day	Max Day + Fire Flow	Potential Problems/Fallbacks
Tank Net Flow Rate	333-gpm inflow	160-gpm inflow	2,340-gpm outflow	1) Slight pressure reduction to Mussey Grade PRV
Tank Cycle Rate	9.2 days	4.0 days	3.6 hours	
J-9000 Pressure	167.9 psi	166.0 psi	166.0 psi	
J-9001 Pressure	107.6 psi	106.7 psi	106.7 psi	
J-9002 Pressure	103.9 psi	103.7 psi	64.1 psi	
J-9004 Pressure	160.2 psi	159.8 psi	120.2 psi	
J-186 Pressure	33.6 psi	30.0 psi	30.0 psi	
J-1067 Pressure	106.4 psi	97.1 psi	97.1 psi	
J-236 (PRV) Pressure	181.7 psi	180.2 psi	140.6 psi	

Table 1 (continued)


SUTHERLAND RESERVOIR
LAKE RAMONA
LAKE POWAY
Node 500
SDCE Pump Station
Project Boundary
SAN VICENTE RESERVOIR
RAMONA MUNICIPAL
WATER DISTRICT
FIGURE 1
Salvation Army
Campground Location
January 23, 2002
Scale: NTS



RAMONA MUNICIPAL WATER DISTRICT
ENGINEERING DEPARTMENT

Figure 2:
Scenario #1 Maximum Daily Plus Fire Demand

R.S. DESIGN BY	R.S. DRAWN BY	1/23/02 DATE	NTS SCALE	

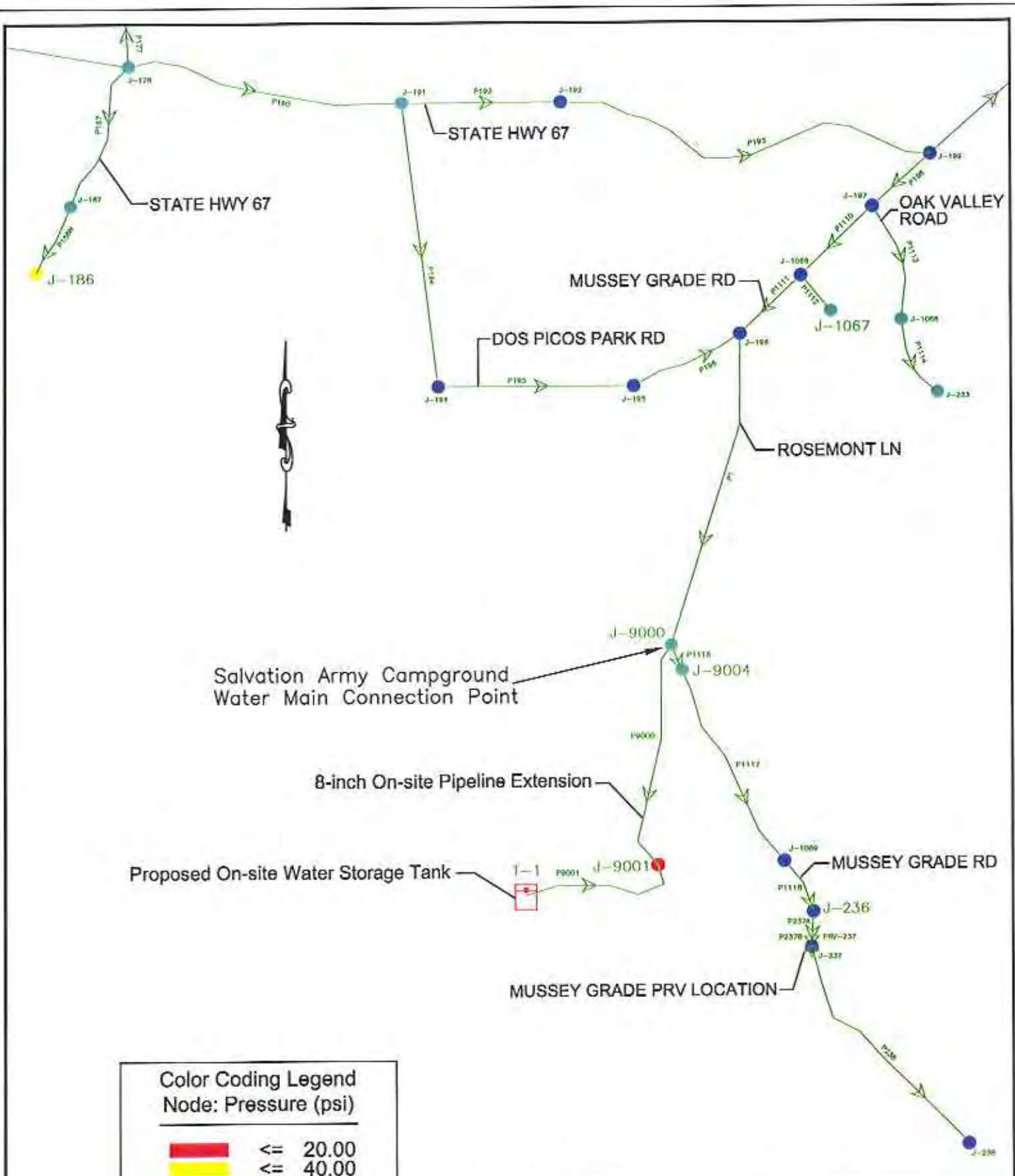


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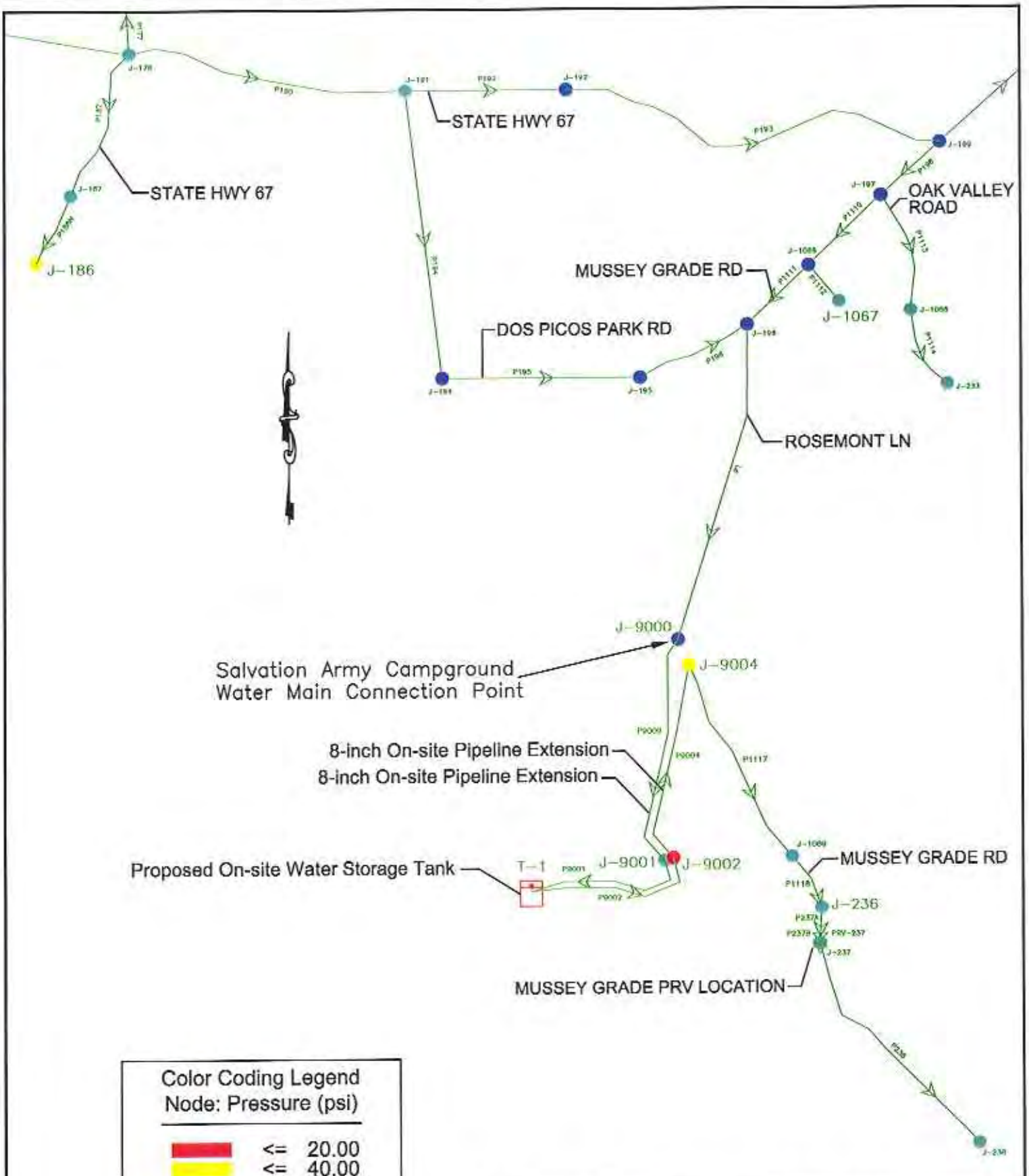
Figure 3:
Scenario #2 Maximum Daily Plus Fire Demand

R.S. DESIGN BY	R.S. DRAWN BY	1/23/02 DATE	NTS SCALE	



RAMONA MUNICIPAL WATER DISTRICT ENGINEERING DEPARTMENT				
Figure 4: Scenario #3 Maximum Daily Plus Fire Demand				
R.S. DESIGN BY	R.S. DRAWN BY	1/23/02 DATE	NTS SCALE	

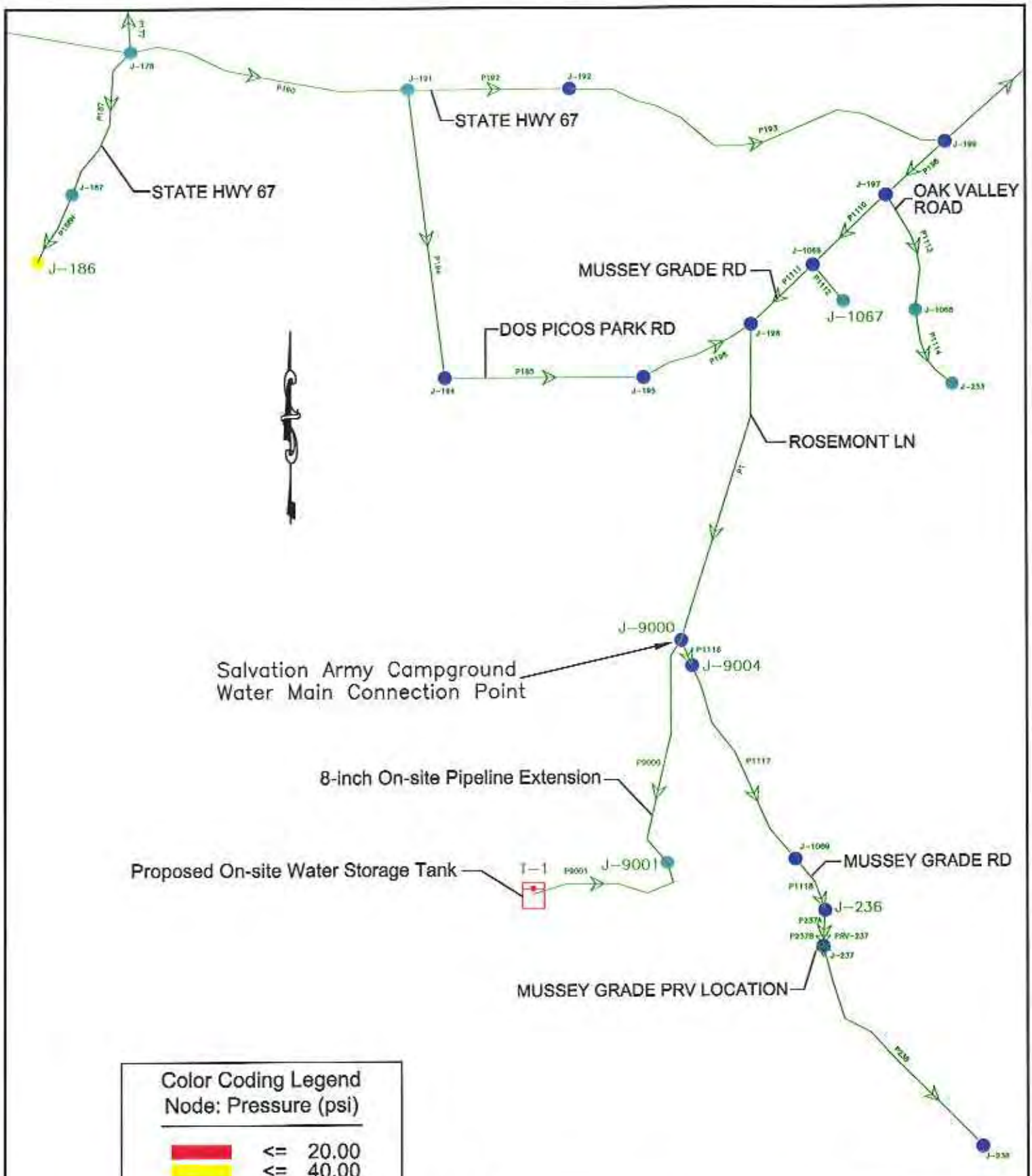


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Figure 5:
Scenario #4 Maximum Daily Plus Fire Demand

R.S. DESIGN BY	R.S. DRAWN BY	1/23/02 DATE	NTS SCALE	

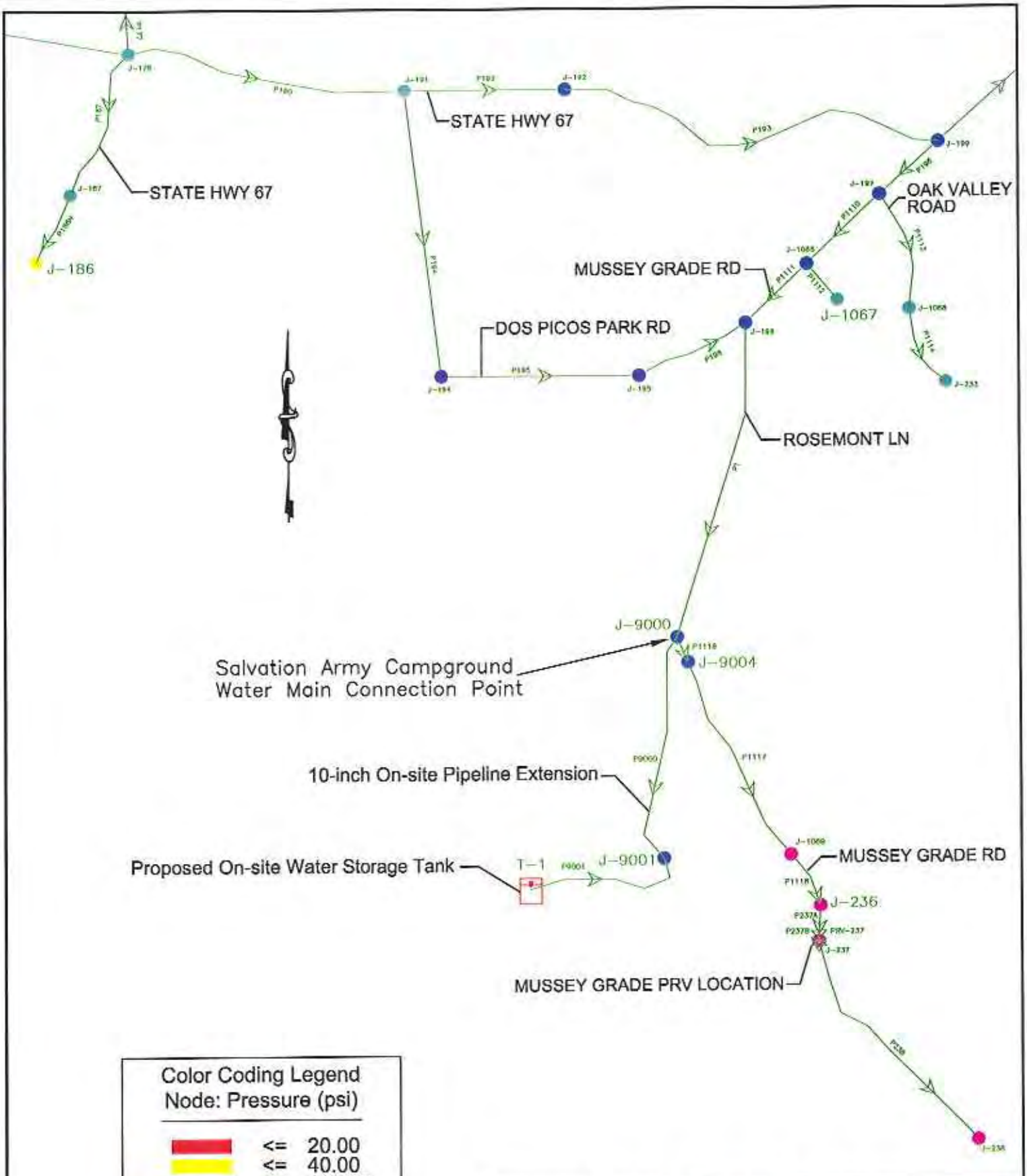

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Figure 6:
Scenario #5 Maximum Daily Plus Fire Demand

R.S. DESIGN BY	R.S. DRAWN BY	1/23/02 DATE	NTS SCALE	

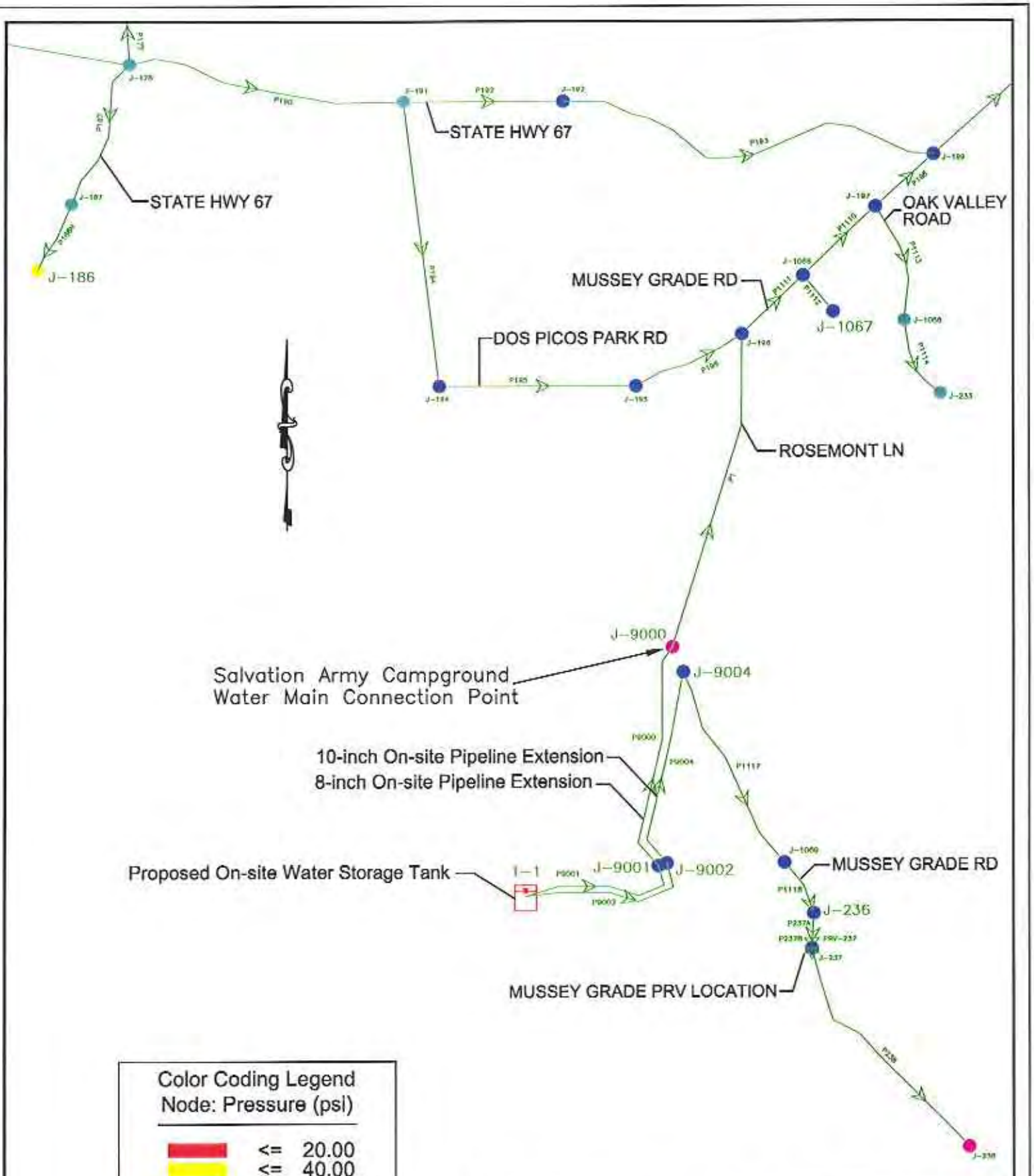

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Figure 7:
Scenario #6 Maximum Daily Plus Fire Demand

R.S. DESIGN BY	R.S. DRAWN BY	1/23/02 DATE	NTS SCALE	

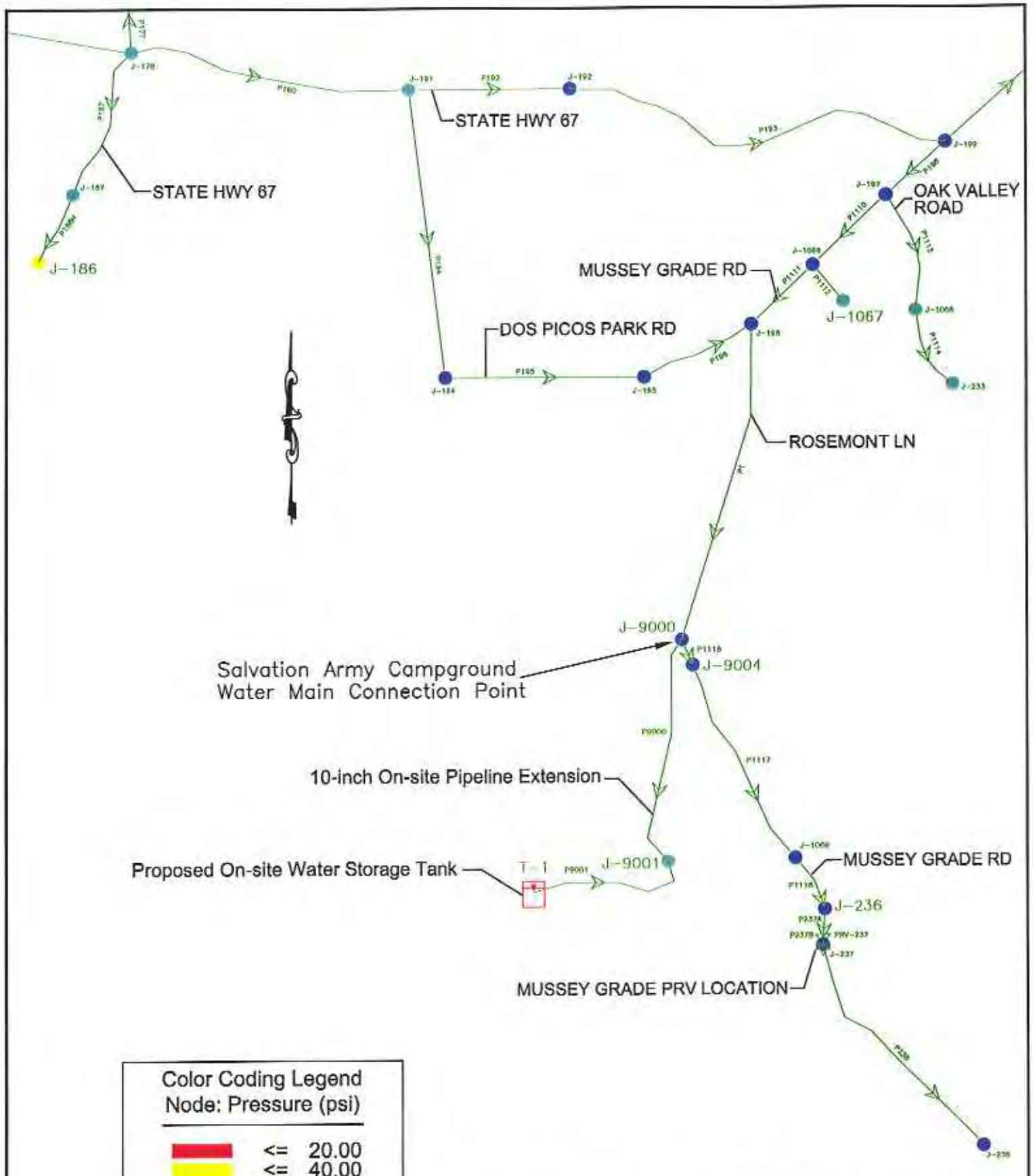

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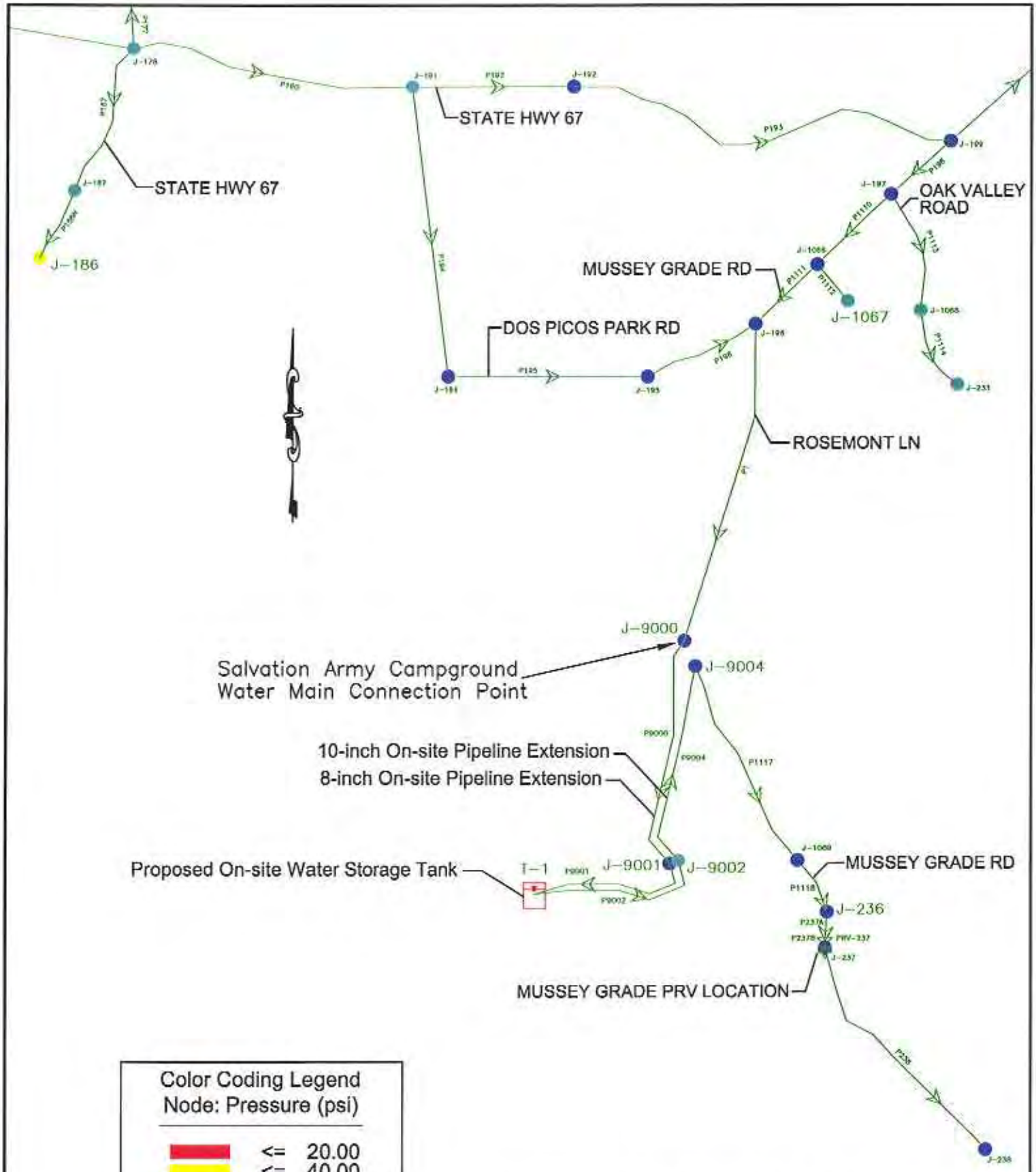
Figure 8:
Scenario #7 Maximum Daily Plus Fire Demand

R.S. DESIGN BY	R.S. DRAWN BY	1/23/02 DATE	NTS SCALE	



RAMONA MUNICIPAL WATER DISTRICT
ENGINEERING DEPARTMENT

Figure 9:
Scenario #8 Maximum Daily Plus Fire Demand

R.S. DESIGN BY	R.S. DRAWN BY	1/23/02 DATE	NTS SCALE	

APPENDICES

A. Scenario #7 Summary Report: Average Daily Demand

B. Scenario #7 Summary Report: Maximum Daily Demand

C. Scenario #7 Summary Report: Maximum Daily Plus 2,500 GPM Fire Demand

D. Scenario #8 Summary Report: Average Daily Demand

E. Scenario #8 Summary Report: Maximum Daily Demand

F. Scenario #8 Summary Report: Maximum Daily Plus 2,500 GPM Fire Demand

APPENDIX A

Scenario #7 Summary Report: Average Daily Demand

Scenario Summary Report
Scenario: Average Daily

Scenario Summary	
Physical Alternative	Existing
Demand Alternative	Existing - Average Day
Initial Settings Alternative	Bargar On - West End On
Operational Alternative	Base-Operational
Age Alternative	Base-Age Alternative
Constituent Alternative	Base-Constituent
Trace Alternative	Base-Trace Alternative
Fire Flow Alternative	Fire Flow - 20 psi min zone pressure
Cost Alternative	Base-Cost
User Data Alternative	Base-User Data

Hydraulic Analysis Summary			
Analysis	Extended Period	Start Time	0.00 hr
Friction Method	Hazen-Williams Formula	Hydraulic Time Step	1.00 hr
Accuracy	0.002000	Duration	24.00 hr
Trials	100		

Quality Analysis Summary			
Analysis	Constituent	Maximum Pipe Segments	100
Quality Time Step	N/A hr	Minimum Pipe Travel Time	0.10 hr

Calibration			
Demand Operation	<None>	Roughness Operation	<None>
Demand	0.00	Roughness	0.00

Created: 05/21/98 04:08:01 PM

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-111	1,400.00	Demand	7.42	Fixed	7.42	1,789.93	168.95
J-115	1,640.00	Demand	1.90	Fixed	1.90	1,789.52	64.79
J-116	1,617.00	Demand	2.44	Fixed	2.44	1,789.50	74.75
J-117	1,200.00	Demand	1.77	Fixed	1.77	1,246.16	20.00
J-121	830.00	Demand	8.45	Fixed	8.45	1,146.61	137.19
J-122	980.00	Demand	10.92	Fixed	10.92	1,146.80	72.27
J-123	740.00	Demand	16.94	Fixed	16.94	1,146.49	176.13
J-126	1,190.00	Demand	14.70	Fixed	14.70	1,485.10	127.87
J-127	1,200.00	Demand	0.00	Fixed	0.00	1,485.16	123.56
J-128	1,200.00	Demand	2.52	Fixed	2.52	1,485.16	123.56
J-131	1,300.00	Demand	7.61	Fixed	7.61	1,789.28	212.01
J-133	1,600.00	Demand	2.31	Fixed	2.31	1,789.30	82.03
J-134	1,600.00	Demand	1.55	Fixed	1.55	1,789.31	82.03
J-140	1,300.00	Demand	0.43	Fixed	0.43	1,485.16	80.23
J-141	1,373.00	Demand	2.23	Fixed	2.23	1,789.32	180.39
J-143	1,300.00	Demand	2.31	Fixed	2.31	1,789.32	212.02
J-148	1,380.00	Demand	10.73	Fixed	10.73	1,789.33	177.36
J-150	1,500.00	Demand	17.12	Fixed	17.12	1,789.33	125.37
J-151	1,550.00	Demand	7.91	Fixed	7.91	1,789.19	103.64
J-152	1,590.00	Demand	2.43	Fixed	2.43	1,788.55	86.03
J-153	1,520.00	Demand	1.97	Fixed	1.97	1,789.78	116.90
J-154	1,450.00	Demand	0.29	Fixed	0.29	1,790.25	147.43
J-158	1,580.00	Demand	0.57	Fixed	0.57	1,789.19	90.64
J-161	1,650.00	Demand	0.00	Fixed	0.00	1,791.59	61.35
J-162	1,600.00	Demand	1.50	Fixed	1.50	1,793.94	84.03
J-163	1,700.00	Demand	2.52	Fixed	2.52	1,798.65	41.88
J-164	1,650.00	Demand	1.21	Fixed	1.21	1,798.96	64.54
J-165	1,700.00	Demand	0.31	Fixed	0.31	1,802.23	44.29
J-168	1,450.00	Demand	0.15	Fixed	0.15	1,798.96	151.20
J-172	1,590.00	Demand	8.99	Fixed	8.99	1,788.51	86.02
J-174	1,540.00	Demand	10.91	Fixed	10.91	1,788.51	107.68
J-175	1,440.00	Demand	2.54	Fixed	2.54	1,788.54	151.02
J-176	1,450.00	Demand	3.42	Fixed	3.42	1,790.85	147.69
J-177	1,640.00	Demand	150.29	Fixed	150.29	1,795.59	67.42
J-178	1,660.00	Demand	8.57	Fixed	8.57	1,797.77	59.70
J-181	1,640.00	Demand	3.45	Fixed	3.45	1,805.50	71.71
J-185	1,670.00	Demand	11.31	Fixed	11.31	1,795.58	54.41
J-186	1,720.00	Demand	17.25	Fixed	17.25	1,797.41	33.54
J-187	1,690.00	Demand	17.00	Fixed	17.00	1,797.41	46.54
J-191	1,550.00	Demand	40.54	Fixed	40.54	1,784.50	101.61
J-192	1,480.00	Demand	43.91	Fixed	43.91	1,774.47	127.60
J-194	1,500.00	Demand	28.15	Fixed	28.15	1,779.10	120.94
J-195	1,455.00	Demand	17.60	Fixed	17.60	1,775.79	139.00
J-196	1,470.00	Demand	41.54	Fixed	41.54	1,757.93	124.76
J-197	1,435.00	Demand	36.06	Fixed	36.06	1,761.47	141.46
J-199	1,430.00	Demand	16.33	Fixed	16.33	1,762.19	143.94
J-201	1,370.00	Demand	0.00	Fixed	0.00	1,788.22	181.22
J-202	1,350.00	Demand	0.00	Fixed	0.00	1,787.90	189.74
J-203	1,370.00	Demand	3.01	Fixed	3.01	1,787.16	180.76
J-204	1,390.00	Demand	10.82	Fixed	10.82	1,775.62	167.09
J-206	1,500.00	Demand	19.62	Fixed	19.62	1,775.61	119.42
J-207	1,405.00	Demand	15.94	Fixed	15.94	1,770.51	158.38

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-208	1,420.00	Demand	0.00	Fixed	0.00	1,754.64	145.00
J-209	1,425.00	Demand	11.96	Fixed	11.96	1,754.86	142.93
J-212	1,370.00	Demand	0.01	Fixed	0.01	1,787.82	181.04
J-213	1,400.00	Demand	0.00	Fixed	0.00	1,787.69	167.99
J-214	1,395.00	Demand	13.85	Fixed	13.85	1,787.57	170.10
J-215	1,395.00	Demand	0.96	Fixed	0.96	1,786.33	169.56
J-216	1,420.00	Demand	15.65	Fixed	15.65	1,786.26	158.70
J-217	1,405.00	Demand	6.32	Fixed	6.32	1,786.31	165.22
J-220	1,370.00	Demand	13.20	Fixed	13.20	1,761.57	169.67
J-221	1,385.00	Demand	3.56	Fixed	3.56	1,756.78	161.09
J-222	1,390.00	Demand	3.99	Fixed	3.99	1,755.80	158.50
J-223	1,375.00	Demand	1.75	Fixed	1.75	1,756.35	165.24
J-224	1,375.00	Demand	3.81	Fixed	3.81	1,756.14	165.15
J-226	1,395.00	Demand	8.13	Fixed	8.13	1,754.01	155.56
J-227	1,390.00	Demand	8.83	Fixed	8.83	1,756.12	158.64
J-230	1,390.00	Demand	9.60	Fixed	9.60	1,745.68	154.12
J-231	1,420.00	Demand	4.59	Fixed	4.59	1,751.98	143.65
J-233	1,600.00	Demand	14.75	Fixed	14.75	1,761.38	69.93
J-236	1,255.00	Demand	1.27	Fixed	1.27	1,680.02	184.16
J-237	1,255.00	Demand	2.56	Fixed	2.56	1,670.42	180.00
J-238	1,200.00	Demand	19.56	Fixed	19.56	1,670.19	203.73
J-241	1,430.00	Demand	31.62	Fixed	31.62	1,751.95	139.50
J-242	1,525.00	Demand	19.52	Fixed	19.52	1,751.85	98.29
J-244	1,430.00	Demand	10.81	Fixed	10.81	1,746.53	137.15
J-245	1,425.00	Demand	6.53	Fixed	6.53	1,743.61	138.06
J-246	1,475.00	Demand	7.73	Fixed	7.73	1,742.30	115.82
J-247	1,435.00	Demand	5.63	Fixed	5.63	1,742.16	133.09
J-248	1,430.00	Demand	6.18	Fixed	6.18	1,742.48	135.40
J-249	1,430.00	Demand	5.15	Fixed	5.15	1,742.96	135.60
J-250	1,395.00	Demand	10.77	Fixed	10.77	1,742.65	150.63
J-252	1,395.00	Demand	14.48	Fixed	14.48	1,740.82	149.85
J-253	1,405.00	Demand	10.99	Fixed	10.99	1,742.20	146.11
J-255	1,430.00	Demand	5.04	Fixed	5.04	1,740.89	134.71
J-256	1,430.00	Demand	42.83	Fixed	42.83	1,740.91	134.72
J-258	1,410.00	Demand	10.97	Fixed	10.97	1,740.88	143.37
J-260	1,395.00	Demand	6.57	Fixed	6.57	1,742.98	150.78
J-262	1,395.00	Demand	14.40	Fixed	14.40	1,742.04	150.37
J-263	1,405.00	Demand	8.47	Fixed	8.47	1,740.62	145.42
J-264	1,400.00	Demand	3.91	Fixed	3.91	1,740.61	147.58
J-265	1,410.00	Demand	4.08	Fixed	4.08	1,735.03	140.83
J-266	1,410.00	Demand	11.79	Fixed	11.79	1,733.84	140.32
J-267	1,410.00	Demand	1.22	Fixed	1.22	1,733.80	140.30
J-270	1,410.00	Demand	12.00	Fixed	12.00	1,741.32	143.56
J-271	1,410.00	Demand	14.63	Fixed	14.63	1,737.65	141.97
J-275	1,420.00	Demand	7.93	Fixed	7.93	1,731.36	134.91
J-277	1,405.00	Demand	69.65	Fixed	69.65	1,727.07	139.55
J-280	1,430.00	Demand	9.13	Fixed	9.13	1,740.91	134.72
J-282	1,540.00	Demand	4.96	Fixed	4.96	1,740.90	87.05
J-283	1,470.00	Demand	8.47	Fixed	8.47	1,740.90	117.38
J-284	1,430.00	Demand	30.10	Fixed	30.10	1,740.91	134.72
J-285	1,440.00	Demand	34.61	Fixed	34.61	1,740.91	130.38
J-287	1,450.00	Demand	8.34	Fixed	8.34	1,741.52	126.31

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-288	1,440.00	Demand	1.89	Fixed	1.89	1,741.96	130.84
J-289	1,450.00	Demand	22.55	Fixed	22.55	1,740.44	125.85
J-290	1,510.00	Demand	0.00	Fixed	0.00	1,738.96	99.21
J-292	1,435.00	Demand	7.33	Fixed	7.33	1,740.90	132.55
J-293	1,450.00	Demand	16.19	Fixed	16.19	1,741.05	126.11
J-294	1,470.00	Demand	15.59	Fixed	15.59	1,741.27	117.54
J-295	1,480.00	Demand	16.49	Fixed	16.49	1,741.22	113.19
J-297	1,430.00	Demand	16.25	Fixed	16.25	1,740.92	134.72
J-301	1,710.00	Demand	36.75	Fixed	36.75	1,811.52	43.99
J-302	1,650.00	Demand	3.94	Fixed	3.94	1,807.64	68.31
J-303	1,560.00	Demand	25.21	Fixed	25.21	1,804.20	105.81
J-304	1,520.00	Demand	22.44	Fixed	22.44	1,799.42	121.07
J-305	1,540.00	Demand	2.36	Fixed	2.36	1,799.42	112.41
J-306	1,550.00	Demand	0.84	Fixed	0.84	1,799.42	108.07
J-307	1,490.00	Demand	3.55	Fixed	3.55	1,788.68	129.42
J-308	1,490.00	Demand	4.02	Fixed	4.02	1,772.85	122.56
J-309	1,520.00	Demand	8.95	Fixed	8.95	1,772.85	109.56
J-310	1,500.00	Demand	1.85	Fixed	1.85	1,772.85	118.23
J-311	1,490.00	Demand	9.82	Fixed	9.82	1,788.65	129.41
J-312	1,480.00	Demand	12.01	Fixed	12.01	1,770.39	125.83
J-313	1,540.00	Demand	19.15	Fixed	19.15	1,755.04	93.18
J-314	1,600.00	Demand	15.82	Fixed	15.82	1,754.98	67.15
J-316	1,540.00	Demand	4.96	Fixed	4.96	1,770.39	99.83
J-318	1,530.00	Demand	2.51	Fixed	2.51	1,751.93	96.16
J-319	1,525.00	Demand	13.15	Fixed	13.15	1,747.06	96.22
J-320	1,525.00	Demand	15.89	Fixed	15.89	1,743.98	94.88
J-321	1,510.00	Demand	4.24	Fixed	4.24	1,723.40	92.46
J-322	1,475.00	Demand	14.10	Fixed	14.10	1,726.87	109.14
J-323	1,550.00	Demand	6.29	Fixed	6.29	1,741.24	82.87
J-324	1,580.00	Demand	1.08	Fixed	1.08	1,740.41	69.51
J-325	1,675.00	Demand	7.50	Fixed	7.50	1,737.22	26.96
J-326	1,590.00	Demand	10.03	Fixed	10.03	1,730.50	60.88
J-328	1,510.00	Demand	6.62	Fixed	6.62	1,736.68	98.22
J-330	1,490.00	Demand	17.45	Fixed	17.45	1,741.61	109.02
J-332	1,490.00	Demand	5.61	Fixed	5.61	1,739.40	108.07
J-333	1,530.00	Demand	3.32	Fixed	3.32	1,738.48	90.33
J-336	1,490.00	Demand	13.22	Fixed	13.22	1,741.17	108.83
J-338	1,500.00	Demand	1.04	Fixed	1.04	1,724.58	97.31
J-340	1,490.00	Demand	12.81	Fixed	12.81	1,796.16	132.66
J-341	1,485.00	Demand	2.48	Fixed	2.48	1,795.48	134.53
J-342	1,490.00	Demand	7.34	Fixed	7.34	1,794.80	132.07
J-343	1,520.00	Demand	1.91	Fixed	1.91	1,795.74	119.48
J-344	1,555.00	Demand	6.98	Fixed	6.98	1,795.73	104.31
J-345	1,590.00	Demand	7.05	Fixed	7.05	1,795.63	89.10
J-346	1,555.00	Demand	7.24	Fixed	7.24	1,795.57	104.24
J-349	1,490.00	Demand	3.94	Fixed	3.94	1,793.33	131.43
J-350	1,510.00	Demand	0.80	Fixed	0.80	1,793.33	122.77
J-351	1,450.00	Demand	1.24	Fixed	1.24	1,793.95	149.03
J-352	1,390.00	Demand	15.98	Fixed	15.98	1,794.87	175.43
J-353	1,500.00	Demand	13.44	Fixed	13.44	1,795.16	127.89
J-354	1,550.00	Demand	0.57	Fixed	0.57	1,795.41	106.33
J-356	1,400.00	Demand	2.58	Fixed	2.58	1,795.16	171.22

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-360	1,550.00	Demand	45.07	Fixed	45.07	1,791.63	104.70
J-361	1,450.00	Demand	38.21	Fixed	38.21	1,789.87	147.27
J-362	1,425.00	Demand	7.12	Fixed	7.12	1,789.82	158.08
J-363	1,430.00	Demand	2.00	Fixed	2.00	1,789.69	155.85
J-364	1,450.00	Demand	5.76	Fixed	5.76	1,789.68	147.18
J-366	1,430.00	Demand	9.18	Fixed	9.18	1,788.63	155.39
J-367	1,410.00	Demand	4.33	Fixed	4.33	1,788.03	163.80
J-368	1,405.00	Demand	5.32	Fixed	5.32	1,787.76	165.85
J-370	1,415.00	Demand	3.40	Fixed	3.40	1,788.33	161.76
J-372	1,410.00	Demand	2.31	Fixed	2.31	1,788.39	163.96
J-373	1,420.00	Demand	2.87	Fixed	2.87	1,788.47	159.66
J-374	1,415.00	Demand	10.87	Fixed	10.87	1,788.61	161.88
J-375	1,410.00	Demand	4.76	Fixed	4.76	1,788.38	163.95
J-376	1,510.00	Demand	10.51	Fixed	10.51	1,789.22	120.99
J-377	1,660.00	Demand	31.32	Fixed	31.32	1,790.68	56.62
J-378	1,615.00	Demand	4.90	Fixed	4.90	1,790.90	76.22
J-402	1,515.00	Demand	19.98	Fixed	19.98	1,689.23	75.50
J-403	1,490.00	Demand	11.75	Fixed	11.75	1,707.15	94.09
J-404	1,495.00	Demand	4.52	Fixed	4.52	1,708.22	92.39
J-405	1,500.00	Demand	0.48	Fixed	0.48	1,709.73	90.87
J-406	1,500.00	Demand	1.79	Fixed	1.79	1,710.04	91.01
J-407	1,540.00	Demand	13.68	Fixed	13.68	1,710.51	73.88
J-408	1,483.00	Demand	5.38	Fixed	5.38	1,710.50	98.58
J-410	1,550.00	Demand	8.83	Fixed	8.83	1,700.72	65.31
J-411	1,470.00	Demand	6.50	Fixed	6.50	1,712.33	105.00
J-412	1,460.00	Demand	5.96	Fixed	5.96	1,712.55	109.43
J-414	1,470.00	Demand	16.23	Fixed	16.23	1,713.15	105.36
J-416	1,470.00	Demand	5.98	Fixed	5.98	1,714.58	105.98
J-417	1,475.00	Demand	3.50	Fixed	3.50	1,714.23	103.66
J-419	1,445.00	Demand	14.37	Fixed	14.37	1,716.43	117.61
J-420	1,460.00	Demand	1.60	Fixed	1.60	1,716.21	111.02
J-421	1,450.00	Demand	3.61	Fixed	3.61	1,716.45	115.45
J-422	1,440.00	Demand	7.47	Fixed	7.47	1,716.59	119.85
J-423	1,430.00	Demand	3.15	Fixed	3.15	1,716.07	124.82
J-424	1,430.00	Demand	17.14	Fixed	17.14	1,716.08	124.82
J-426	1,425.00	Demand	5.06	Fixed	5.06	1,720.25	127.93
J-427	1,420.00	Demand	6.96	Fixed	6.96	1,720.66	130.28
J-429	1,420.00	Demand	3.30	Fixed	3.30	1,721.51	130.64
J-430	1,420.00	Demand	4.97	Fixed	4.97	1,721.70	130.73
J-431	1,420.00	Demand	28.51	Fixed	28.51	1,726.00	132.59
J-432	1,415.00	Demand	12.86	Fixed	12.86	1,726.33	134.90
J-433	1,410.00	Demand	45.72	Fixed	45.72	1,726.94	137.33
J-434	1,420.00	Demand	23.18	Fixed	23.18	1,727.40	133.20
J-435	1,430.00	Demand	0.00	Fixed	0.00	1,719.96	125.64
J-436	1,430.00	Demand	2.73	Fixed	2.73	1,719.46	125.42
J-437	1,420.00	Demand	17.54	Fixed	17.54	1,730.34	134.47
J-438	1,460.00	Demand	0.00	Fixed	0.00	1,716.32	111.07
J-439	1,420.00	Demand	20.41	Fixed	20.41	1,725.61	132.42
J-440	1,425.00	Demand	14.35	Fixed	14.35	1,721.03	128.27
J-442	1,425.00	Demand	13.23	Fixed	13.23	1,720.64	128.10
J-444	1,430.00	Demand	12.66	Fixed	12.66	1,718.78	125.13
J-446	1,440.00	Demand	9.26	Fixed	9.26	1,716.54	119.83

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-449	1,455.00	Demand	1.65	Fixed	1.65	1,715.97	113.08
J-451	1,480.00	Demand	3.17	Fixed	3.17	1,715.56	102.07
J-452	1,470.00	Demand	12.02	Fixed	12.02	1,716.40	106.76
J-454	1,550.00	Demand	9.09	Fixed	9.09	1,717.31	72.50
J-455	1,520.00	Demand	0.00	Fixed	0.00	1,717.90	85.75
J-457	1,530.00	Demand	4.99	Fixed	4.99	1,721.74	83.08
J-458	1,510.00	Demand	3.64	Fixed	3.64	1,717.43	89.88
J-461	1,470.00	Demand	19.60	Fixed	19.60	1,717.42	107.21
J-462	1,470.00	Demand	4.72	Fixed	4.72	1,718.94	107.87
J-464	1,460.00	Demand	10.80	Fixed	10.80	1,716.67	111.22
J-466	1,450.00	Demand	7.13	Fixed	7.13	1,716.85	115.63
J-469	1,440.00	Demand	1.89	Fixed	1.89	1,720.30	121.46
J-470	1,440.00	Demand	11.64	Fixed	11.64	1,723.32	122.76
J-471	1,430.00	Demand	11.80	Fixed	11.80	1,723.16	127.03
J-472	1,430.00	Demand	35.06	Fixed	35.06	1,724.29	127.52
J-474	1,425.00	Demand	44.38	Fixed	44.38	1,725.59	130.24
J-476	1,425.00	Demand	18.69	Fixed	18.69	1,727.84	131.22
J-479	1,435.00	Demand	3.51	Fixed	3.51	1,717.15	122.26
J-480	1,435.00	Demand	1.55	Fixed	1.55	1,717.17	122.27
J-481	1,430.00	Demand	1.38	Fixed	1.38	1,718.07	124.82
J-482	1,435.00	Demand	16.56	Fixed	16.56	1,717.29	122.32
J-483	1,450.00	Demand	1.00	Fixed	1.00	1,716.51	115.48
J-485	1,460.00	Demand	1.16	Fixed	1.16	1,715.06	110.52
J-486	1,460.00	Demand	33.73	Fixed	33.73	1,715.06	110.52
J-490	1,440.00	Demand	2.94	Fixed	2.94	1,741.98	130.85
J-491	1,430.00	Demand	1.11	Fixed	1.11	1,727.38	128.85
J-492	1,440.00	Demand	0.00	Fixed	0.00	1,740.91	130.38
J-494	1,510.00	Demand	1.37	Fixed	1.37	1,738.95	99.20
J-495	1,380.00	Demand	0.00	Fixed	0.00	1,728.76	151.12
J-496	1,280.00	Demand	1.76	Fixed	1.76	1,720.56	190.89
J-497	1,270.00	Demand	2.34	Fixed	2.34	1,717.79	194.03
J-499	1,340.00	Demand	0.00	Fixed	0.00	1,687.54	150.59
J-500	1,335.00	Demand	1,500.00	Fixed	1,500.00	1,677.82	148.54
J-740	1,600.00	Demand	0.00	Fixed	0.00	2,146.17	236.65
J-742	1,800.00	Demand	21.44	Fixed	21.44	2,115.43	136.68
J-743	1,735.00	Demand	12.16	Fixed	12.16	2,115.42	164.84
J-744	1,885.00	Demand	42.09	Fixed	42.09	2,115.41	99.84
J-745	2,100.00	Demand	0.00	Fixed	0.00	2,115.50	6.72
J-1000	1,540.00	Demand	5.83	Fixed	5.83	1,791.51	108.98
J-1001	1,460.00	Demand	0.00	Fixed	0.00	1,789.01	142.56
J-1002	1,420.00	Demand	0.48	Fixed	0.48	1,787.99	159.45
J-1003	1,390.00	Demand	0.76	Fixed	0.76	1,787.74	172.34
J-1005	1,395.00	Demand	0.00	Fixed	0.00	1,786.91	169.82
J-1011	1,450.00	Demand	1.42	Fixed	1.42	1,788.39	146.63
J-1012	1,460.00	Demand	1.63	Fixed	1.63	1,788.89	142.51
J-1013	1,420.00	Demand	3.03	Fixed	3.03	1,788.60	159.72
J-1014	1,420.00	Demand	0.17	Fixed	0.17	1,731.48	134.96
J-1015	1,415.00	Demand	1.39	Fixed	1.39	1,732.16	137.42
J-1016	1,415.00	Demand	5.21	Fixed	5.21	1,732.06	137.38
J-1017	1,405.00	Demand	0.28	Fixed	0.28	1,737.90	144.25
J-1018	1,405.00	Demand	0.92	Fixed	0.92	1,737.94	144.26
J-1019	1,405.00	Demand	0.00	Fixed	0.00	1,737.91	144.25

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-1020	1,410.00	Demand	3.06	Fixed	3.06	1,734.53	140.62
J-1021	1,415.00	Demand	6.02	Fixed	6.02	1,733.10	137.83
J-1022	1,410.00	Demand	0.00	Fixed	0.00	1,734.08	140.42
J-1023	1,415.00	Demand	0.00	Fixed	0.00	1,733.55	138.03
J-1024	1,465.00	Demand	1.03	Fixed	1.03	1,717.27	109.31
J-1025	1,450.00	Demand	0.00	Fixed	0.00	1,716.36	115.41
J-1026	1,460.00	Demand	0.28	Fixed	0.28	1,716.40	111.10
J-1027	1,450.00	Demand	0.00	Fixed	0.00	1,716.48	115.47
J-1028	1,440.00	Demand	0.00	Fixed	0.00	1,716.44	119.78
J-1031	1,465.00	Demand	1.54	Fixed	1.54	1,712.95	107.44
J-1032	1,435.00	Demand	1.32	Fixed	1.32	1,719.04	123.07
J-1033	1,480.00	Demand	1.88	Fixed	1.88	1,781.93	130.83
J-1034	1,440.00	Demand	13.79	Fixed	13.79	1,716.80	119.94
J-1035	1,540.00	Demand	0.31	Fixed	0.31	1,781.93	104.83
J-1036	1,540.00	Demand	7.76	Fixed	7.76	1,772.85	100.89
J-1039	1,430.00	Demand	0.05	Fixed	0.05	1,720.37	125.82
J-1040	1,430.00	Demand	1.57	Fixed	1.57	1,721.00	126.09
J-1041	1,450.00	Demand	0.00	Fixed	0.00	1,715.91	115.22
J-1042	1,460.00	Demand	0.66	Fixed	0.66	1,715.57	110.74
J-1043	1,515.00	Demand	0.22	Fixed	0.22	1,718.54	88.19
J-1044	1,495.00	Demand	2.41	Fixed	2.41	1,724.09	99.27
J-1045	1,480.00	Demand	0.00	Fixed	0.00	1,724.58	105.98
J-1046	1,430.00	Demand	12.26	Fixed	12.26	1,720.72	125.97
J-1047	1,425.00	Demand	0.00	Fixed	0.00	1,754.86	142.93
J-1054	1,430.00	Demand	0.00	Fixed	0.00	1,751.95	139.50
J-1055	1,430.00	Demand	0.00	Fixed	0.00	1,746.54	137.15
J-1057	1,420.00	Demand	0.00	Fixed	0.00	1,743.44	140.14
J-1058	1,420.00	Demand	0.00	Fixed	0.00	1,743.43	140.14
J-1059	1,440.00	Demand	0.00	Fixed	0.00	1,741.98	130.85
J-1060	1,509.00	Demand	0.00	Fixed	0.00	1,738.46	99.42
J-1061	1,410.00	Demand	0.00	Fixed	0.00	1,724.73	136.37
J-1062	1,510.00	Demand	0.00	Fixed	0.00	1,738.96	99.21
J-1063	1,510.00	Demand	0.00	Fixed	0.00	1,738.96	99.21
J-1066	1,455.00	Demand	0.00	Fixed	0.00	1,759.51	131.95
J-1067	1,515.00	Demand	0.00	Fixed	0.00	1,759.51	105.95
J-1068	1,545.00	Demand	0.00	Fixed	0.00	1,761.42	93.77
J-1069	1,265.00	Demand	0.00	Fixed	0.00	1,680.09	179.86
J-1600	1,444.00	Demand	0.00	Fixed	0.00	1,742.01	129.13
J-1601	1,444.00	Demand	0.00	Fixed	0.00	1,741.95	129.10
J-1602	1,444.00	Demand	0.00	Fixed	0.00	1,741.93	129.09
J-1603	1,444.00	Demand	0.00	Fixed	0.00	1,741.93	129.09
J-1605	1,509.00	Demand	0.00	Fixed	0.00	1,738.94	99.63
J-1610	1,506.00	Demand	0.00	Fixed	0.00	1,738.96	100.94
J-1611	1,511.00	Demand	0.00	Fixed	0.00	1,739.36	98.95
J-1612	1,511.00	Demand	0.00	Fixed	0.00	1,738.62	98.63
J-1613	1,506.00	Demand	0.00	Fixed	0.00	1,738.81	100.88
J-1651	1,600.00	Demand	0.00	Fixed	0.00	1,721.22	52.52
J-1652	1,350.00	Demand	0.00	Fixed	0.00	1,721.77	161.09
J-1653	1,370.00	Demand	0.00	Fixed	0.00	1,722.17	152.59
J-9000	1,305.00	Demand	0.00	Fixed	0.00	1,680.40	162.66
J-9001	1,435.00	Demand	42.00	Fixed	42.00	1,677.30	104.99
J-9002	1,435.00	Demand	0.00	Fixed	0.00	1,677.70	105.16

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-9004	1,305.00	Demand	10.00	Fixed	10.00	1,680.40	162.66

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P112	J-111	J-115	4,200.00	6	Asbestos Cement	27.90	0.32	0.41	0.10	132.0
P116	J-115	J-116	6,200.00	6	Asbestos Cement	4.21	0.05	0.02	2.91e-3	132.0
P121	PRV-120	J-121	3,300.00	6	Asbestos Cement	0.00	0.00	0.00	0.00	132.0
P122	J-121	J-122	2,300.00	6	Asbestos Cement	-25.38	0.29	0.19	0.08	132.0
P123	J-121	J-123	3,200.00	6	Asbestos Cement	16.94	0.19	0.12	0.04	132.0
P124	R-125	J-122	1,300.00	6	Asbestos Cement	36.30	0.41	0.20	0.16	132.0
P126	J-126	J-127	2,000.00	6	Asbestos Cement	-14.71	0.17	0.06	0.03	132.0
P127	J-127	J-128	2,500.00	12	Asbestos Cement	-14.71	0.04	2.56e-3	1.03e-3	130.0
P131	J-134	J-131	2,900.00	6	Steel	7.61	0.09	0.03	0.01	130.0
P133	J-134	J-133	3,000.00	6	Asbestos Cement	2.31	0.03	2.93e-3	9.77e-4	132.0
P140A	J-143	PRV-140	3,740.00	8	Asbestos Cement	17.65	0.11	0.04	0.01	130.0
P141	J-141	J-143	1,500.00	12	Asbestos Cement	8.09	0.02	6.1e-4	4.07e-4	130.0
P142	J-134	J-141	3,900.00	8	Asbestos Cement	-11.47	0.07	0.02	4.66e-3	131.0
P145	J-141	J-115	3,200.00	6	Asbestos Cement	-21.79	0.25	0.20	0.06	132.0
P147	J-143	J-148	1,800.00	12	Ductile Iron	-11.87	0.03	1.22e-3	6.78e-4	132.0
P148	J-150	J-148	2,600.00	12	Asbestos Cement	22.60	0.06	0.01	2.25e-3	132.0
P150	J-150	J-151	1,400.00	8	Asbestos Cement	60.17	0.38	0.14	0.10	132.0
P151	J-151	J-152	2,000.00	6	Asbestos Cement	51.69	0.59	0.64	0.32	128.0
P152	J-152	J-154	2,200.00	6	Asbestos Cement	-85.90	0.97	1.70	0.77	132.0
P153	J-150	J-153	1,800.00	8	Asbestos Cement	-99.90	0.64	0.45	0.25	132.0
P154	J-153	J-154	1,800.00	8	Asbestos Cement	-101.87	0.65	0.47	0.26	132.0
P155	J-154	J-111	2,200.00	6	Asbestos Cement	35.32	0.40	0.33	0.15	132.0
P158	J-151	J-158	4,000.00	6	Asbestos Cement	0.57	0.01	2.44e-4	6.1e-5	132.0
P160	J-154	J-161	1,200.00	8	Ductile Iron	-223.38	1.43	1.34	1.12	132.0
P161	J-161	J-162	2,100.00	8	Asbestos Cement	-223.38	1.43	2.34	1.12	132.0
P162	J-162	J-163	2,400.00	8	Asbestos Cement	-224.88	1.44	2.71	1.13	132.0
P163	J-163	J-164	2,000.00	8	Asbestos Cement	-227.40	1.45	2.31	1.15	132.0
P164	J-164	J-165	2,800.00	8	Asbestos Cement	-228.75	1.46	3.27	1.17	132.0
P165	J-165	R-180	2,800.00	8	Asbestos Cement	-229.06	1.46	3.27	1.17	132.0
P167	J-164	J-168	2,100.00	6	Asbestos Cement	0.15	1.66e-3	0.00	0.00	132.0
P170	J-152	J-175	3,600.00	20	Steel	123.97	0.13	0.02	4.34e-3	132.0
P171	J-152	J-172	2,200.00	6	Asbestos Cement	11.19	0.13	0.04	0.02	128.0
P173	J-172	J-174	2,800.00	6	Asbestos Cement	2.20	0.02	2.69e-3	9.59e-4	128.0
P174	J-174	J-175	2,400.00	6	Asbestos Cement	-8.72	0.10	0.03	0.01	128.0
P175	J-175	J-176	2,900.00	12	Steel	-541.46	1.54	2.31	0.80	132.0
P177	J-177	J-176	1,100.00	12	Steel	-886.47	2.51	2.18	1.98	132.0
P179	J-178	R-180	4,100.00	24	Steel	-5,142.80	3.65	7.73	1.88	127.0
P180	J-181	R-180	3,030.00	18	Steel	-3.45	4.35e-3	0.00	0.00	127.0
P185	J-177	J-185	2,680.00	8	Asbestos Cement	11.31	0.07	0.01	4.46e-3	132.0
P186N	J-186	J-187	800.00	12	PVC	-17.25	0.05	9.77e-4	1.22e-3	135.0
P187	J-178	J-187	2,380.00	6	Asbestos Cement	34.26	0.39	0.36	0.15	127.0
P190	J-178	J-191	4,190.00	20	Steel	4,213.51	4.30	13.27	3.17	127.0
P192	J-191	J-192	3,930.00	20	Ductile Iron	3,748.13	3.83	10.03	2.55	127.0
P193	J-192	J-199	4,920.00	20	Steel	3,704.22	3.78	12.28	2.50	127.0
P194	J-191	J-194	4,180.00	10	Asbestos Cement	424.83	1.74	5.40	1.29	129.0
P195	J-194	J-195	3,000.00	10	Asbestos Cement	396.68	1.62	3.31	1.10	131.0
P196	J-195	J-196	1,420.00	6	Asbestos Cement	379.08	4.30	17.86	12.58	129.0
P198	J-197	J-199	1,620.00	8	PVC	-154.88	0.99	0.72	0.45	150.0
P199	J-199	J-209	1,920.00	18	Steel	3,533.01	4.45	7.33	3.82	127.0
P201	J-175	J-201	3,350.00	20	Steel	654.18	0.67	0.31	0.09	132.0
P202	J-201	J-202	3,480.00	20	Steel	654.18	0.67	0.33	0.09	132.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P204	J-203	J-204	3,470.00	10	Asbestos Cement	697.53	2.85	11.54	3.32	127.0
P206	J-204	J-206	4,260.00	10	Asbestos Cement	19.62	0.08	0.02	4.24e-3	131.0
P207	J-204	J-207	1,670.00	10	Asbestos Cement	667.09	2.73	5.11	3.06	127.0
P208	J-207	J-208	5,420.00	10	Asbestos Cement	651.15	2.66	15.87	2.93	127.0
P213	J-213	J-214	4,920.00	14	Steel	126.55	0.26	0.13	0.03	132.0
P216	J-215	J-216	2,050.00	6	Asbestos Cement	15.65	0.18	0.07	0.04	127.0
P217	J-215	J-217	1,500.00	14	Steel	96.09	0.20	0.02	0.02	127.0
P221	J-220	J-221	1,690.00	6	Asbestos Cement	171.98	1.95	4.79	2.83	131.0
P222	J-221	J-222	710.00	6	Asbestos Cement	115.96	1.32	0.98	1.39	130.0
P223	J-221	J-223	1,380.00	6	Asbestos Cement	52.45	0.60	0.43	0.31	132.0
P224	J-223	J-224	710.00	6	Asbestos Cement	50.71	0.58	0.21	0.29	132.0
P225	J-224	J-222	1,380.00	6	Asbestos Cement	46.90	0.53	0.35	0.25	132.0
P226	J-222	J-226	720.00	6	Asbestos Cement	158.88	1.80	1.79	2.48	130.0
P227	J-226	J-227	1,100.00	6	Asbestos Cement	-137.08	1.56	2.11	1.92	129.0
P228	J-220	J-227	1,570.00	8	Asbestos Cement	403.11	2.57	5.45	3.47	129.0
P229	J-226	J-230	1,070.00	6	Asbestos Cement	287.83	3.27	8.32	7.78	127.0
P230	J-230	J-231	4,000.00	16	Steel	-1,605.20	2.56	6.30	1.58	127.0
P231	J-231	J-208	1,680.00	16	Steel	-1,609.79	2.57	2.66	1.58	127.0
P237A	J-236	PRV-237	6,180.00	6	Ductile Iron	22.12	0.25	0.41	0.07	128.0
P242	J-241	J-242	1,860.00	6	Asbestos Cement	19.52	0.22	0.10	0.05	128.0
P243	J-241	J-244	6,700.00	10	Asbestos Cement	324.77	1.33	5.42	0.81	127.0
P244	J-244	J-245	2,100.00	10	Asbestos Cement	435.18	1.78	2.92	1.39	127.0
P245	J-245	J-246	1,400.00	8	Asbestos Cement	203.63	1.30	1.32	0.94	132.0
P246	J-246	J-247	830.00	6	Asbestos Cement	36.82	0.42	0.14	0.17	129.0
P247	J-247	J-248	1,160.00	6	Asbestos Cement	-48.39	0.55	0.32	0.28	130.0
P248	J-248	J-249	1,640.00	8	PVC	-109.37	0.70	0.48	0.29	133.0
P249	J-249	J-245	2,050.00	8	PVC	-114.52	0.73	0.66	0.32	133.0
P250	J-230	J-250	1,880.00	4	Asbestos Cement	42.33	1.08	3.04	1.62	127.0
P251	J-250	J-252	1,940.00	4	Asbestos Cement	31.56	0.81	1.82	0.94	127.0
P252	J-252	J-255	1,400.00	14	Steel	-166.01	0.35	0.06	0.05	127.0
P253	J-252	J-253	820.00	4	Asbestos Cement	-43.81	1.12	1.37	1.67	129.0
P254	J-253	J-248	810.00	6	Asbestos Cement	-54.80	0.62	0.28	0.35	130.0
P255	J-247	J-255	1,760.00	6	Asbestos Cement	79.58	0.90	1.27	0.72	127.0
P256	J-255	J-256	1,300.00	14	Steel	-91.47	0.19	0.02	0.02	127.0
P257	J-246	J-256	2,300.00	8	Asbestos Cement	159.08	1.02	1.39	0.60	131.0
P258	J-256	J-258	1,340.00	6	Asbestos Cement	10.97	0.12	0.02	0.02	131.0
P259	J-252	J-263	2,500.00	14	Steel	226.90	0.47	0.20	0.08	127.0
P260	J-230	J-260	1,330.00	16	Steel	1,841.10	2.94	2.70	2.03	127.0
P261	J-260	J-264	1,330.00	16	Steel	1,718.59	2.74	2.38	1.79	127.0
P262	J-260	J-262	650.00	6	Asbestos Cement	115.95	1.32	0.94	1.45	127.0
P263	J-262	J-263	1,330.00	6	Asbestos Cement	101.54	1.15	1.42	1.07	131.0
P264	J-263	J-264	650.00	14	Steel	114.05	0.24	0.01	0.02	127.0
P267	J-266	J-267	650.00	6	Asbestos Cement	21.01	0.24	0.04	0.06	127.0
P268	J-265	J-267	630.00	14	Steel	1,267.75	2.64	1.23	1.95	127.0
P270	J-227	J-270	2,480.00	6	Asbestos Cement	257.20	2.92	14.79	5.97	131.0
P271	J-270	J-271	1,330.00	6	Asbestos Cement	169.60	1.92	3.67	2.76	131.0
P272	J-271	J-265	1,090.00	6	Asbestos Cement	154.97	1.76	2.62	2.40	129.0
P273	J-270	J-264	1,090.00	6	Asbestos Cement	75.59	0.86	0.71	0.66	127.0
P276	J-275	J-277	1,500.00	14	Steel	1,559.54	3.25	4.29	2.86	127.0
P280	J-256	J-280	1,330.00	14	Steel	13.81	0.03	6.1e-4	4.59e-4	127.0
P281	J-280	J-284	1,330.00	14	Steel	-3.76	0.01	0.00	0.00	127.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P282	J-280	J-282	2,000.00	8	Asbestos Cement	8.44	0.05	0.01	2.69e-3	131.0
P283	J-282	J-283	1,330.00	6	Asbestos Cement	3.48	0.04	2.69e-3	2.02e-3	131.0
P284	J-283	J-284	2,000.00	6	Asbestos Cement	-4.99	0.06	0.01	4.03e-3	131.0
P286	J-285	J-287	2,640.00	10	Asbestos Cement	-164.74	0.67	0.61	0.23	127.0
P289	J-288	J-289	1,300.00	6	Asbestos Cement	103.22	1.17	1.52	1.17	127.0
P292	J-285	J-292	1,280.00	6	Asbestos Cement	7.33	0.08	0.01	0.01	127.0
P295	J-294	J-295	2,640.00	6	Asbestos Cement	11.62	0.13	0.05	0.02	131.0
P296	J-295	J-293	1,310.00	14	Steel	294.95	0.61	0.17	0.13	127.0
P297	J-293	J-297	3,560.00	6	Asbestos Cement	16.25	0.18	0.14	0.04	127.0
P299	J-490	J-494	3,300.00	14	Asbestos Cement	843.40	1.76	3.03	0.92	127.0
P300	R-300	J-301	1,460.00	20	Asbestos Cement	2,751.26	2.81	1.98	1.36	131.0
P301	J-301	J-302	2,920.00	20	Asbestos Cement	2,714.51	2.77	3.87	1.33	131.0
P302	J-302	J-303	2,600.00	20	Asbestos Cement	2,710.56	2.77	3.44	1.32	131.0
P303	J-303	J-304	3,680.00	20	Asbestos Cement	2,685.35	2.74	4.78	1.30	131.0
P305	J-304	J-305	1,350.00	6	Asbestos Cement	3.20	0.04	2.56e-3	1.9e-3	127.0
P306	J-305	J-306	1,690.00	6	Asbestos Cement	0.84	0.01	2.44e-4	1.44e-4	130.0
P307	J-304	J-307	2,650.00	14	Steel	1,882.83	3.92	10.74	4.05	127.0
P309	J-308	J-309	1,670.00	6	Asbestos Cement	2.45	0.03	1.95e-3	1.17e-3	127.0
P311	J-307	J-311	1,530.00	6	Asbestos Cement	9.82	0.11	0.02	0.01	129.0
P312	J-308	J-312	630.00	14	Steel	1,844.67	3.84	2.46	3.90	127.0
P313	J-312	J-313	4,000.00	14	Steel	1,827.70	3.81	15.35	3.84	127.0
P314	J-313	J-314	1,640.00	6	Asbestos Cement	15.82	0.18	0.06	0.04	127.0
P316	J-312	J-316	2,720.00	8	Asbestos Cement	4.96	0.03	2.81e-3	1.03e-3	127.0
P318	J-313	J-318	840.00	14	Steel	1,792.73	3.74	3.11	3.70	127.0
P319	J-318	J-319	1,320.00	14	Steel	1,790.21	3.73	4.87	3.69	127.0
P320	J-319	J-320	1,300.00	14	Steel	1,408.77	2.94	3.08	2.37	127.0
P322	J-320	J-322	2,650.00	6	Asbestos Cement	260.17	2.95	17.10	6.45	127.0
P323	J-320	J-323	1,320.00	8	Asbestos Cement	299.97	1.91	2.73	2.07	127.0
P324	J-323	J-324	1,200.00	8	Asbestos Cement	165.98	1.06	0.83	0.69	127.0
P325	J-324	J-325	1,150.00	6	Asbestos Cement	164.90	1.87	3.19	2.78	127.0
P326	J-325	J-326	2,640.00	6	Asbestos Cement	157.41	1.79	6.72	2.55	127.0
P328	J-326	J-328	2,420.00	10	Asbestos Cement	-614.40	2.51	6.18	2.55	129.0
P329	J-328	J-323	2,640.00	6	Asbestos Cement	-127.69	1.45	4.57	1.73	127.0
P330	J-328	J-330	1,320.00	8	Asbestos Cement	-416.12	2.66	4.93	3.74	128.0
P331	J-330	J-320	2,640.00	14	Steel	-832.74	1.74	2.37	0.90	127.0
P332	J-330	J-332	2,640.00	6	Asbestos Cement	86.14	0.98	2.20	0.84	127.0
P333	J-332	J-333	1,330.00	6	Asbestos Cement	80.53	0.91	0.93	0.70	131.0
P334	J-333	J-328	2,640.00	6	Asbestos Cement	77.21	0.88	1.80	0.68	127.0
P335	J-330	J-295	2,630.00	14	Steel	313.03	0.65	0.39	0.15	127.0
P336	J-295	J-336	2,000.00	6	Asbestos Cement	13.22	0.15	0.05	0.03	127.0
P340	J-304	J-340	4,140.00	14	Steel	776.88	1.62	3.26	0.79	127.0
P341	J-340	J-341	1,330.00	14	Steel	615.83	1.28	0.68	0.51	127.0
P342	J-341	J-342	1,330.00	14	Steel	613.35	1.28	0.68	0.51	127.0
P343	J-340	J-343	2,360.00	10	Asbestos Cement	148.24	0.61	0.42	0.18	132.0
P344	J-343	J-344	1,510.00	10	Asbestos Cement	32.17	0.13	0.02	0.01	131.0
P345	J-344	J-345	1,220.00	6	Asbestos Cement	25.19	0.29	0.10	0.08	131.0
P346	J-345	J-346	1,200.00	6	Asbestos Cement	18.14	0.21	0.05	0.05	129.0
P347	J-346	J-343	1,580.00	10	Asbestos Cement	-114.16	0.47	0.17	0.11	133.0
P348	J-346	J-342	3,980.00	6	Asbestos Cement	39.48	0.45	0.77	0.19	128.0
P349	J-342	J-349	2,630.00	14	Steel	645.49	1.35	1.47	0.56	127.0
P350	J-349	J-350	2,570.00	6	Asbestos Cement	0.80	0.01	3.66e-4	1.42e-4	130.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P351	J-349	J-351	1,900.00	6	Asbestos Cement	-51.78	0.59	0.62	0.33	127.0
P352	J-351	J-352	2,720.00	6	Asbestos Cement	-53.02	0.60	0.93	0.34	127.0
P353	J-352	J-353	2,250.00	8	Asbestos Cement	-68.99	0.44	0.29	0.13	131.0
P354	J-353	J-354	3,930.00	10	Asbestos Cement	-85.01	0.35	0.24	0.06	133.0
P355	J-354	J-346	2,650.00	10	Asbestos Cement	-85.58	0.35	0.17	0.06	133.0
P356	J-353	J-356	4,240.00	8	Asbestos Cement	2.58	0.02	1.22e-3	2.88e-4	131.0
P359	J-349	J-360	2,670.00	14	Steel	892.54	1.44	1.70	0.64	127.0
P360	J-360	J-361	4,000.00	14	Steel	565.71	1.18	1.75	0.44	127.0
P361	J-361	J-362	1,520.00	6	Asbestos Cement	14.89	0.17	0.05	0.03	127.0
P362	J-362	J-363	1,900.00	4	Steel	7.77	0.20	0.13	0.07	127.0
P363	J-363	J-364	1,240.00	6	Asbestos Cement	5.76	0.07	0.01	0.01	129.0
P365	J-374	J-366	980.00	10	Asbestos Cement	-51.77	0.21	0.03	0.03	130.0
P368	J-367	J-368	980.00	14	Steel	441.26	0.92	0.27	0.28	127.0
P369	J-368	J-217	4,170.00	14	Steel	498.52	1.04	1.45	0.35	127.0
P370	J-368	J-370	1,240.00	6	Asbestos Cement	-62.58	0.71	0.57	0.46	127.0
P371	J-370	J-374	980.00	6	Ductile Iron	-48.00	0.54	0.28	0.28	127.0
P372	J-370	J-372	1,320.00	6	Asbestos Cement	-17.98	0.20	0.06	0.05	127.0
P373	J-372	J-373	980.00	6	Asbestos Cement	-25.06	0.28	0.08	0.09	127.0
P374	J-373	J-374	1,320.00	6	Asbestos Cement	-27.93	0.32	0.13	0.10	129.0
P375	J-372	J-375	1,300.00	6	Asbestos Cement	4.76	0.05	0.01	3.94e-3	127.0
P376	J-374	J-376	3,880.00	6	Asbestos Cement	-35.03	0.40	0.61	0.16	127.0
P377	J-376	J-377	5,680.00	6	Asbestos Cement	-45.54	0.52	1.46	0.26	127.0
P378	J-377	J-378	1,340.00	8	Asbestos Cement	-76.86	0.49	0.22	0.17	127.0
P379	J-378	J-360	3,880.00	8	Asbestos Cement	-81.76	0.52	0.72	0.19	127.0
P401	J-420	J-438	50.00	8	Ductile Iron	-316.37	2.02	0.11	2.28	127.0
P403	J-402	J-403	1,370.00	10	Asbestos Cement	-1,462.44	5.97	17.92	13.08	127.0
P404	J-403	J-404	360.00	10	Asbestos Cement	-656.46	2.68	1.07	2.97	127.0
P405	J-404	J-405	790.00	10	Asbestos Cement	-516.22	2.11	1.51	1.91	127.0
P406	J-405	J-406	350.00	10	Asbestos Cement	-342.97	1.40	0.31	0.89	127.0
P407	J-406	J-407	800.00	8	Cast Iron	-113.14	0.72	0.47	0.58	95.0
P408	J-407	J-408	1,100.00	8	Cast Iron	5.38	0.03	2.32e-3	2.11e-3	95.0
P409	J-402	J-410	1,380.00	4	Cast Iron	-76.80	1.96	11.49	8.32	95.0
P410	J-410	J-411	1,140.00	4	Cast Iron	-85.64	2.19	11.61	10.18	95.0
P411	J-411	J-403	1,160.00	10	Asbestos Cement	817.74	3.34	5.18	4.46	127.0
P412	J-411	J-412	350.00	10	Cast Iron	-214.02	0.87	0.22	0.64	95.0
P413	J-412	J-404	1,160.00	6	Cast Iron	144.75	1.64	4.33	3.73	95.0
P415	J-414	J-405	1,120.00	6	Ductile Iron	173.73	1.97	3.42	3.06	127.0
P416	J-416	J-406	510.00	6	Cast Iron	231.63	2.63	4.54	8.91	95.0
P417	J-416	J-417	420.00	4	Ductile Iron	22.22	0.57	0.35	0.84	95.0
P418	J-417	J-407	1,180.00	6	Cast Iron	132.19	1.50	3.72	3.16	95.0
P419	J-486	J-419	600.00	6	Ductile Iron	-148.35	1.68	1.37	2.28	127.0
P420N	J-483	J-419	400.00	8	PVC	90.69	0.58	0.08	0.20	135.0
P421	J-420	J-421	600.00	6	Cast Iron	-43.13	0.49	0.24	0.40	95.0
P422	J-421	J-422	560.00	6	Cast Iron	-33.46	0.38	0.14	0.25	95.0
P423	J-479	J-423	600.00	6	Cast Iron	-89.18	1.01	0.91	1.52	95.0
P424	J-481	J-424	400.00	6	Cast Iron	-10.66	0.12	0.01	0.03	95.0
P425	J-424	J-482	600.00	6	Ductile Iron	110.16	1.25	0.79	1.32	127.0
P426	J-423	J-426	1,140.00	4	Asbestos Cement	-47.17	1.20	2.19	1.92	129.0
P427	J-426	J-427	600.00	4	Asbestos Cement	-26.54	0.68	0.41	0.68	127.0
P428	J-430	J-429	400.00	8	Asbestos Cement	141.26	0.90	0.19	0.47	133.0
P429	J-429	J-424	1,720.00	6	Asbestos Cement	137.96	1.57	3.43	2.00	127.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P430	J-430	J-431	1,200.00	8	Asbestos Cement	-403.81	2.58	4.30	3.59	127.0
P431	J-431	J-432	1,050.00	10	Asbestos Cement	-201.68	0.82	0.33	0.31	132.0
P432	J-432	J-433	600.00	8	Asbestos Cement	-214.54	1.37	0.61	1.02	133.0
P433	J-430	J-435	1,200.00	8	Asbestos Cement	257.58	1.64	1.74	1.45	132.0
P434	J-433	J-434	1,050.00	8	Asbestos Cement	-134.72	0.86	0.46	0.44	132.0
P435	J-434	J-431	570.00	8	Asbestos Cement	329.17	2.10	1.40	2.46	127.0
P436	J-431	J-439	370.00	6	Asbestos Cement	98.53	1.12	0.40	1.07	127.0
P437	J-434	J-437	580.00	8	Asbestos Cement	-487.08	3.11	2.94	5.07	127.0
P438	J-435	J-436	400.00	12	Steel	660.68	1.87	0.49	1.24	127.0
P440	J-439	J-440	1,150.00	4	Asbestos Cement	69.41	1.77	4.57	3.98	128.0
P441	J-440	J-427	360.00	4	Ductile Iron	33.50	0.86	0.37	1.03	128.0
P442	J-440	J-442	600.00	6	Cast Iron	56.77	0.64	0.40	0.66	95.0
P443	J-442	J-426	350.00	4	Cast Iron	25.70	0.66	0.38	1.10	95.0
P445	J-444	J-423	350.00	4	Cast Iron	35.88	0.92	0.71	2.04	95.0
P446	J-444	J-446	1,150.00	6	Ductile Iron	136.09	1.54	2.24	1.95	127.0
P447	J-422	J-446	350.00	8	Cast Iron	50.96	0.33	0.05	0.13	95.0
P448	J-446	J-449	600.00	6	Ductile Iron	69.02	0.78	0.57	0.95	95.0
P449N	J-421	J-449	400.00	8	PVC	236.62	1.51	0.48	1.19	135.0
P450	J-411	J-451	570.00	10	Cast Iron	-695.85	2.84	3.23	5.66	95.0
P451	J-420	J-416	600.00	8	Ductile Iron	259.83	1.66	1.63	2.71	95.0
P452	J-451	J-452	570.00	10	Cast Iron	-336.57	1.37	0.84	1.48	95.0
P454N	J-451	J-454	790.00	8	PVC	-331.59	2.12	1.76	2.22	135.0
P455N	J-454	J-455	370.00	8	PVC	-276.38	1.76	0.59	1.59	135.0
P458	J-457	J-458	370.00	6	Ductile Iron	267.85	3.04	4.31	11.65	95.0
P459	J-458	J-454	580.00	8	Cast Iron	64.30	0.41	0.12	0.20	95.0
P460	J-452	J-458	790.00	8	Cast Iron	-175.17	1.12	1.03	1.31	95.0
P461	J-458	J-461	580.00	8	Asbestos Cement	24.74	0.16	0.01	0.02	127.0
P462	J-461	J-462	370.00	4	Cast Iron	-52.49	1.34	1.52	4.12	95.0
P463	J-462	J-457	580.00	4	Cast Iron	-57.21	1.46	2.80	4.83	95.0
P465	J-464	J-452	580.00	10	Cast Iron	181.47	0.74	0.27	0.47	95.0
P466	J-464	J-466	580.00	10	Cast Iron	-144.67	0.59	0.18	0.31	95.0
P468	J-466	J-469	400.00	4	Asbestos Cement	-108.02	2.76	3.45	8.63	131.0
P469	J-469	J-470	600.00	6	Cast Iron	-170.08	1.93	3.02	5.03	95.0
P470	J-470	J-471	580.00	6	Cast Iron	35.07	0.40	0.16	0.27	95.0
P472	J-471	J-472	600.00	4	Cast Iron	-34.37	0.88	1.13	1.88	95.0
P473	J-472	J-440	1,500.00	4	Cast Iron	35.21	0.90	3.26	2.17	90.0
P474	J-472	J-474	1,130.00	6	Asbestos Cement	-104.64	1.19	1.30	1.15	130.0
P475	J-474	J-439	1,500.00	6	Asbestos Cement	-8.71	0.10	0.02	0.01	127.0
P476	J-474	J-476	1,160.00	6	Asbestos Cement	-140.31	1.59	2.26	1.94	131.0
P478	J-423	J-481	50.00	6	Ductile Iron	-9.28	0.11	7.32e-4	0.01	127.0
P479	J-479	J-422	600.00	6	Ductile Iron	91.90	1.04	0.56	0.94	127.0
P480	J-479	J-480	50.00	3	Ductile Iron	-6.22	0.41	0.02	0.46	127.0
P482	J-480	J-482	400.00	3	Ductile Iron	-7.77	0.35	0.11	0.29	127.0
P484N	J-421	J-483	50.00	8	PVC	-249.90	1.60	0.07	1.32	135.0
P486	J-485	J-486	400.00	4	Ductile Iron	-1.16	0.03	8.54e-4	2.14e-3	127.0
P487	J-486	J-417	600.00	6	Ductile Iron	113.47	1.29	0.83	1.39	127.0
P489	J-420	J-414	400.00	4	Ductile Iron	98.07	2.50	3.06	7.65	127.0
P495	J-449	J-414	600.00	6	Ductile Iron	224.40	2.55	2.82	4.70	130.0
P496	J-495	J-496	3,200.00	14	Asbestos Cement	1,504.10	3.13	8.20	2.56	130.0
P497	J-496	J-497	1,080.00	14	Asbestos Cement	1,502.34	3.13	2.76	2.56	130.0
P498	J-497	J-499	5,600.00	12	Ductile Iron	1,500.00	4.26	30.25	5.40	130.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P499	J-499	J-500	1,800.00	12	Ductile Iron	1,500.00	4.26	9.72	5.40	130.0
P741	J-740	J-745	2,760.00	8	Steel	761.78	4.86	30.67	11.11	130.0
P742	R-741	J-742	3,320.00	12	Steel	75.69	0.21	0.07	0.02	130.0
P743	J-742	J-743	920.00	8	Asbestos Cement	12.16	0.08	4.88e-3	0.01	130.0
P744	J-742	J-744	2,440.00	12	Steel	42.09	0.12	0.02	0.01	130.0
P745	J-745	R-741	1.00	99	Ductile Iron	761.78	0.03	0.00	0.00	130.0
P117A	J-116	PRV-117	7,080.00	6	Asbestos Cement	1.77	0.02	4.27e-3	6.03e-4	130.0
P400	R-400	J-402	2,760.00	10	Ductile Iron	-1,519.27	6.21	38.73	14.03	127.0
P740A	J-326	PMP-740	719.00	10	Steel	380.89	1.56	0.75	1.04	130.0
P740B	PMP-740	J-740	1.00	10	Steel	380.89	1.56	1.22e-3	1.22	130.0
P746A	J-326	PMP-746	719.00	10	Ductile Iron	380.89	1.56	0.75	1.04	130.0
P746B	PMP-746	J-740	1.00	10	Ductile Iron	380.89	1.56	1.22e-3	1.22	130.0
P117B	PRV-117	J-117	0.10	6	Asbestos Cement	1.77	0.02	0.00	0.00	130.0
P120A	J-117	PRV-120	5,690.00	6	Steel	0.01	5.98e-5	0.00	0.00	130.0
P128	J-128	J-140	1,800.00	12	Asbestos Cement	-17.22	0.05	2.56e-3	1.42e-3	130.0
P140B	J-140	PRV-140	0.10	8	Asbestos Cement	-17.65	0.11	0.00	0.00	130.0
P237B	PRV-237	J-237	0.10	6	Ductile Iron	22.12	0.25	0.00	0.00	128.0
P238	J-237	J-238	4,240.00	6	Steel	19.56	0.22	0.22	0.05	128.0
P211	J-202	J-212	2,760.00	14	Steel	126.56	0.26	0.07	0.03	132.0
P212	J-212	J-213	5,080.00	14	Steel	126.55	0.26	0.13	0.03	132.0
P294	J-294	J-287	2,620.00	6	Asbestos Cement	-27.21	0.31	0.25	0.09	129.0
P490	J-470	J-491	1,060.00	10	Asbestos Cement	-768.01	3.22	4.05	3.83	133.0
P240	J-241	J-209	3,120.00	10	Asbestos Cement	-351.17	1.43	2.91	0.93	127.0
P293	J-293	J-285	1,330.00	14	Steel	262.51	0.55	0.14	0.11	127.0
P218	J-217	J-220	3,440.00	8	Asbestos Cement	588.29	3.75	24.74	7.19	127.0
P176A	J-176	J-1000	816.00	12	Steel	-544.88	1.55	0.66	0.81	132.0
P176B	J-1000	J-177	2,984.00	12	Steel	-724.87	2.06	4.08	1.37	132.0
P1000	J-1000	J-1001	3,700.00	8	PVC	174.15	1.11	2.50	0.68	135.0
P1001	J-1001	J-1002	1,500.00	8	PVC	174.15	1.11	1.01	0.68	135.0
P1002	J-1002	J-1003	1,100.00	10	PVC	173.67	0.71	0.25	0.23	135.0
P1004	J-1003	J-203	2,600.00	10	PVC	172.92	0.71	0.58	0.22	135.0
P214A	J-214	J-1005	500.00	6	Ductile Iron	112.70	1.28	0.66	1.31	130.0
P214B	J-1005	J-215	440.00	6	Ductile Iron	112.70	1.28	0.58	1.32	130.0
P1652	J-1653	J-1652	2,760.00	24	Ductile Iron	1,364.34	0.97	0.40	0.14	135.0
P1651	J-1652	J-1651	11,250.00	30	Ductile Iron	1,364.34	0.62	0.55	0.05	135.0
P1650	J-1651	R-650	4,500.00	30	Ductile Iron	1,364.34	0.62	0.22	0.05	135.0
P1011	J-277	J-433	350.00	8	Asbestos Cement	125.54	0.80	0.13	0.37	135.0
P367B	J-366	J-1011	1,280.00	14	Steel	356.09	0.74	0.24	0.19	127.0
P367A	J-1011	J-367	1,300.00	14	Steel	445.59	0.93	0.37	0.28	127.0
P366A	J-366	J-1012	1,018.00	14	Steel	-417.04	0.87	0.25	0.25	127.0
P366B	J-1012	J-361	2,702.00	14	Steel	-512.61	1.07	0.99	0.37	127.0
P1016	J-1012	J-1013	1,298.00	8	PVC	93.95	0.60	0.28	0.22	135.0
P1017	J-1013	J-1011	1,045.00	8	PVC	90.92	0.58	0.21	0.20	135.0
P1018	J-275	J-437	400.00	8	Asbestos Cement	356.90	2.28	1.02	2.55	135.0
P477B	J-476	J-1014	1,400.00	6	Asbestos Cement	-159.00	1.80	3.63	2.60	127.0
P477A	J-1014	J-437	500.00	6	Asbestos Cement	147.72	1.68	1.13	2.26	127.0
P275A	J-267	J-1015	819.00	14	Steel	1,287.54	2.68	1.64	2.01	127.0
P275B	J-1015	J-275	511.00	14	Steel	1,119.89	2.33	0.79	1.55	127.0
P1021	J-1015	J-1016	450.00	10	PVC	166.26	0.68	0.09	0.21	135.0
P1022	J-1016	J-1014	900.00	10	PVC	306.89	1.25	0.59	0.65	135.0
P1023	J-1016	J-266	900.00	6	Asbestos Cement	-145.84	1.65	1.78	1.98	135.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P265A	J-264	J-1017	653.00	14	Steel	1,904.32	3.97	2.70	4.14	127.0
P265B	J-1017	J-265	677.00	14	Steel	1,930.41	4.02	2.87	4.25	127.0
P266A	J-263	J-1018	660.00	6	Asbestos Cement	205.93	2.34	2.68	4.07	129.0
P266B	J-1018	J-266	1,310.00	6	Asbestos Cement	178.64	2.03	4.10	3.13	129.0
P1026	J-1017	J-1019	331.00	8	PVC	-26.37	0.17	0.01	0.02	135.0
P1027	J-1019	J-1018	320.00	6	Asbestos Cement	-26.37	0.30	0.03	0.08	135.0
P1028	J-265	J-1020	650.00	14	PVC	813.55	1.70	0.50	0.77	135.0
P1029	J-1020	J-1021	656.00	10	PVC	510.51	2.09	1.43	1.67	135.0
P1030	J-1021	J-275	450.00	10	PVC	804.48	3.29	1.74	3.87	135.0
P1031	J-1020	J-1022	720.00	10	PVC	299.99	1.23	0.45	0.62	135.0
P1032	J-1022	J-1023	849.00	10	PVC	299.99	1.23	0.53	0.62	135.0
P1033	J-1023	J-1021	720.00	10	PVC	299.99	1.23	0.45	0.62	135.0
P464B	J-461	J-1024	383.00	6	Ductile Iron	57.63	0.65	0.15	0.40	127.0
P464A	J-1024	J-464	407.00	6	Ductile Iron	116.76	1.32	0.60	1.47	127.0
P1036	J-446	J-1025	330.00	8	Cast iron	108.78	0.69	0.18	0.54	95.0
P453A	J-1025	J-1026	340.00	8	Cast iron	-43.97	0.28	0.03	0.10	95.0
P453B	J-1026	J-452	340.00	8	Cast iron	-8.04	0.05	1.46e-3	4.31e-3	95.0
P414B	J-412	J-1031	770.00	10	Cast iron	-190.46	0.78	0.40	0.52	95.0
P414A	J-1031	J-414	770.00	10	Cast iron	-132.51	0.54	0.20	0.26	95.0
P467B	J-466	J-1032	743.00	4	Cast iron	-43.79	1.12	2.19	2.94	95.0
P467A	J-1032	J-444	377.00	4	Cast iron	19.95	0.51	0.26	0.69	95.0
P1041	J-464	J-1027	379.00	6	Asbestos Cement	69.17	0.78	0.19	0.50	135.0
P1042	J-1027	J-1028	376.00	6	Asbestos Cement	32.96	0.37	0.05	0.13	135.0
P1043	J-1028	J-1025	583.00	6	Asbestos Cement	32.96	0.37	0.07	0.13	135.0
P1044	J-1027	J-1026	576.00	6	Asbestos Cement	36.21	0.41	0.09	0.15	135.0
P1050	J-482	J-1034	592.00	6	Ductile Iron	85.83	0.97	0.49	0.83	127.0
P1051	J-1034	J-419	608.00	6	Ductile Iron	72.04	0.82	0.36	0.60	127.0
P308A	J-307	J-1033	1,687.00	14	Steel	1,869.46	3.90	6.75	4.00	127.0
P308B	J-1033	J-308	2,273.00	14	Steel	1,867.27	3.89	9.08	3.99	127.0
P1046	J-1033	J-1035	1,400.00	8	Asbestos Cement	0.31	1.96e-3	0.00	0.00	135.0
P1047	J-308	J-309	1,670.00	12	PVC	16.13	0.05	1.95e-3	1.17e-3	135.0
P310A	J-309	J-1036	550.00	6	Asbestos Cement	1.31	0.01	1.22e-4	2.22e-4	132.0
P310B	J-1036	J-310	1,770.00	6	Asbestos Cement	1.85	0.02	1.22e-3	6.9e-4	132.0
P1049	J-309	J-1036	550.00	12	PVC	8.31	0.02	1.22e-4	2.22e-4	135.0
P444A	J-442	J-1039	577.00	6	Asbestos Cement	63.23	0.72	0.27	0.47	127.0
P444B	J-1039	J-444	573.00	6	Asbestos Cement	164.68	1.87	1.59	2.77	127.0
P1056	J-1039	J-1040	392.00	10	PVC	-504.60	2.06	0.64	1.63	135.0
P1057	J-1040	J-470	1,129.00	10	PVC	-571.23	2.33	2.32	2.05	135.0
P1058	J-1040	J-1032	574.00	4	Asbestos Cement	65.05	1.66	1.97	3.43	130.0
P1059	J-1039	J-435	380.00	10	PVC	403.09	1.65	0.41	1.08	135.0
P439A	J-436	J-483	2,400.00	12	Ductile Iron	657.95	1.87	2.95	1.23	127.0
P439B	J-483	J-438	600.00	12	Ductile Iron	316.37	0.90	0.19	0.32	127.0
P1035	J-469	J-1024	573.00	4	Cast iron	60.17	1.54	3.04	5.30	95.0
P1060	J-449	J-1041	385.00	8	PVC	79.59	0.51	0.06	0.16	135.0
P1061	J-1041	J-1031	571.00	4	Cast iron	59.48	1.52	2.96	5.19	95.0
P1062	J-1041	J-1025	593.00	8	PVC	-185.70	1.19	0.45	0.76	135.0
P1063	J-1041	J-1042	374.00	8	PVC	205.81	1.31	0.34	0.92	135.0
P1064	J-1042	J-451	391.00	8	PVC	30.66	0.20	0.01	0.03	135.0
P1065	J-1042	J-412	573.00	6	Cast iron	174.28	1.98	3.02	5.26	95.0
P1066	J-455	J-1043	400.00	8	PVC	-276.38	1.76	0.64	1.59	135.0
P1067	J-319	J-1044	1,871.00	6	Asbestos Cement	368.29	4.18	22.97	12.27	127.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P1068	J-1044	J-321	779.00	6	Asbestos Cement	89.27	1.01	0.69	0.89	127.0
P1069	J-1043	J-1044	780.00	6	Asbestos Cement	-276.60	3.14	5.56	7.12	128.0
P337A	J-322	J-1045	400.00	6	Asbestos Cement	246.07	2.79	2.29	5.74	128.0
P337B	J-1045	J-338	1,660.00	6	Asbestos Cement	1.04	0.01	3.66e-4	2.21e-4	128.0
P1070	J-457	J-321	750.00	8	PVC	-330.06	2.11	1.65	2.21	135.0
P1071	J-321	J-1045	930.00	8	PVC	-245.03	1.56	1.18	1.27	135.0
P471A	J-471	J-1046	500.00	4	Cast Iron	57.65	1.47	2.45	4.90	95.0
P471N	J-1046	J-442	1,000.00	8	PVC	45.38	0.29	0.08	0.08	112.0
P209A	J-208	J-1047	630.00	18	Steel	-958.64	1.21	0.22	0.34	127.0
P209B	J-1047	J-209	0.01	18	Steel	-3,169.89	4.00	0.00	0.00	127.0
P287	J-287	J-1603	1,240.00	10	Asbestos Cement	-200.28	0.82	0.41	0.33	127.0
P1624	J-1603	J-288	90.00	10	Asbestos Cement	-195.18	0.80	0.03	0.31	127.0
P1602	J-1601	J-1602	25.00	12	Ductile Iron	586.49	1.66	0.02	0.89	135.0
P1620	J-1600	J-490	40.00	14	Asbestos Cement	858.05	1.79	0.04	0.91	130.0
P1610	J-290	J-1610	40.00	14	Asbestos Cement	3.99e-3	8.32e-6	0.00	0.00	127.0
P1611	J-1610	J-1611	25.00	12	Ductile Iron	-2,776.40	7.88	0.39	15.74	135.0
P1612A	J-1611	PMP-612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P1612B	PMP-612	J-1612	0.50	12	Ductile Iron	-1,388.20	3.94	2.08e-3	4.15	135.0
P1615	J-1612	J-1613	25.00	14	Ductile Iron	-2,776.40	5.79	0.19	7.43	135.0
P493	R-493	J-1613	2,275.00	14	Asbestos Cement	0.00	0.00	0.00	0.00	132.0
P1622	J-494	J-1605	5.00	14	Asbestos Cement	1,396.88	2.91	0.01	2.34	127.0
P1613A	J-1611	PMP-613	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P1613B	PMP-613	J-1612	0.50	12	Ductile Iron	-1,388.20	3.94	2.08e-3	4.15	135.0
P285A	J-284	J-492	1,329.00	14	Steel	-38.85	0.08	4.15e-3	3.12e-3	127.0
P285B	J-492	J-285	1.00	14	Steel	-385.31	0.80	1.22e-4	0.12	127.0
P491	J-492	J-491	3,480.00	10	Asbestos Cement	789.12	3.22	13.53	3.89	132.0
P492	J-1601	J-492	3,900.00	14	Asbestos Cement	442.66	0.92	1.04	0.27	130.0
P1076	J-1047	J-1054	3,395.00	20	Ductile Iron	2,211.24	2.26	2.91	0.86	135.0
P1078	J-1054	J-1055	6,437.00	20	Ductile Iron	2,186.50	2.23	5.41	0.84	135.0
P1080	J-241	J-1054	40.00	10	Ductile Iron	-24.74	0.10	2.44e-4	0.01	135.0
P1081	J-1055	J-244	40.00	10	Ductile Iron	121.23	0.50	4.76e-3	0.12	135.0
P1082	J-1055	J-1057	4,097.00	20	Ductile Iron	2,065.27	2.11	3.10	0.76	135.0
P1083	J-1057	J-1600	2,221.00	20	Ductile Iron	1,887.19	1.93	1.42	0.64	135.0
P288A	J-245	J-1058	1,700.00	10	Asbestos Cement	110.51	0.45	0.19	0.11	127.0
P1085	J-1057	J-1058	40.00	10	Ductile Iron	178.08	0.73	0.01	0.23	135.0
P1086	J-1058	J-1059	2,230.00	10	Asbestos Cement	288.59	1.18	1.45	0.65	127.0
P1087	J-1059	J-288	30.00	10	Asbestos Cement	300.29	1.23	0.02	0.70	127.0
P1088	J-490	J-1059	25.00	10	Asbestos Cement	11.70	0.05	1.22e-4	4.88e-3	127.0
P1089	J-1601	J-1600	50.00	14	Asbestos Cement	-1,029.15	2.14	0.06	1.27	130.0
P1090	J-1602	J-1603	10.00	12	Ductile Iron	5.10	0.01	0.00	0.00	135.0
P1091	J-1605	J-1060	214.00	14	Asbestos Cement	1,396.88	2.91	0.48	2.23	130.0
P1092	J-1060	J-495	3,786.00	14	Asbestos Cement	1,504.10	3.13	9.70	2.56	130.0
P1094	J-367	J-1061	0.10	14	Steel	0.00	0.00	0.00	0.00	127.0
P278	J-1061	J-277	1,050.00	14	Steel	-1,364.34	2.84	2.35	2.23	127.0
P1653	J-1653	J-1061	17,700.00	24	Ductile Iron	-1,364.34	0.97	2.56	0.14	135.0
P1604	J-1602	J-1062	3,400.00	12	Ductile Iron	581.38	1.65	2.97	0.87	135.0
P1095	J-289	J-1063	2,000.00	6	Asbestos Cement	80.68	0.92	1.48	0.74	127.0
P1096	J-1063	J-1060	400.00	6	Asbestos Cement	107.22	1.22	0.50	1.25	127.0
P1097	J-290	J-1063	20.00	6	Asbestos Cement	26.54	0.30	1.83e-3	0.09	127.0
P1098	J-290	J-1062	10.00	14	Asbestos Cement	-26.55	0.06	1.22e-4	0.01	127.0
P1099	J-1062	J-494	30.00	14	Asbestos Cement	554.84	1.16	0.01	0.42	127.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P1102	J-1613	J-1610	20.00	14	Asbestos Cement	-2,776.40	5.79	0.15	7.74	132.0
P203	J-202	J-203	2,050.00	14	Steel	527.62	1.10	0.74	0.36	132.0
P315A	J-313	PSV-400	795.00	16	Ductile Iron	5.0e-4	7.98e-7	0.00	0.00	127.0
P315B	PSV-400	R-400	5.00	16	Ductile Iron	-1.27e-3	2.02e-6	0.00	0.00	127.0
P1605A	J-1605	PSV-493	2,345.00	6	Ductile Iron	0.00	0.00	0.00	0.00	130.0
P1605B	PSV-493	R-493	5.00	6	Ductile Iron	0.00	0.00	0.00	0.00	130.0
P125B	R-125	PSV-125	5.00	6	Ductile Iron	-1.51e-3	1.72e-5	0.00	0.00	130.0
P125A	PSV-125	J-126	2,995.00	6	Ductile Iron	-1.52e-3	1.72e-5	0.00	0.00	130.0
P1	J-196	J-9000	4,580.00	6	Steel	441.60	5.01	77.52	16.93	128.0
P1110	J-197	J-1066	1,650.00	6	Asbestos Cement	104.07	1.18	1.95	1.18	127.0
P1111	J-1066	J-196	1,340.00	6	Asbestos Cement	104.07	1.18	1.59	1.18	127.0
P1112	J-1066	J-1067	650.00	6	Asbestos Cement	0.00	0.00	0.00	0.00	127.0
P1113	J-197	J-1068	1,629.00	6	Asbestos Cement	14.75	0.17	0.05	0.03	127.0
P1114	J-1068	J-233	1,131.00	6	Asbestos Cement	14.75	0.17	0.04	0.03	127.0
P9000	J-9000	J-9001	3,421.00	10	PVC	408.21	1.67	3.10	0.91	150.0
P9001	J-9001	T-1	3,100.00	10	PVC	366.21	1.50	2.30	0.74	150.0
P1118	J-1069	J-236	1,020.00	6	Steel	23.39	0.27	0.08	0.07	128.0
P1116	J-9000	J-9004	30.00	6	Steel	33.39	0.38	4.27e-3	0.14	128.0
P1117	J-9004	J-1069	4,170.00	6	Steel	23.39	0.27	0.31	0.07	128.0
P9002	T-1	J-9002	3,100.00	10	PVC	0.00	0.00	0.00	0.00	150.0
P9004	J-9002	J-9004	3,421.00	8	PVC	0.00	0.00	0.00	0.00	150.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Calculated Hydraulic Grade (ft)
R-180	1,805.50	Bargar-Woodson Zone	-5,375.31	1,805.50
R-125	1,147.00	Snow	-36.30	1,147.00
R-741	2,115.50	I.D. No. 5	686.09	2,115.50
R-400	1,650.50	Santa Maria 1666 Zone	1,519.26	1,650.50
R-300	1,813.50	Bargar-Woodson Zone	-2,751.26	1,813.50
R-650	1,721.00	Santa Maria 1666 Zone	1,364.34	1,721.00
R-493	1,655.50	Santa Maria 1666 Zone	7.45e-4	1,655.50

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Valve Report

Label	Elevation (ft)	Diameter (in)	Discharge (gpm)	Initial Pressure (psi)	Control Status	From HGL (ft)	To HGL (ft)	Headloss (ft)
PRV-117	1,200.00	6	1.77	20.00	Throttling	1,789.50	1,246.16	543.34
PRV-140	1,300.00	8	17.65	80.23	Throttling	1,789.28	1,485.16	304.12
PRV-237	1,255.00	6	22.12	180.00	Throttling	1,679.60	1,670.42	9.19
PRV-120	880.00	6	1.38e-3	124.03	Inactive	1,246.16	1,246.16	0.00
PSV-400	1,635.00	6	0.00	55.00	Closed	1,755.04	1,650.50	0.00
PSV-493	1,644.00	6	0.00	48.14	Closed	1,738.94	1,655.50	0.00
PSV-125	1,140.00	6	0.00	105.00	Closed	1,485.10	1,147.00	0.00

APPENDIX B

Scenario #7 Summary Report: Maximum Daily Demand

Scenario Summary Report
Scenario: Max Day

Scenario Summary	
Physical Alternative	Existing
Demand Alternative	Existing - Max Day - B-W PF=2.3
Initial Settings Alternative	Bargar On - West End On
Operational Alternative	Base-Operational
Age Alternative	Base-Age Alternative
Constituent Alternative	Base-Constituent
Trace Alternative	Base-Trace Alternative
Fire Flow Alternative	Fire Flow - 20 psi min zone pressure
Cost Alternative	Base-Cost
User Data Alternative	Base-User Data

Hydraulic Analysis Summary			
Analysis	Extended Period	Start Time	0.00 hr
Friction Method	Hazen-Williams Formula	Hydraulic Time Step	1.00 hr
Accuracy	0.001000	Duration	24.00 hr
Trials	40		

Quality Analysis Summary			
Analysis	Constituent	Maximum Pipe Segments	100
Quality Time Step	N/A hr	Minimum Pipe Travel Time	0.10 hr

Calibration			
Demand Operation	<None>	Roughness Operation	<None>
Demand	0.00	Roughness	0.00

Created: 03/15/00 10:38:24 AM

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-111	1,400.00	Demand	22.27	Fixed	22.27	1,771.21	160.84
J-115	1,640.00	Demand	5.69	Fixed	5.69	1,770.19	56.41
J-116	1,617.00	Demand	7.32	Fixed	7.32	1,770.05	66.32
J-117	1,200.00	Demand	5.30	Fixed	5.30	1,246.16	20.00
J-121	830.00	Demand	25.34	Fixed	25.34	1,144.02	136.06
J-122	980.00	Demand	32.75	Fixed	32.75	1,145.44	71.69
J-123	740.00	Demand	50.81	Fixed	50.81	1,143.08	174.65
J-126	1,190.00	Demand	44.11	Fixed	44.11	1,484.67	127.68
J-127	1,200.00	Demand	0.00	Fixed	0.00	1,485.12	123.54
J-128	1,200.00	Demand	7.56	Fixed	7.56	1,485.14	123.55
J-131	1,300.00	Demand	22.82	Fixed	22.82	1,769.55	203.45
J-133	1,600.00	Demand	6.94	Fixed	6.94	1,769.72	73.54
J-134	1,600.00	Demand	4.66	Fixed	4.66	1,769.75	73.55
J-140	1,300.00	Demand	1.28	Fixed	1.28	1,485.16	80.23
J-141	1,373.00	Demand	6.68	Fixed	6.68	1,769.88	171.97
J-143	1,300.00	Demand	6.94	Fixed	6.94	1,769.89	203.60
J-148	1,380.00	Demand	32.19	Fixed	32.19	1,769.92	168.95
J-150	1,500.00	Demand	51.37	Fixed	51.37	1,770.02	117.00
J-151	1,550.00	Demand	23.73	Fixed	23.73	1,770.02	95.34
J-152	1,590.00	Demand	7.28	Fixed	7.28	1,770.13	78.05
J-153	1,520.00	Demand	5.92	Fixed	5.92	1,771.13	108.82
J-154	1,450.00	Demand	0.86	Fixed	0.86	1,772.32	139.66
J-158	1,580.00	Demand	1.70	Fixed	1.70	1,770.02	82.34
J-161	1,650.00	Demand	0.00	Fixed	0.00	1,775.16	54.23
J-162	1,600.00	Demand	4.49	Fixed	4.49	1,780.13	78.05
J-163	1,700.00	Demand	7.56	Fixed	7.56	1,785.95	37.24
J-164	1,650.00	Demand	3.62	Fixed	3.62	1,791.01	61.10
J-165	1,700.00	Demand	0.93	Fixed	0.93	1,798.24	42.57
J-168	1,450.00	Demand	0.44	Fixed	0.44	1,791.01	147.76
J-172	1,590.00	Demand	26.98	Fixed	26.98	1,769.87	77.94
J-174	1,540.00	Demand	32.74	Fixed	32.74	1,769.86	99.60
J-175	1,440.00	Demand	7.61	Fixed	7.61	1,770.13	143.05
J-176	1,450.00	Demand	10.26	Fixed	10.26	1,775.22	140.92
J-177	1,640.00	Demand	450.86	Fixed	450.86	1,785.59	63.08
J-178	1,660.00	Demand	25.72	Fixed	25.72	1,792.03	57.21
J-181	1,640.00	Demand	10.34	Fixed	10.34	1,805.50	71.71
J-185	1,670.00	Demand	33.94	Fixed	33.94	1,785.50	50.05
J-186	1,720.00	Demand	51.76	Fixed	51.76	1,789.26	30.01
J-187	1,690.00	Demand	51.01	Fixed	51.01	1,789.27	43.01
J-191	1,550.00	Demand	121.62	Fixed	121.62	1,772.26	96.30
J-192	1,480.00	Demand	131.73	Fixed	131.73	1,757.93	120.43
J-194	1,500.00	Demand	84.46	Fixed	84.46	1,763.29	114.08
J-195	1,455.00	Demand	52.81	Fixed	52.81	1,758.66	131.58
J-196	1,470.00	Demand	124.62	Fixed	124.62	1,736.88	115.64
J-197	1,435.00	Demand	108.18	Fixed	108.18	1,739.34	131.87
J-199	1,430.00	Demand	49.00	Fixed	49.00	1,740.95	134.73
J-201	1,370.00	Demand	0.00	Fixed	0.00	1,769.64	173.16
J-202	1,350.00	Demand	0.00	Fixed	0.00	1,769.13	181.61
J-203	1,370.00	Demand	9.04	Fixed	9.04	1,768.29	172.58
J-204	1,390.00	Demand	32.47	Fixed	32.47	1,753.27	157.41
J-206	1,500.00	Demand	58.85	Fixed	58.85	1,753.14	109.68
J-207	1,405.00	Demand	47.81	Fixed	47.81	1,747.49	148.40

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-208	1,420.00	Demand	0.00	Fixed	0.00	1,730.99	134.75
J-209	1,425.00	Demand	35.87	Fixed	35.87	1,731.17	132.66
J-212	1,370.00	Demand	0.03	Fixed	0.03	1,768.85	172.82
J-213	1,400.00	Demand	0.00	Fixed	0.00	1,768.35	159.61
J-214	1,395.00	Demand	41.55	Fixed	41.55	1,767.86	161.56
J-215	1,395.00	Demand	2.89	Fixed	2.89	1,763.50	159.67
J-216	1,420.00	Demand	46.94	Fixed	46.94	1,762.95	148.60
J-217	1,405.00	Demand	18.97	Fixed	18.97	1,763.43	155.31
J-220	1,370.00	Demand	39.61	Fixed	39.61	1,736.81	158.94
J-221	1,385.00	Demand	10.69	Fixed	10.69	1,731.72	150.23
J-222	1,390.00	Demand	11.96	Fixed	11.96	1,730.80	147.67
J-223	1,375.00	Demand	5.24	Fixed	5.24	1,731.25	154.36
J-224	1,375.00	Demand	11.42	Fixed	11.42	1,731.05	154.27
J-226	1,395.00	Demand	24.39	Fixed	24.39	1,729.42	144.90
J-227	1,390.00	Demand	26.49	Fixed	26.49	1,731.57	148.00
J-230	1,390.00	Demand	28.79	Fixed	28.79	1,722.87	144.23
J-231	1,420.00	Demand	13.78	Fixed	13.78	1,728.56	133.70
J-233	1,600.00	Demand	44.26	Fixed	44.26	1,738.67	60.09
J-236	1,255.00	Demand	3.81	Fixed	3.81	1,674.40	181.73
J-237	1,255.00	Demand	7.68	Fixed	7.68	1,670.42	180.00
J-238	1,200.00	Demand	58.67	Fixed	58.67	1,668.70	203.09
J-241	1,430.00	Demand	94.87	Fixed	94.87	1,726.72	128.57
J-242	1,525.00	Demand	58.57	Fixed	58.57	1,725.97	87.08
J-244	1,430.00	Demand	32.44	Fixed	32.44	1,718.87	125.17
J-245	1,425.00	Demand	19.58	Fixed	19.58	1,715.31	125.79
J-246	1,475.00	Demand	23.18	Fixed	23.18	1,714.78	103.90
J-247	1,435.00	Demand	16.89	Fixed	16.89	1,714.84	121.25
J-248	1,430.00	Demand	18.55	Fixed	18.55	1,714.99	123.49
J-249	1,430.00	Demand	15.44	Fixed	15.44	1,715.09	123.53
J-250	1,395.00	Demand	32.32	Fixed	32.32	1,717.27	139.64
J-252	1,395.00	Demand	43.43	Fixed	43.43	1,715.94	139.06
J-253	1,405.00	Demand	32.98	Fixed	32.98	1,714.99	134.32
J-255	1,430.00	Demand	15.12	Fixed	15.12	1,714.86	123.43
J-256	1,430.00	Demand	128.49	Fixed	128.49	1,713.90	123.01
J-258	1,410.00	Demand	32.92	Fixed	32.92	1,713.72	131.60
J-260	1,395.00	Demand	19.70	Fixed	19.70	1,720.58	141.07
J-262	1,395.00	Demand	43.20	Fixed	43.20	1,719.32	140.53
J-263	1,405.00	Demand	25.40	Fixed	25.40	1,718.13	135.68
J-264	1,400.00	Demand	11.73	Fixed	11.73	1,718.66	138.08
J-265	1,410.00	Demand	12.23	Fixed	12.23	1,717.57	133.27
J-266	1,410.00	Demand	35.38	Fixed	35.38	1,717.24	133.13
J-267	1,410.00	Demand	3.65	Fixed	3.65	1,717.33	133.17
J-270	1,410.00	Demand	36.00	Fixed	36.00	1,719.60	134.15
J-271	1,410.00	Demand	43.89	Fixed	43.89	1,718.06	133.48
J-275	1,420.00	Demand	23.80	Fixed	23.80	1,717.04	128.71
J-277	1,405.00	Demand	208.96	Fixed	208.96	1,717.05	135.21
J-280	1,430.00	Demand	27.39	Fixed	27.39	1,713.01	122.63
J-282	1,540.00	Demand	14.88	Fixed	14.88	1,712.80	74.87
J-283	1,470.00	Demand	25.40	Fixed	25.40	1,712.45	105.05
J-284	1,430.00	Demand	90.31	Fixed	90.31	1,712.32	122.33
J-285	1,440.00	Demand	103.82	Fixed	103.82	1,711.77	117.76
J-287	1,450.00	Demand	25.01	Fixed	25.01	1,711.80	113.44

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-288	1,440.00	Demand	5.67	Fixed	5.67	1,711.88	117.80
J-289	1,450.00	Demand	67.64	Fixed	67.64	1,707.22	111.45
J-290	1,510.00	Demand	0.00	Fixed	0.00	1,704.06	84.09
J-292	1,435.00	Demand	21.98	Fixed	21.98	1,711.68	119.89
J-293	1,450.00	Demand	48.56	Fixed	48.56	1,711.84	113.45
J-294	1,470.00	Demand	46.76	Fixed	46.76	1,711.69	104.73
J-295	1,480.00	Demand	49.46	Fixed	49.46	1,711.99	100.52
J-297	1,430.00	Demand	48.76	Fixed	48.76	1,710.80	121.67
J-301	1,710.00	Demand	110.25	Fixed	110.25	1,809.85	43.26
J-302	1,650.00	Demand	11.83	Fixed	11.83	1,802.92	66.26
J-303	1,560.00	Demand	75.63	Fixed	75.63	1,796.80	102.60
J-304	1,520.00	Demand	67.31	Fixed	67.31	1,788.45	116.32
J-305	1,540.00	Demand	7.08	Fixed	7.08	1,788.43	107.64
J-306	1,550.00	Demand	2.52	Fixed	2.52	1,788.43	103.31
J-307	1,490.00	Demand	10.66	Fixed	10.66	1,773.41	122.80
J-308	1,490.00	Demand	12.07	Fixed	12.07	1,751.74	113.41
J-309	1,520.00	Demand	26.86	Fixed	26.86	1,751.72	100.41
J-310	1,500.00	Demand	5.56	Fixed	5.56	1,751.71	109.07
J-311	1,490.00	Demand	29.46	Fixed	29.46	1,773.24	122.73
J-312	1,480.00	Demand	36.02	Fixed	36.02	1,748.49	116.34
J-313	1,540.00	Demand	57.45	Fixed	57.45	1,728.77	81.79
J-314	1,600.00	Demand	47.47	Fixed	47.47	1,728.32	55.60
J-316	1,540.00	Demand	14.88	Fixed	14.88	1,748.47	90.33
J-318	1,530.00	Demand	7.54	Fixed	7.54	1,725.00	84.50
J-319	1,525.00	Demand	39.46	Fixed	39.46	1,719.13	84.12
J-320	1,525.00	Demand	47.68	Fixed	47.68	1,715.44	82.52
J-321	1,510.00	Demand	12.73	Fixed	12.73	1,692.87	79.24
J-322	1,475.00	Demand	42.31	Fixed	42.31	1,696.07	95.79
J-323	1,550.00	Demand	18.88	Fixed	18.88	1,712.60	70.45
J-324	1,580.00	Demand	3.23	Fixed	3.23	1,711.78	57.10
J-325	1,675.00	Demand	22.50	Fixed	22.50	1,708.70	14.60
J-326	1,590.00	Demand	30.08	Fixed	30.08	1,703.36	49.12
J-328	1,510.00	Demand	19.86	Fixed	19.86	1,708.35	85.95
J-330	1,490.00	Demand	52.34	Fixed	52.34	1,712.59	96.45
J-332	1,490.00	Demand	16.83	Fixed	16.83	1,710.28	95.45
J-333	1,530.00	Demand	9.96	Fixed	9.96	1,709.54	77.79
J-336	1,490.00	Demand	39.65	Fixed	39.65	1,711.59	96.02
J-338	1,500.00	Demand	3.11	Fixed	3.11	1,693.94	84.03
J-340	1,490.00	Demand	38.43	Fixed	38.43	1,780.07	125.69
J-341	1,485.00	Demand	7.44	Fixed	7.44	1,778.49	127.17
J-342	1,490.00	Demand	22.02	Fixed	22.02	1,776.93	124.33
J-343	1,520.00	Demand	5.73	Fixed	5.73	1,778.68	112.08
J-344	1,555.00	Demand	20.93	Fixed	20.93	1,778.61	96.89
J-345	1,590.00	Demand	21.15	Fixed	21.15	1,778.27	81.58
J-346	1,555.00	Demand	21.71	Fixed	21.71	1,778.15	96.69
J-349	1,490.00	Demand	11.82	Fixed	11.82	1,773.68	122.92
J-350	1,510.00	Demand	2.40	Fixed	2.40	1,773.68	114.25
J-351	1,450.00	Demand	3.71	Fixed	3.71	1,774.59	140.64
J-352	1,390.00	Demand	47.93	Fixed	47.93	1,776.03	167.27
J-353	1,500.00	Demand	40.33	Fixed	40.33	1,776.77	119.93
J-354	1,550.00	Demand	1.71	Fixed	1.71	1,777.59	98.62
J-356	1,400.00	Demand	7.73	Fixed	7.73	1,776.77	163.25

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-360	1,550.00	Demand	135.20	Fixed	135.20	1,770.07	95.36
J-361	1,450.00	Demand	114.62	Fixed	114.62	1,767.11	137.41
J-362	1,425.00	Demand	21.36	Fixed	21.36	1,766.74	148.08
J-363	1,430.00	Demand	6.01	Fixed	6.01	1,765.72	145.47
J-364	1,450.00	Demand	17.29	Fixed	17.29	1,765.67	136.78
J-366	1,430.00	Demand	27.53	Fixed	27.53	1,765.50	145.37
J-367	1,410.00	Demand	12.99	Fixed	12.99	1,764.92	153.79
J-368	1,405.00	Demand	15.95	Fixed	15.95	1,764.67	155.84
J-370	1,415.00	Demand	10.19	Fixed	10.19	1,765.06	151.68
J-372	1,410.00	Demand	6.94	Fixed	6.94	1,765.07	153.85
J-373	1,420.00	Demand	8.61	Fixed	8.61	1,765.17	149.56
J-374	1,415.00	Demand	32.61	Fixed	32.61	1,765.40	151.83
J-375	1,410.00	Demand	14.29	Fixed	14.29	1,765.03	153.83
J-376	1,510.00	Demand	31.53	Fixed	31.53	1,765.52	110.72
J-377	1,660.00	Demand	93.96	Fixed	93.96	1,767.03	46.37
J-378	1,615.00	Demand	14.70	Fixed	14.70	1,767.70	66.17
J-402	1,515.00	Demand	59.93	Fixed	59.93	1,670.32	67.30
J-403	1,490.00	Demand	35.26	Fixed	35.26	1,680.38	82.49
J-404	1,495.00	Demand	13.55	Fixed	13.55	1,680.96	80.57
J-405	1,500.00	Demand	1.44	Fixed	1.44	1,681.76	78.76
J-406	1,500.00	Demand	5.38	Fixed	5.38	1,681.90	78.82
J-407	1,540.00	Demand	41.04	Fixed	41.04	1,681.98	61.52
J-408	1,483.00	Demand	16.13	Fixed	16.13	1,681.96	86.21
J-410	1,550.00	Demand	26.50	Fixed	26.50	1,674.93	54.13
J-411	1,470.00	Demand	19.51	Fixed	19.51	1,683.65	92.57
J-412	1,460.00	Demand	17.89	Fixed	17.89	1,683.77	96.96
J-414	1,470.00	Demand	48.70	Fixed	48.70	1,684.09	92.77
J-416	1,470.00	Demand	17.94	Fixed	17.94	1,685.06	93.18
J-417	1,475.00	Demand	10.50	Fixed	10.50	1,684.19	90.64
J-419	1,445.00	Demand	43.11	Fixed	43.11	1,686.50	104.64
J-420	1,460.00	Demand	4.79	Fixed	4.79	1,686.51	98.15
J-421	1,450.00	Demand	10.83	Fixed	10.83	1,686.71	102.56
J-422	1,440.00	Demand	22.42	Fixed	22.42	1,686.72	106.91
J-423	1,430.00	Demand	9.44	Fixed	9.44	1,688.25	111.90
J-424	1,430.00	Demand	51.43	Fixed	51.43	1,688.30	111.92
J-426	1,425.00	Demand	15.18	Fixed	15.18	1,690.62	115.09
J-427	1,420.00	Demand	20.89	Fixed	20.89	1,691.11	117.47
J-429	1,420.00	Demand	9.89	Fixed	9.89	1,695.73	119.47
J-430	1,420.00	Demand	14.91	Fixed	14.91	1,696.15	119.66
J-431	1,420.00	Demand	85.54	Fixed	85.54	1,707.87	124.74
J-432	1,415.00	Demand	38.57	Fixed	38.57	1,709.57	127.64
J-433	1,410.00	Demand	137.17	Fixed	137.17	1,712.82	131.21
J-434	1,420.00	Demand	69.54	Fixed	69.54	1,712.17	126.60
J-435	1,430.00	Demand	0.00	Fixed	0.00	1,691.05	113.11
J-436	1,430.00	Demand	8.18	Fixed	8.18	1,690.43	112.85
J-437	1,420.00	Demand	52.62	Fixed	52.62	1,715.39	127.99
J-438	1,460.00	Demand	0.00	Fixed	0.00	1,686.61	98.19
J-439	1,420.00	Demand	61.24	Fixed	61.24	1,704.49	123.27
J-440	1,425.00	Demand	43.04	Fixed	43.04	1,691.90	115.65
J-442	1,425.00	Demand	39.69	Fixed	39.69	1,691.30	115.39
J-444	1,430.00	Demand	37.97	Fixed	37.97	1,689.08	112.26
J-446	1,440.00	Demand	27.77	Fixed	27.77	1,686.68	106.89

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-449	1,455.00	Demand	4.95	Fixed	4.95	1,686.28	100.21
J-451	1,480.00	Demand	9.51	Fixed	9.51	1,685.94	89.23
J-452	1,470.00	Demand	36.07	Fixed	36.07	1,686.52	93.82
J-454	1,550.00	Demand	27.28	Fixed	27.28	1,687.25	59.47
J-455	1,520.00	Demand	0.00	Fixed	0.00	1,687.83	72.72
J-457	1,530.00	Demand	14.98	Fixed	14.98	1,691.23	69.86
J-458	1,510.00	Demand	10.92	Fixed	10.92	1,687.30	76.82
J-461	1,470.00	Demand	58.81	Fixed	58.81	1,687.25	94.13
J-462	1,470.00	Demand	14.17	Fixed	14.17	1,688.35	94.61
J-464	1,460.00	Demand	32.41	Fixed	32.41	1,686.71	98.24
J-466	1,450.00	Demand	21.39	Fixed	21.39	1,686.88	102.64
J-469	1,440.00	Demand	5.68	Fixed	5.68	1,690.55	108.56
J-470	1,440.00	Demand	34.91	Fixed	34.91	1,693.93	110.03
J-471	1,430.00	Demand	35.39	Fixed	35.39	1,693.79	114.30
J-472	1,430.00	Demand	105.19	Fixed	105.19	1,696.99	115.69
J-474	1,425.00	Demand	133.14	Fixed	133.14	1,701.70	119.89
J-476	1,425.00	Demand	56.08	Fixed	56.08	1,706.48	121.97
J-479	1,435.00	Demand	10.52	Fixed	10.52	1,687.17	109.27
J-480	1,435.00	Demand	4.65	Fixed	4.65	1,687.15	109.26
J-481	1,430.00	Demand	4.15	Fixed	4.15	1,688.25	111.90
J-482	1,435.00	Demand	49.67	Fixed	49.67	1,687.15	109.26
J-483	1,450.00	Demand	3.00	Fixed	3.00	1,686.78	102.60
J-485	1,460.00	Demand	3.47	Fixed	3.47	1,684.56	97.30
J-486	1,460.00	Demand	101.18	Fixed	101.18	1,684.57	97.31
J-490	1,440.00	Demand	8.82	Fixed	8.82	1,711.90	117.81
J-491	1,430.00	Demand	3.33	Fixed	3.33	1,698.03	116.14
J-492	1,440.00	Demand	0.00	Fixed	0.00	1,711.77	117.76
J-494	1,510.00	Demand	4.10	Fixed	4.10	1,704.02	84.07
J-495	1,380.00	Demand	0.00	Fixed	0.00	1,677.69	128.99
J-496	1,280.00	Demand	5.28	Fixed	5.28	1,656.51	163.14
J-497	1,270.00	Demand	7.01	Fixed	7.01	1,649.39	164.39
J-499	1,340.00	Demand	0.00	Fixed	0.00	1,571.55	100.33
J-500	1,335.00	Demand	2,500.00	Fixed	2,500.00	1,546.53	91.66
J-740	1,600.00	Demand	0.00	Fixed	0.00	2,138.80	233.46
J-742	1,800.00	Demand	64.31	Fixed	64.31	2,114.95	136.47
J-743	1,735.00	Demand	36.48	Fixed	36.48	2,114.92	164.62
J-744	1,885.00	Demand	126.27	Fixed	126.27	2,114.82	99.58
J-745	2,100.00	Demand	0.00	Fixed	0.00	2,115.50	6.72
J-1000	1,540.00	Demand	17.49	Fixed	17.49	1,776.68	102.55
J-1001	1,460.00	Demand	0.00	Fixed	0.00	1,771.84	135.12
J-1002	1,420.00	Demand	1.44	Fixed	1.44	1,769.88	151.60
J-1003	1,390.00	Demand	2.27	Fixed	2.27	1,769.40	164.39
J-1005	1,395.00	Demand	0.00	Fixed	0.00	1,765.54	160.56
J-1011	1,450.00	Demand	4.27	Fixed	4.27	1,765.27	136.61
J-1012	1,460.00	Demand	4.89	Fixed	4.89	1,765.83	132.52
J-1013	1,420.00	Demand	9.08	Fixed	9.08	1,765.50	149.70
J-1014	1,420.00	Demand	0.52	Fixed	0.52	1,715.95	128.23
J-1015	1,415.00	Demand	4.16	Fixed	4.16	1,717.06	130.88
J-1016	1,415.00	Demand	15.63	Fixed	15.63	1,716.76	130.75
J-1017	1,405.00	Demand	0.84	Fixed	0.84	1,718.10	135.67
J-1018	1,405.00	Demand	2.75	Fixed	2.75	1,718.03	135.63
J-1019	1,405.00	Demand	0.00	Fixed	0.00	1,718.09	135.66

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-1020	1,410.00	Demand	9.18	Fixed	9.18	1,717.49	133.24
J-1021	1,415.00	Demand	18.05	Fixed	18.05	1,717.28	130.98
J-1022	1,410.00	Demand	0.00	Fixed	0.00	1,717.43	133.21
J-1023	1,415.00	Demand	0.00	Fixed	0.00	1,717.35	131.01
J-1024	1,465.00	Demand	3.10	Fixed	3.10	1,687.17	96.27
J-1025	1,450.00	Demand	0.00	Fixed	0.00	1,686.52	102.48
J-1026	1,460.00	Demand	0.85	Fixed	0.85	1,686.52	98.15
J-1027	1,450.00	Demand	0.00	Fixed	0.00	1,686.59	102.51
J-1028	1,440.00	Demand	0.00	Fixed	0.00	1,686.56	106.83
J-1031	1,465.00	Demand	4.62	Fixed	4.62	1,683.99	94.89
J-1032	1,435.00	Demand	3.96	Fixed	3.96	1,689.39	110.23
J-1033	1,480.00	Demand	5.65	Fixed	5.65	1,764.15	123.12
J-1034	1,440.00	Demand	41.36	Fixed	41.36	1,686.65	106.88
J-1035	1,540.00	Demand	0.92	Fixed	0.92	1,764.15	97.12
J-1036	1,540.00	Demand	23.29	Fixed	23.29	1,751.72	91.74
J-1039	1,430.00	Demand	0.15	Fixed	0.15	1,691.27	113.21
J-1040	1,430.00	Demand	4.71	Fixed	4.71	1,691.82	113.45
J-1041	1,450.00	Demand	0.00	Fixed	0.00	1,686.22	102.35
J-1042	1,460.00	Demand	1.99	Fixed	1.99	1,685.95	97.91
J-1043	1,515.00	Demand	0.67	Fixed	0.67	1,688.44	75.15
J-1044	1,495.00	Demand	7.22	Fixed	7.22	1,693.86	86.16
J-1045	1,480.00	Demand	0.00	Fixed	0.00	1,693.94	92.70
J-1046	1,430.00	Demand	36.79	Fixed	36.79	1,691.32	113.23
J-1047	1,425.00	Demand	0.00	Fixed	0.00	1,731.17	132.66
J-1054	1,430.00	Demand	0.00	Fixed	0.00	1,726.72	128.57
J-1055	1,430.00	Demand	0.00	Fixed	0.00	1,718.88	125.17
J-1057	1,420.00	Demand	0.00	Fixed	0.00	1,714.29	127.52
J-1058	1,420.00	Demand	0.00	Fixed	0.00	1,714.29	127.52
J-1059	1,440.00	Demand	0.00	Fixed	0.00	1,711.90	117.81
J-1060	1,509.00	Demand	0.00	Fixed	0.00	1,702.76	83.96
J-1061	1,410.00	Demand	0.00	Fixed	0.00	1,718.57	133.71
J-1062	1,510.00	Demand	0.00	Fixed	0.00	1,704.06	84.09
J-1063	1,510.00	Demand	0.00	Fixed	0.00	1,704.05	84.08
J-1066	1,455.00	Demand	0.00	Fixed	0.00	1,737.99	122.62
J-1067	1,515.00	Demand	0.00	Fixed	0.00	1,737.99	96.62
J-1068	1,545.00	Demand	0.00	Fixed	0.00	1,738.95	84.04
J-1069	1,265.00	Demand	0.00	Fixed	0.00	1,674.97	177.64
J-1600	1,444.00	Demand	0.00	Fixed	0.00	1,711.99	116.12
J-1601	1,444.00	Demand	0.00	Fixed	0.00	1,711.92	116.09
J-1602	1,444.00	Demand	0.00	Fixed	0.00	1,711.86	116.07
J-1603	1,444.00	Demand	0.00	Fixed	0.00	1,711.86	116.07
J-1605	1,509.00	Demand	0.00	Fixed	0.00	1,703.99	84.49
J-1610	1,506.00	Demand	0.00	Fixed	0.00	1,704.06	85.82
J-1611	1,511.00	Demand	0.00	Fixed	0.00	1,704.45	83.82
J-1612	1,511.00	Demand	0.00	Fixed	0.00	1,703.72	83.50
J-1613	1,506.00	Demand	0.00	Fixed	0.00	1,703.90	85.75
J-1651	1,600.00	Demand	0.00	Fixed	0.00	1,720.86	52.37
J-1652	1,350.00	Demand	0.00	Fixed	0.00	1,720.50	160.54
J-1653	1,370.00	Demand	0.00	Fixed	0.00	1,720.24	151.76
J-9000	1,305.00	Demand	0.00	Fixed	0.00	1,677.35	161.34
J-9001	1,435.00	Demand	96.60	Fixed	96.60	1,675.70	104.30
J-9002	1,435.00	Demand	0.00	Fixed	0.00	1,676.16	104.49

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-9004	1,305.00	Demand	23.00	Fixed	23.00	1,677.32	161.33

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P112	J-111	J-115	4,200.00	6	Asbestos Cement	45.93	0.52	1.02	0.24	132.0
P116	J-115	J-116	6,200.00	6	Asbestos Cement	12.63	0.14	0.14	0.02	132.0
P121	PRV-120	J-121	3,300.00	6	Asbestos Cement	0.00	0.00	0.00	0.00	132.0
P122	J-121	J-122	2,300.00	6	Asbestos Cement	-76.15	0.86	1.42	0.62	132.0
P123	J-121	J-123	3,200.00	6	Asbestos Cement	50.81	0.58	0.94	0.29	132.0
P124	R-125	J-122	1,300.00	6	Asbestos Cement	108.90	1.24	1.56	1.20	132.0
P126	J-126	J-127	2,000.00	6	Asbestos Cement	-44.11	0.50	0.45	0.23	132.0
P127	J-127	J-128	2,500.00	12	Asbestos Cement	-44.11	0.13	0.02	0.01	130.0
P131	J-134	J-131	2,900.00	6	Steel	22.82	0.26	0.20	0.07	130.0
P133	J-134	J-133	3,000.00	6	Asbestos Cement	6.94	0.08	0.02	0.01	132.0
P140A	J-143	PRV-140	3,740.00	8	Asbestos Cement	52.95	0.34	0.30	0.08	130.0
P141	J-141	J-143	1,500.00	12	Asbestos Cement	-13.49	0.04	1.34e-3	8.95e-4	130.0
P142	J-134	J-141	3,900.00	8	Asbestos Cement	-34.42	0.22	0.14	0.04	131.0
P145	J-141	J-115	3,200.00	6	Asbestos Cement	-27.61	0.31	0.30	0.09	132.0
P147	J-143	J-148	1,800.00	12	Ductile Iron	-73.38	0.21	0.04	0.02	132.0
P148	J-150	J-148	2,600.00	12	Asbestos Cement	105.57	0.30	0.10	0.04	132.0
P150	J-150	J-151	1,400.00	8	Asbestos Cement	5.12	0.03	1.46e-3	1.05e-3	132.0
P151	J-151	J-152	2,000.00	6	Asbestos Cement	-20.31	0.23	0.11	0.06	128.0
P152	J-152	J-154	2,200.00	6	Asbestos Cement	-98.30	1.12	2.18	0.99	132.0
P153	J-150	J-153	1,800.00	8	Asbestos Cement	-162.06	1.03	1.11	0.62	132.0
P154	J-153	J-154	1,800.00	8	Asbestos Cement	-167.98	1.07	1.19	0.66	132.0
P155	J-154	J-111	2,200.00	6	Asbestos Cement	68.20	0.77	1.11	0.50	132.0
P158	J-151	J-158	4,000.00	6	Asbestos Cement	1.70	0.02	2.2e-3	5.49e-4	132.0
P160	J-154	J-161	1,200.00	8	Ductile Iron	-335.33	2.14	2.84	2.37	132.0
P161	J-161	J-162	2,100.00	8	Asbestos Cement	-335.33	2.14	4.97	2.37	132.0
P162	J-162	J-163	2,400.00	8	Asbestos Cement	-339.83	2.17	5.82	2.43	132.0
P163	J-163	J-164	2,000.00	8	Asbestos Cement	-347.39	2.22	5.05	2.53	132.0
P164	J-164	J-165	2,800.00	8	Asbestos Cement	-351.44	2.24	7.23	2.58	132.0
P165	J-165	R-180	2,800.00	8	Asbestos Cement	-352.36	2.25	7.26	2.59	132.0
P167	J-164	J-168	2,100.00	6	Asbestos Cement	0.44	4.97e-3	1.22e-4	5.81e-5	132.0
P170	J-152	J-175	3,600.00	20	Steel	40.26	0.04	1.95e-3	5.43e-4	132.0
P171	J-152	J-172	2,200.00	6	Asbestos Cement	30.44	0.35	0.26	0.12	128.0
P173	J-172	J-174	2,800.00	6	Asbestos Cement	3.46	0.04	0.01	2.14e-3	128.0
P174	J-174	J-175	2,400.00	6	Asbestos Cement	-29.28	0.33	0.27	0.11	128.0
P175	J-175	J-176	2,900.00	12	Steel	-828.96	2.35	5.08	1.75	132.0
P177	J-177	J-178	1,100.00	12	Steel	-1,590.32	4.51	6.44	5.85	132.0
P179	J-178	R-180	4,100.00	24	Steel	-6,945.18	4.93	13.47	3.29	127.0
P180	J-181	R-180	3,030.00	18	Steel	-10.34	0.01	2.44e-4	8.06e-5	127.0
P185	J-177	J-185	2,680.00	8	Asbestos Cement	33.94	0.22	0.09	0.03	132.0
P186N	J-186	J-187	800.00	12	PVC	-51.76	0.15	0.01	0.01	135.0
P187	J-178	J-187	2,380.00	6	Asbestos Cement	102.78	1.17	2.76	1.16	127.0
P190	J-178	J-191	4,190.00	20	Steel	5,226.37	5.34	19.77	4.72	127.0
P192	J-191	J-192	3,930.00	20	Ductile Iron	4,545.51	4.64	14.32	3.64	127.0
P193	J-192	J-199	4,920.00	20	Steel	4,413.78	4.51	16.98	3.45	127.0
P194	J-191	J-194	4,180.00	10	Asbestos Cement	559.24	2.28	8.97	2.15	129.0
P195	J-194	J-195	3,000.00	10	Asbestos Cement	474.78	1.94	4.62	1.54	131.0
P196	J-195	J-196	1,420.00	6	Asbestos Cement	421.97	4.79	21.78	15.34	129.0
P198	J-197	J-199	1,620.00	8	PVC	-237.95	1.52	1.60	0.99	150.0
P199	J-199	J-209	1,920.00	18	Steel	4,126.83	5.20	9.78	5.09	127.0
P201	J-175	J-201	3,350.00	20	Steel	832.33	0.85	0.49	0.15	132.0
P202	J-201	J-202	3,480.00	20	Steel	832.33	0.85	0.51	0.15	132.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P204	J-203	J-204	3,470.00	10	Asbestos Cement	804.22	3.29	15.01	4.33	127.0
P206	J-204	J-206	4,260.00	10	Asbestos Cement	58.85	0.24	0.14	0.03	131.0
P207	J-204	J-207	1,670.00	10	Asbestos Cement	712.90	2.91	5.78	3.46	127.0
P208	J-207	J-208	5,420.00	10	Asbestos Cement	665.09	2.72	16.50	3.04	127.0
P213	J-213	J-214	4,920.00	14	Steel	264.15	0.55	0.49	0.10	132.0
P216	J-215	J-216	2,050.00	6	Asbestos Cement	46.94	0.53	0.56	0.27	127.0
P217	J-215	J-217	1,500.00	14	Steel	172.76	0.36	0.07	0.05	127.0
P221	J-220	J-221	1,690.00	6	Asbestos Cement	177.77	2.02	5.09	3.01	131.0
P222	J-221	J-222	710.00	6	Asbestos Cement	111.76	1.27	0.92	1.29	130.0
P223	J-221	J-223	1,380.00	6	Asbestos Cement	55.32	0.63	0.47	0.34	132.0
P224	J-223	J-224	710.00	6	Asbestos Cement	50.09	0.57	0.20	0.29	132.0
P225	J-224	J-222	1,380.00	6	Asbestos Cement	38.67	0.44	0.24	0.16	132.0
P226	J-222	J-226	720.00	6	Asbestos Cement	138.47	1.57	1.39	1.92	130.0
P227	J-226	J-227	1,100.00	6	Asbestos Cement	-138.72	1.57	2.15	1.96	129.0
P228	J-220	J-227	1,570.00	8	Asbestos Cement	394.63	2.52	5.24	3.34	129.0
P229	J-226	J-230	1,070.00	6	Asbestos Cement	252.80	2.87	6.55	6.12	127.0
P230	J-230	J-231	4,000.00	16	Steel	-1,519.66	2.42	5.69	1.42	127.0
P231	J-231	J-208	1,680.00	16	Steel	-1,533.44	2.45	2.43	1.45	127.0
P237A	J-236	PRV-237	6,180.00	8	Ductile Iron	66.35	0.75	3.14	0.51	128.0
P242	J-241	J-242	1,860.00	8	Asbestos Cement	58.57	0.66	0.75	0.40	128.0
P243	J-241	J-244	6,700.00	10	Asbestos Cement	396.78	1.62	7.84	1.17	127.0
P244	J-244	J-245	2,100.00	10	Asbestos Cement	484.58	1.98	3.56	1.69	127.0
P245	J-245	J-246	1,400.00	8	Asbestos Cement	124.62	0.80	0.53	0.38	132.0
P246	J-246	J-247	830.00	6	Asbestos Cement	-22.83	0.26	0.06	0.07	129.0
P247	J-247	J-248	1,160.00	6	Asbestos Cement	-32.21	0.37	0.15	0.13	130.0
P248	J-248	J-249	1,640.00	8	PVC	-47.83	0.31	0.10	0.06	133.0
P249	J-249	J-245	2,050.00	8	PVC	-63.26	0.40	0.22	0.11	133.0
P250	J-230	J-250	1,880.00	4	Asbestos Cement	58.92	1.50	5.60	2.98	127.0
P251	J-250	J-252	1,940.00	4	Asbestos Cement	26.60	0.68	1.33	0.68	127.0
P252	J-252	J-255	1,400.00	14	Steel	769.83	1.60	1.09	0.78	127.0
P253	J-252	J-253	820.00	4	Asbestos Cement	35.90	0.92	0.95	1.16	129.0
P254	J-253	J-248	810.00	6	Asbestos Cement	2.93	0.03	1.22e-3	1.51e-3	130.0
P255	J-247	J-255	1,760.00	6	Asbestos Cement	-7.51	0.09	0.02	0.01	127.0
P256	J-255	J-256	1,300.00	14	Steel	747.19	1.56	0.95	0.73	127.0
P257	J-246	J-256	2,300.00	8	Asbestos Cement	124.28	0.79	0.88	0.38	131.0
P258	J-256	J-258	1,340.00	6	Asbestos Cement	32.92	0.37	0.18	0.13	131.0
P259	J-252	J-263	2,500.00	14	Steel	-822.57	1.71	2.19	0.88	127.0
P260	J-230	J-260	1,330.00	16	Steel	1,684.75	2.69	2.29	1.72	127.0
P261	J-260	J-264	1,330.00	16	Steel	1,529.56	2.44	1.92	1.44	127.0
P262	J-260	J-262	650.00	6	Asbestos Cement	135.50	1.54	1.25	1.93	127.0
P263	J-262	J-263	1,330.00	6	Asbestos Cement	92.29	1.05	1.19	0.90	131.0
P264	J-263	J-264	650.00	14	Steel	-791.32	1.65	0.53	0.82	127.0
P267	J-266	J-267	650.00	6	Asbestos Cement	-33.63	0.38	0.10	0.15	127.0
P268	J-265	J-267	630.00	14	Steel	521.76	1.09	0.24	0.38	127.0
P270	J-227	J-270	2,480.00	6	Asbestos Cement	229.42	2.60	11.97	4.83	131.0
P271	J-270	J-271	1,330.00	6	Asbestos Cement	106.04	1.20	1.54	1.16	131.0
P272	J-271	J-265	1,090.00	6	Asbestos Cement	62.15	0.71	0.48	0.44	129.0
P273	J-270	J-264	1,090.00	6	Asbestos Cement	87.38	0.99	0.93	0.86	127.0
P276	J-275	J-277	1,500.00	14	Steel	-45.10	0.09	0.01	4.07e-3	127.0
P280	J-256	J-280	1,330.00	14	Steel	710.06	1.48	0.89	0.67	127.0
P281	J-280	J-284	1,330.00	14	Steel	620.25	1.29	0.69	0.52	127.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P282	J-280	J-282	2,000.00	8	Asbestos Cement	62.43	0.40	0.21	0.11	131.0
P283	J-282	J-283	1,330.00	6	Asbestos Cement	47.55	0.54	0.35	0.26	131.0
P284	J-283	J-284	2,000.00	6	Asbestos Cement	22.15	0.25	0.13	0.06	131.0
P286	J-285	J-287	2,640.00	10	Asbestos Cement	-33.87	0.14	0.03	0.01	127.0
P289	J-288	J-289	1,300.00	6	Asbestos Cement	189.36	2.15	4.66	3.59	127.0
P292	J-285	J-292	1,280.00	6	Asbestos Cement	21.98	0.25	0.09	0.07	127.0
P295	J-294	J-295	2,640.00	6	Asbestos Cement	-30.02	0.34	0.30	0.11	131.0
P296	J-295	J-293	1,310.00	14	Steel	277.57	0.58	0.15	0.12	127.0
P297	J-293	J-297	3,560.00	6	Asbestos Cement	48.76	0.55	1.04	0.29	127.0
P299	J-490	J-494	3,300.00	14	Asbestos Cement	1,413.79	2.95	7.87	2.39	127.0
P300	R-300	J-301	1,460.00	20	Asbestos Cement	3,826.13	3.91	3.65	2.50	131.0
P301	J-301	J-302	2,920.00	20	Asbestos Cement	3,715.88	3.79	6.92	2.37	131.0
P302	J-302	J-303	2,600.00	20	Asbestos Cement	3,704.04	3.78	6.13	2.36	131.0
P303	J-303	J-304	3,680.00	20	Asbestos Cement	3,628.41	3.71	8.35	2.27	131.0
P305	J-304	J-305	1,350.00	6	Asbestos Cement	9.60	0.11	0.02	0.01	127.0
P306	J-305	J-306	1,690.00	6	Asbestos Cement	2.52	0.03	1.95e-3	1.16e-3	130.0
P307	J-304	J-307	2,650.00	14	Steel	2,258.19	4.71	15.04	5.68	127.0
P309	J-308	J-309	1,670.00	6	Asbestos Cement	7.34	0.08	0.01	0.01	127.0
P311	J-307	J-311	1,530.00	6	Asbestos Cement	29.46	0.33	0.17	0.11	129.0
P312	J-308	J-312	630.00	14	Steel	2,143.72	4.47	3.25	5.15	127.0
P313	J-312	J-313	4,000.00	14	Steel	2,092.82	4.36	19.72	4.93	127.0
P314	J-313	J-314	1,640.00	6	Asbestos Cement	47.47	0.54	0.45	0.28	127.0
P316	J-312	J-316	2,720.00	8	Asbestos Cement	14.88	0.09	0.02	0.01	127.0
P318	J-313	J-318	840.00	14	Steel	1,987.89	4.14	3.77	4.48	127.0
P319	J-318	J-319	1,320.00	14	Steel	1,980.35	4.13	5.88	4.45	127.0
P320	J-319	J-320	1,300.00	14	Steel	1,553.04	3.24	3.69	2.84	127.0
P322	J-320	J-322	2,650.00	6	Asbestos Cement	278.28	3.16	19.37	7.31	127.0
P323	J-320	J-323	1,320.00	8	Asbestos Cement	306.42	1.96	2.84	2.15	127.0
P324	J-323	J-324	1,200.00	8	Asbestos Cement	164.80	1.05	0.82	0.68	127.0
P325	J-324	J-325	1,150.00	6	Asbestos Cement	161.57	1.83	3.07	2.67	127.0
P326	J-325	J-326	2,640.00	6	Asbestos Cement	139.07	1.58	5.35	2.03	127.0
P328	J-326	J-328	2,420.00	10	Asbestos Cement	-547.71	2.24	5.00	2.07	129.0
P329	J-328	J-323	2,640.00	6	Asbestos Cement	-122.74	1.39	4.24	1.61	127.0
P330	J-328	J-330	1,320.00	8	Asbestos Cement	-383.29	2.45	4.24	3.21	128.0
P331	J-330	J-320	2,640.00	14	Steel	-920.66	1.92	2.85	1.08	127.0
P332	J-330	J-332	2,640.00	6	Asbestos Cement	88.33	1.00	2.31	0.87	127.0
P333	J-332	J-333	1,330.00	6	Asbestos Cement	71.50	0.81	0.74	0.56	131.0
P334	J-333	J-328	2,640.00	6	Asbestos Cement	61.54	0.70	1.18	0.45	127.0
P335	J-330	J-295	2,630.00	14	Steel	396.69	0.83	0.60	0.23	127.0
P336	J-295	J-336	2,000.00	6	Asbestos Cement	39.65	0.45	0.40	0.20	127.0
P340	J-304	J-340	4,140.00	14	Steel	1,293.30	2.70	8.38	2.02	127.0
P341	J-340	J-341	1,330.00	14	Steel	969.79	2.02	1.58	1.19	127.0
P342	J-341	J-342	1,330.00	14	Steel	962.35	2.01	1.56	1.17	127.0
P343	J-340	J-343	2,360.00	10	Asbestos Cement	285.07	1.16	1.40	0.59	132.0
P344	J-343	J-344	1,510.00	10	Asbestos Cement	69.72	0.28	0.07	0.04	131.0
P345	J-344	J-345	1,220.00	6	Asbestos Cement	48.78	0.55	0.34	0.28	131.0
P346	J-345	J-346	1,200.00	6	Asbestos Cement	27.63	0.31	0.12	0.10	129.0
P347	J-346	J-343	1,580.00	10	Asbestos Cement	-209.62	0.86	0.52	0.33	133.0
P348	J-346	J-342	3,980.00	6	Asbestos Cement	50.53	0.57	1.22	0.31	128.0
P349	J-342	J-349	2,630.00	14	Steel	990.86	2.07	3.25	1.24	127.0
P350	J-349	J-350	2,570.00	6	Asbestos Cement	2.40	0.03	2.69e-3	1.04e-3	130.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P351	J-349	J-351	1,900.00	6	Asbestos Cement	-63.60	0.72	0.91	0.48	127.0
P352	J-351	J-352	2,720.00	6	Asbestos Cement	-67.31	0.76	1.44	0.53	127.0
P353	J-352	J-353	2,250.00	8	Asbestos Cement	-115.24	0.74	0.75	0.33	131.0
P354	J-353	J-354	3,930.00	10	Asbestos Cement	-163.30	0.67	0.82	0.21	133.0
P355	J-354	J-346	2,650.00	10	Asbestos Cement	-165.01	0.67	0.56	0.21	133.0
P356	J-353	J-356	4,240.00	8	Asbestos Cement	7.73	0.05	0.01	2.25e-3	131.0
P359	J-349	J-360	2,670.00	14	Steel	1,040.25	2.17	3.61	1.35	127.0
P360	J-360	J-361	4,000.00	14	Steel	750.10	1.56	2.95	0.74	127.0
P361	J-361	J-362	1,520.00	8	Asbestos Cement	44.66	0.51	0.38	0.25	127.0
P362	J-362	J-363	1,900.00	4	Steel	23.30	0.59	1.02	0.54	127.0
P363	J-363	J-364	1,240.00	6	Asbestos Cement	17.29	0.20	0.05	0.04	129.0
P365	J-374	J-366	980.00	10	Asbestos Cement	-108.64	0.44	0.10	0.10	130.0
P368	J-367	J-368	980.00	14	Steel	423.42	0.88	0.25	0.26	127.0
P369	J-368	J-217	4,170.00	14	Steel	458.22	0.96	1.24	0.30	127.0
P370	J-368	J-370	1,240.00	6	Asbestos Cement	-50.74	0.58	0.39	0.31	127.0
P371	J-370	J-374	980.00	6	Ductile Iron	-53.71	0.61	0.34	0.35	127.0
P372	J-370	J-372	1,320.00	6	Asbestos Cement	-7.22	0.08	0.01	0.01	127.0
P373	J-372	J-373	980.00	6	Asbestos Cement	-28.45	0.32	0.11	0.11	127.0
P374	J-373	J-374	1,320.00	6	Asbestos Cement	-37.06	0.42	0.22	0.17	129.0
P375	J-372	J-375	1,300.00	6	Asbestos Cement	14.29	0.16	0.04	0.03	127.0
P376	J-374	J-376	3,880.00	6	Asbestos Cement	-14.75	0.17	0.12	0.03	127.0
P377	J-376	J-377	5,680.00	6	Asbestos Cement	-46.29	0.53	1.50	0.26	127.0
P378	J-377	J-378	1,340.00	8	Asbestos Cement	-140.25	0.90	0.68	0.51	127.0
P379	J-378	J-360	3,880.00	8	Asbestos Cement	-154.95	0.99	2.36	0.61	127.0
P401	J-420	J-438	50.00	8	Ductile Iron	-296.46	1.89	0.10	2.02	127.0
P403	J-402	J-403	1,370.00	10	Asbestos Cement	-1,070.67	4.37	10.06	7.35	127.0
P404	J-403	J-404	360.00	10	Asbestos Cement	-468.27	1.91	0.57	1.59	127.0
P405	J-404	J-405	790.00	10	Asbestos Cement	-367.16	1.50	0.80	1.01	127.0
P406	J-405	J-406	350.00	10	Asbestos Cement	-227.36	0.93	0.15	0.42	127.0
P407	J-406	J-407	800.00	8	Cast Iron	-42.55	0.27	0.08	0.10	95.0
P408	J-407	J-408	1,100.00	8	Cast Iron	16.13	0.10	0.02	0.02	95.0
P409	J-402	J-410	1,380.00	4	Cast Iron	-46.88	1.20	4.61	3.34	95.0
P410	J-410	J-411	1,140.00	4	Cast Iron	-73.38	1.87	8.72	7.65	95.0
P411	J-411	J-403	1,160.00	10	Asbestos Cement	637.66	2.60	3.27	2.82	127.0
P412	J-411	J-412	350.00	10	Cast Iron	-152.19	0.62	0.12	0.34	95.0
P413	J-412	J-404	1,160.00	6	Cast Iron	114.66	1.30	2.81	2.43	95.0
P415	J-414	J-405	1,120.00	6	Ductile Iron	141.25	1.60	2.33	2.08	127.0
P416	J-416	J-406	510.00	6	Cast Iron	190.18	2.16	3.15	6.18	95.0
P417	J-416	J-417	420.00	4	Ductile Iron	36.15	0.92	0.87	2.07	95.0
P418	J-417	J-407	1,180.00	6	Cast Iron	99.72	1.13	2.21	1.87	95.0
P419	J-486	J-419	600.00	6	Ductile Iron	-178.71	2.03	1.93	3.22	127.0
P420N	J-483	J-419	400.00	8	PVC	176.79	1.13	0.28	0.69	135.0
P421	J-420	J-421	600.00	6	Cast Iron	-38.96	0.44	0.20	0.33	95.0
P422	J-421	J-422	560.00	6	Cast Iron	-10.62	0.12	0.02	0.03	95.0
P423	J-479	J-423	600.00	6	Cast Iron	-97.45	1.11	1.08	1.79	95.0
P424	J-481	J-424	400.00	6	Cast Iron	-22.88	0.26	0.05	0.12	95.0
P425	J-424	J-482	600.00	6	Ductile Iron	135.03	1.53	1.15	1.92	127.0
P426	J-423	J-426	1,140.00	4	Asbestos Cement	-49.25	1.26	2.37	2.08	129.0
P427	J-426	J-427	600.00	4	Asbestos Cement	-29.45	0.75	0.50	0.83	127.0
P428	J-430	J-429	400.00	8	Asbestos Cement	219.23	1.40	0.43	1.06	133.0
P429	J-429	J-424	1,720.00	6	Asbestos Cement	209.34	2.38	7.42	4.32	127.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P430	J-430	J-431	1,200.00	8	Asbestos Cement	-694.17	4.43	11.72	9.77	127.0
P431	J-431	J-432	1,050.00	10	Asbestos Cement	-490.17	2.00	1.69	1.61	132.0
P432	J-432	J-433	600.00	8	Asbestos Cement	-528.75	3.37	3.25	5.42	133.0
P433	J-430	J-435	1,200.00	8	Asbestos Cement	460.02	2.94	5.10	4.25	132.0
P434	J-433	J-434	1,050.00	8	Asbestos Cement	161.87	1.03	0.65	0.62	132.0
P435	J-434	J-431	570.00	8	Asbestos Cement	603.56	3.85	4.30	7.54	127.0
P436	J-431	J-439	370.00	6	Asbestos Cement	314.03	3.56	3.38	9.14	127.0
P437	J-434	J-437	580.00	8	Asbestos Cement	-511.24	3.26	3.22	5.55	127.0
P438	J-435	J-436	400.00	12	Steel	747.09	2.12	0.62	1.55	127.0
P440	J-439	J-440	1,150.00	4	Asbestos Cement	119.99	3.06	12.59	10.95	128.0
P441	J-440	J-427	360.00	4	Ductile Iron	50.34	1.29	0.79	2.19	128.0
P442	J-440	J-442	600.00	6	Cast Iron	71.39	0.81	0.61	1.01	95.0
P443	J-442	J-426	350.00	4	Cast Iron	34.98	0.89	0.68	1.94	95.0
P445	J-444	J-423	350.00	4	Cast Iron	38.91	0.99	0.83	2.37	95.0
P446	J-444	J-446	1,150.00	6	Ductile Iron	141.23	1.60	2.40	2.08	127.0
P447	J-422	J-446	350.00	8	Cast Iron	48.20	0.31	0.04	0.12	95.0
P448	J-446	J-449	600.00	6	Ductile Iron	57.31	0.65	0.40	0.67	95.0
P449N	J-421	J-449	400.00	8	PVC	223.48	1.43	0.43	1.07	135.0
P450	J-411	J-451	570.00	10	Cast Iron	-578.37	2.36	2.29	4.02	95.0
P451	J-420	J-416	600.00	8	Ductile Iron	244.27	1.56	1.45	2.42	95.0
P452	J-451	J-452	570.00	10	Cast Iron	-274.86	1.12	0.58	1.02	95.0
P454N	J-451	J-454	790.00	8	PVC	-283.22	1.81	1.31	1.66	135.0
P455N	J-454	J-455	370.00	8	PVC	-272.06	1.74	0.57	1.54	135.0
P458	J-457	J-458	370.00	6	Ductile Iron	254.88	2.89	3.93	10.63	95.0
P459	J-458	J-454	580.00	8	Cast Iron	38.44	0.25	0.05	0.08	95.0
P460	J-452	J-458	790.00	8	Cast Iron	-150.38	0.96	0.78	0.99	95.0
P461	J-458	J-461	580.00	8	Asbestos Cement	55.15	0.35	0.05	0.09	127.0
P462	J-461	J-462	370.00	4	Cast Iron	-44.00	1.12	1.10	2.97	95.0
P463	J-462	J-457	580.00	4	Cast Iron	-58.16	1.48	2.89	4.98	95.0
P465	J-464	J-452	580.00	10	Cast Iron	150.24	0.61	0.19	0.33	95.0
P466	J-464	J-466	580.00	10	Cast Iron	-137.40	0.56	0.16	0.28	95.0
P468	J-466	J-469	400.00	4	Asbestos Cement	-111.62	2.85	3.67	9.17	131.0
P469	J-469	J-470	600.00	6	Cast Iron	-181.03	2.05	3.39	5.64	95.0
P470	J-470	J-471	580.00	6	Cast Iron	33.03	0.37	0.14	0.24	95.0
P472	J-471	J-472	600.00	4	Cast Iron	-60.35	1.54	3.20	5.33	95.0
P473	J-472	J-440	1,500.00	4	Cast Iron	44.78	1.14	5.09	3.39	90.0
P474	J-472	J-474	1,130.00	6	Asbestos Cement	-210.31	2.39	4.71	4.17	130.0
P475	J-474	J-439	1,500.00	6	Asbestos Cement	-132.80	1.51	2.79	1.86	127.0
P476	J-474	J-476	1,160.00	6	Asbestos Cement	-210.65	2.39	4.78	4.12	131.0
P478	J-423	J-481	50.00	6	Ductile Iron	-18.73	0.21	2.56e-3	0.05	127.0
P479	J-479	J-422	600.00	6	Ductile Iron	81.24	0.92	0.45	0.75	127.0
P480	J-479	J-480	50.00	3	Ductile Iron	5.68	0.37	0.02	0.39	127.0
P482	J-480	J-482	400.00	3	Ductile Iron	1.03	0.05	2.69e-3	0.01	127.0
P484N	J-421	J-483	50.00	8	PVC	-262.66	1.68	0.07	1.45	135.0
P486	J-485	J-486	400.00	4	Ductile Iron	-3.47	0.09	0.01	0.02	127.0
P487	J-486	J-417	600.00	6	Ductile Iron	74.07	0.84	0.38	0.63	127.0
P489	J-420	J-414	400.00	4	Ductile Iron	86.37	2.21	2.42	6.04	127.0
P495	J-449	J-414	600.00	6	Ductile Iron	195.55	2.22	2.19	3.64	130.0
P496	J-495	J-496	3,200.00	14	Asbestos Cement	2,512.29	5.24	21.19	6.62	130.0
P497	J-496	J-497	1,080.00	14	Asbestos Cement	2,507.01	5.23	7.12	6.59	130.0
P498	J-497	J-499	5,600.00	12	Ductile Iron	2,500.00	7.09	77.83	13.90	130.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P499	J-499	J-500	1,800.00	12	Ductile Iron	2,500.00	7.09	25.02	13.90	130.0
P741	J-740	J-745	2,760.00	8	Steel	656.70	4.19	23.30	8.44	130.0
P742	R-741	J-742	3,320.00	12	Steel	227.07	0.64	0.55	0.16	130.0
P743	J-742	J-743	920.00	8	Asbestos Cement	36.48	0.23	0.04	0.04	130.0
P744	J-742	J-744	2,440.00	12	Steel	126.27	0.36	0.14	0.06	130.0
P745	J-745	R-741	1.00	99	Ductile Iron	656.70	0.03	0.00	0.00	130.0
P117A	J-116	PRV-117	7,080.00	6	Asbestos Cement	5.31	0.06	0.03	4.62e-3	130.0
P400	R-400	J-402	2,760.00	10	Ductile Iron	-1,057.62	4.32	19.82	7.18	127.0
P740A	J-326	PMP-740	719.00	10	Steel	328.35	1.34	0.57	0.79	130.0
P740B	PMP-740	J-740	1.00	10	Steel	328.35	1.34	7.32e-4	0.73	130.0
P746A	J-326	PMP-746	719.00	10	Ductile Iron	328.35	1.34	0.57	0.79	130.0
P746B	PMP-746	J-740	1.00	10	Ductile Iron	328.35	1.34	7.32e-4	0.73	130.0
P117B	PRV-117	J-117	0.10	6	Asbestos Cement	5.31	0.06	0.00	0.00	130.0
P120A	J-117	PRV-120	5,690.00	6	Steel	0.01	6.0e-5	0.00	0.00	130.0
P128	J-128	J-140	1,800.00	12	Asbestos Cement	-51.67	0.15	0.02	0.01	130.0
P140B	J-140	PRV-140	0.10	8	Asbestos Cement	-52.95	0.34	0.00	0.00	130.0
P237B	PRV-237	J-237	0.10	6	Ductile Iron	66.35	0.75	0.00	0.00	128.0
P238	J-237	J-238	4,240.00	6	Steel	58.67	0.67	1.71	0.40	128.0
P211	J-202	J-212	2,760.00	14	Steel	264.18	0.55	0.28	0.10	132.0
P212	J-212	J-213	5,080.00	14	Steel	264.15	0.55	0.51	0.10	132.0
P294	J-294	J-287	2,620.00	6	Asbestos Cement	-16.74	0.19	0.10	0.04	129.0
P490	J-470	J-491	1,060.00	10	Asbestos Cement	-792.20	3.24	4.09	3.86	133.0
P240	J-241	J-209	3,120.00	10	Asbestos Cement	-441.81	1.80	4.46	1.43	127.0
P293	J-293	J-285	1,330.00	14	Steel	160.24	0.38	0.07	0.05	127.0
P218	J-217	J-220	3,440.00	8	Asbestos Cement	612.01	3.91	26.62	7.74	127.0
P176A	J-176	J-1000	816.00	12	Steel	-639.22	2.38	1.46	1.79	132.0
P176B	J-1000	J-177	2,984.00	12	Steel	-1,105.52	3.14	8.91	2.99	132.0
P1000	J-1000	J-1001	3,700.00	8	PVC	248.81	1.59	4.84	1.31	135.0
P1001	J-1001	J-1002	1,500.00	8	PVC	248.81	1.59	1.96	1.31	135.0
P1002	J-1002	J-1003	1,100.00	10	PVC	247.37	1.01	0.48	0.44	135.0
P1004	J-1003	J-203	2,600.00	10	PVC	245.10	1.00	1.12	0.43	135.0
P214A	J-214	J-1005	500.00	6	Ductile Iron	222.60	2.53	2.32	4.63	130.0
P214B	J-1005	J-215	440.00	6	Ductile Iron	222.60	2.53	2.04	4.63	130.0
P1652	J-1653	J-1652	2,760.00	24	Ductile Iron	-1,081.84	0.77	0.26	0.09	135.0
P1651	J-1652	J-1651	11,250.00	30	Ductile Iron	-1,081.84	0.49	0.36	0.03	135.0
P1650	J-1651	R-650	4,500.00	30	Ductile Iron	-1,081.84	0.49	0.14	0.03	135.0
P1011	J-277	J-433	350.00	8	Asbestos Cement	827.78	5.28	4.23	12.08	135.0
P367B	J-366	J-1011	1,280.00	14	Steel	346.55	0.72	0.23	0.18	127.0
P367A	J-1011	J-367	1,300.00	14	Steel	436.41	0.91	0.35	0.27	127.0
P366A	J-366	J-1012	1,018.00	14	Steel	-482.72	1.01	0.33	0.33	127.0
P366B	J-1012	J-361	2,702.00	14	Steel	-590.82	1.23	1.26	0.48	127.0
P1016	J-1012	J-1013	1,298.00	8	PVC	103.20	0.66	0.33	0.26	135.0
P1017	J-1013	J-1011	1,045.00	8	PVC	94.12	0.60	0.23	0.22	135.0
P1018	J-275	J-437	400.00	8	Asbestos Cement	463.29	2.96	1.65	4.13	135.0
P477B	J-476	J-1014	1,400.00	6	Asbestos Cement	-266.73	3.03	9.46	6.76	127.0
P477A	J-1014	J-437	500.00	6	Asbestos Cement	100.57	1.14	0.56	1.11	127.0
P275A	J-267	J-1015	819.00	14	Steel	484.47	1.01	0.27	0.33	127.0
P275B	J-1015	J-275	511.00	14	Steel	168.38	0.35	0.02	0.05	127.0
P1021	J-1015	J-1016	450.00	10	PVC	311.93	1.27	0.30	0.67	135.0
P1022	J-1016	J-1014	900.00	10	PVC	367.81	1.50	0.82	0.91	135.0
P1023	J-1016	J-266	900.00	6	Asbestos Cement	-71.52	0.81	0.48	0.53	135.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P265A	J-264	J-1017	653.00	14	Steel	813.89	1.70	0.56	0.86	127.0
P265B	J-1017	J-265	677.00	14	Steel	772.67	1.61	0.53	0.78	127.0
P266A	J-263	J-1018	660.00	6	Asbestos Cement	35.64	0.40	0.10	0.16	129.0
P266B	J-1018	J-266	1,310.00	6	Asbestos Cement	73.26	0.83	0.79	0.60	129.0
P1026	J-1017	J-1019	331.00	8	PVC	40.38	0.26	0.02	0.05	135.0
P1027	J-1019	J-1018	320.00	6	Asbestos Cement	40.38	0.46	0.06	0.18	135.0
P1028	J-265	J-1020	650.00	14	PVC	300.84	0.63	0.08	0.12	135.0
P1029	J-1020	J-1021	856.00	10	PVC	183.71	0.75	0.22	0.25	135.0
P1030	J-1021	J-275	450.00	10	PVC	273.61	1.12	0.24	0.53	135.0
P1031	J-1020	J-1022	720.00	10	PVC	107.95	0.44	0.07	0.09	135.0
P1032	J-1022	J-1023	849.00	10	PVC	107.95	0.44	0.08	0.09	135.0
P1033	J-1023	J-1021	720.00	10	PVC	107.95	0.44	0.07	0.09	135.0
P464B	J-461	J-1024	383.00	6	Ductile Iron	40.33	0.46	0.08	0.20	127.0
P464A	J-1024	J-464	407.00	6	Ductile Iron	100.96	1.15	0.46	1.12	127.0
P1036	J-446	J-1025	330.00	8	Cast iron	104.35	0.67	0.17	0.50	95.0
P453A	J-1025	J-1026	340.00	8	Cast iron	-19.65	0.13	0.01	0.02	95.0
P453B	J-1026	J-452	340.00	8	Cast iron	10.32	0.07	2.32e-3	0.01	95.0
P414B	J-412	J-1031	770.00	10	Cast iron	-138.34	0.57	0.22	0.29	95.0
P414A	J-1031	J-414	770.00	10	Cast iron	-91.97	0.38	0.10	0.13	95.0
P467B	J-466	J-1032	743.00	4	Cast iron	-47.16	1.20	2.51	3.38	95.0
P467A	J-1032	J-444	377.00	4	Cast iron	21.91	0.56	0.31	0.82	95.0
P1041	J-464	J-1027	379.00	6	Asbestos Cement	55.71	0.63	0.13	0.33	135.0
P1042	J-1027	J-1028	376.00	6	Asbestos Cement	24.89	0.28	0.03	0.07	135.0
P1043	J-1028	J-1025	583.00	6	Asbestos Cement	24.89	0.28	0.04	0.07	135.0
P1044	J-1027	J-1026	576.00	6	Asbestos Cement	30.82	0.35	0.06	0.11	135.0
P1050	J-482	J-1034	592.00	6	Ductile Iron	86.38	0.98	0.50	0.84	127.0
P1051	J-1034	J-419	608.00	6	Ductile Iron	45.02	0.51	0.15	0.25	127.0
P308A	J-307	J-1033	1,667.00	14	Steel	2,216.08	4.62	9.26	5.49	127.0
P308B	J-1033	J-308	2,273.00	14	Steel	2,211.51	4.61	12.41	5.46	127.0
P1046	J-1033	J-1035	1,400.00	8	Asbestos Cement	0.92	0.01	0.00	0.00	135.0
P1047	J-308	J-309	1,670.00	12	PVC	48.38	0.14	0.01	0.01	135.0
P310A	J-309	J-1036	550.00	6	Asbestos Cement	3.93	0.04	1.34e-3	2.44e-3	132.0
P310B	J-1036	J-310	1,770.00	6	Asbestos Cement	5.56	0.06	0.01	4.9e-3	132.0
P1049	J-309	J-1036	550.00	12	PVC	24.92	0.07	1.34e-3	2.44e-3	135.0
P444A	J-442	J-1039	577.00	6	Asbestos Cement	17.93	0.20	0.03	0.05	127.0
P444B	J-1039	J-444	573.00	6	Asbestos Cement	196.20	2.23	2.19	3.83	127.0
P1056	J-1039	J-1040	392.00	10	PVC	-465.49	1.90	0.55	1.41	135.0
P1057	J-1040	J-470	1,129.00	10	PVC	-543.23	2.22	2.11	1.87	135.0
P1058	J-1040	J-1032	574.00	4	Asbestos Cement	73.03	1.86	2.44	4.24	130.0
P1059	J-1039	J-435	380.00	10	PVC	287.07	1.17	0.22	0.57	135.0
P439A	J-436	J-483	2,400.00	12	Ductile Iron	738.91	2.10	3.65	1.52	127.0
P439B	J-483	J-438	600.00	12	Ductile Iron	296.46	0.84	0.17	0.28	127.0
P1035	J-469	J-1024	573.00	4	Cast iron	63.73	1.63	3.38	5.89	95.0
P1060	J-449	J-1041	385.00	8	PVC	80.29	0.51	0.06	0.16	135.0
P1061	J-1041	J-1031	571.00	4	Cast iron	50.99	1.30	2.23	3.90	95.0
P1062	J-1041	J-1025	593.00	8	PVC	-146.89	0.95	0.30	0.51	135.0
P1063	J-1041	J-1042	374.00	8	PVC	178.19	1.14	0.26	0.71	135.0
P1064	J-1042	J-451	391.00	8	PVC	29.80	0.19	0.01	0.03	135.0
P1065	J-1042	J-412	573.00	6	Cast iron	146.40	1.66	2.18	3.81	95.0
P1066	J-455	J-1043	400.00	8	PVC	-272.06	1.74	0.62	1.54	135.0
P1067	J-319	J-1044	1,871.00	6	Asbestos Cement	387.85	4.40	25.27	13.51	127.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P1068	J-1044	J-321	779.00	6	Asbestos Cement	107.90	1.22	0.99	1.27	127.0
P1069	J-1043	J-1044	780.00	6	Asbestos Cement	-272.73	3.09	5.41	6.94	128.0
P337A	J-322	J-1045	400.00	6	Asbestos Cement	235.98	2.68	2.12	5.31	128.0
P337B	J-1045	J-338	1,660.00	6	Asbestos Cement	3.11	0.04	2.93e-3	1.76e-3	128.0
P1070	J-457	J-321	750.00	8	PVC	-328.03	2.09	1.64	2.18	135.0
P1071	J-321	J-1045	930.00	8	PVC	-232.87	1.49	1.08	1.16	135.0
P471A	J-471	J-1046	500.00	4	Cast Iron	58.00	1.48	2.48	4.95	95.0
P471N	J-1046	J-442	1,000.00	8	PVC	21.21	0.14	0.02	0.02	112.0
P209A	J-208	J-1047	630.00	18	Steel	-868.35	1.09	0.18	0.28	127.0
P209B	J-1047	J-209	0.01	18	Steel	-3,649.16	4.60	0.00	0.00	127.0
P287	J-287	J-1603	1,240.00	10	Asbestos Cement	-75.61	0.31	0.07	0.05	127.0
P1624	J-1603	J-288	90.00	10	Asbestos Cement	-127.16	0.52	0.01	0.14	127.0
P1602	J-1601	J-1602	25.00	12	Ductile Iron	929.34	2.64	0.05	2.08	135.0
P1620	J-1600	J-490	40.00	14	Asbestos Cement	1,366.67	2.85	0.09	2.15	130.0
P1610	J-290	J-1610	40.00	14	Asbestos Cement	0.00	0.00	0.00	0.00	127.0
P1611	J-1610	J-1611	25.00	12	Ductile Iron	-2,776.40	7.88	0.39	15.73	135.0
P1612A	J-1611	PMP-612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P1612B	PMP-612	J-1612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P1615	J-1612	J-1613	25.00	14	Ductile Iron	-2,776.40	5.79	0.19	7.43	135.0
P493	R-493	J-1613	2,275.00	14	Asbestos Cement	0.00	0.00	0.00	0.00	132.0
P1622	J-494	J-1605	5.00	14	Asbestos Cement	2,333.42	4.86	0.03	6.03	127.0
P1613A	J-1611	PMP-613	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P1613B	PMP-613	J-1612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P285A	J-284	J-492	1,329.00	14	Steel	552.08	1.15	0.56	0.42	127.0
P285B	J-492	J-285	1.00	14	Steel	-88.31	0.18	0.00	0.00	127.0
P491	J-492	J-491	3,480.00	10	Asbestos Cement	795.53	3.25	13.74	3.95	132.0
P492	J-1601	J-492	3,900.00	14	Asbestos Cement	155.14	0.32	0.15	0.04	130.0
P1076	J-1047	J-1054	3,395.00	20	Ductile Iron	2,780.81	2.84	4.45	1.31	135.0
P1078	J-1054	J-1055	6,437.00	20	Ductile Iron	2,672.39	2.73	7.84	1.22	135.0
P1080	J-241	J-1054	40.00	10	Ductile Iron	-108.42	0.44	3.78e-3	0.09	135.0
P1081	J-1055	J-244	40.00	10	Ductile Iron	120.24	0.49	4.52e-3	0.11	135.0
P1082	J-1055	J-1057	4,097.00	20	Ductile Iron	2,552.16	2.61	4.58	1.12	135.0
P1083	J-1057	J-1600	2,221.00	20	Ductile Iron	2,451.15	2.50	2.31	1.04	135.0
P288A	J-245	J-1058	1,700.00	10	Asbestos Cement	277.11	1.13	1.02	0.60	127.0
P1085	J-1057	J-1058	40.00	10	Ductile Iron	101.00	0.41	3.3e-3	0.08	135.0
P1086	J-1058	J-1059	2,230.00	10	Asbestos Cement	378.12	1.54	2.39	1.07	127.0
P1087	J-1059	J-288	30.00	10	Asbestos Cement	322.19	1.32	0.02	0.80	127.0
P1088	J-490	J-1059	25.00	10	Asbestos Cement	-55.93	0.23	6.54e-4	0.03	127.0
P1089	J-1601	J-1600	50.00	14	Asbestos Cement	-1,084.48	2.26	0.07	1.40	130.0
P1090	J-1602	J-1603	10.00	12	Ductile Iron	-51.55	0.15	1.22e-4	0.01	135.0
P1091	J-1605	J-1060	214.00	14	Asbestos Cement	2,333.42	4.86	1.24	5.77	130.0
P1092	J-1060	J-495	3,786.00	14	Asbestos Cement	2,512.29	5.24	25.07	6.62	130.0
P1094	J-367	J-1061	0.10	14	Steel	0.00	0.00	0.00	0.00	127.0
P278	J-1061	J-277	1,050.00	14	Steel	1,081.84	2.25	1.53	1.45	127.0
P1653	J-1653	J-1061	17,700.00	24	Ductile Iron	1,081.84	0.77	1.67	0.09	135.0
P1604	J-1602	J-1062	3,400.00	12	Ductile Iron	980.69	2.78	7.81	2.30	135.0
P1095	J-289	J-1063	2,000.00	6	Asbestos Cement	121.72	1.38	3.17	1.58	127.0
P1096	J-1063	J-1060	400.00	6	Asbestos Cement	178.87	2.03	1.29	3.23	127.0
P1097	J-290	J-1063	20.00	6	Asbestos Cement	57.15	0.65	0.01	0.39	127.0
P1098	J-290	J-1062	10.00	14	Asbestos Cement	-57.15	0.12	0.00	0.00	127.0
P1099	J-1062	J-494	30.00	14	Asbestos Cement	923.73	1.93	0.03	1.09	127.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P1102	J-1613	J-1610	20.00	14	Asbestos Cement	-2,776.40	5.79	0.15	7.75	132.0
P203	J-202	J-203	2,050.00	14	Steel	568.15	1.18	0.84	0.41	132.0
P315A	J-313	PSV-400	795.00	16	Ductile Iron	0.00	0.00	0.00	0.00	127.0
P315B	PSV-400	R-400	5.00	16	Ductile Iron	-5.82e-4	9.28e-7	0.00	0.00	127.0
P1605A	J-1605	PSV-493	2,345.00	6	Ductile Iron	0.00	0.00	0.00	0.00	130.0
P1605B	PSV-493	R-493	5.00	6	Ductile Iron	-1.81e-3	2.05e-5	0.00	0.00	130.0
P125B	R-125	PSV-125	5.00	6	Ductile Iron	-1.51e-3	1.72e-5	0.00	0.00	130.0
P125A	PSV-125	J-126	2,995.00	6	Ductile Iron	-1.52e-3	1.72e-5	0.00	0.00	130.0
P1	J-196	J-9000	4,580.00	6	Steel	382.86	4.34	59.53	13.00	128.0
P1110	J-197	J-1066	1,650.00	6	Asbestos Cement	85.51	0.97	1.36	0.82	127.0
P1111	J-1066	J-196	1,340.00	6	Asbestos Cement	85.51	0.97	1.10	0.82	127.0
P1112	J-1066	J-1067	650.00	6	Asbestos Cement	0.00	0.00	0.00	0.00	127.0
P1113	J-197	J-1068	1,629.00	6	Asbestos Cement	44.26	0.50	0.40	0.24	127.0
P1114	J-1068	J-233	1,131.00	6	Asbestos Cement	44.26	0.50	0.28	0.24	127.0
P9000	J-9000	J-9001	3,421.00	10	PVC	289.69	1.18	1.65	0.48	150.0
P9001	J-9001	T-1	3,100.00	10	PVC	193.09	0.79	0.70	0.23	150.0
P1118	J-1069	J-236	1,020.00	6	Steel	70.17	0.80	0.57	0.56	128.0
P1116	J-9000	J-9004	30.00	6	Steel	93.17	1.06	0.03	0.95	128.0
P1117	J-9004	J-1069	4,170.00	6	Steel	70.17	0.80	2.35	0.56	128.0
P9002	T-1	J-9002	3,100.00	10	PVC	0.00	0.00	0.00	0.00	150.0
P9004	J-9002	J-9004	3,421.00	8	PVC	0.00	0.00	0.00	0.00	150.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Calculated Hydraulic Grade (ft)
R-180	1,805.50	Bargar-Woodson Zone	-7,307.90	1,805.50
R-125	1,147.00	Snow	-108.90	1,147.00
R-741	2,115.50	I.D. No. 5	429.63	2,115.50
R-400	1,650.50	Santa Maria 1666 Zone	1,057.62	1,650.50
R-300	1,813.50	Bargar-Woodson Zone	-3,826.13	1,813.50
R-650	1,721.00	Santa Maria 1666 Zone	-1,081.84	1,721.00
R-493	1,655.50	Santa Maria 1666 Zone	-1.59e-3	1,655.50

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Valve Report

Label	Elevation (ft)	Diameter (in)	Discharge (gpm)	Initial Pressure (psi)	Control Status	From HGL (ft)	To HGL (ft)	Headloss (ft)
PRV-117	1,200.00	6	5.31	20.00	Throttling	1,770.02	1,246.16	523.86
PRV-140	1,300.00	8	52.95	80.23	Throttling	1,769.59	1,485.16	284.43
PRV-237	1,255.00	6	66.35	180.00	Throttling	1,671.26	1,670.42	0.84
PRV-120	880.00	6	3.49e-3	124.03	Inactive	1,246.16	1,246.16	0.00
PSV-400	1,635.00	6	0.00	55.00	Closed	1,728.77	1,650.50	0.00
PSV-493	1,644.00	6	0.00	48.14	Closed	1,703.99	1,655.50	0.00
PSV-125	1,140.00	6	0.00	105.00	Closed	1,484.67	1,147.00	0.00

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APPENDIX C

Scenario #7 Summary Report: Maximum Daily Plus 2,500 GPM Fire Flow Demand

Scenario Summary Report
Scenario: Max Day + Fire

Scenario Summary	
Physical Alternative	Existing
Demand Alternative	Existing - Max Day + Fire - B-W PF=2.3
Initial Settings Alternative	Bargar On - West End On
Operational Alternative	Base-Operational
Age Alternative	Base-Age Alternative
Constituent Alternative	Base-Constituent
Trace Alternative	Base-Trace Alternative
Fire Flow Alternative	Fire Flow - 20 psi min zone pressure
Cost Alternative	Base-Cost
User Data Alternative	Base-User Data

Hydraulic Analysis Summary	
Analysis	Steady State
Friction Method	Hazen-Williams Formula
Accuracy	0.001000
Trials	40

Quality Analysis Summary			
Analysis	Constituent	Maximum Pipe Segments	100
Quality Time Step	N/A hr	Minimum Pipe Travel Time	0.10 hr

Calibration			
Demand Operation	<None>	Roughness Operation	<None>
Demand	0.00	Roughness	0.00

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Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-111	1,400.00	Demand	22.27	Fixed	22.27	1,770.86	160.70
J-115	1,640.00	Demand	5.69	Fixed	5.69	1,769.83	56.26
J-116	1,617.00	Demand	7.32	Fixed	7.32	1,769.70	66.16
J-117	1,200.00	Demand	5.30	Fixed	5.30	1,246.16	20.00
J-121	830.00	Demand	25.34	Fixed	25.34	1,144.02	136.06
J-122	980.00	Demand	32.75	Fixed	32.75	1,145.44	71.69
J-123	740.00	Demand	50.81	Fixed	50.81	1,143.08	174.65
J-126	1,190.00	Demand	44.11	Fixed	44.11	1,484.67	127.68
J-127	1,200.00	Demand	0.00	Fixed	0.00	1,485.12	123.54
J-128	1,200.00	Demand	7.56	Fixed	7.56	1,485.14	123.55
J-131	1,300.00	Demand	22.82	Fixed	22.82	1,769.19	203.30
J-133	1,600.00	Demand	6.94	Fixed	6.94	1,769.36	73.39
J-134	1,600.00	Demand	4.66	Fixed	4.66	1,769.39	73.40
J-140	1,300.00	Demand	1.28	Fixed	1.28	1,485.16	80.23
J-141	1,373.00	Demand	6.68	Fixed	6.68	1,769.53	171.81
J-143	1,300.00	Demand	6.94	Fixed	6.94	1,769.53	203.45
J-148	1,380.00	Demand	32.19	Fixed	32.19	1,769.56	168.80
J-150	1,500.00	Demand	51.37	Fixed	51.37	1,769.66	116.84
J-151	1,550.00	Demand	23.73	Fixed	23.73	1,769.66	95.18
J-152	1,590.00	Demand	7.28	Fixed	7.28	1,769.76	77.89
J-153	1,520.00	Demand	5.92	Fixed	5.92	1,770.78	108.66
J-154	1,450.00	Demand	0.86	Fixed	0.86	1,771.98	139.51
J-158	1,580.00	Demand	1.70	Fixed	1.70	1,769.66	82.18
J-161	1,650.00	Demand	0.00	Fixed	0.00	1,774.85	54.10
J-162	1,600.00	Demand	4.49	Fixed	4.49	1,779.87	77.94
J-163	1,700.00	Demand	7.56	Fixed	7.56	1,785.76	37.16
J-164	1,650.00	Demand	3.62	Fixed	3.62	1,790.86	61.04
J-165	1,700.00	Demand	0.93	Fixed	0.93	1,798.16	42.53
J-168	1,450.00	Demand	0.44	Fixed	0.44	1,790.86	147.70
J-172	1,590.00	Demand	26.98	Fixed	26.98	1,769.50	77.78
J-174	1,540.00	Demand	32.74	Fixed	32.74	1,769.49	99.44
J-175	1,440.00	Demand	7.61	Fixed	7.61	1,769.76	142.89
J-176	1,450.00	Demand	10.26	Fixed	10.26	1,774.86	140.76
J-177	1,640.00	Demand	450.86	Fixed	450.86	1,785.27	62.94
J-178	1,660.00	Demand	25.72	Fixed	25.72	1,791.72	57.07
J-181	1,640.00	Demand	10.34	Fixed	10.34	1,805.50	71.71
J-185	1,670.00	Demand	33.94	Fixed	33.94	1,785.18	49.91
J-186	1,720.00	Demand	51.76	Fixed	51.76	1,788.96	29.88
J-187	1,690.00	Demand	51.01	Fixed	51.01	1,788.96	42.88
J-191	1,550.00	Demand	121.62	Fixed	121.62	1,771.36	95.91
J-192	1,480.00	Demand	131.73	Fixed	131.73	1,756.88	119.97
J-194	1,500.00	Demand	84.46	Fixed	84.46	1,760.59	112.91
J-195	1,455.00	Demand	52.81	Fixed	52.81	1,754.87	129.93
J-196	1,470.00	Demand	124.62	Fixed	124.62	1,727.24	111.46
J-197	1,435.00	Demand	108.18	Fixed	108.18	1,736.77	130.76
J-199	1,430.00	Demand	49.00	Fixed	49.00	1,739.72	134.20
J-201	1,370.00	Demand	0.00	Fixed	0.00	1,769.27	173.00
J-202	1,350.00	Demand	0.00	Fixed	0.00	1,768.75	181.45
J-203	1,370.00	Demand	9.04	Fixed	9.04	1,767.89	172.41
J-204	1,390.00	Demand	32.47	Fixed	32.47	1,752.69	157.15
J-206	1,500.00	Demand	58.85	Fixed	58.85	1,752.55	109.43
J-207	1,405.00	Demand	47.81	Fixed	47.81	1,746.82	148.11

Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-208	1,420.00	Demand	0.00	Fixed	0.00	1,730.06	134.35
J-209	1,425.00	Demand	35.87	Fixed	35.87	1,730.23	132.26
J-212	1,370.00	Demand	0.03	Fixed	0.03	1,768.48	172.66
J-213	1,400.00	Demand	0.00	Fixed	0.00	1,767.98	159.45
J-214	1,395.00	Demand	41.55	Fixed	41.55	1,767.49	161.40
J-215	1,395.00	Demand	2.89	Fixed	2.89	1,763.20	159.54
J-216	1,420.00	Demand	46.94	Fixed	46.94	1,762.65	148.47
J-217	1,405.00	Demand	18.97	Fixed	18.97	1,763.13	155.18
J-220	1,370.00	Demand	39.61	Fixed	39.61	1,736.37	158.75
J-221	1,385.00	Demand	10.69	Fixed	10.69	1,731.24	150.02
J-222	1,390.00	Demand	11.96	Fixed	11.96	1,730.31	147.46
J-223	1,375.00	Demand	5.24	Fixed	5.24	1,730.76	154.15
J-224	1,375.00	Demand	11.42	Fixed	11.42	1,730.55	154.06
J-226	1,395.00	Demand	24.39	Fixed	24.39	1,728.91	144.68
J-227	1,390.00	Demand	26.49	Fixed	26.49	1,731.10	147.80
J-230	1,390.00	Demand	28.79	Fixed	28.79	1,722.26	143.97
J-231	1,420.00	Demand	13.78	Fixed	13.78	1,727.73	133.34
J-233	1,600.00	Demand	44.26	Fixed	44.26	1,736.10	58.97
J-236	1,255.00	Demand	3.81	Fixed	3.81	1,614.47	155.76
J-237	1,255.00	Demand	7.68	Fixed	7.68	1,611.33	154.40
J-238	1,200.00	Demand	58.67	Fixed	58.67	1,609.62	177.49
J-241	1,430.00	Demand	94.87	Fixed	94.87	1,725.84	128.19
J-242	1,525.00	Demand	58.57	Fixed	58.57	1,725.09	86.70
J-244	1,430.00	Demand	32.44	Fixed	32.44	1,718.13	124.85
J-245	1,425.00	Demand	19.58	Fixed	19.58	1,714.66	125.51
J-246	1,475.00	Demand	23.18	Fixed	23.18	1,714.17	103.63
J-247	1,435.00	Demand	16.89	Fixed	16.89	1,714.24	121.00
J-248	1,430.00	Demand	18.55	Fixed	18.55	1,714.37	123.22
J-249	1,430.00	Demand	15.44	Fixed	15.44	1,714.46	123.26
J-250	1,395.00	Demand	32.32	Fixed	32.32	1,716.70	139.39
J-252	1,395.00	Demand	43.43	Fixed	43.43	1,715.40	138.83
J-253	1,405.00	Demand	32.98	Fixed	32.98	1,714.38	134.05
J-255	1,430.00	Demand	15.12	Fixed	15.12	1,714.28	123.18
J-256	1,430.00	Demand	128.49	Fixed	128.49	1,713.31	122.76
J-258	1,410.00	Demand	32.92	Fixed	32.92	1,713.14	131.35
J-260	1,395.00	Demand	19.70	Fixed	19.70	1,720.04	140.84
J-262	1,395.00	Demand	43.20	Fixed	43.20	1,718.81	140.31
J-263	1,405.00	Demand	25.40	Fixed	25.40	1,717.65	135.47
J-264	1,400.00	Demand	11.73	Fixed	11.73	1,718.19	137.87
J-265	1,410.00	Demand	12.23	Fixed	12.23	1,717.19	133.11
J-266	1,410.00	Demand	35.38	Fixed	35.38	1,716.87	132.97
J-267	1,410.00	Demand	3.65	Fixed	3.65	1,716.98	133.01
J-270	1,410.00	Demand	36.00	Fixed	36.00	1,719.15	133.96
J-271	1,410.00	Demand	43.89	Fixed	43.89	1,717.66	133.31
J-275	1,420.00	Demand	23.80	Fixed	23.80	1,716.72	128.57
J-277	1,405.00	Demand	208.96	Fixed	208.96	1,716.74	135.08
J-280	1,430.00	Demand	27.39	Fixed	27.39	1,712.42	122.37
J-282	1,540.00	Demand	14.88	Fixed	14.88	1,712.20	74.61
J-283	1,470.00	Demand	25.40	Fixed	25.40	1,711.85	104.79
J-284	1,430.00	Demand	90.31	Fixed	90.31	1,711.72	122.07
J-285	1,440.00	Demand	103.82	Fixed	103.82	1,711.15	117.49
J-287	1,450.00	Demand	25.01	Fixed	25.01	1,711.17	113.17

Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-288	1,440.00	Demand	5.67	Fixed	5.67	1,711.24	117.53
J-289	1,450.00	Demand	67.64	Fixed	67.64	1,706.58	111.18
J-290	1,510.00	Demand	0.00	Fixed	0.00	1,703.42	83.81
J-292	1,435.00	Demand	21.98	Fixed	21.98	1,711.07	119.62
J-293	1,450.00	Demand	48.56	Fixed	48.56	1,711.23	113.19
J-294	1,470.00	Demand	46.76	Fixed	46.76	1,711.08	104.46
J-295	1,480.00	Demand	49.46	Fixed	49.46	1,711.39	100.26
J-297	1,430.00	Demand	48.76	Fixed	48.76	1,710.19	121.41
J-301	1,710.00	Demand	110.25	Fixed	110.25	1,809.83	43.26
J-302	1,650.00	Demand	11.83	Fixed	11.83	1,802.87	66.24
J-303	1,560.00	Demand	75.63	Fixed	75.63	1,796.72	102.57
J-304	1,520.00	Demand	67.31	Fixed	67.31	1,788.33	116.27
J-305	1,540.00	Demand	7.08	Fixed	7.08	1,788.31	107.59
J-306	1,550.00	Demand	2.52	Fixed	2.52	1,788.31	103.26
J-307	1,490.00	Demand	10.66	Fixed	10.66	1,773.21	122.72
J-308	1,490.00	Demand	12.07	Fixed	12.07	1,751.43	113.28
J-309	1,520.00	Demand	26.86	Fixed	26.86	1,751.41	100.27
J-310	1,500.00	Demand	5.56	Fixed	5.56	1,751.40	108.93
J-311	1,490.00	Demand	29.46	Fixed	29.46	1,773.04	122.64
J-312	1,480.00	Demand	36.02	Fixed	36.02	1,748.16	116.19
J-313	1,540.00	Demand	57.45	Fixed	57.45	1,728.33	81.60
J-314	1,600.00	Demand	47.47	Fixed	47.47	1,727.88	55.41
J-316	1,540.00	Demand	14.88	Fixed	14.88	1,748.14	90.19
J-318	1,530.00	Demand	7.54	Fixed	7.54	1,724.55	84.30
J-319	1,525.00	Demand	39.46	Fixed	39.46	1,718.64	83.90
J-320	1,525.00	Demand	47.68	Fixed	47.68	1,714.91	82.29
J-321	1,510.00	Demand	12.73	Fixed	12.73	1,692.49	79.07
J-322	1,475.00	Demand	42.31	Fixed	42.31	1,695.66	95.61
J-323	1,550.00	Demand	18.88	Fixed	18.88	1,712.07	70.23
J-324	1,580.00	Demand	3.23	Fixed	3.23	1,711.26	56.87
J-325	1,675.00	Demand	22.50	Fixed	22.50	1,708.19	14.36
J-326	1,590.00	Demand	30.08	Fixed	30.08	1,702.85	48.90
J-328	1,510.00	Demand	19.86	Fixed	19.86	1,707.82	85.71
J-330	1,490.00	Demand	52.34	Fixed	52.34	1,712.02	96.20
J-332	1,490.00	Demand	16.83	Fixed	16.83	1,709.73	95.21
J-333	1,530.00	Demand	9.96	Fixed	9.96	1,708.99	77.56
J-336	1,490.00	Demand	39.65	Fixed	39.65	1,710.99	95.76
J-338	1,500.00	Demand	3.11	Fixed	3.11	1,693.55	83.87
J-340	1,490.00	Demand	38.43	Fixed	38.43	1,779.91	125.62
J-341	1,485.00	Demand	7.44	Fixed	7.44	1,778.32	127.09
J-342	1,490.00	Demand	22.02	Fixed	22.02	1,776.75	124.25
J-343	1,520.00	Demand	5.73	Fixed	5.73	1,776.50	112.01
J-344	1,555.00	Demand	20.93	Fixed	20.93	1,776.44	96.82
J-345	1,590.00	Demand	21.15	Fixed	21.15	1,776.10	81.50
J-346	1,555.00	Demand	21.71	Fixed	21.71	1,777.98	96.62
J-349	1,490.00	Demand	11.82	Fixed	11.82	1,773.48	122.83
J-350	1,510.00	Demand	2.40	Fixed	2.40	1,773.47	114.16
J-351	1,450.00	Demand	3.71	Fixed	3.71	1,774.39	140.56
J-352	1,390.00	Demand	47.93	Fixed	47.93	1,775.84	167.19
J-353	1,500.00	Demand	40.33	Fixed	40.33	1,776.60	119.85
J-354	1,550.00	Demand	1.71	Fixed	1.71	1,777.42	98.54
J-356	1,400.00	Demand	7.73	Fixed	7.73	1,776.59	163.18

Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-360	1,550.00	Demand	135.20	Fixed	135.20	1,769.84	95.26
J-361	1,450.00	Demand	114.62	Fixed	114.62	1,766.86	137.30
J-362	1,425.00	Demand	21.36	Fixed	21.36	1,766.49	147.97
J-363	1,430.00	Demand	6.01	Fixed	6.01	1,765.47	145.36
J-364	1,450.00	Demand	17.29	Fixed	17.29	1,765.42	136.67
J-366	1,430.00	Demand	27.53	Fixed	27.53	1,765.23	145.26
J-367	1,410.00	Demand	12.99	Fixed	12.99	1,764.64	153.67
J-368	1,405.00	Demand	15.95	Fixed	15.95	1,764.39	155.72
J-370	1,415.00	Demand	10.19	Fixed	10.19	1,764.79	151.56
J-372	1,410.00	Demand	6.94	Fixed	6.94	1,764.80	153.73
J-373	1,420.00	Demand	8.61	Fixed	8.61	1,764.90	149.45
J-374	1,415.00	Demand	32.61	Fixed	32.61	1,765.13	151.71
J-375	1,410.00	Demand	14.29	Fixed	14.29	1,764.76	153.72
J-376	1,510.00	Demand	31.53	Fixed	31.53	1,765.26	110.60
J-377	1,660.00	Demand	93.96	Fixed	93.96	1,766.78	46.27
J-378	1,615.00	Demand	14.70	Fixed	14.70	1,767.47	66.06
J-402	1,515.00	Demand	59.93	Fixed	59.93	1,670.12	67.21
J-403	1,490.00	Demand	35.26	Fixed	35.26	1,680.09	82.37
J-404	1,495.00	Demand	13.55	Fixed	13.55	1,680.66	80.45
J-405	1,500.00	Demand	1.44	Fixed	1.44	1,681.45	78.62
J-406	1,500.00	Demand	5.38	Fixed	5.38	1,681.59	78.69
J-407	1,540.00	Demand	41.04	Fixed	41.04	1,681.67	61.39
J-408	1,483.00	Demand	16.13	Fixed	16.13	1,681.65	86.08
J-410	1,550.00	Demand	26.50	Fixed	26.50	1,674.67	54.02
J-411	1,470.00	Demand	19.51	Fixed	19.51	1,683.33	92.44
J-412	1,460.00	Demand	17.89	Fixed	17.89	1,683.45	96.82
J-414	1,470.00	Demand	48.70	Fixed	48.70	1,683.77	92.62
J-416	1,470.00	Demand	17.94	Fixed	17.94	1,684.72	93.04
J-417	1,475.00	Demand	10.50	Fixed	10.50	1,683.86	90.50
J-419	1,445.00	Demand	43.11	Fixed	43.11	1,686.16	104.49
J-420	1,460.00	Demand	4.79	Fixed	4.79	1,686.17	98.00
J-421	1,450.00	Demand	10.83	Fixed	10.83	1,686.36	102.42
J-422	1,440.00	Demand	22.42	Fixed	22.42	1,686.38	106.76
J-423	1,430.00	Demand	9.44	Fixed	9.44	1,687.90	111.75
J-424	1,430.00	Demand	51.43	Fixed	51.43	1,687.95	111.77
J-426	1,425.00	Demand	15.18	Fixed	15.18	1,690.25	114.93
J-427	1,420.00	Demand	20.89	Fixed	20.89	1,690.75	117.31
J-429	1,420.00	Demand	9.89	Fixed	9.89	1,695.37	119.32
J-430	1,420.00	Demand	14.91	Fixed	14.91	1,695.80	119.50
J-431	1,420.00	Demand	85.54	Fixed	85.54	1,707.54	124.59
J-432	1,415.00	Demand	38.57	Fixed	38.57	1,709.24	127.49
J-433	1,410.00	Demand	137.17	Fixed	137.17	1,712.50	131.07
J-434	1,420.00	Demand	69.54	Fixed	69.54	1,711.85	126.46
J-435	1,430.00	Demand	0.00	Fixed	0.00	1,690.69	112.96
J-436	1,430.00	Demand	8.18	Fixed	8.18	1,690.07	112.69
J-437	1,420.00	Demand	52.62	Fixed	52.62	1,715.06	127.85
J-438	1,460.00	Demand	0.00	Fixed	0.00	1,686.27	98.04
J-439	1,420.00	Demand	61.24	Fixed	61.24	1,704.15	123.12
J-440	1,425.00	Demand	43.04	Fixed	43.04	1,691.54	115.49
J-442	1,425.00	Demand	39.69	Fixed	39.69	1,690.93	115.23
J-444	1,430.00	Demand	37.97	Fixed	37.97	1,688.72	112.10
J-446	1,440.00	Demand	27.77	Fixed	27.77	1,686.34	106.74

Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-449	1,455.00	Demand	4.95	Fixed	4.95	1,685.94	100.06
J-451	1,480.00	Demand	9.51	Fixed	9.51	1,685.60	89.09
J-452	1,470.00	Demand	36.07	Fixed	36.07	1,686.18	93.67
J-454	1,550.00	Demand	27.28	Fixed	27.28	1,686.91	59.32
J-455	1,520.00	Demand	0.00	Fixed	0.00	1,687.47	72.57
J-457	1,530.00	Demand	14.98	Fixed	14.98	1,690.86	69.70
J-458	1,510.00	Demand	10.92	Fixed	10.92	1,686.95	76.67
J-461	1,470.00	Demand	58.81	Fixed	58.81	1,686.90	93.98
J-462	1,470.00	Demand	14.17	Fixed	14.17	1,687.99	94.45
J-464	1,460.00	Demand	32.41	Fixed	32.41	1,686.37	98.09
J-466	1,450.00	Demand	21.39	Fixed	21.39	1,686.53	102.49
J-469	1,440.00	Demand	5.68	Fixed	5.68	1,690.17	108.40
J-470	1,440.00	Demand	34.91	Fixed	34.91	1,693.53	109.85
J-471	1,430.00	Demand	35.39	Fixed	35.39	1,693.39	114.13
J-472	1,430.00	Demand	105.19	Fixed	105.19	1,696.63	115.53
J-474	1,425.00	Demand	133.14	Fixed	133.14	1,701.35	119.74
J-476	1,425.00	Demand	56.08	Fixed	56.08	1,706.14	121.82
J-479	1,435.00	Demand	10.52	Fixed	10.52	1,686.83	109.12
J-480	1,435.00	Demand	4.65	Fixed	4.65	1,686.81	109.11
J-481	1,430.00	Demand	4.15	Fixed	4.15	1,687.90	111.75
J-482	1,435.00	Demand	49.67	Fixed	49.67	1,686.80	109.11
J-483	1,450.00	Demand	3.00	Fixed	3.00	1,686.43	102.45
J-485	1,460.00	Demand	3.47	Fixed	3.47	1,684.23	97.16
J-486	1,460.00	Demand	101.18	Fixed	101.18	1,684.23	97.16
J-490	1,440.00	Demand	8.82	Fixed	8.82	1,711.26	117.54
J-491	1,430.00	Demand	3.33	Fixed	3.33	1,697.58	115.94
J-492	1,440.00	Demand	0.00	Fixed	0.00	1,711.15	117.49
J-494	1,510.00	Demand	4.10	Fixed	4.10	1,703.39	83.80
J-495	1,380.00	Demand	0.00	Fixed	0.00	1,677.06	128.71
J-496	1,280.00	Demand	5.28	Fixed	5.28	1,655.87	162.87
J-497	1,270.00	Demand	7.01	Fixed	7.01	1,648.75	164.11
J-499	1,340.00	Demand	0.00	Fixed	0.00	1,570.91	100.06
J-500	1,335.00	Demand	2,500.00	Fixed	2,500.00	1,545.90	91.38
J-740	1,600.00	Demand	0.00	Fixed	0.00	2,138.67	233.40
J-742	1,800.00	Demand	64.31	Fixed	64.31	2,114.95	136.47
J-743	1,735.00	Demand	36.48	Fixed	36.48	2,114.92	164.62
J-744	1,885.00	Demand	126.27	Fixed	126.27	2,114.82	99.58
J-745	2,100.00	Demand	0.00	Fixed	0.00	2,115.50	6.72
J-1000	1,540.00	Demand	17.49	Fixed	17.49	1,778.33	102.40
J-1001	1,460.00	Demand	0.00	Fixed	0.00	1,771.47	134.96
J-1002	1,420.00	Demand	1.44	Fixed	1.44	1,769.50	151.44
J-1003	1,390.00	Demand	2.27	Fixed	2.27	1,769.02	164.23
J-1005	1,395.00	Demand	0.00	Fixed	0.00	1,765.21	160.41
J-1011	1,450.00	Demand	4.27	Fixed	4.27	1,765.00	136.49
J-1012	1,460.00	Demand	4.89	Fixed	4.89	1,765.57	132.40
J-1013	1,420.00	Demand	9.08	Fixed	9.08	1,765.23	149.59
J-1014	1,420.00	Demand	0.52	Fixed	0.52	1,715.61	128.09
J-1015	1,415.00	Demand	4.16	Fixed	4.16	1,716.73	130.74
J-1016	1,415.00	Demand	15.63	Fixed	15.63	1,716.43	130.61
J-1017	1,405.00	Demand	0.84	Fixed	0.84	1,717.68	135.48
J-1018	1,405.00	Demand	2.75	Fixed	2.75	1,717.59	135.44
J-1019	1,405.00	Demand	0.00	Fixed	0.00	1,717.66	135.47

Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-1020	1,410.00	Demand	9.18	Fixed	9.18	1,717.12	133.08
J-1021	1,415.00	Demand	18.05	Fixed	18.05	1,716.93	130.83
J-1022	1,410.00	Demand	0.00	Fixed	0.00	1,717.06	133.05
J-1023	1,415.00	Demand	0.00	Fixed	0.00	1,716.99	130.85
J-1024	1,465.00	Demand	3.10	Fixed	3.10	1,686.82	96.11
J-1025	1,450.00	Demand	0.00	Fixed	0.00	1,686.17	102.33
J-1026	1,460.00	Demand	0.85	Fixed	0.85	1,686.18	98.00
J-1027	1,450.00	Demand	0.00	Fixed	0.00	1,686.24	102.36
J-1028	1,440.00	Demand	0.00	Fixed	0.00	1,686.22	106.69
J-1031	1,465.00	Demand	4.62	Fixed	4.62	1,683.66	94.75
J-1032	1,435.00	Demand	3.96	Fixed	3.96	1,689.02	110.07
J-1033	1,480.00	Demand	5.65	Fixed	5.65	1,763.90	123.01
J-1034	1,440.00	Demand	41.36	Fixed	41.36	1,686.31	106.73
J-1035	1,540.00	Demand	0.92	Fixed	0.92	1,763.90	97.02
J-1036	1,540.00	Demand	23.29	Fixed	23.29	1,751.41	91.60
J-1039	1,430.00	Demand	0.15	Fixed	0.15	1,690.90	113.05
J-1040	1,430.00	Demand	4.71	Fixed	4.71	1,691.44	113.28
J-1041	1,450.00	Demand	0.00	Fixed	0.00	1,685.87	102.20
J-1042	1,460.00	Demand	1.99	Fixed	1.99	1,685.61	97.76
J-1043	1,515.00	Demand	0.67	Fixed	0.67	1,688.09	75.00
J-1044	1,495.00	Demand	7.22	Fixed	7.22	1,693.47	86.00
J-1045	1,480.00	Demand	0.00	Fixed	0.00	1,693.55	92.53
J-1046	1,430.00	Demand	36.79	Fixed	36.79	1,690.95	113.07
J-1047	1,425.00	Demand	0.00	Fixed	0.00	1,730.23	132.26
J-1054	1,430.00	Demand	0.00	Fixed	0.00	1,725.85	128.19
J-1055	1,430.00	Demand	0.00	Fixed	0.00	1,718.14	124.85
J-1057	1,420.00	Demand	0.00	Fixed	0.00	1,713.62	127.23
J-1058	1,420.00	Demand	0.00	Fixed	0.00	1,713.62	127.23
J-1059	1,440.00	Demand	0.00	Fixed	0.00	1,711.26	117.54
J-1060	1,509.00	Demand	0.00	Fixed	0.00	1,702.12	83.68
J-1061	1,410.00	Demand	0.00	Fixed	0.00	1,718.38	133.62
J-1062	1,510.00	Demand	0.00	Fixed	0.00	1,703.42	83.81
J-1063	1,510.00	Demand	0.00	Fixed	0.00	1,703.41	83.81
J-1066	1,455.00	Demand	0.00	Fixed	0.00	1,731.51	119.81
J-1067	1,515.00	Demand	0.00	Fixed	0.00	1,731.51	93.81
J-1068	1,545.00	Demand	0.00	Fixed	0.00	1,736.38	82.92
J-1069	1,265.00	Demand	0.00	Fixed	0.00	1,615.05	151.68
J-1600	1,444.00	Demand	0.00	Fixed	0.00	1,711.35	115.84
J-1601	1,444.00	Demand	0.00	Fixed	0.00	1,711.28	115.81
J-1602	1,444.00	Demand	0.00	Fixed	0.00	1,711.23	115.79
J-1603	1,444.00	Demand	0.00	Fixed	0.00	1,711.23	115.79
J-1605	1,509.00	Demand	0.00	Fixed	0.00	1,703.36	84.22
J-1610	1,506.00	Demand	0.00	Fixed	0.00	1,703.42	85.54
J-1611	1,511.00	Demand	0.00	Fixed	0.00	1,703.81	83.55
J-1612	1,511.00	Demand	0.00	Fixed	0.00	1,703.08	83.23
J-1613	1,506.00	Demand	0.00	Fixed	0.00	1,703.27	85.48
J-1651	1,600.00	Demand	0.00	Fixed	0.00	1,720.65	52.36
J-1652	1,350.00	Demand	0.00	Fixed	0.00	1,720.46	160.52
J-1653	1,370.00	Demand	0.00	Fixed	0.00	1,720.18	151.73
J-9000	1,305.00	Demand	0.00	Fixed	0.00	1,617.42	135.37
J-9001	1,435.00	Demand	2,596.60	Fixed	2,596.60	1,613.86	77.50
J-9002	1,435.00	Demand	0.00	Fixed	0.00	1,646.20	91.51

Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-9004	1,305.00	Demand	23.00	Fixed	23.00	1,617.40	135.36

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P112	J-111	J-115	4,200.00	6	Asbestos Cement	46.16	0.52	1.03	0.25	132.0
P116	J-115	J-116	6,200.00	6	Asbestos Cement	12.63	0.14	0.14	0.02	132.0
P121	PRV-120	J-121	3,300.00	6	Asbestos Cement	0.00	0.00	0.00	0.00	132.0
P122	J-121	J-122	2,300.00	6	Asbestos Cement	-76.15	0.86	1.42	0.62	132.0
P123	J-121	J-123	3,200.00	6	Asbestos Cement	50.81	0.58	0.94	0.29	132.0
P124	R-125	J-122	1,300.00	6	Asbestos Cement	108.90	1.24	1.56	1.20	132.0
P126	J-126	J-127	2,000.00	6	Asbestos Cement	-44.11	0.50	0.45	0.23	132.0
P127	J-127	J-128	2,500.00	12	Asbestos Cement	-44.11	0.13	0.02	0.01	130.0
P131	J-134	J-131	2,900.00	6	Steel	22.82	0.26	0.20	0.07	130.0
P133	J-134	J-133	3,000.00	6	Asbestos Cement	6.94	0.08	0.02	0.01	132.0
P140A	J-143	PRV-140	3,740.00	8	Asbestos Cement	52.95	0.34	0.30	0.08	130.0
P141	J-141	J-143	1,500.00	12	Asbestos Cement	-13.26	0.04	1.34e-3	8.95e-4	130.0
P142	J-134	J-141	3,900.00	8	Asbestos Cement	-34.42	0.22	0.14	0.04	131.0
P145	J-141	J-115	3,200.00	6	Asbestos Cement	-27.84	0.32	0.31	0.10	132.0
P147	J-143	J-148	1,800.00	12	Ductile Iron	-73.15	0.21	0.04	0.02	132.0
P148	J-150	J-148	2,600.00	12	Asbestos Cement	105.34	0.30	0.10	0.04	132.0
P150	J-150	J-151	1,400.00	8	Asbestos Cement	6.20	0.04	2.08e-3	1.48e-3	132.0
P151	J-151	J-152	2,000.00	6	Asbestos Cement	-19.23	0.22	0.10	0.05	128.0
P152	J-152	J-154	2,200.00	6	Asbestos Cement	-99.11	1.12	2.22	1.01	132.0
P153	J-150	J-153	1,800.00	8	Asbestos Cement	-162.91	1.04	1.12	0.62	132.0
P154	J-153	J-154	1,800.00	8	Asbestos Cement	-168.83	1.08	1.20	0.67	132.0
P155	J-154	J-111	2,200.00	6	Asbestos Cement	68.43	0.78	1.12	0.51	132.0
P158	J-151	J-158	4,000.00	6	Asbestos Cement	1.70	0.02	2.2e-3	5.49e-4	132.0
P160	J-154	J-161	1,200.00	8	Ductile Iron	-337.23	2.15	2.87	2.39	132.0
P161	J-161	J-162	2,100.00	8	Asbestos Cement	-337.23	2.15	5.02	2.39	132.0
P162	J-162	J-163	2,400.00	8	Asbestos Cement	-341.72	2.18	5.88	2.45	132.0
P163	J-163	J-164	2,000.00	8	Asbestos Cement	-349.28	2.23	5.10	2.55	132.0
P164	J-164	J-165	2,800.00	8	Asbestos Cement	-353.34	2.26	7.30	2.61	132.0
P165	J-165	R-180	2,800.00	8	Asbestos Cement	-354.27	2.26	7.34	2.62	132.0
P167	J-164	J-166	2,100.00	6	Asbestos Cement	0.44	4.97e-3	1.22e-4	5.81e-5	132.0
P170	J-152	J-175	3,600.00	20	Steel	42.15	0.04	2.2e-3	6.1e-4	132.0
P171	J-152	J-172	2,200.00	6	Asbestos Cement	30.45	0.35	0.26	0.12	128.0
P173	J-172	J-174	2,800.00	6	Asbestos Cement	3.46	0.04	0.01	2.14e-3	128.0
P174	J-174	J-175	2,400.00	6	Asbestos Cement	-29.28	0.33	0.27	0.11	128.0
P175	J-175	J-176	2,900.00	12	Steel	-830.27	2.36	5.10	1.76	132.0
P177	J-177	J-178	1,100.00	12	Steel	-1,592.26	4.52	6.45	5.86	132.0
P179	J-178	R-180	4,100.00	24	Steel	-7,030.84	4.99	13.78	3.36	127.0
P180	J-181	R-180	3,030.00	18	Steel	-10.34	0.01	2.44e-4	8.06e-5	127.0
P185	J-177	J-185	2,660.00	8	Asbestos Cement	33.94	0.22	0.09	0.03	132.0
P186N	J-186	J-187	800.00	12	PVC	-51.76	0.15	0.01	0.01	135.0
P187	J-178	J-187	2,380.00	6	Asbestos Cement	102.78	1.17	2.76	1.16	127.0
P190	J-178	J-191	4,190.00	20	Steel	5,310.08	5.42	20.36	4.86	127.0
P192	J-191	J-192	3,930.00	20	Ductile Iron	4,571.28	4.67	14.47	3.68	127.0
P193	J-192	J-199	4,920.00	20	Steel	4,439.55	4.53	17.17	3.49	127.0
P194	J-191	J-194	4,180.00	10	Asbestos Cement	617.18	2.52	10.77	2.58	129.0
P195	J-194	J-195	3,000.00	10	Asbestos Cement	532.72	2.18	5.72	1.91	131.0
P196	J-195	J-196	1,420.00	6	Asbestos Cement	479.91	5.45	27.63	19.46	129.0
P198	J-197	J-199	1,620.00	8	PVC	-330.19	2.11	2.94	1.82	150.0
P199	J-199	J-209	1,920.00	18	Steel	4,060.36	5.12	9.49	4.94	127.0
P201	J-175	J-201	3,350.00	20	Steel	835.53	0.85	0.50	0.15	132.0
P202	J-201	J-202	3,480.00	20	Steel	835.53	0.85	0.51	0.15	132.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P204	J-203	J-204	3,470.00	10	Asbestos Cement	809.83	3.31	15.21	4.38	127.0
P206	J-204	J-206	4,260.00	10	Asbestos Cement	58.85	0.24	0.14	0.03	131.0
P207	J-204	J-207	1,670.00	10	Asbestos Cement	718.51	2.94	5.87	3.51	127.0
P208	J-207	J-208	5,420.00	10	Asbestos Cement	670.70	2.74	16.76	3.09	127.0
P213	J-213	J-214	4,920.00	14	Steel	262.37	0.55	0.48	0.10	132.0
P216	J-215	J-216	2,050.00	6	Asbestos Cement	46.94	0.53	0.56	0.27	127.0
P217	J-215	J-217	1,500.00	14	Steel	170.98	0.36	0.07	0.05	127.0
P221	J-220	J-221	1,690.00	6	Asbestos Cement	178.55	2.03	5.13	3.04	131.0
P222	J-221	J-222	710.00	6	Asbestos Cement	112.30	1.27	0.93	1.31	130.0
P223	J-221	J-223	1,380.00	6	Asbestos Cement	55.56	0.63	0.48	0.35	132.0
P224	J-223	J-224	710.00	6	Asbestos Cement	50.32	0.57	0.20	0.29	132.0
P225	J-224	J-222	1,380.00	6	Asbestos Cement	38.90	0.44	0.25	0.18	132.0
P226	J-222	J-226	720.00	6	Asbestos Cement	139.25	1.58	1.40	1.94	130.0
P227	J-226	J-227	1,100.00	6	Asbestos Cement	-140.05	1.59	2.19	1.99	129.0
P228	J-220	J-227	1,570.00	8	Asbestos Cement	395.68	2.53	5.27	3.35	129.0
P229	J-226	J-230	1,070.00	6	Asbestos Cement	254.92	2.89	6.65	6.21	127.0
P230	J-230	J-231	4,000.00	16	Steel	-1,486.99	2.37	5.47	1.37	127.0
P231	J-231	J-208	1,680.00	16	Steel	-1,500.77	2.39	2.34	1.39	127.0
P237A	J-236	PRV-237	6,180.00	6	Ductile Iron	66.35	0.75	3.14	0.51	128.0
P242	J-241	J-242	1,860.00	6	Asbestos Cement	58.57	0.66	0.75	0.40	128.0
P243	J-241	J-244	6,700.00	10	Asbestos Cement	393.13	1.61	7.71	1.15	127.0
P244	J-244	J-245	2,100.00	10	Asbestos Cement	478.16	1.95	3.47	1.65	127.0
P245	J-245	J-246	1,400.00	8	Asbestos Cement	119.63	0.76	0.49	0.35	132.0
P246	J-246	J-247	830.00	6	Asbestos Cement	-25.83	0.29	0.07	0.09	129.0
P247	J-247	J-248	1,160.00	6	Asbestos Cement	-30.12	0.34	0.13	0.11	130.0
P248	J-248	J-249	1,640.00	8	PVC	-44.28	0.28	0.09	0.06	133.0
P249	J-249	J-245	2,050.00	8	PVC	-59.72	0.38	0.20	0.10	133.0
P250	J-230	J-250	1,880.00	4	Asbestos Cement	58.66	1.50	5.56	2.96	127.0
P251	J-250	J-252	1,940.00	4	Asbestos Cement	26.34	0.67	1.30	0.67	127.0
P252	J-252	J-255	1,400.00	14	Steel	781.35	1.63	1.12	0.80	127.0
P253	J-252	J-253	820.00	4	Asbestos Cement	37.36	0.95	1.02	1.25	129.0
P254	J-253	J-248	810.00	6	Asbestos Cement	4.39	0.05	2.56e-3	3.16e-3	130.0
P255	J-247	J-255	1,760.00	6	Asbestos Cement	-12.60	0.14	0.04	0.02	127.0
P256	J-255	J-256	1,300.00	14	Steel	753.62	1.57	0.97	0.75	127.0
P257	J-246	J-256	2,300.00	8	Asbestos Cement	122.29	0.78	0.85	0.37	131.0
P258	J-256	J-258	1,340.00	6	Asbestos Cement	32.92	0.37	0.18	0.13	131.0
P259	J-252	J-263	2,500.00	14	Steel	-835.80	1.74	2.26	0.90	127.0
P260	J-230	J-260	1,330.00	16	Steel	1,654.45	2.64	2.22	1.67	127.0
P261	J-260	J-264	1,330.00	16	Steel	1,500.68	2.39	1.85	1.39	127.0
P262	J-260	J-262	650.00	6	Asbestos Cement	134.08	1.52	1.23	1.89	127.0
P263	J-262	J-263	1,330.00	6	Asbestos Cement	90.88	1.03	1.16	0.87	131.0
P264	J-263	J-264	650.00	14	Steel	-798.24	1.66	0.54	0.83	127.0
P267	J-266	J-267	650.00	6	Asbestos Cement	-35.00	0.40	0.10	0.16	127.0
P268	J-265	J-267	630.00	14	Steel	497.40	1.04	0.22	0.35	127.0
P270	J-227	J-270	2,480.00	6	Asbestos Cement	229.13	2.60	11.95	4.82	131.0
P271	J-270	J-271	1,330.00	6	Asbestos Cement	104.45	1.19	1.50	1.13	131.0
P272	J-271	J-265	1,090.00	6	Asbestos Cement	60.57	0.69	0.46	0.42	129.0
P273	J-270	J-264	1,090.00	6	Asbestos Cement	88.68	1.01	0.96	0.88	127.0
P276	J-275	J-277	1,500.00	14	Steel	-88.89	0.19	0.02	0.01	127.0
P280	J-256	J-280	1,330.00	14	Steel	714.50	1.49	0.90	0.68	127.0
P281	J-280	J-284	1,330.00	14	Steel	624.41	1.30	0.70	0.53	127.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P282	J-280	J-282	2,000.00	8	Asbestos Cement	62.71	0.40	0.22	0.11	131.0
P283	J-282	J-283	1,330.00	6	Asbestos Cement	47.83	0.54	0.35	0.27	131.0
P284	J-283	J-284	2,000.00	6	Asbestos Cement	22.43	0.25	0.13	0.07	131.0
P286	J-285	J-287	2,640.00	10	Asbestos Cement	-27.25	0.11	0.02	0.01	127.0
P289	J-288	J-289	1,300.00	6	Asbestos Cement	189.36	2.15	4.66	3.59	127.0
P292	J-285	J-292	1,280.00	6	Asbestos Cement	21.98	0.25	0.09	0.07	127.0
P295	J-294	J-295	2,640.00	6	Asbestos Cement	-30.89	0.35	0.31	0.12	131.0
P296	J-295	J-293	1,310.00	14	Steel	286.81	0.60	0.16	0.12	127.0
P297	J-293	J-297	3,560.00	6	Asbestos Cement	48.76	0.55	1.04	0.29	127.0
P299	J-490	J-494	3,300.00	14	Asbestos Cement	1,413.72	2.95	7.87	2.39	127.0
P300	R-300	J-301	1,460.00	20	Asbestos Cement	3,835.93	3.92	3.67	2.51	131.0
P301	J-301	J-302	2,920.00	20	Asbestos Cement	3,725.68	3.80	6.96	2.38	131.0
P302	J-302	J-303	2,600.00	20	Asbestos Cement	3,713.85	3.79	6.16	2.37	131.0
P303	J-303	J-304	3,680.00	20	Asbestos Cement	3,638.21	3.72	8.39	2.28	131.0
P305	J-304	J-305	1,350.00	6	Asbestos Cement	9.60	0.11	0.02	0.01	127.0
P306	J-305	J-306	1,690.00	6	Asbestos Cement	2.52	0.03	1.95e-3	1.16e-3	130.0
P307	J-304	J-307	2,650.00	14	Steel	2,264.39	4.72	15.12	5.70	127.0
P309	J-308	J-309	1,670.00	6	Asbestos Cement	7.34	0.08	0.01	0.01	127.0
P311	J-307	J-311	1,530.00	6	Asbestos Cement	29.46	0.33	0.17	0.11	129.0
P312	J-308	J-312	630.00	14	Steel	2,149.91	4.46	3.26	5.18	127.0
P313	J-312	J-313	4,000.00	14	Steel	2,099.01	4.37	19.83	4.96	127.0
P314	J-313	J-314	1,640.00	6	Asbestos Cement	47.47	0.54	0.45	0.28	127.0
P316	J-312	J-316	2,720.00	8	Asbestos Cement	14.88	0.09	0.02	0.01	127.0
P318	J-313	J-318	840.00	14	Steel	1,994.08	4.16	3.79	4.51	127.0
P319	J-318	J-319	1,320.00	14	Steel	1,986.54	4.14	5.91	4.48	127.0
P320	J-319	J-320	1,300.00	14	Steel	1,560.13	3.25	3.72	2.86	127.0
P322	J-320	J-322	2,650.00	6	Asbestos Cement	277.36	3.15	19.25	7.26	127.0
P323	J-320	J-323	1,320.00	8	Asbestos Cement	306.40	1.96	2.84	2.15	127.0
P324	J-323	J-324	1,200.00	8	Asbestos Cement	164.61	1.05	0.82	0.68	127.0
P325	J-324	J-325	1,150.00	6	Asbestos Cement	161.39	1.83	3.07	2.67	127.0
P326	J-325	J-326	2,640.00	6	Asbestos Cement	138.89	1.58	5.33	2.02	127.0
P328	J-326	J-328	2,420.00	10	Asbestos Cement	-545.80	2.23	4.97	2.05	129.0
P329	J-328	J-323	2,640.00	6	Asbestos Cement	-122.91	1.39	4.26	1.61	127.0
P330	J-328	J-330	1,320.00	8	Asbestos Cement	-381.55	2.44	4.20	3.18	128.0
P331	J-330	J-320	2,640.00	14	Steel	-928.69	1.94	2.90	1.10	127.0
P332	J-330	J-332	2,640.00	6	Asbestos Cement	87.99	1.00	2.29	0.87	127.0
P333	J-332	J-333	1,330.00	6	Asbestos Cement	71.16	0.81	0.74	0.55	131.0
P334	J-333	J-328	2,640.00	6	Asbestos Cement	61.19	0.69	1.17	0.44	127.0
P335	J-330	J-295	2,630.00	14	Steel	406.80	0.85	0.63	0.24	127.0
P336	J-295	J-336	2,000.00	6	Asbestos Cement	39.65	0.45	0.40	0.20	127.0
P340	J-304	J-340	4,140.00	14	Steel	1,296.91	2.70	8.42	2.03	127.0
P341	J-340	J-341	1,330.00	14	Steel	972.83	2.03	1.59	1.20	127.0
P342	J-341	J-342	1,330.00	14	Steel	965.39	2.01	1.57	1.18	127.0
P343	J-340	J-343	2,360.00	10	Asbestos Cement	285.65	1.17	1.40	0.59	132.0
P344	J-343	J-344	1,510.00	10	Asbestos Cement	69.82	0.29	0.07	0.04	131.0
P345	J-344	J-345	1,220.00	6	Asbestos Cement	46.88	0.55	0.34	0.28	131.0
P346	J-345	J-346	1,200.00	6	Asbestos Cement	27.73	0.31	0.12	0.10	129.0
P347	J-346	J-343	1,580.00	10	Asbestos Cement	-210.10	0.86	0.52	0.33	133.0
P348	J-346	J-342	3,980.00	6	Asbestos Cement	50.77	0.58	1.23	0.31	128.0
P349	J-342	J-349	2,630.00	14	Steel	994.14	2.07	3.27	1.24	127.0
P350	J-349	J-350	2,570.00	6	Asbestos Cement	2.40	0.03	2.69e-3	1.04e-3	130.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P351	J-349	J-351	1,900.00	6	Asbestos Cement	-63.93	0.73	0.91	0.48	127.0
P352	J-351	J-352	2,720.00	6	Asbestos Cement	-67.64	0.77	1.45	0.53	127.0
P353	J-352	J-353	2,250.00	8	Asbestos Cement	-115.57	0.74	0.75	0.33	131.0
P354	J-353	J-354	3,930.00	10	Asbestos Cement	-163.63	0.67	0.82	0.21	133.0
P355	J-354	J-348	2,650.00	10	Asbestos Cement	-165.34	0.68	0.56	0.21	133.0
P356	J-353	J-356	4,240.00	8	Asbestos Cement	7.73	0.05	0.01	2.25e-3	131.0
P359	J-349	J-360	2,670.00	14	Steel	1,043.86	2.18	3.64	1.36	127.0
P360	J-360	J-361	4,000.00	14	Steel	753.35	1.57	2.98	0.74	127.0
P361	J-361	J-362	1,520.00	6	Asbestos Cement	44.66	0.51	0.38	0.25	127.0
P362	J-362	J-363	1,900.00	4	Steel	23.30	0.59	1.02	0.54	127.0
P363	J-363	J-364	1,240.00	6	Asbestos Cement	17.29	0.20	0.05	0.04	129.0
P365	J-374	J-366	980.00	10	Asbestos Cement	-108.78	0.44	0.10	0.10	130.0
P368	J-367	J-368	980.00	14	Steel	426.53	0.89	0.25	0.26	127.0
P369	J-368	J-217	4,170.00	14	Steel	461.83	0.96	1.26	0.30	127.0
P370	J-368	J-370	1,240.00	6	Asbestos Cement	-51.24	0.58	0.40	0.32	127.0
P371	J-370	J-374	980.00	6	Ductile Iron	-54.03	0.61	0.35	0.35	127.0
P372	J-370	J-372	1,320.00	6	Asbestos Cement	-7.40	0.08	0.01	0.01	127.0
P373	J-372	J-373	980.00	6	Asbestos Cement	-28.63	0.32	0.11	0.11	127.0
P374	J-373	J-374	1,320.00	6	Asbestos Cement	-37.24	0.42	0.23	0.17	129.0
P375	J-372	J-375	1,300.00	6	Asbestos Cement	14.29	0.16	0.04	0.03	127.0
P376	J-374	J-376	3,880.00	6	Asbestos Cement	-15.11	0.17	0.13	0.03	127.0
P377	J-376	J-377	5,680.00	6	Asbestos Cement	-46.65	0.53	1.52	0.27	127.0
P378	J-377	J-378	1,340.00	8	Asbestos Cement	-140.61	0.90	0.68	0.51	127.0
P379	J-378	J-360	3,880.00	8	Asbestos Cement	-155.31	0.99	2.38	0.61	127.0
P401	J-420	J-438	50.00	8	Ductile Iron	-295.40	1.89	0.10	2.01	127.0
P403	J-402	J-403	1,370.00	10	Asbestos Cement	-1,065.23	4.35	9.97	7.28	127.0
P404	J-403	J-404	360.00	10	Asbestos Cement	-465.80	1.90	0.57	1.58	127.0
P405	J-404	J-405	790.00	10	Asbestos Cement	-365.21	1.49	0.79	1.00	127.0
P406	J-405	J-406	350.00	10	Asbestos Cement	-226.03	0.92	0.14	0.41	127.0
P407	J-406	J-407	800.00	8	Cast Iron	-42.04	0.27	0.07	0.09	95.0
P408	J-407	J-408	1,100.00	8	Cast Iron	16.13	0.10	0.02	0.02	95.0
P409	J-402	J-410	1,380.00	4	Cast Iron	-46.57	1.19	4.55	3.30	95.0
P410	J-410	J-411	1,140.00	4	Cast Iron	-73.08	1.87	8.66	7.59	95.0
P411	J-411	J-403	1,160.00	10	Asbestos Cement	634.70	2.59	3.24	2.79	127.0
P412	J-411	J-412	350.00	10	Cast Iron	-151.38	0.62	0.12	0.34	95.0
P413	J-412	J-404	1,160.00	6	Cast Iron	114.14	1.30	2.79	2.40	95.0
P415	J-414	J-405	1,120.00	6	Ductile Iron	140.63	1.60	2.32	2.07	127.0
P416	J-416	J-406	510.00	6	Cast Iron	189.36	2.15	3.13	6.13	95.0
P417	J-416	J-417	420.00	4	Ductile Iron	36.09	0.92	0.86	2.06	95.0
P418	J-417	J-407	1,180.00	6	Cast Iron	99.21	1.13	2.19	1.86	95.0
P419	J-486	J-419	600.00	6	Ductile Iron	-178.25	2.02	1.92	3.21	127.0
P420N	J-483	J-419	400.00	8	PVC	176.53	1.13	0.28	0.69	135.0
P421	J-420	J-421	600.00	6	Cast Iron	-38.81	0.44	0.20	0.33	95.0
P422	J-421	J-422	560.00	6	Cast Iron	-10.47	0.12	0.02	0.03	95.0
P423	J-479	J-423	600.00	6	Cast Iron	-97.24	1.10	1.07	1.79	95.0
P424	J-481	J-424	400.00	6	Cast Iron	-23.05	0.26	0.05	0.12	95.0
P425	J-424	J-482	600.00	6	Ductile Iron	134.82	1.53	1.15	1.91	127.0
P426	J-423	J-426	1,140.00	4	Asbestos Cement	-49.08	1.25	2.35	2.06	129.0
P427	J-426	J-427	600.00	4	Asbestos Cement	-29.42	0.75	0.49	0.82	127.0
P428	J-430	J-429	400.00	8	Asbestos Cement	219.20	1.40	0.43	1.06	133.0
P429	J-429	J-424	1,720.00	6	Asbestos Cement	209.31	2.38	7.42	4.32	127.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P430	J-430	J-431	1,200.00	8	Asbestos Cement	-694.83	4.43	11.74	9.79	127.0
P431	J-431	J-432	1,050.00	10	Asbestos Cement	-490.77	2.00	1.70	1.62	132.0
P432	J-432	J-433	600.00	8	Asbestos Cement	-529.34	3.38	3.26	5.43	133.0
P433	J-430	J-435	1,200.00	8	Asbestos Cement	460.72	2.94	5.11	4.26	132.0
P434	J-433	J-434	1,050.00	8	Asbestos Cement	162.49	1.04	0.65	0.62	132.0
P435	J-434	J-431	570.00	8	Asbestos Cement	604.01	3.86	4.30	7.55	127.0
P436	J-431	J-439	370.00	6	Asbestos Cement	314.41	3.57	3.39	9.16	127.0
P437	J-434	J-437	580.00	8	Asbestos Cement	-511.07	3.26	3.22	5.54	127.0
P438	J-435	J-436	400.00	12	Steel	744.99	2.11	0.62	1.55	127.0
P440	J-439	J-440	1,150.00	4	Asbestos Cement	120.14	3.07	12.62	10.97	128.0
P441	J-440	J-427	360.00	4	Ductile Iron	50.31	1.28	0.79	2.19	128.0
P442	J-440	J-442	600.00	6	Cast Iron	71.59	0.81	0.61	1.01	95.0
P443	J-442	J-426	350.00	4	Cast Iron	34.84	0.89	0.68	1.93	95.0
P445	J-444	J-423	350.00	4	Cast Iron	38.70	0.99	0.82	2.34	95.0
P446	J-444	J-446	1,150.00	6	Ductile Iron	140.76	1.60	2.38	2.07	127.0
P447	J-422	J-446	350.00	8	Cast Iron	48.13	0.31	0.04	0.12	95.0
P448	J-446	J-449	600.00	6	Ductile Iron	57.07	0.65	0.40	0.67	95.0
P449N	J-421	J-449	400.00	8	PVC	222.71	1.42	0.43	1.07	135.0
P450	J-411	J-451	570.00	10	Cast Iron	-575.90	2.35	2.27	3.99	95.0
P451	J-420	J-416	600.00	8	Ductile Iron	243.40	1.55	1.44	2.40	95.0
P452	J-451	J-452	570.00	10	Cast Iron	-273.62	1.12	0.57	1.01	95.0
P454N	J-451	J-454	790.00	8	PVC	-282.10	1.80	1.30	1.65	135.0
P455N	J-454	J-455	370.00	8	PVC	-271.25	1.73	0.57	1.53	135.0
P456	J-457	J-456	370.00	6	Ductile Iron	254.04	2.88	3.91	10.57	95.0
P459	J-458	J-454	580.00	8	Cast Iron	38.12	0.24	0.05	0.08	95.0
P460	J-452	J-458	790.00	8	Cast Iron	-149.80	0.96	0.77	0.98	95.0
P461	J-458	J-461	580.00	8	Asbestos Cement	55.20	0.35	0.05	0.09	127.0
P462	J-461	J-462	370.00	4	Cast Iron	-43.82	1.12	1.09	2.95	95.0
P463	J-462	J-457	580.00	4	Cast Iron	-57.99	1.48	2.87	4.95	95.0
P465	J-464	J-452	580.00	10	Cast Iron	149.49	0.61	0.19	0.33	95.0
P466	J-464	J-466	580.00	10	Cast Iron	-136.75	0.56	0.16	0.28	95.0
P468	J-466	J-469	400.00	4	Asbestos Cement	-111.13	2.84	3.64	9.10	131.0
P469	J-469	J-470	600.00	6	Cast Iron	-180.24	2.05	3.36	5.60	95.0
P470	J-470	J-471	580.00	6	Cast Iron	32.34	0.37	0.14	0.23	95.0
P472	J-471	J-472	600.00	4	Cast Iron	-60.70	1.55	3.23	5.39	95.0
P473	J-472	J-440	1,500.00	4	Cast Iron	44.80	1.14	5.09	3.39	90.0
P474	J-472	J-474	1,130.00	6	Asbestos Cement	-210.68	2.39	4.73	4.18	130.0
P475	J-474	J-439	1,500.00	6	Asbestos Cement	-133.04	1.51	2.80	1.87	127.0
P476	J-474	J-476	1,160.00	6	Asbestos Cement	-210.79	2.39	4.79	4.13	131.0
P478	J-423	J-481	50.00	6	Ductile Iron	-18.91	0.21	2.56e-3	0.05	127.0
P479	J-479	J-422	600.00	6	Ductile Iron	81.02	0.92	0.45	0.75	127.0
P480	J-479	J-480	50.00	3	Ductile Iron	5.70	0.37	0.02	0.39	127.0
P482	J-480	J-482	400.00	3	Ductile Iron	1.04	0.05	2.81e-3	0.01	127.0
P484N	J-421	J-483	50.00	8	PVC	-261.89	1.67	0.07	1.44	135.0
P486	J-485	J-486	400.00	4	Ductile Iron	-3.47	0.09	0.01	0.02	127.0
P487	J-486	J-417	600.00	6	Ductile Iron	73.61	0.84	0.37	0.62	127.0
P489	J-420	J-414	400.00	4	Ductile Iron	86.03	2.20	2.40	6.00	127.0
P495	J-449	J-414	600.00	6	Ductile Iron	194.77	2.21	2.17	3.62	130.0
P496	J-495	J-496	3,200.00	14	Asbestos Cement	2,512.29	5.24	21.19	6.62	130.0
P497	J-496	J-497	1,080.00	14	Asbestos Cement	2,507.01	5.23	7.12	6.59	130.0
P498	J-497	J-499	5,600.00	12	Ductile Iron	2,500.00	7.09	77.83	13.90	130.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P499	J-499	J-500	1,800.00	12	Ductile Iron	2,500.00	7.09	25.02	13.90	130.0
P741	J-740	J-745	2,760.00	8	Steel	654.61	4.18	23.17	8.39	130.0
P742	R-741	J-742	3,320.00	12	Steel	227.07	0.64	0.55	0.16	130.0
P743	J-742	J-743	920.00	8	Asbestos Cement	36.48	0.23	0.04	0.04	130.0
P744	J-742	J-744	2,440.00	12	Steel	126.27	0.36	0.14	0.06	130.0
P745	J-745	R-741	1.00	99	Ductile Iron	654.61	0.03	0.00	0.00	130.0
P117A	J-116	PRV-117	7,080.00	6	Asbestos Cement	5.31	0.06	0.03	4.62e-3	130.0
P400	R-400	J-402	2,760.00	10	Ductile Iron	-1,051.88	4.30	19.62	7.11	127.0
P740A	J-326	PMP-740	719.00	10	Steel	327.31	1.34	0.56	0.79	130.0
P740B	PMP-740	J-740	1.00	10	Steel	327.31	1.34	7.32e-4	0.73	130.0
P746A	J-326	PMP-746	719.00	10	Ductile Iron	327.31	1.34	0.56	0.79	130.0
P746B	PMP-746	J-740	1.00	10	Ductile Iron	327.31	1.34	7.32e-4	0.73	130.0
P117B	PRV-117	J-117	0.10	6	Asbestos Cement	5.31	0.06	0.00	0.00	130.0
P120A	J-117	PRV-120	5,690.00	6	Steel	0.01	6.0e-5	0.00	0.00	130.0
P128	J-128	J-140	1,800.00	12	Asbestos Cement	-51.67	0.15	0.02	0.01	130.0
P140B	J-140	PRV-140	0.10	8	Asbestos Cement	-52.95	0.34	0.00	0.00	130.0
P237B	PRV-237	J-237	0.10	6	Ductile Iron	66.35	0.75	0.00	0.00	128.0
P238	J-237	J-238	4,240.00	6	Steel	58.67	0.67	1.71	0.40	128.0
P211	J-202	J-212	2,760.00	14	Steel	262.40	0.55	0.27	0.10	132.0
P212	J-212	J-213	5,080.00	14	Steel	262.37	0.55	0.50	0.10	132.0
P294	J-294	J-287	2,620.00	6	Asbestos Cement	-15.87	0.18	0.09	0.04	129.0
P490	J-470	J-491	1,060.00	10	Asbestos Cement	-787.10	3.22	4.05	3.82	133.0
P240	J-241	J-209	3,120.00	10	Asbestos Cement	-437.95	1.79	4.38	1.41	127.0
P293	J-293	J-285	1,330.00	14	Steel	189.48	0.39	0.08	0.06	127.0
P218	J-217	J-220	3,440.00	8	Asbestos Cement	613.84	3.92	26.77	7.78	127.0
P176A	J-176	J-1000	816.00	12	Steel	-840.52	2.38	1.47	1.80	132.0
P176B	J-1000	J-177	2,984.00	12	Steel	-1,107.46	3.14	8.94	3.00	132.0
P1000	J-1000	J-1001	3,700.00	8	PVC	249.45	1.59	4.86	1.31	135.0
P1001	J-1001	J-1002	1,500.00	8	PVC	249.45	1.59	1.97	1.31	135.0
P1002	J-1002	J-1003	1,100.00	10	PVC	248.01	1.01	0.48	0.44	135.0
P1004	J-1003	J-203	2,600.00	10	PVC	245.74	1.00	1.12	0.43	135.0
P214A	J-214	J-1005	500.00	6	Ductile Iron	220.82	2.51	2.28	4.56	130.0
P214B	J-1005	J-215	440.00	6	Ductile Iron	220.82	2.51	2.01	4.56	130.0
P1652	J-1653	J-1652	2,760.00	24	Ductile Iron	-1,126.84	0.80	0.28	0.10	135.0
P1651	J-1652	J-1651	11,250.00	30	Ductile Iron	-1,126.84	0.51	0.39	0.03	135.0
P1650	J-1651	R-650	4,500.00	30	Ductile Iron	-1,126.84	0.51	0.15	0.03	135.0
P1011	J-277	J-433	350.00	8	Asbestos Cement	829.00	5.29	4.24	12.12	135.0
P367B	J-366	J-1011	1,280.00	14	Steel	349.05	0.73	0.23	0.18	127.0
P367A	J-1011	J-367	1,300.00	14	Steel	439.52	0.92	0.36	0.27	127.0
P366A	J-366	J-1012	1,018.00	14	Steel	-485.36	1.01	0.34	0.33	127.0
P366B	J-1012	J-361	2,702.00	14	Steel	-594.07	1.24	1.30	0.48	127.0
P1016	J-1012	J-1013	1,298.00	8	PVC	103.82	0.66	0.34	0.26	135.0
P1017	J-1013	J-1011	1,045.00	8	PVC	94.74	0.60	0.23	0.22	135.0
P1018	J-275	J-437	400.00	8	Asbestos Cement	463.70	2.96	1.65	4.14	135.0
P477B	J-476	J-1014	1,400.00	6	Asbestos Cement	-266.87	3.03	9.47	6.76	127.0
P477A	J-1014	J-437	500.00	6	Asbestos Cement	99.99	1.13	0.55	1.10	127.0
P275A	J-267	J-1015	819.00	14	Steel	458.74	0.96	0.24	0.30	127.0
P275B	J-1015	J-275	511.00	14	Steel	140.65	0.29	0.02	0.03	127.0
P1021	J-1015	J-1016	450.00	10	PVC	313.93	1.28	0.31	0.68	135.0
P1022	J-1016	J-1014	900.00	10	PVC	367.38	1.50	0.82	0.91	135.0
P1023	J-1016	J-266	900.00	6	Asbestos Cement	-69.08	0.78	0.45	0.50	135.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P265A	J-264	J-1017	653.00	14	Steel	779.38	1.62	0.52	0.79	127.0
P265B	J-1017	J-265	677.00	14	Steel	734.25	1.53	0.48	0.71	127.0
P266A	J-263	J-1018	660.00	6	Asbestos Cement	27.91	0.32	0.07	0.10	129.0
P266B	J-1018	J-266	1,310.00	6	Asbestos Cement	69.45	0.79	0.71	0.54	129.0
P1026	J-1017	J-1019	331.00	8	PVC	44.29	0.28	0.02	0.05	135.0
P1027	J-1019	J-1018	320.00	6	Asbestos Cement	44.29	0.50	0.07	0.22	135.0
P1028	J-265	J-1020	650.00	14	PVC	285.19	0.59	0.07	0.11	135.0
P1029	J-1020	J-1021	656.00	10	PVC	173.85	0.71	0.19	0.23	135.0
P1030	J-1021	J-275	450.00	10	PVC	257.96	1.05	0.21	0.47	135.0
P1031	J-1020	J-1022	720.00	10	PVC	102.16	0.42	0.06	0.08	135.0
P1032	J-1022	J-1023	849.00	10	PVC	102.16	0.42	0.07	0.08	135.0
P1033	J-1023	J-1021	720.00	10	PVC	102.16	0.42	0.06	0.08	135.0
P464B	J-461	J-1024	383.00	6	Ductile Iron	40.21	0.46	0.08	0.20	127.0
P464A	J-1024	J-464	407.00	6	Ductile Iron	100.55	1.14	0.45	1.11	127.0
P1036	J-446	J-1025	330.00	8	Cast iron	104.05	0.66	0.16	0.50	95.0
P453A	J-1025	J-1026	340.00	8	Cast iron	-19.40	0.12	0.01	0.02	95.0
P453B	J-1026	J-452	340.00	8	Cast iron	10.41	0.07	2.44e-3	0.01	95.0
P414B	J-412	J-1031	770.00	10	Cast iron	-137.63	0.56	0.22	0.28	95.0
P414A	J-1031	J-414	770.00	10	Cast iron	-91.47	0.37	0.10	0.13	95.0
P467B	J-466	J-1032	743.00	4	Cast iron	-47.01	1.20	2.49	3.36	95.0
P467A	J-1032	J-444	377.00	4	Cast iron	21.80	0.56	0.31	0.81	95.0
P1041	J-464	J-1027	379.00	6	Asbestos Cement	55.41	0.63	0.13	0.33	135.0
P1042	J-1027	J-1028	376.00	6	Asbestos Cement	24.74	0.28	0.03	0.07	135.0
P1043	J-1028	J-1025	583.00	6	Asbestos Cement	24.74	0.28	0.04	0.07	135.0
P1044	J-1027	J-1026	576.00	6	Asbestos Cement	30.67	0.35	0.06	0.11	135.0
P1050	J-482	J-1034	592.00	6	Ductile Iron	86.19	0.98	0.49	0.84	127.0
P1051	J-1034	J-419	608.00	6	Ductile Iron	44.83	0.51	0.15	0.25	127.0
P308A	J-307	J-1033	1,687.00	14	Steel	2,224.27	4.64	9.31	5.52	127.0
P308B	J-1033	J-308	2,273.00	14	Steel	2,217.70	4.62	12.47	5.49	127.0
P1046	J-1033	J-1035	1,400.00	8	Asbestos Cement	0.92	0.01	0.00	0.00	135.0
P1047	J-308	J-309	1,670.00	12	PVC	48.38	0.14	0.01	0.01	135.0
P310A	J-309	J-1036	550.00	6	Asbestos Cement	3.93	0.04	1.46e-3	2.66e-3	132.0
P310B	J-1036	J-310	1,770.00	6	Asbestos Cement	5.56	0.06	0.01	4.9e-3	132.0
P1049	J-309	J-1036	550.00	12	PVC	24.92	0.07	1.46e-3	2.66e-3	135.0
P444A	J-442	J-1039	577.00	6	Asbestos Cement	17.92	0.20	0.03	0.05	127.0
P444B	J-1039	J-444	573.00	6	Asbestos Cement	195.63	2.22	2.18	3.81	127.0
P1056	J-1039	J-1040	392.00	10	PVC	-462.13	1.89	0.54	1.39	135.0
P1057	J-1040	J-470	1,129.00	10	PVC	-539.61	2.20	2.09	1.85	135.0
P1058	J-1040	J-1032	574.00	4	Asbestos Cement	72.77	1.86	2.42	4.22	130.0
P1059	J-1039	J-435	380.00	10	PVC	284.27	1.16	0.21	0.56	135.0
P439A	J-436	J-483	2,400.00	12	Ductile Iron	736.81	2.09	3.63	1.51	127.0
P439B	J-483	J-438	600.00	12	Ductile Iron	295.40	0.84	0.17	0.28	127.0
P1035	J-469	J-1024	573.00	4	Cast iron	63.44	1.62	3.35	5.84	95.0
P1060	J-449	J-1041	385.00	8	PVC	80.06	0.51	0.06	0.16	135.0
P1061	J-1041	J-1031	571.00	4	Cast iron	50.78	1.30	2.21	3.87	95.0
P1062	J-1041	J-1025	593.00	8	PVC	-148.20	0.95	0.30	0.50	135.0
P1063	J-1041	J-1042	374.00	8	PVC	177.47	1.13	0.26	0.70	135.0
P1064	J-1042	J-451	391.00	8	PVC	29.69	0.19	0.01	0.03	135.0
P1065	J-1042	J-412	573.00	6	Cast iron	145.78	1.65	2.17	3.78	95.0
P1066	J-455	J-1043	400.00	8	PVC	-271.25	1.73	0.61	1.53	135.0
P1067	J-319	J-1044	1,871.00	6	Asbestos Cement	386.94	4.39	25.16	13.45	127.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P1068	J-1044	J-321	779.00	6	Asbestos Cement	107.80	1.22	0.98	1.26	127.0
P1069	J-1043	J-1044	780.00	6	Asbestos Cement	-271.93	3.09	5.38	6.90	128.0
P337A	J-322	J-1045	400.00	6	Asbestos Cement	235.06	2.67	2.11	5.27	128.0
P337B	J-1045	J-338	1,660.00	6	Asbestos Cement	3.11	0.04	2.93e-3	1.76e-3	128.0
P1070	J-457	J-321	750.00	8	PVC	-327.01	2.09	1.63	2.17	135.0
P1071	J-321	J-1045	930.00	8	PVC	-231.95	1.48	1.07	1.15	135.0
P471A	J-471	J-1046	500.00	4	Cast Iron	57.65	1.47	2.45	4.90	95.0
P471N	J-1046	J-442	1,000.00	8	PVC	20.86	0.13	0.02	0.02	112.0
P209A	J-208	J-1047	630.00	18	Steel	-830.07	1.05	0.17	0.26	127.0
P209B	J-1047	J-209	0.01	18	Steel	-3,586.55	4.52	0.00	0.00	127.0
P287	J-287	J-1603	1,240.00	10	Asbestos Cement	-68.13	0.28	0.06	0.04	127.0
P1624	J-1603	J-288	90.00	10	Asbestos Cement	-122.11	0.50	0.01	0.13	127.0
P1602	J-1601	J-1602	25.00	12	Ductile Iron	926.97	2.63	0.05	2.07	135.0
P1620	J-1600	J-490	40.00	14	Asbestos Cement	1,364.11	2.84	0.09	2.14	130.0
P1610	J-290	J-1610	40.00	14	Asbestos Cement	0.00	0.00	0.00	0.00	127.0
P1611	J-1610	J-1611	25.00	12	Ductile Iron	-2,776.40	7.88	0.39	15.74	135.0
P1612A	J-1611	PMP-612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P1612B	PMP-612	J-1612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P1615	J-1612	J-1613	25.00	14	Ductile Iron	-2,776.40	5.79	0.19	7.43	135.0
P493	R-493	J-1613	2,275.00	14	Asbestos Cement	0.00	0.00	0.00	0.00	132.0
P1622	J-494	J-1605	5.00	14	Asbestos Cement	2,333.42	4.86	0.03	6.01	127.0
P1613A	J-1611	PMP-613	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P1613B	PMP-613	J-1612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P285A	J-284	J-492	1,329.00	14	Steel	556.52	1.16	0.57	0.43	127.0
P285B	J-492	J-285	1.00	14	Steel	-90.93	0.19	1.22e-4	0.12	127.0
P491	J-492	J-491	3,480.00	10	Asbestos Cement	790.42	3.23	13.58	3.90	132.0
P492	J-1601	J-492	3,900.00	14	Asbestos Cement	142.97	0.30	0.13	0.03	130.0
P1076	J-1047	J-1054	3,395.00	20	Ductile Iron	2,756.48	2.82	4.38	1.29	135.0
P1078	J-1054	J-1055	6,437.00	20	Ductile Iron	2,647.85	2.70	7.71	1.20	135.0
P1080	J-241	J-1054	40.00	10	Ductile Iron	-108.63	0.44	3.78e-3	0.09	135.0
P1081	J-1055	J-244	40.00	10	Ductile Iron	117.47	0.48	4.39e-3	0.11	135.0
P1082	J-1055	J-1057	4,097.00	20	Ductile Iron	2,530.38	2.58	4.51	1.10	135.0
P1083	J-1057	J-1600	2,221.00	20	Ductile Iron	2,434.05	2.49	2.28	1.03	135.0
P288A	J-245	J-1058	1,700.00	10	Asbestos Cement	279.23	1.14	1.04	0.61	127.0
P1085	J-1057	J-1058	40.00	10	Ductile Iron	96.33	0.39	3.05e-3	0.08	135.0
P1086	J-1058	J-1059	2,230.00	10	Asbestos Cement	375.56	1.53	2.36	1.06	127.0
P1087	J-1059	J-288	30.00	10	Asbestos Cement	317.13	1.30	0.02	0.77	127.0
P1088	J-490	J-1059	25.00	10	Asbestos Cement	-58.43	0.24	8.54e-4	0.03	127.0
P1089	J-1601	J-1600	50.00	14	Asbestos Cement	-1,069.94	2.23	0.07	1.36	130.0
P1090	J-1602	J-1603	10.00	12	Ductile Iron	-53.98	0.15	1.22e-4	0.01	135.0
P1091	J-1605	J-1060	214.00	14	Asbestos Cement	2,333.42	4.86	1.24	5.77	130.0
P1092	J-1060	J-495	3,786.00	14	Asbestos Cement	2,512.29	5.24	25.07	6.62	130.0
P1094	J-367	J-1061	0.10	14	Steel	0.00	0.00	0.00	0.00	127.0
P278	J-1061	J-277	1,050.00	14	Steel	1,126.84	2.35	1.65	1.57	127.0
P1653	J-1653	J-1061	17,700.00	24	Ductile Iron	1,126.84	0.80	1.80	0.10	135.0
P1604	J-1602	J-1062	3,400.00	12	Ductile Iron	980.95	2.78	7.81	2.30	135.0
P1095	J-289	J-1063	2,000.00	6	Asbestos Cement	121.72	1.38	3.17	1.58	127.0
P1096	J-1063	J-1060	400.00	6	Asbestos Cement	178.87	2.03	1.29	3.23	127.0
P1097	J-290	J-1063	20.00	6	Asbestos Cement	57.15	0.65	0.01	0.39	127.0
P1098	J-290	J-1062	10.00	14	Asbestos Cement	-57.15	0.12	0.00	0.00	127.0
P1099	J-1062	J-494	30.00	14	Asbestos Cement	923.80	1.93	0.03	1.09	127.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P1102	J-1613	J-1610	20.00	14	Asbestos Cement	-2,776.40	5.79	0.15	7.75	132.0
P203	J-202	J-203	2,050.00	14	Steel	573.13	1.19	0.86	0.42	132.0
P315A	J-313	PSV-400	795.00	16	Ductile Iron	0.00	0.00	0.00	0.00	127.0
P315B	PSV-400	R-400	5.00	16	Ductile Iron	-5.82e-4	9.28e-7	0.00	0.00	127.0
P1605A	J-1605	PSV-493	2,345.00	6	Ductile Iron	0.00	0.00	0.00	0.00	130.0
P1605B	PSV-493	R-493	5.00	6	Ductile Iron	-1.8e-3	2.04e-5	0.00	0.00	130.0
P125B	R-125	PSV-125	5.00	6	Ductile Iron	-1.51e-3	1.72e-5	0.00	0.00	130.0
P125A	PSV-125	J-126	2,995.00	6	Ductile Iron	-1.52e-3	1.72e-5	0.00	0.00	130.0
P1	J-196	J-9000	4,580.00	6	Steel	533.05	6.05	109.81	23.98	128.0
P1110	J-197	J-1066	1,650.00	6	Asbestos Cement	177.76	2.02	5.26	3.19	127.0
P1111	J-1066	J-196	1,340.00	6	Asbestos Cement	177.76	2.02	4.27	3.19	127.0
P1112	J-1066	J-1067	650.00	6	Asbestos Cement	0.00	0.00	0.00	0.00	127.0
P1113	J-197	J-1068	1,629.00	6	Asbestos Cement	44.26	0.50	0.40	0.24	127.0
P1114	J-1068	J-233	1,131.00	6	Asbestos Cement	44.26	0.50	0.28	0.24	127.0
P9000	J-9000	J-9001	3,421.00	10	PVC	439.88	1.80	3.56	1.04	150.0
P9001	J-9001	T-1	3,100.00	10	PVC	-2,156.72	8.81	61.14	19.72	150.0
P1118	J-1069	J-236	1,020.00	6	Steel	70.17	0.80	0.57	0.56	128.0
P1116	J-9000	J-9004	30.00	6	Steel	93.17	1.06	0.03	0.95	128.0
P1117	J-9004	J-1069	4,170.00	6	Steel	70.17	0.80	2.35	0.56	128.0
P9002	T-1	J-9002	3,100.00	10	PVC	0.00	0.00	0.00	0.00	150.0
P9004	J-9002	J-9004	3,421.00	8	PVC	0.00	0.00	0.00	0.00	150.0

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Scenario: Max Day + Fire
Steady State Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Calculated Hydraulic Grade (ft)
R-180	1,805.50	Bargar-Woodson Zone	-7,395.45	1,805.50
R-125	1,147.00	Snow	-108.90	1,147.00
R-741	2,115.50	I.D. No. 5	427.54	2,115.50
R-400	1,650.50	Santa Maria 1666 Zone	1,051.88	1,650.50
R-300	1,813.50	Bargar-Woodson Zone	-3,835.93	1,813.50
R-650	1,721.00	Santa Maria 1666 Zone	-1,126.84	1,721.00
R-493	1,655.50	Santa Maria 1666 Zone	-1.59e-3	1,655.50

Scenario: Max Day + Fire
Steady State Analysis
Valve Report

Label	Elevation (ft)	Diameter (in)	Discharge (gpm)	Initial Pressure (psi)	Control Status	From HGL (ft)	To HGL (ft)	Headloss (ft)
PRV-117	1,200.00	6	5.31	20.00	Throttling	1,769.66	1,246.16	523.51
PRV-140	1,300.00	8	52.95	80.23	Throttling	1,769.23	1,485.16	284.07
PRV-237	1,255.00	6	66.35	160.00	Inactive	1,611.33	1,611.33	0.00
PRV-120	880.00	6	3.49e-3	124.03	Inactive	1,246.16	1,246.16	0.00
PSV-400	1,635.00	6	0.00	55.00	Closed	1,728.33	1,650.50	0.00
PSV-493	1,644.00	6	0.00	48.14	Closed	1,703.36	1,655.50	0.00
PSV-125	1,140.00	6	0.00	105.00	Closed	1,484.67	1,147.00	0.00

APPENDIX D

Scenario #8 Summary Report: Average Daily Demand

Scenario Summary Report
Scenario: Average Dally

Scenario Summary	
Physical Alternative	Existing
Demand Alternative	Existing - Average Day
Initial Settings Alternative	Bargar On - West End On
Operational Alternative	Base-Operational
Age Alternative	Base-Age Alternative
Constituent Alternative	Base-Constituent
Trace Alternative	Base-Trace Alternative
Fire Flow Alternative	Fire Flow - 20 psi min zone pressure
Cost Alternative	Base-Cost
User Data Alternative	Base-User Data

Hydraulic Analysis Summary			
Analysis	Extended Period	Start Time	0.00 hr
Friction Method	Hazen-Williams Formula	Hydraulic Time Step	1.00 hr
Accuracy	0.002000	Duration	24.00 hr
Trials	100		

Quality Analysis Summary			
Analysis	Constituent	Maximum Pipe Segments	100
Quality Time Step	N/A hr	Minimum Pipe Travel Time	0.10 hr

Calibration			
Demand Operation	<None>	Roughness Operation	<None>
Demand	0.00	Roughness	0.00

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Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-111	1,400.00	Demand	7.42	Fixed	7.42	1,789.99	168.98
J-115	1,640.00	Demand	1.90	Fixed	1.90	1,789.59	64.82
J-116	1,617.00	Demand	2.44	Fixed	2.44	1,789.57	74.77
J-117	1,200.00	Demand	1.77	Fixed	1.77	1,246.16	20.00
J-121	830.00	Demand	8.45	Fixed	8.45	1,146.61	137.19
J-122	980.00	Demand	10.92	Fixed	10.92	1,146.60	72.27
J-123	740.00	Demand	16.94	Fixed	16.94	1,146.49	176.13
J-126	1,190.00	Demand	14.70	Fixed	14.70	1,485.10	127.87
J-127	1,200.00	Demand	0.00	Fixed	0.00	1,485.16	123.56
J-128	1,200.00	Demand	2.52	Fixed	2.52	1,485.16	123.56
J-131	1,300.00	Demand	7.61	Fixed	7.61	1,789.35	212.03
J-133	1,600.00	Demand	2.31	Fixed	2.31	1,789.37	82.05
J-134	1,600.00	Demand	1.55	Fixed	1.55	1,789.37	82.06
J-140	1,300.00	Demand	0.43	Fixed	0.43	1,485.16	80.23
J-141	1,373.00	Demand	2.23	Fixed	2.23	1,789.39	180.42
J-143	1,300.00	Demand	2.31	Fixed	2.31	1,789.39	212.05
J-148	1,380.00	Demand	10.73	Fixed	10.73	1,789.39	177.39
J-150	1,500.00	Demand	17.12	Fixed	17.12	1,789.40	125.40
J-151	1,550.00	Demand	7.91	Fixed	7.91	1,789.26	103.67
J-152	1,590.00	Demand	2.43	Fixed	2.43	1,788.63	86.06
J-153	1,520.00	Demand	1.97	Fixed	1.97	1,789.85	116.93
J-154	1,450.00	Demand	0.29	Fixed	0.29	1,790.32	147.46
J-158	1,580.00	Demand	0.57	Fixed	0.57	1,789.26	90.67
J-161	1,650.00	Demand	0.00	Fixed	0.00	1,791.65	61.38
J-162	1,600.00	Demand	1.50	Fixed	1.50	1,793.99	84.05
J-163	1,700.00	Demand	2.52	Fixed	2.52	1,796.69	41.89
J-164	1,650.00	Demand	1.21	Fixed	1.21	1,798.99	64.56
J-165	1,700.00	Demand	0.31	Fixed	0.31	1,802.24	44.30
J-168	1,450.00	Demand	0.15	Fixed	0.15	1,798.99	151.22
J-172	1,590.00	Demand	8.99	Fixed	8.99	1,788.58	86.05
J-174	1,540.00	Demand	10.91	Fixed	10.91	1,788.58	107.71
J-175	1,440.00	Demand	2.54	Fixed	2.54	1,788.61	151.05
J-176	1,450.00	Demand	3.42	Fixed	3.42	1,790.92	147.72
J-177	1,640.00	Demand	150.29	Fixed	150.29	1,795.65	67.44
J-178	1,660.00	Demand	8.57	Fixed	8.57	1,797.83	59.72
J-181	1,640.00	Demand	3.45	Fixed	3.45	1,805.50	71.71
J-185	1,670.00	Demand	11.31	Fixed	11.31	1,795.64	54.44
J-186	1,720.00	Demand	17.25	Fixed	17.25	1,797.47	33.57
J-187	1,690.00	Demand	17.00	Fixed	17.00	1,797.47	46.57
J-191	1,550.00	Demand	40.54	Fixed	40.54	1,784.68	101.69
J-192	1,480.00	Demand	43.91	Fixed	43.91	1,774.69	127.69
J-194	1,500.00	Demand	28.15	Fixed	28.15	1,779.56	121.13
J-195	1,455.00	Demand	17.60	Fixed	17.60	1,776.43	139.27
J-196	1,470.00	Demand	41.54	Fixed	41.54	1,759.60	125.48
J-197	1,435.00	Demand	36.06	Fixed	36.06	1,761.91	141.65
J-199	1,430.00	Demand	16.33	Fixed	16.33	1,762.46	144.06
J-201	1,370.00	Demand	0.00	Fixed	0.00	1,788.30	181.25
J-202	1,350.00	Demand	0.00	Fixed	0.00	1,787.97	189.77
J-203	1,370.00	Demand	3.01	Fixed	3.01	1,787.24	180.79
J-204	1,390.00	Demand	10.82	Fixed	10.82	1,775.75	167.15
J-206	1,500.00	Demand	19.62	Fixed	19.62	1,775.73	119.47
J-207	1,405.00	Demand	15.94	Fixed	15.94	1,770.66	158.44

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-208	1,420.00	Demand	0.00	Fixed	0.00	1,754.86	145.10
J-209	1,425.00	Demand	11.96	Fixed	11.96	1,755.08	143.02
J-212	1,370.00	Demand	0.01	Fixed	0.01	1,787.90	181.08
J-213	1,400.00	Demand	0.00	Fixed	0.00	1,787.77	168.02
J-214	1,395.00	Demand	13.85	Fixed	13.85	1,787.64	170.13
J-215	1,395.00	Demand	0.96	Fixed	0.96	1,786.40	169.59
J-216	1,420.00	Demand	15.65	Fixed	15.65	1,786.33	158.73
J-217	1,405.00	Demand	6.32	Fixed	6.32	1,786.37	165.25
J-220	1,370.00	Demand	13.20	Fixed	13.20	1,761.66	169.72
J-221	1,385.00	Demand	3.56	Fixed	3.56	1,756.91	161.15
J-222	1,390.00	Demand	3.99	Fixed	3.99	1,755.92	158.56
J-223	1,375.00	Demand	1.75	Fixed	1.75	1,756.48	165.29
J-224	1,375.00	Demand	3.81	Fixed	3.81	1,756.27	165.21
J-226	1,395.00	Demand	8.13	Fixed	8.13	1,754.14	155.62
J-227	1,390.00	Demand	8.83	Fixed	8.83	1,756.24	158.69
J-230	1,390.00	Demand	9.60	Fixed	9.60	1,745.85	154.19
J-231	1,420.00	Demand	4.59	Fixed	4.59	1,752.19	143.94
J-233	1,600.00	Demand	14.75	Fixed	14.75	1,761.83	70.12
J-236	1,255.00	Demand	1.27	Fixed	1.27	1,674.40	181.73
J-237	1,255.00	Demand	2.56	Fixed	2.56	1,670.42	180.00
J-238	1,200.00	Demand	19.56	Fixed	19.56	1,670.19	203.73
J-241	1,430.00	Demand	31.62	Fixed	31.62	1,752.15	139.59
J-242	1,525.00	Demand	19.52	Fixed	19.52	1,752.06	98.38
J-244	1,430.00	Demand	10.81	Fixed	10.81	1,746.71	137.23
J-245	1,425.00	Demand	6.53	Fixed	6.53	1,743.78	138.13
J-246	1,475.00	Demand	7.73	Fixed	7.73	1,742.46	115.89
J-247	1,435.00	Demand	5.63	Fixed	5.63	1,742.31	133.16
J-248	1,430.00	Demand	6.18	Fixed	6.18	1,742.64	135.47
J-249	1,430.00	Demand	5.15	Fixed	5.15	1,743.12	135.68
J-250	1,395.00	Demand	10.77	Fixed	10.77	1,742.80	150.70
J-252	1,395.00	Demand	14.48	Fixed	14.48	1,740.97	149.91
J-253	1,405.00	Demand	10.99	Fixed	10.99	1,742.35	146.18
J-255	1,430.00	Demand	5.04	Fixed	5.04	1,741.03	134.77
J-256	1,430.00	Demand	42.83	Fixed	42.83	1,741.05	134.78
J-258	1,410.00	Demand	10.97	Fixed	10.97	1,741.03	143.44
J-260	1,395.00	Demand	6.57	Fixed	6.57	1,743.14	150.85
J-262	1,395.00	Demand	14.40	Fixed	14.40	1,742.19	150.44
J-263	1,405.00	Demand	8.47	Fixed	8.47	1,740.76	145.49
J-264	1,400.00	Demand	3.91	Fixed	3.91	1,740.75	147.65
J-265	1,410.00	Demand	4.08	Fixed	4.08	1,735.14	140.88
J-266	1,410.00	Demand	11.79	Fixed	11.79	1,733.94	140.36
J-267	1,410.00	Demand	1.22	Fixed	1.22	1,733.90	140.35
J-270	1,410.00	Demand	12.00	Fixed	12.00	1,741.46	143.62
J-271	1,410.00	Demand	14.63	Fixed	14.63	1,737.77	142.02
J-275	1,420.00	Demand	7.93	Fixed	7.93	1,731.45	134.95
J-277	1,405.00	Demand	69.65	Fixed	69.65	1,727.13	139.58
J-280	1,430.00	Demand	9.13	Fixed	9.13	1,741.05	134.78
J-282	1,540.00	Demand	4.96	Fixed	4.96	1,741.05	87.11
J-283	1,470.00	Demand	8.47	Fixed	8.47	1,741.05	117.44
J-284	1,430.00	Demand	30.10	Fixed	30.10	1,741.05	134.78
J-285	1,440.00	Demand	34.61	Fixed	34.61	1,741.06	130.45
J-287	1,450.00	Demand	8.34	Fixed	8.34	1,741.67	126.38

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-288	1,440.00	Demand	1.89	Fixed	1.89	1,742.12	130.91
J-289	1,450.00	Demand	22.55	Fixed	22.55	1,740.60	125.92
J-290	1,510.00	Demand	0.00	Fixed	0.00	1,739.12	99.28
J-292	1,435.00	Demand	7.33	Fixed	7.33	1,741.05	132.61
J-293	1,450.00	Demand	16.19	Fixed	16.19	1,741.20	126.18
J-294	1,470.00	Demand	15.59	Fixed	15.59	1,741.42	117.61
J-295	1,480.00	Demand	16.49	Fixed	16.49	1,741.37	113.25
J-297	1,430.00	Demand	16.25	Fixed	16.25	1,741.06	134.78
J-301	1,710.00	Demand	36.75	Fixed	36.75	1,811.52	43.99
J-302	1,650.00	Demand	3.94	Fixed	3.94	1,807.65	68.31
J-303	1,560.00	Demand	25.21	Fixed	25.21	1,804.22	105.82
J-304	1,520.00	Demand	22.44	Fixed	22.44	1,799.45	121.08
J-305	1,540.00	Demand	2.36	Fixed	2.36	1,799.45	112.42
J-306	1,550.00	Demand	0.84	Fixed	0.84	1,799.45	108.08
J-307	1,490.00	Demand	3.55	Fixed	3.55	1,788.72	129.44
J-308	1,490.00	Demand	4.02	Fixed	4.02	1,772.92	122.59
J-309	1,520.00	Demand	8.95	Fixed	8.95	1,772.92	109.59
J-310	1,500.00	Demand	1.85	Fixed	1.85	1,772.92	118.26
J-311	1,490.00	Demand	9.82	Fixed	9.82	1,788.70	129.43
J-312	1,480.00	Demand	12.01	Fixed	12.01	1,770.47	125.86
J-313	1,540.00	Demand	19.15	Fixed	19.15	1,755.15	93.22
J-314	1,600.00	Demand	15.82	Fixed	15.82	1,755.09	67.20
J-316	1,540.00	Demand	4.96	Fixed	4.96	1,770.47	99.86
J-318	1,530.00	Demand	2.51	Fixed	2.51	1,752.04	96.21
J-319	1,525.00	Demand	13.15	Fixed	13.15	1,747.18	96.27
J-320	1,525.00	Demand	15.89	Fixed	15.89	1,744.10	94.94
J-321	1,510.00	Demand	4.24	Fixed	4.24	1,723.49	92.51
J-322	1,475.00	Demand	14.10	Fixed	14.10	1,726.97	109.16
J-323	1,550.00	Demand	6.29	Fixed	6.29	1,741.37	82.92
J-324	1,560.00	Demand	1.08	Fixed	1.08	1,740.54	69.56
J-325	1,675.00	Demand	7.50	Fixed	7.50	1,737.35	27.01
J-326	1,590.00	Demand	10.03	Fixed	10.03	1,730.62	60.93
J-328	1,510.00	Demand	6.62	Fixed	6.62	1,736.81	98.28
J-330	1,490.00	Demand	17.45	Fixed	17.45	1,741.75	109.08
J-332	1,490.00	Demand	5.61	Fixed	5.61	1,739.54	108.13
J-333	1,530.00	Demand	3.32	Fixed	3.32	1,738.61	90.39
J-336	1,490.00	Demand	13.22	Fixed	13.22	1,741.32	108.90
J-338	1,500.00	Demand	1.04	Fixed	1.04	1,724.67	97.35
J-340	1,490.00	Demand	12.81	Fixed	12.81	1,796.19	132.67
J-341	1,485.00	Demand	2.48	Fixed	2.48	1,795.51	134.54
J-342	1,490.00	Demand	7.34	Fixed	7.34	1,794.84	132.09
J-343	1,520.00	Demand	1.91	Fixed	1.91	1,795.78	119.49
J-344	1,555.00	Demand	6.98	Fixed	6.98	1,795.76	104.32
J-345	1,590.00	Demand	7.05	Fixed	7.05	1,795.66	89.11
J-346	1,555.00	Demand	7.24	Fixed	7.24	1,795.61	104.26
J-349	1,490.00	Demand	3.94	Fixed	3.94	1,793.37	131.45
J-350	1,510.00	Demand	0.80	Fixed	0.80	1,793.37	122.78
J-351	1,450.00	Demand	1.24	Fixed	1.24	1,793.99	149.05
J-352	1,390.00	Demand	15.98	Fixed	15.98	1,794.91	175.45
J-353	1,500.00	Demand	13.44	Fixed	13.44	1,795.20	127.91
J-354	1,550.00	Demand	0.57	Fixed	0.57	1,795.44	106.35
J-356	1,400.00	Demand	2.58	Fixed	2.58	1,795.20	171.24

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-360	1,550.00	Demand	45.07	Fixed	45.07	1,791.67	104.72
J-361	1,450.00	Demand	38.21	Fixed	38.21	1,789.92	147.29
J-362	1,425.00	Demand	7.12	Fixed	7.12	1,789.87	158.10
J-363	1,430.00	Demand	2.00	Fixed	2.00	1,789.74	155.88
J-364	1,450.00	Demand	5.76	Fixed	5.76	1,789.73	147.21
J-366	1,430.00	Demand	9.18	Fixed	9.18	1,788.69	155.42
J-367	1,410.00	Demand	4.33	Fixed	4.33	1,788.08	163.82
J-368	1,405.00	Demand	5.32	Fixed	5.32	1,787.81	165.87
J-370	1,415.00	Demand	3.40	Fixed	3.40	1,788.39	161.79
J-372	1,410.00	Demand	2.31	Fixed	2.31	1,788.45	163.98
J-373	1,420.00	Demand	2.87	Fixed	2.87	1,788.53	159.68
J-374	1,415.00	Demand	10.87	Fixed	10.87	1,788.66	161.91
J-375	1,410.00	Demand	4.76	Fixed	4.76	1,788.44	163.98
J-376	1,510.00	Demand	10.51	Fixed	10.51	1,789.27	121.01
J-377	1,660.00	Demand	31.32	Fixed	31.32	1,790.73	56.64
J-378	1,615.00	Demand	4.90	Fixed	4.90	1,790.95	76.24
J-402	1,515.00	Demand	19.98	Fixed	19.98	1,689.28	75.52
J-403	1,490.00	Demand	11.75	Fixed	11.75	1,707.22	94.12
J-404	1,495.00	Demand	4.52	Fixed	4.52	1,708.29	92.42
J-405	1,500.00	Demand	0.48	Fixed	0.48	1,709.80	90.91
J-406	1,500.00	Demand	1.79	Fixed	1.79	1,710.11	91.04
J-407	1,540.00	Demand	13.68	Fixed	13.68	1,710.58	73.91
J-408	1,483.00	Demand	5.38	Fixed	5.38	1,710.58	98.61
J-410	1,550.00	Demand	8.83	Fixed	8.83	1,700.79	65.34
J-411	1,470.00	Demand	6.50	Fixed	6.50	1,712.41	105.03
J-412	1,460.00	Demand	5.96	Fixed	5.96	1,712.63	109.46
J-414	1,470.00	Demand	16.23	Fixed	16.23	1,713.23	105.39
J-416	1,470.00	Demand	5.98	Fixed	5.98	1,714.66	106.01
J-417	1,475.00	Demand	3.50	Fixed	3.50	1,714.31	103.69
J-419	1,445.00	Demand	14.37	Fixed	14.37	1,716.52	117.65
J-420	1,460.00	Demand	1.60	Fixed	1.60	1,716.29	111.05
J-421	1,450.00	Demand	3.61	Fixed	3.61	1,716.53	115.49
J-422	1,440.00	Demand	7.47	Fixed	7.47	1,716.67	119.88
J-423	1,430.00	Demand	3.15	Fixed	3.15	1,718.15	124.86
J-424	1,430.00	Demand	17.14	Fixed	17.14	1,718.16	124.86
J-426	1,425.00	Demand	5.06	Fixed	5.06	1,720.34	127.97
J-427	1,420.00	Demand	6.96	Fixed	6.96	1,720.75	130.31
J-429	1,420.00	Demand	3.30	Fixed	3.30	1,721.59	130.68
J-430	1,420.00	Demand	4.97	Fixed	4.97	1,721.78	130.76
J-431	1,420.00	Demand	28.51	Fixed	28.51	1,726.08	132.62
J-432	1,415.00	Demand	12.86	Fixed	12.86	1,726.40	134.93
J-433	1,410.00	Demand	45.72	Fixed	45.72	1,727.01	137.36
J-434	1,420.00	Demand	23.18	Fixed	23.18	1,727.48	133.23
J-435	1,430.00	Demand	0.00	Fixed	0.00	1,720.04	125.68
J-436	1,430.00	Demand	2.73	Fixed	2.73	1,719.55	125.46
J-437	1,420.00	Demand	17.54	Fixed	17.54	1,730.43	134.51
J-438	1,460.00	Demand	0.00	Fixed	0.00	1,716.41	111.10
J-439	1,420.00	Demand	20.41	Fixed	20.41	1,725.68	132.45
J-440	1,425.00	Demand	14.35	Fixed	14.35	1,721.12	128.31
J-442	1,425.00	Demand	13.23	Fixed	13.23	1,720.72	128.14
J-444	1,430.00	Demand	12.66	Fixed	12.66	1,718.86	125.16
J-446	1,440.00	Demand	9.26	Fixed	9.26	1,716.82	119.86

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-449	1,455.00	Demand	1.65	Fixed	1.65	1,716.05	113.11
J-451	1,480.00	Demand	3.17	Fixed	3.17	1,715.64	102.10
J-452	1,470.00	Demand	12.02	Fixed	12.02	1,716.48	106.80
J-454	1,550.00	Demand	9.09	Fixed	9.09	1,717.40	72.53
J-455	1,520.00	Demand	0.00	Fixed	0.00	1,717.99	85.79
J-457	1,530.00	Demand	4.99	Fixed	4.99	1,721.83	83.12
J-458	1,510.00	Demand	3.64	Fixed	3.64	1,717.52	89.92
J-461	1,470.00	Demand	19.60	Fixed	19.60	1,717.50	107.24
J-462	1,470.00	Demand	4.72	Fixed	4.72	1,719.03	107.90
J-464	1,460.00	Demand	10.80	Fixed	10.80	1,716.75	111.25
J-466	1,450.00	Demand	7.13	Fixed	7.13	1,716.93	115.66
J-469	1,440.00	Demand	1.89	Fixed	1.89	1,720.39	121.49
J-470	1,440.00	Demand	11.64	Fixed	11.64	1,723.42	122.80
J-471	1,430.00	Demand	11.80	Fixed	11.80	1,723.26	127.07
J-472	1,430.00	Demand	35.06	Fixed	35.06	1,724.38	127.55
J-474	1,425.00	Demand	44.38	Fixed	44.38	1,725.67	130.28
J-476	1,425.00	Demand	18.69	Fixed	18.69	1,727.93	131.26
J-479	1,435.00	Demand	3.51	Fixed	3.51	1,717.23	122.29
J-480	1,435.00	Demand	1.55	Fixed	1.55	1,717.26	122.30
J-481	1,430.00	Demand	1.38	Fixed	1.38	1,718.15	124.86
J-482	1,435.00	Demand	16.56	Fixed	16.56	1,717.37	122.35
J-483	1,450.00	Demand	1.00	Fixed	1.00	1,716.60	115.52
J-485	1,460.00	Demand	1.16	Fixed	1.16	1,715.14	110.55
J-486	1,460.00	Demand	33.73	Fixed	33.73	1,715.14	110.55
J-490	1,440.00	Demand	2.94	Fixed	2.94	1,742.14	130.92
J-491	1,430.00	Demand	1.11	Fixed	1.11	1,727.48	128.90
J-492	1,440.00	Demand	0.00	Fixed	0.00	1,741.06	130.45
J-494	1,510.00	Demand	1.37	Fixed	1.37	1,739.11	99.27
J-495	1,380.00	Demand	0.00	Fixed	0.00	1,728.92	151.19
J-496	1,280.00	Demand	1.76	Fixed	1.76	1,720.72	190.96
J-497	1,270.00	Demand	2.34	Fixed	2.34	1,717.96	194.10
J-499	1,340.00	Demand	0.00	Fixed	0.00	1,687.70	150.66
J-500	1,335.00	Demand	1,500.00	Fixed	1,500.00	1,677.98	148.61
J-740	1,600.00	Demand	0.00	Fixed	0.00	2,146.20	236.67
J-742	1,800.00	Demand	21.44	Fixed	21.44	2,115.43	136.68
J-743	1,735.00	Demand	12.16	Fixed	12.16	2,115.42	164.84
J-744	1,885.00	Demand	42.09	Fixed	42.09	2,115.41	99.84
J-745	2,100.00	Demand	0.00	Fixed	0.00	2,115.50	6.72
J-1000	1,540.00	Demand	5.83	Fixed	5.83	1,791.58	109.01
J-1001	1,460.00	Demand	0.00	Fixed	0.00	1,789.08	142.59
J-1002	1,420.00	Demand	0.48	Fixed	0.48	1,788.07	159.49
J-1003	1,390.00	Demand	0.76	Fixed	0.76	1,787.82	172.38
J-1005	1,395.00	Demand	0.00	Fixed	0.00	1,788.98	169.85
J-1011	1,450.00	Demand	1.42	Fixed	1.42	1,788.45	146.65
J-1012	1,460.00	Demand	1.63	Fixed	1.63	1,788.94	142.53
J-1013	1,420.00	Demand	3.03	Fixed	3.03	1,788.66	159.74
J-1014	1,420.00	Demand	0.17	Fixed	0.17	1,731.57	135.00
J-1015	1,415.00	Demand	1.39	Fixed	1.39	1,732.25	137.46
J-1016	1,415.00	Demand	5.21	Fixed	5.21	1,732.16	137.42
J-1017	1,405.00	Demand	0.28	Fixed	0.28	1,738.03	144.30
J-1018	1,405.00	Demand	0.92	Fixed	0.92	1,738.06	144.32
J-1019	1,405.00	Demand	0.00	Fixed	0.00	1,738.04	144.30

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-1020	1,410.00	Demand	3.06	Fixed	3.06	1,734.64	140.67
J-1021	1,415.00	Demand	6.02	Fixed	6.02	1,733.20	137.88
J-1022	1,410.00	Demand	0.00	Fixed	0.00	1,734.19	140.47
J-1023	1,415.00	Demand	0.00	Fixed	0.00	1,733.65	138.07
J-1024	1,465.00	Demand	1.03	Fixed	1.03	1,717.35	109.34
J-1025	1,450.00	Demand	0.00	Fixed	0.00	1,716.44	115.45
J-1026	1,460.00	Demand	0.28	Fixed	0.28	1,716.48	111.13
J-1027	1,450.00	Demand	0.00	Fixed	0.00	1,716.57	115.50
J-1028	1,440.00	Demand	0.00	Fixed	0.00	1,716.52	119.82
J-1031	1,465.00	Demand	1.54	Fixed	1.54	1,713.03	107.47
J-1032	1,435.00	Demand	1.32	Fixed	1.32	1,719.12	123.11
J-1033	1,480.00	Demand	1.88	Fixed	1.88	1,781.98	130.85
J-1034	1,440.00	Demand	13.79	Fixed	13.79	1,716.88	119.97
J-1035	1,540.00	Demand	0.31	Fixed	0.31	1,781.98	104.85
J-1036	1,540.00	Demand	7.76	Fixed	7.76	1,772.92	100.93
J-1039	1,430.00	Demand	0.05	Fixed	0.05	1,720.45	125.85
J-1040	1,430.00	Demand	1.57	Fixed	1.57	1,721.09	126.13
J-1041	1,450.00	Demand	0.00	Fixed	0.00	1,715.99	115.25
J-1042	1,460.00	Demand	0.66	Fixed	0.66	1,715.65	110.77
J-1043	1,515.00	Demand	0.22	Fixed	0.22	1,718.62	88.23
J-1044	1,495.00	Demand	2.41	Fixed	2.41	1,724.19	99.31
J-1045	1,480.00	Demand	0.00	Fixed	0.00	1,724.67	106.02
J-1046	1,430.00	Demand	12.26	Fixed	12.26	1,720.80	126.01
J-1047	1,425.00	Demand	0.00	Fixed	0.00	1,755.08	143.02
J-1054	1,430.00	Demand	0.00	Fixed	0.00	1,752.15	139.59
J-1055	1,430.00	Demand	0.00	Fixed	0.00	1,746.72	137.23
J-1057	1,420.00	Demand	0.00	Fixed	0.00	1,743.60	140.22
J-1058	1,420.00	Demand	0.00	Fixed	0.00	1,743.60	140.21
J-1059	1,440.00	Demand	0.00	Fixed	0.00	1,742.14	130.92
J-1060	1,509.00	Demand	0.00	Fixed	0.00	1,738.62	99.50
J-1061	1,410.00	Demand	0.00	Fixed	0.00	1,724.76	136.39
J-1062	1,510.00	Demand	0.00	Fixed	0.00	1,739.12	99.28
J-1063	1,510.00	Demand	0.00	Fixed	0.00	1,739.12	99.28
J-1066	1,455.00	Demand	0.00	Fixed	0.00	1,760.63	132.43
J-1067	1,515.00	Demand	0.00	Fixed	0.00	1,760.63	106.43
J-1068	1,545.00	Demand	0.00	Fixed	0.00	1,761.86	93.97
J-1069	1,265.00	Demand	0.00	Fixed	0.00	1,674.48	177.43
J-1600	1,444.00	Demand	0.00	Fixed	0.00	1,742.18	129.20
J-1601	1,444.00	Demand	0.00	Fixed	0.00	1,742.11	129.17
J-1602	1,444.00	Demand	0.00	Fixed	0.00	1,742.09	129.16
J-1603	1,444.00	Demand	0.00	Fixed	0.00	1,742.09	129.16
J-1605	1,509.00	Demand	0.00	Fixed	0.00	1,739.10	99.70
J-1610	1,506.00	Demand	0.00	Fixed	0.00	1,739.12	101.01
J-1611	1,511.00	Demand	0.00	Fixed	0.00	1,739.52	99.02
J-1612	1,511.00	Demand	0.00	Fixed	0.00	1,738.78	98.70
J-1613	1,506.00	Demand	0.00	Fixed	0.00	1,738.97	100.95
J-1651	1,600.00	Demand	0.00	Fixed	0.00	1,721.22	52.53
J-1652	1,350.00	Demand	0.00	Fixed	0.00	1,721.78	161.09
J-1653	1,370.00	Demand	0.00	Fixed	0.00	1,722.18	152.60
J-9000	1,305.00	Demand	0.00	Fixed	0.00	1,692.54	167.92
J-9001	1,435.00	Demand	0.00	Fixed	0.00	1,683.34	107.60
J-9002	1,435.00	Demand	42.00	Fixed	42.00	1,674.88	103.94

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-9004	1,305.00	Demand	10.00	Fixed	10.00	1,674.79	160.23

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P112	J-111	J-115	4,200.00	6	Asbestos Cement	27.85	0.32	0.40	0.10	132.0
P116	J-115	J-116	6,200.00	6	Asbestos Cement	4.21	0.05	0.02	2.93e-3	132.0
P121	PRV-120	J-121	3,300.00	6	Asbestos Cement	0.00	0.00	0.00	0.00	132.0
P122	J-121	J-122	2,300.00	6	Asbestos Cement	-25.38	0.29	0.19	0.08	132.0
P123	J-121	J-123	3,200.00	6	Asbestos Cement	16.94	0.19	0.12	0.04	132.0
P124	R-125	J-122	1,300.00	6	Asbestos Cement	36.30	0.41	0.20	0.16	132.0
P126	J-126	J-127	2,000.00	6	Asbestos Cement	-14.71	0.17	0.06	0.03	132.0
P127	J-127	J-128	2,500.00	12	Asbestos Cement	-14.71	0.04	2.56e-3	1.03e-3	130.0
P131	J-134	J-131	2,900.00	6	Steel	7.61	0.09	0.03	0.01	130.0
P133	J-134	J-133	3,000.00	6	Asbestos Cement	2.31	0.03	2.81e-3	9.36e-4	132.0
P140A	J-143	PRV-140	3,740.00	8	Asbestos Cement	17.65	0.11	0.04	0.01	130.0
P141	J-141	J-143	1,500.00	12	Asbestos Cement	8.04	0.02	4.88e-4	3.26e-4	130.0
P142	J-134	J-141	3,900.00	8	Asbestos Cement	-11.47	0.07	0.02	4.66e-3	131.0
P145	J-141	J-115	3,200.00	6	Asbestos Cement	-21.74	0.25	0.19	0.06	132.0
P147	J-143	J-148	1,800.00	12	Ductile Iron	-11.93	0.03	1.22e-3	6.78e-4	132.0
P148	J-150	J-148	2,600.00	12	Asbestos Cement	22.66	0.06	0.01	2.25e-3	132.0
P150	J-150	J-151	1,400.00	8	Asbestos Cement	59.93	0.38	0.14	0.10	132.0
P151	J-151	J-152	2,000.00	6	Asbestos Cement	51.45	0.58	0.63	0.32	128.0
P152	J-152	J-154	2,200.00	6	Asbestos Cement	-85.63	0.97	1.69	0.77	132.0
P153	J-150	J-153	1,800.00	8	Asbestos Cement	-99.71	0.64	0.45	0.25	132.0
P154	J-153	J-154	1,800.00	8	Asbestos Cement	-101.68	0.65	0.47	0.26	132.0
P155	J-154	J-111	2,200.00	6	Asbestos Cement	35.27	0.40	0.33	0.15	132.0
P158	J-151	J-158	4,000.00	6	Asbestos Cement	0.57	0.01	3.66e-4	9.16e-5	132.0
P160	J-154	J-161	1,200.00	8	Ductile Iron	-222.87	1.42	1.33	1.11	132.0
P161	J-161	J-162	2,100.00	8	Asbestos Cement	-222.87	1.42	2.33	1.11	132.0
P162	J-162	J-163	2,400.00	8	Asbestos Cement	-224.37	1.43	2.70	1.13	132.0
P163	J-163	J-164	2,000.00	8	Asbestos Cement	-226.89	1.45	2.30	1.15	132.0
P164	J-164	J-165	2,800.00	8	Asbestos Cement	-228.24	1.46	3.25	1.16	132.0
P165	J-165	R-180	2,800.00	8	Asbestos Cement	-228.55	1.46	3.26	1.16	132.0
P167	J-164	J-168	2,100.00	6	Asbestos Cement	0.15	1.66e-3	0.00	0.00	132.0
P170	J-152	J-175	3,600.00	20	Steel	123.47	0.13	0.02	4.31e-3	132.0
P171	J-152	J-172	2,200.00	6	Asbestos Cement	11.18	0.13	0.04	0.02	128.0
P173	J-172	J-174	2,800.00	6	Asbestos Cement	2.19	0.02	2.56e-3	9.16e-4	128.0
P174	J-174	J-175	2,400.00	6	Asbestos Cement	-8.72	0.10	0.03	0.01	128.0
P175	J-175	J-176	2,900.00	12	Steel	-541.01	1.53	2.31	0.80	132.0
P177	J-177	J-178	1,100.00	12	Steel	-885.80	2.51	2.18	1.98	132.0
P179	J-178	R-180	4,100.00	24	Steel	-5,121.73	3.63	7.67	1.87	127.0
P180	J-181	R-180	3,030.00	18	Steel	-3.45	4.35e-3	0.00	0.00	127.0
P185	J-177	J-185	2,680.00	8	Asbestos Cement	11.31	0.07	0.01	4.46e-3	132.0
P186N	J-186	J-187	800.00	12	PVC	-17.25	0.05	9.77e-4	1.22e-3	135.0
P187	J-178	J-187	2,380.00	6	Asbestos Cement	34.26	0.39	0.36	0.15	127.0
P190	J-178	J-191	4,190.00	20	Steel	4,193.10	4.28	13.15	3.14	127.0
P192	J-191	J-192	3,930.00	20	Ductile Iron	3,739.71	3.82	9.98	2.54	127.0
P193	J-192	J-199	4,920.00	20	Steel	3,695.80	3.77	12.23	2.49	127.0
P194	J-191	J-194	4,180.00	10	Asbestos Cement	412.85	1.69	5.12	1.22	129.0
P195	J-194	J-195	3,000.00	10	Asbestos Cement	384.70	1.57	3.13	1.04	131.0
P196	J-195	J-196	1,420.00	6	Asbestos Cement	367.09	4.17	16.83	11.85	129.0
P198	J-197	J-199	1,620.00	8	PVC	-133.56	0.85	0.55	0.34	150.0
P199	J-199	J-209	1,920.00	18	Steel	3,545.91	4.47	7.38	3.85	127.0
P201	J-175	J-201	3,350.00	20	Steel	653.22	0.67	0.31	0.09	132.0
P202	J-201	J-202	3,480.00	20	Steel	653.22	0.67	0.33	0.09	132.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P204	J-203	J-204	3,470.00	10	Asbestos Cement	695.97	2.84	11.49	3.31	127.0
P206	J-204	J-206	4,260.00	10	Asbestos Cement	19.62	0.08	0.02	4.24e-3	131.0
P207	J-204	J-207	1,670.00	10	Asbestos Cement	665.53	2.72	5.09	3.05	127.0
P208	J-207	J-208	5,420.00	10	Asbestos Cement	649.59	2.65	15.80	2.91	127.0
P213	J-213	J-214	4,920.00	14	Steel	126.93	0.26	0.13	0.03	132.0
P216	J-215	J-216	2,050.00	6	Asbestos Cement	15.65	0.18	0.07	0.04	127.0
P217	J-215	J-217	1,500.00	14	Steel	96.47	0.20	0.02	0.02	127.0
P221	J-220	J-221	1,690.00	6	Asbestos Cement	171.74	1.95	4.78	2.83	131.0
P222	J-221	J-222	710.00	6	Asbestos Cement	115.80	1.31	0.98	1.38	130.0
P223	J-221	J-223	1,380.00	6	Asbestos Cement	52.38	0.59	0.43	0.31	132.0
P224	J-223	J-224	710.00	6	Asbestos Cement	50.64	0.57	0.21	0.29	132.0
P225	J-224	J-222	1,380.00	6	Asbestos Cement	46.83	0.53	0.35	0.25	132.0
P226	J-222	J-226	720.00	6	Asbestos Cement	158.64	1.80	1.78	2.48	130.0
P227	J-226	J-227	1,100.00	6	Asbestos Cement	-136.76	1.55	2.10	1.91	129.0
P228	J-220	J-227	1,570.00	8	Asbestos Cement	402.70	2.57	5.44	3.47	129.0
P229	J-226	J-230	1,070.00	6	Asbestos Cement	287.27	3.26	8.29	7.75	127.0
P230	J-230	J-231	4,000.00	16	Steel	-1,610.35	2.57	6.34	1.58	127.0
P231	J-231	J-208	1,680.00	16	Steel	-1,614.94	2.58	2.68	1.59	127.0
P237A	J-236	PRV-237	6,180.00	6	Ductile Iron	22.12	0.25	0.41	0.07	128.0
P242	J-241	J-242	1,860.00	6	Asbestos Cement	19.52	0.22	0.10	0.05	128.0
P243	J-241	J-244	6,700.00	10	Asbestos Cement	325.57	1.33	5.44	0.81	127.0
P244	J-244	J-245	2,100.00	10	Asbestos Cement	436.34	1.78	2.93	1.40	127.0
P245	J-245	J-246	1,400.00	8	Asbestos Cement	204.44	1.30	1.33	0.95	132.0
P246	J-246	J-247	830.00	6	Asbestos Cement	36.96	0.42	0.14	0.17	129.0
P247	J-247	J-248	1,160.00	6	Asbestos Cement	-48.61	0.55	0.32	0.28	130.0
P248	J-248	J-249	1,640.00	8	PVC	-109.80	0.70	0.49	0.30	133.0
P249	J-249	J-245	2,050.00	8	PVC	-114.95	0.73	0.66	0.32	133.0
P250	J-230	J-250	1,680.00	4	Asbestos Cement	42.41	1.08	3.05	1.62	127.0
P251	J-250	J-252	1,940.00	4	Asbestos Cement	31.64	0.81	1.83	0.94	127.0
P252	J-252	J-255	1,400.00	14	Steel	-168.06	0.35	0.06	0.05	127.0
P253	J-252	J-253	820.00	4	Asbestos Cement	-44.02	1.12	1.38	1.69	129.0
P254	J-253	J-248	810.00	6	Asbestos Cement	-55.02	0.62	0.28	0.35	130.0
P255	J-247	J-255	1,760.00	6	Asbestos Cement	79.94	0.91	1.28	0.73	127.0
P256	J-255	J-256	1,300.00	14	Steel	-93.16	0.19	0.02	0.02	127.0
P257	J-246	J-256	2,300.00	8	Asbestos Cement	159.75	1.02	1.40	0.61	131.0
P258	J-256	J-258	1,340.00	6	Asbestos Cement	10.97	0.12	0.02	0.02	131.0
P259	J-252	J-263	2,500.00	14	Steel	229.25	0.48	0.21	0.08	127.0
P260	J-230	J-260	1,330.00	16	Steel	1,845.61	2.95	2.71	2.04	127.0
P261	J-260	J-264	1,330.00	16	Steel	1,722.84	2.75	2.39	1.80	127.0
P262	J-260	J-262	650.00	6	Asbestos Cement	116.20	1.32	0.94	1.45	127.0
P263	J-262	J-263	1,330.00	6	Asbestos Cement	101.80	1.16	1.43	1.07	131.0
P264	J-263	J-264	650.00	14	Steel	116.01	0.24	0.02	0.02	127.0
P267	J-266	J-267	650.00	6	Asbestos Cement	21.12	0.24	0.04	0.06	127.0
P268	J-265	J-267	630.00	14	Steel	1,271.52	2.65	1.24	1.96	127.0
P270	J-227	J-270	2,480.00	6	Asbestos Cement	257.11	2.92	14.79	5.96	131.0
P271	J-270	J-271	1,330.00	6	Asbestos Cement	169.94	1.93	3.69	2.77	131.0
P272	J-271	J-265	1,090.00	6	Asbestos Cement	155.31	1.76	2.63	2.41	129.0
P273	J-270	J-264	1,090.00	6	Asbestos Cement	75.17	0.85	0.71	0.65	127.0
P276	J-275	J-277	1,500.00	14	Steel	1,564.97	3.26	4.32	2.88	127.0
P280	J-256	J-280	1,330.00	14	Steel	12.78	0.03	4.88e-4	3.67e-4	127.0
P281	J-280	J-284	1,330.00	14	Steel	-4.78	0.01	1.22e-4	9.18e-5	127.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P282	J-280	J-282	2,000.00	8	Asbestos Cement	8.43	0.05	0.01	2.62e-3	131.0
P283	J-282	J-283	1,330.00	6	Asbestos Cement	3.47	0.04	2.69e-3	2.02e-3	131.0
P284	J-283	J-284	2,000.00	6	Asbestos Cement	-4.99	0.06	0.01	4.03e-3	131.0
P286	J-285	J-287	2,640.00	10	Asbestos Cement	-165.87	0.68	0.62	0.23	127.0
P289	J-288	J-289	1,300.00	6	Asbestos Cement	103.23	1.17	1.52	1.17	127.0
P292	J-285	J-292	1,280.00	8	Asbestos Cement	7.33	0.08	0.01	0.01	127.0
P295	J-294	J-295	2,640.00	6	Asbestos Cement	12.17	0.14	0.05	0.02	131.0
P296	J-295	J-293	1,310.00	14	Steel	292.86	0.61	0.17	0.13	127.0
P297	J-293	J-297	3,560.00	6	Asbestos Cement	16.25	0.18	0.14	0.04	127.0
P299	J-490	J-494	3,300.00	14	Asbestos Cement	843.43	1.76	3.03	0.92	127.0
P300	R-300	J-301	1,460.00	20	Asbestos Cement	2,748.48	2.81	1.98	1.36	131.0
P301	J-301	J-302	2,920.00	20	Asbestos Cement	2,711.73	2.77	3.86	1.32	131.0
P302	J-302	J-303	2,600.00	20	Asbestos Cement	2,707.79	2.77	3.43	1.32	131.0
P303	J-303	J-304	3,680.00	20	Asbestos Cement	2,682.58	2.74	4.77	1.30	131.0
P305	J-304	J-305	1,350.00	8	Asbestos Cement	3.20	0.04	2.44e-3	1.81e-3	127.0
P306	J-305	J-306	1,690.00	6	Asbestos Cement	0.84	0.01	3.66e-4	2.17e-4	130.0
P307	J-304	J-307	2,650.00	14	Steel	1,881.08	3.92	10.73	4.05	127.0
P309	J-308	J-309	1,670.00	6	Asbestos Cement	2.45	0.03	1.95e-3	1.17e-3	127.0
P311	J-307	J-311	1,530.00	6	Asbestos Cement	9.62	0.11	0.02	0.01	129.0
P312	J-308	J-312	630.00	14	Steel	1,842.92	3.84	2.46	3.90	127.0
P313	J-312	J-313	4,000.00	14	Steel	1,825.95	3.81	15.32	3.83	127.0
P314	J-313	J-314	1,640.00	6	Asbestos Cement	15.82	0.18	0.06	0.04	127.0
P316	J-312	J-316	2,720.00	8	Asbestos Cement	4.96	0.03	2.81e-3	1.03e-3	127.0
P318	J-313	J-318	840.00	14	Steel	1,790.97	3.73	3.10	3.70	127.0
P319	J-316	J-319	1,320.00	14	Steel	1,788.46	3.73	4.87	3.69	127.0
P320	J-319	J-320	1,300.00	14	Steel	1,406.80	2.93	3.07	2.36	127.0
P322	J-320	J-322	2,650.00	6	Asbestos Cement	260.40	2.95	17.13	6.46	127.0
P323	J-320	J-323	1,320.00	8	Asbestos Cement	299.96	1.91	2.73	2.07	127.0
P324	J-323	J-324	1,200.00	8	Asbestos Cement	166.02	1.06	0.83	0.69	127.0
P325	J-324	J-325	1,150.00	6	Asbestos Cement	164.94	1.87	3.19	2.78	127.0
P326	J-325	J-326	2,640.00	6	Asbestos Cement	157.44	1.79	6.73	2.55	127.0
P328	J-326	J-328	2,420.00	10	Asbestos Cement	-614.81	2.51	6.19	2.56	129.0
P329	J-328	J-323	2,640.00	6	Asbestos Cement	-127.65	1.45	4.56	1.73	127.0
P330	J-328	J-330	1,320.00	8	Asbestos Cement	-416.50	2.66	4.94	3.74	128.0
P331	J-330	J-320	2,640.00	14	Steel	-830.55	1.73	2.35	0.89	127.0
P332	J-330	J-332	2,640.00	6	Asbestos Cement	86.22	0.98	2.21	0.84	127.0
P333	J-332	J-333	1,330.00	6	Asbestos Cement	80.61	0.91	0.93	0.70	131.0
P334	J-333	J-328	2,640.00	6	Asbestos Cement	77.29	0.88	1.80	0.68	127.0
P335	J-330	J-295	2,630.00	14	Steel	310.39	0.65	0.38	0.14	127.0
P336	J-295	J-336	2,000.00	6	Asbestos Cement	13.22	0.15	0.05	0.03	127.0
P340	J-304	J-340	4,140.00	14	Steel	775.86	1.62	3.26	0.79	127.0
P341	J-340	J-341	1,330.00	14	Steel	614.96	1.28	0.68	0.51	127.0
P342	J-341	J-342	1,330.00	14	Steel	612.48	1.28	0.68	0.51	127.0
P343	J-340	J-343	2,360.00	10	Asbestos Cement	148.09	0.60	0.42	0.18	132.0
P344	J-343	J-344	1,510.00	10	Asbestos Cement	32.15	0.13	0.02	0.01	131.0
P345	J-344	J-345	1,220.00	6	Asbestos Cement	25.17	0.29	0.10	0.08	131.0
P346	J-345	J-346	1,200.00	6	Asbestos Cement	18.12	0.21	0.05	0.05	129.0
P347	J-346	J-343	1,580.00	10	Asbestos Cement	-114.03	0.47	0.17	0.11	133.0
P348	J-346	J-342	3,980.00	6	Asbestos Cement	39.41	0.45	0.77	0.19	128.0
P349	J-342	J-349	2,630.00	14	Steel	644.56	1.34	1.47	0.56	127.0
P350	J-349	J-350	2,570.00	6	Asbestos Cement	0.80	0.01	3.66e-4	1.42e-4	130.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P351	J-349	J-351	1,900.00	6	Asbestos Cement	-51.69	0.59	0.62	0.32	127.0
P352	J-351	J-352	2,720.00	6	Asbestos Cement	-52.93	0.60	0.92	0.34	127.0
P353	J-352	J-353	2,250.00	8	Asbestos Cement	-68.90	0.44	0.29	0.13	131.0
P354	J-353	J-354	3,930.00	10	Asbestos Cement	-84.92	0.35	0.24	0.06	133.0
P355	J-354	J-346	2,650.00	10	Asbestos Cement	-85.49	0.35	0.17	0.06	133.0
P356	J-353	J-356	4,240.00	8	Asbestos Cement	2.58	0.02	1.22e-3	2.88e-4	131.0
P359	J-349	J-360	2,670.00	14	Steel	691.51	1.44	1.70	0.64	127.0
P360	J-360	J-361	4,000.00	14	Steel	564.77	1.18	1.75	0.44	127.0
P361	J-361	J-362	1,520.00	8	Asbestos Cement	14.89	0.17	0.05	0.03	127.0
P362	J-362	J-363	1,900.00	4	Steel	7.77	0.20	0.13	0.07	127.0
P363	J-363	J-364	1,240.00	6	Asbestos Cement	5.76	0.07	0.01	0.01	129.0
P365	J-374	J-366	960.00	10	Asbestos Cement	-51.72	0.21	0.03	0.03	130.0
P368	J-367	J-368	980.00	14	Steel	440.37	0.92	0.27	0.28	127.0
P369	J-368	J-217	4,170.00	14	Steel	497.50	1.04	1.44	0.35	127.0
P370	J-368	J-370	1,240.00	6	Asbestos Cement	-62.45	0.71	0.57	0.46	127.0
P371	J-370	J-374	960.00	6	Ductile Iron	-47.91	0.54	0.26	0.28	127.0
P372	J-370	J-372	1,320.00	6	Asbestos Cement	-17.94	0.20	0.06	0.05	127.0
P373	J-372	J-373	980.00	6	Asbestos Cement	-25.01	0.28	0.08	0.08	127.0
P374	J-373	J-374	1,320.00	6	Asbestos Cement	-27.86	0.32	0.13	0.10	129.0
P375	J-372	J-375	1,300.00	6	Asbestos Cement	4.76	0.05	0.01	3.94e-3	127.0
P376	J-374	J-376	3,860.00	6	Asbestos Cement	-34.94	0.40	0.61	0.16	127.0
P377	J-376	J-377	5,660.00	6	Asbestos Cement	-45.45	0.52	1.45	0.26	127.0
P378	J-377	J-378	1,340.00	8	Asbestos Cement	-76.78	0.49	0.22	0.17	127.0
P379	J-378	J-360	3,860.00	8	Asbestos Cement	-81.68	0.52	0.72	0.19	127.0
P401	J-420	J-438	50.00	8	Ductile Iron	-316.55	2.02	0.11	2.29	127.0
P403	J-402	J-403	1,370.00	10	Asbestos Cement	-1,463.43	5.98	17.94	13.09	127.0
P404	J-403	J-404	360.00	10	Asbestos Cement	-656.90	2.68	1.07	2.98	127.0
P405	J-404	J-405	790.00	10	Asbestos Cement	-516.56	2.11	1.51	1.91	127.0
P406	J-405	J-406	350.00	10	Asbestos Cement	-343.20	1.40	0.31	0.90	127.0
P407	J-406	J-407	800.00	8	Cast Iron	-113.22	0.72	0.47	0.58	95.0
P408	J-407	J-408	1,100.00	8	Cast Iron	5.38	0.03	2.32e-3	2.11e-3	95.0
P409	J-402	J-410	1,380.00	4	Cast Iron	-76.86	1.96	11.50	8.33	95.0
P410	J-410	J-411	1,140.00	4	Cast Iron	-85.69	2.19	11.62	10.19	95.0
P411	J-411	J-403	1,160.00	10	Asbestos Cement	818.28	3.34	5.18	4.47	127.0
P412	J-411	J-412	350.00	10	Cast Iron	-214.16	0.87	0.22	0.64	95.0
P413	J-412	J-404	1,160.00	6	Cast Iron	144.85	1.64	4.33	3.74	95.0
P415	J-414	J-405	1,120.00	6	Ductile Iron	173.84	1.97	3.43	3.06	127.0
P416	J-416	J-406	510.00	6	Cast Iron	231.77	2.63	4.55	8.92	95.0
P417	J-416	J-417	420.00	4	Ductile Iron	22.23	0.57	0.35	0.84	95.0
P418	J-417	J-407	1,160.00	6	Cast Iron	132.28	1.50	3.73	3.16	95.0
P419	J-486	J-419	600.00	6	Ductile Iron	-148.43	1.68	1.37	2.28	127.0
P420N	J-483	J-419	400.00	8	PVC	90.74	0.58	0.08	0.20	135.0
P421	J-420	J-421	600.00	6	Cast Iron	-43.16	0.49	0.24	0.40	95.0
P422	J-421	J-422	560.00	6	Cast Iron	-33.50	0.38	0.14	0.25	95.0
P423	J-479	J-423	600.00	6	Cast Iron	-89.20	1.01	0.91	1.52	95.0
P424	J-481	J-424	400.00	6	Cast Iron	-10.60	0.12	0.01	0.03	95.0
P425	J-424	J-482	600.00	6	Ductile Iron	110.17	1.25	0.79	1.32	127.0
P426	J-423	J-425	1,140.00	4	Asbestos Cement	-47.20	1.21	2.19	1.92	129.0
P427	J-426	J-427	600.00	4	Asbestos Cement	-26.53	0.68	0.41	0.68	127.0
P428	J-430	J-429	400.00	8	Asbestos Cement	141.21	0.90	0.19	0.47	133.0
P429	J-429	J-424	1,720.00	6	Asbestos Cement	137.91	1.56	3.43	1.99	127.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P430	J-430	J-431	1,200.00	8	Asbestos Cement	-403.39	2.57	4.29	3.58	127.0
P431	J-431	J-432	1,050.00	10	Asbestos Cement	-200.80	0.82	0.32	0.31	132.0
P432	J-432	J-433	600.00	8	Asbestos Cement	-213.66	1.36	0.61	1.01	133.0
P433	J-430	J-435	1,200.00	8	Asbestos Cement	257.21	1.64	1.74	1.45	132.0
P434	J-433	J-434	1,050.00	8	Asbestos Cement	-135.87	0.87	0.47	0.45	132.0
P435	J-434	J-431	570.00	8	Asbestos Cement	329.17	2.10	1.40	2.46	127.0
P436	J-431	J-439	370.00	6	Asbestos Cement	98.07	1.11	0.39	1.06	127.0
P437	J-434	J-437	580.00	8	Asbestos Cement	-488.22	3.12	2.95	5.09	127.0
P438	J-435	J-436	400.00	12	Steel	660.98	1.88	0.50	1.24	127.0
P440	J-439	J-440	1,150.00	4	Asbestos Cement	69.34	1.77	4.56	3.97	128.0
P441	J-440	J-427	360.00	4	Ductile Iron	33.50	0.86	0.37	1.03	128.0
P442	J-440	J-442	600.00	6	Cast Iron	56.68	0.64	0.40	0.66	95.0
P443	J-442	J-426	350.00	4	Cast Iron	25.73	0.66	0.39	1.10	95.0
P445	J-444	J-423	350.00	4	Cast Iron	35.93	0.92	0.71	2.04	95.0
P446	J-444	J-446	1,150.00	6	Ductile Iron	136.17	1.55	2.24	1.95	127.0
P447	J-422	J-446	350.00	8	Cast Iron	50.93	0.33	0.05	0.13	95.0
P448	J-446	J-449	600.00	6	Ductile Iron	69.07	0.78	0.57	0.95	95.0
P449N	J-421	J-449	400.00	8	PVC	236.70	1.51	0.48	1.19	135.0
P450	J-411	J-451	570.00	10	Cast Iron	-696.32	2.84	3.23	5.67	95.0
P451	J-420	J-416	600.00	8	Ductile Iron	259.98	1.66	1.63	2.72	95.0
P452	J-451	J-452	570.00	10	Cast Iron	-336.81	1.38	0.84	1.48	95.0
P454N	J-451	J-454	790.00	8	PVC	-331.85	2.12	1.76	2.23	135.0
P455N	J-454	J-455	370.00	8	PVC	-276.58	1.77	0.59	1.59	135.0
P458	J-457	J-458	370.00	6	Ductile Iron	268.06	3.04	4.32	11.67	95.0
P459	J-458	J-454	580.00	8	Cast Iron	64.36	0.41	0.12	0.21	95.0
P460	J-452	J-458	790.00	8	Cast Iron	-175.32	1.12	1.04	1.31	95.0
P461	J-458	J-461	580.00	8	Asbestos Cement	24.74	0.16	0.01	0.02	127.0
P462	J-461	J-462	370.00	4	Cast Iron	-52.53	1.34	1.53	4.12	95.0
P463	J-462	J-457	580.00	4	Cast Iron	-57.26	1.46	2.80	4.83	95.0
P465	J-464	J-452	580.00	10	Cast Iron	181.63	0.74	0.27	0.47	95.0
P466	J-464	J-466	580.00	10	Cast Iron	-144.80	0.59	0.18	0.31	95.0
P468	J-466	J-469	400.00	4	Asbestos Cement	-108.12	2.76	3.46	8.65	131.0
P469	J-469	J-470	600.00	6	Cast Iron	-170.24	1.93	3.02	5.04	95.0
P470	J-470	J-471	580.00	6	Cast Iron	35.33	0.40	0.16	0.27	95.0
P472	J-471	J-472	600.00	4	Cast Iron	-34.19	0.87	1.12	1.86	95.0
P473	J-472	J-440	1,500.00	4	Cast Iron	35.19	0.90	3.26	2.17	90.0
P474	J-472	J-474	1,130.00	6	Asbestos Cement	-104.44	1.19	1.29	1.14	130.0
P475	J-474	J-439	1,500.00	6	Asbestos Cement	-8.32	0.09	0.02	0.01	127.0
P476	J-474	J-476	1,160.00	6	Asbestos Cement	-140.51	1.59	2.26	1.95	131.0
P478	J-423	J-481	50.00	6	Ductile Iron	-9.21	0.10	7.32e-4	0.01	127.0
P479	J-479	J-422	600.00	6	Ductile Iron	91.91	1.04	0.56	0.94	127.0
P480	J-479	J-480	50.00	3	Ductile Iron	-6.22	0.41	0.02	0.46	127.0
P482	J-480	J-482	400.00	3	Ductile Iron	-7.77	0.35	0.11	0.29	127.0
P484N	J-421	J-483	50.00	8	PVC	-249.97	1.60	0.07	1.32	135.0
P486	J-485	J-486	400.00	4	Ductile Iron	-1.16	0.03	8.54e-4	2.14e-3	127.0
P487	J-486	J-417	600.00	6	Ductile Iron	113.55	1.29	0.84	1.39	127.0
P489	J-420	J-414	400.00	4	Ductile Iron	98.13	2.51	3.06	7.66	127.0
P495	J-449	J-414	600.00	6	Ductile Iron	224.54	2.55	2.82	4.71	130.0
P496	J-495	J-496	3,200.00	14	Asbestos Cement	1,504.10	3.13	8.20	2.56	130.0
P497	J-496	J-497	1,080.00	14	Asbestos Cement	1,502.34	3.13	2.76	2.56	130.0
P498	J-497	J-499	5,600.00	12	Ductile Iron	1,500.00	4.26	30.25	5.40	130.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P499	J-499	J-500	1,800.00	12	Ductile Iron	1,500.00	4.26	9.72	5.40	130.0
P741	J-740	J-745	2,760.00	8	Steel	762.23	4.87	30.70	11.12	130.0
P742	R-741	J-742	3,320.00	12	Steel	75.69	0.21	0.07	0.02	130.0
P743	J-742	J-743	920.00	8	Asbestos Cement	12.16	0.08	4.88e-3	0.01	130.0
P744	J-742	J-744	2,440.00	12	Steel	42.09	0.12	0.02	0.01	130.0
P745	J-745	R-741	1.00	99	Ductile Iron	762.23	0.03	0.00	0.00	130.0
P117A	J-116	PRV-117	7,080.00	6	Asbestos Cement	1.77	0.02	4.27e-3	6.03e-4	130.0
P400	R-400	J-402	2,760.00	10	Ductile Iron	-1,520.31	6.21	38.78	14.05	127.0
P740A	J-326	PMP-740	719.00	10	Steel	381.11	1.56	0.75	1.04	130.0
P740B	PMP-740	J-740	1.00	10	Steel	381.11	1.56	9.77e-4	0.98	130.0
P746A	J-326	PMP-746	719.00	10	Ductile Iron	381.11	1.56	0.75	1.04	130.0
P746B	PMP-746	J-740	1.00	10	Ductile Iron	381.11	1.56	9.77e-4	0.98	130.0
P117B	PRV-117	J-117	0.10	6	Asbestos Cement	1.77	0.02	0.00	0.00	130.0
P120A	J-117	PRV-120	5,690.00	6	Steel	0.01	5.98e-5	0.00	0.00	130.0
P128	J-128	J-140	1,800.00	12	Asbestos Cement	-17.22	0.05	2.56e-3	1.42e-3	130.0
P140B	J-140	PRV-140	0.10	8	Asbestos Cement	-17.65	0.11	0.00	0.00	130.0
P237B	PRV-237	J-237	0.10	6	Ductile Iron	22.12	0.25	0.00	0.00	128.0
P238	J-237	J-238	4,240.00	6	Steel	19.56	0.22	0.22	0.05	128.0
P211	J-202	J-212	2,760.00	14	Steel	126.94	0.26	0.07	0.03	132.0
P212	J-212	J-213	5,080.00	14	Steel	126.93	0.26	0.13	0.03	132.0
P294	J-294	J-287	2,620.00	6	Asbestos Cement	-27.76	0.31	0.26	0.10	129.0
P490	J-470	J-491	1,060.00	10	Asbestos Cement	-789.30	3.22	4.07	3.84	133.0
P240	J-241	J-209	3,120.00	10	Asbestos Cement	-352.02	1.44	2.93	0.94	127.0
P293	J-293	J-285	1,330.00	14	Steel	260.42	0.54	0.14	0.10	127.0
P218	J-217	J-220	3,440.00	8	Asbestos Cement	587.65	3.75	24.69	7.18	127.0
P176A	J-176	J-1000	816.00	12	Steel	-544.43	1.54	0.66	0.81	132.0
P176B	J-1000	J-177	2,984.00	12	Steel	-724.20	2.05	4.07	1.37	132.0
P1000	J-1000	J-1001	3,700.00	8	PVC	173.94	1.11	2.49	0.67	135.0
P1001	J-1001	J-1002	1,500.00	8	PVC	173.94	1.11	1.01	0.67	135.0
P1002	J-1002	J-1003	1,100.00	10	PVC	173.46	0.71	0.25	0.23	135.0
P1004	J-1003	J-203	2,600.00	10	PVC	172.70	0.71	0.58	0.22	135.0
P214A	J-214	J-1005	500.00	6	Ductile Iron	113.08	1.28	0.66	1.32	130.0
P214B	J-1005	J-215	440.00	6	Ductile Iron	113.08	1.28	0.58	1.32	130.0
P1652	J-1653	J-1652	2,760.00	24	Ductile Iron	1,371.81	0.97	0.40	0.15	135.0
P1651	J-1652	J-1651	11,250.00	30	Ductile Iron	1,371.81	0.62	0.55	0.05	135.0
P1650	J-1651	R-650	4,500.00	30	Ductile Iron	1,371.81	0.62	0.22	0.05	135.0
P1011	J-277	J-433	350.00	8	Asbestos Cement	123.51	0.79	0.13	0.36	135.0
P367B	J-366	J-1011	1,280.00	14	Steel	355.38	0.74	0.24	0.19	127.0
P367A	J-1011	J-367	1,300.00	14	Steel	444.70	0.93	0.37	0.28	127.0
P366A	J-366	J-1012	1,018.00	14	Steel	-416.27	0.87	0.25	0.25	127.0
P366B	J-1012	J-361	2,702.00	14	Steel	-511.68	1.07	0.98	0.36	127.0
P1016	J-1012	J-1013	1,298.00	8	PVC	93.77	0.60	0.28	0.21	135.0
P1017	J-1013	J-1011	1,045.00	8	PVC	90.74	0.58	0.21	0.20	135.0
P1018	J-275	J-437	400.00	8	Asbestos Cement	357.61	2.28	1.02	2.56	135.0
P477B	J-476	J-1014	1,400.00	6	Asbestos Cement	-159.20	1.81	3.64	2.60	127.0
P477A	J-1014	J-437	500.00	6	Asbestos Cement	148.15	1.68	1.14	2.28	127.0
P275A	J-267	J-1015	819.00	14	Steel	1,291.42	2.69	1.65	2.02	127.0
P275B	J-1015	J-275	511.00	14	Steel	1,123.57	2.34	0.80	1.56	127.0
P1021	J-1015	J-1016	450.00	10	PVC	166.46	0.68	0.09	0.21	135.0
P1022	J-1016	J-1014	900.00	10	PVC	307.52	1.26	0.59	0.65	135.0
P1023	J-1016	J-266	900.00	6	Asbestos Cement	-146.27	1.66	1.79	1.99	135.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P265A	J-264	J-1017	653.00	14	Steel	1,910.12	3.98	2.72	4.16	127.0
P265B	J-1017	J-265	677.00	14	Steel	1,936.31	4.04	2.89	4.27	127.0
P266A	J-263	J-1018	660.00	6	Asbestos Cement	206.57	2.34	2.70	4.09	129.0
P266B	J-1018	J-266	1,310.00	6	Asbestos Cement	179.18	2.03	4.12	3.14	129.0
P1026	J-1017	J-1019	331.00	8	PVC	-26.47	0.17	0.01	0.02	135.0
P1027	J-1019	J-1018	320.00	6	Asbestos Cement	-26.47	0.30	0.03	0.08	135.0
P1028	J-265	J-1020	650.00	14	PVC	816.02	1.70	0.50	0.77	135.0
P1029	J-1020	J-1021	856.00	10	PVC	512.06	2.09	1.43	1.68	135.0
P1030	J-1021	J-275	450.00	10	PVC	806.95	3.30	1.75	3.89	135.0
P1031	J-1020	J-1022	720.00	10	PVC	300.90	1.23	0.45	0.63	135.0
P1032	J-1022	J-1023	849.00	10	PVC	300.90	1.23	0.53	0.63	135.0
P1033	J-1023	J-1021	720.00	10	PVC	300.90	1.23	0.45	0.63	135.0
P464B	J-461	J-1024	383.00	6	Ductile Iron	57.67	0.65	0.15	0.40	127.0
P464A	J-1024	J-464	407.00	6	Ductile Iron	116.86	1.33	0.60	1.47	127.0
P1036	J-446	J-1025	330.00	8	Cast Iron	108.78	0.69	0.18	0.54	95.0
P453A	J-1025	J-1026	340.00	8	Cast Iron	-44.07	0.28	0.03	0.10	95.0
P453B	J-1026	J-452	340.00	8	Cast Iron	-8.11	0.05	1.46e-3	4.31e-3	95.0
P414B	J-412	J-1031	770.00	10	Cast Iron	-190.58	0.78	0.40	0.52	95.0
P414A	J-1031	J-414	770.00	10	Cast Iron	-132.60	0.54	0.20	0.26	95.0
P467B	J-466	J-1032	743.00	4	Cast Iron	-43.81	1.12	2.19	2.95	95.0
P467A	J-1032	J-444	377.00	4	Cast Iron	19.98	0.51	0.26	0.69	95.0
P1041	J-464	J-1027	379.00	6	Asbestos Cement	69.23	0.79	0.19	0.50	135.0
P1042	J-1027	J-1028	376.00	6	Asbestos Cement	33.00	0.37	0.05	0.13	135.0
P1043	J-1028	J-1025	583.00	6	Asbestos Cement	33.00	0.37	0.07	0.13	135.0
P1044	J-1027	J-1026	576.00	6	Asbestos Cement	36.24	0.41	0.09	0.15	135.0
P1050	J-482	J-1034	592.00	6	Ductile Iron	85.85	0.97	0.49	0.83	127.0
P1051	J-1034	J-419	608.00	6	Ductile Iron	72.06	0.82	0.36	0.60	127.0
P308A	J-307	J-1033	1,687.00	14	Steel	1,867.71	3.89	6.74	3.99	127.0
P308B	J-1033	J-308	2,273.00	14	Steel	1,865.51	3.89	9.06	3.99	127.0
P1046	J-1033	J-1035	1,400.00	8	Asbestos Cement	0.31	1.96e-3	0.00	0.00	135.0
P1047	J-308	J-309	1,670.00	12	PVC	16.13	0.05	1.95e-3	1.17e-3	135.0
P310A	J-309	J-1036	550.00	6	Asbestos Cement	1.31	0.01	2.44e-4	4.44e-4	132.0
P310B	J-1036	J-310	1,770.00	6	Asbestos Cement	1.85	0.02	1.1e-3	6.21e-4	132.0
P1049	J-309	J-1036	550.00	12	PVC	8.31	0.02	2.44e-4	4.44e-4	135.0
P444A	J-442	J-1039	577.00	6	Asbestos Cement	63.19	0.72	0.27	0.47	127.0
P444B	J-1039	J-444	573.00	6	Asbestos Cement	164.78	1.87	1.59	2.77	127.0
P1056	J-1039	J-1040	392.00	10	PVC	-505.42	2.06	0.64	1.64	135.0
P1057	J-1040	J-470	1,129.00	10	PVC	-572.09	2.34	2.32	2.06	135.0
P1058	J-1040	J-1032	574.00	4	Asbestos Cement	65.11	1.66	1.97	3.43	130.0
P1059	J-1039	J-435	380.00	10	PVC	403.77	1.65	0.41	1.08	135.0
P439A	J-436	J-483	2,400.00	12	Ductile Iron	658.26	1.87	2.95	1.23	127.0
P439B	J-483	J-438	600.00	12	Ductile Iron	316.55	0.90	0.19	0.32	127.0
P1035	J-469	J-1024	573.00	4	Cast Iron	60.23	1.54	3.04	5.31	95.0
P1060	J-449	J-1041	385.00	8	PVC	79.57	0.51	0.06	0.16	135.0
P1061	J-1041	J-1031	571.00	4	Cast Iron	59.52	1.52	2.97	5.19	95.0
P1062	J-1041	J-1025	593.00	8	PVC	-185.84	1.19	0.45	0.76	135.0
P1063	J-1041	J-1042	374.00	8	PVC	205.90	1.31	0.34	0.92	135.0
P1064	J-1042	J-451	391.00	8	PVC	30.83	0.20	0.01	0.03	135.0
P1065	J-1042	J-412	573.00	6	Cast Iron	174.40	1.98	3.02	5.27	95.0
P1066	J-455	J-1043	400.00	8	PVC	-276.58	1.77	0.64	1.59	135.0
P1067	J-319	J-1044	1,871.00	6	Asbestos Cement	368.50	4.18	22.99	12.29	127.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P1068	J-1044	J-321	779.00	6	Asbestos Cement	89.30	1.01	0.70	0.89	127.0
P1069	J-1043	J-1044	780.00	6	Asbestos Cement	-276.80	3.14	5.56	7.13	128.0
P337A	J-322	J-1045	400.00	6	Asbestos Cement	246.30	2.79	2.30	5.75	128.0
P337B	J-1045	J-338	1,660.00	6	Asbestos Cement	1.04	0.01	3.66e-4	2.21e-4	128.0
P1070	J-457	J-321	750.00	8	PVC	-330.31	2.11	1.66	2.21	135.0
P1071	J-321	J-1045	930.00	8	PVC	-245.26	1.57	1.18	1.27	135.0
P471A	J-471	J-1046	500.00	4	Cast Iron	57.73	1.47	2.45	4.91	95.0
P471N	J-1046	J-442	1,000.00	8	PVC	45.46	0.29	0.08	0.08	112.0
P209A	J-208	J-1047	630.00	16	Steel	-965.35	1.22	0.22	0.35	127.0
P209B	J-1047	J-209	0.01	16	Steel	-3,181.94	4.01	0.00	0.00	127.0
P287	J-287	J-1603	1,240.00	10	Asbestos Cement	-201.97	0.83	0.42	0.34	127.0
P1624	J-1603	J-288	90.00	10	Asbestos Cement	-196.27	0.80	0.03	0.32	127.0
P1602	J-1601	J-1602	25.00	12	Ductile Iron	587.05	1.67	0.02	0.89	135.0
P1620	J-1600	J-490	40.00	14	Asbestos Cement	858.53	1.79	0.04	0.91	130.0
P1610	J-290	J-1610	40.00	14	Asbestos Cement	3.81e-3	7.94e-6	0.00	0.00	127.0
P1611	J-1610	J-1611	25.00	12	Ductile Iron	-2,776.40	7.88	0.39	15.74	135.0
P1612A	J-1611	PMP-612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P1612B	PMP-612	J-1612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P1615	J-1612	J-1613	25.00	14	Ductile Iron	-2,776.40	5.79	0.19	7.43	135.0
P493	R-493	J-1613	2,275.00	14	Asbestos Cement	0.00	0.00	0.00	0.00	132.0
P1622	J-494	J-1605	5.00	14	Asbestos Cement	1,396.88	2.91	0.01	2.32	127.0
P1613A	J-1611	PMP-613	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P1613B	PMP-613	J-1612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P285A	J-284	J-492	1,329.00	14	Steel	-39.88	0.08	4.27e-3	3.21e-3	127.0
P285B	J-492	J-285	1.00	14	Steel	-384.36	0.80	2.44e-4	0.24	127.0
P491	J-492	J-491	3,460.00	10	Asbestos Cement	790.40	3.23	13.58	3.90	132.0
P492	J-1601	J-492	3,900.00	14	Asbestos Cement	445.92	0.93	1.05	0.27	130.0
P1076	J-1047	J-1054	3,395.00	20	Ductile Iron	2,216.59	2.26	2.93	0.86	135.0
P1078	J-1054	J-1055	6,437.00	20	Ductile Iron	2,191.89	2.24	5.44	0.84	135.0
P1080	J-241	J-1054	40.00	10	Ductile Iron	-24.70	0.10	2.44e-4	0.01	135.0
P1081	J-1055	J-244	40.00	10	Ductile Iron	121.58	0.50	4.76e-3	0.12	135.0
P1082	J-1055	J-1057	4,097.00	20	Ductile Iron	2,070.31	2.11	3.11	0.76	135.0
P1083	J-1057	J-1600	2,221.00	20	Ductile Iron	1,891.50	1.93	1.43	0.64	135.0
P288A	J-245	J-1058	1,700.00	10	Asbestos Cement	110.42	0.45	0.19	0.11	127.0
P1085	J-1057	J-1058	40.00	10	Ductile Iron	178.81	0.73	0.01	0.24	135.0
P1086	J-1058	J-1059	2,230.00	10	Asbestos Cement	289.23	1.18	1.45	0.65	127.0
P1087	J-1059	J-288	30.00	10	Asbestos Cement	301.39	1.23	0.02	0.70	127.0
P1088	J-490	J-1059	25.00	10	Asbestos Cement	12.15	0.05	1.22e-4	4.88e-3	127.0
P1089	J-1601	J-1600	50.00	14	Asbestos Cement	-1,032.97	2.15	0.06	1.28	130.0
P1090	J-1602	J-1603	10.00	12	Ductile Iron	5.69	0.02	0.00	0.00	135.0
P1091	J-1605	J-1060	214.00	14	Asbestos Cement	1,396.88	2.91	0.48	2.24	130.0
P1092	J-1060	J-495	3,786.00	14	Asbestos Cement	1,504.10	3.13	9.70	2.56	130.0
P1094	J-367	J-1061	0.10	14	Steel	0.00	0.00	0.00	0.00	127.0
P278	J-1061	J-277	1,050.00	14	Steel	-1,371.81	2.86	2.37	2.26	127.0
P1653	J-1653	J-1061	17,700.00	24	Ductile Iron	-1,371.81	0.97	2.58	0.15	135.0
P1604	J-1602	J-1062	3,400.00	12	Ductile Iron	581.36	1.65	2.97	0.87	135.0
P1095	J-289	J-1063	2,000.00	6	Asbestos Cement	80.68	0.92	1.48	0.74	127.0
P1096	J-1063	J-1060	400.00	6	Asbestos Cement	107.22	1.22	0.50	1.25	127.0
P1097	J-290	J-1063	20.00	6	Asbestos Cement	26.54	0.30	1.95e-3	0.10	127.0
P1098	J-290	J-1062	10.00	14	Asbestos Cement	-26.55	0.06	0.00	0.00	127.0
P1099	J-1062	J-494	30.00	14	Asbestos Cement	554.81	1.16	0.01	0.42	127.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P1102	J-1613	J-1610	20.00	14	Asbestos Cement	-2,776.40	5.79	0.15	7.75	132.0
P203	J-202	J-203	2,050.00	14	Steel	526.28	1.10	0.73	0.36	132.0
P315A	J-313	PSV-400	795.00	16	Ductile Iron	5.59e-4	8.93e-7	0.00	0.00	127.0
P315B	PSV-400	R-400	5.00	16	Ductile Iron	-1.27e-3	2.02e-6	0.00	0.00	127.0
P1605A	J-1605	PSV-493	2,345.00	6	Ductile Iron	0.00	0.00	0.00	0.00	130.0
P1605B	PSV-493	R-493	5.00	6	Ductile Iron	-1.77e-3	2.0e-5	0.00	0.00	130.0
P125B	R-125	PSV-125	5.00	6	Ductile Iron	-1.51e-3	1.72e-5	0.00	0.00	130.0
P125A	PSV-125	J-126	2,995.00	6	Ductile Iron	-1.52e-3	1.72e-5	0.00	0.00	130.0
P1	J-196	J-9000	4,580.00	6	Steel	408.30	4.63	67.06	14.64	128.0
P1110	J-197	J-1066	1,650.00	6	Asbestos Cement	82.74	0.94	1.28	0.78	127.0
P1111	J-1066	J-196	1,340.00	6	Asbestos Cement	82.75	0.94	1.04	0.78	127.0
P1112	J-1066	J-1067	650.00	6	Asbestos Cement	0.00	0.00	0.00	0.00	127.0
P1113	J-197	J-1068	1,629.00	6	Asbestos Cement	14.75	0.17	0.05	0.03	127.0
P1114	J-1068	J-233	1,131.00	6	Asbestos Cement	14.75	0.17	0.04	0.03	127.0
P9000	J-9000	J-9001	3,421.00	8	PVC	408.30	2.61	9.20	2.69	150.0
P9001	J-9001	T-1	3,100.00	8	PVC	408.30	2.61	8.34	2.69	150.0
P1118	J-1069	J-236	1,020.00	6	Steel	23.39	0.27	0.08	0.07	128.0
P1116	J-9000	J-9004	30.00	6	Steel	0.00	0.00	0.00	0.00	128.0
P1117	J-9004	J-1069	4,170.00	6	Steel	23.39	0.27	0.31	0.07	128.0
P9002	T-1	J-9002	3,100.00	10	PVC	75.39	0.31	0.12	0.04	150.0
P9004	J-9002	J-9004	3,421.00	8	PVC	33.39	0.21	0.09	0.03	150.0

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Calculated Hydraulic Grade (ft)
R-180	1,805.50	Bargar-Woodson Zone	-5,353.73	1,805.50
R-125	1,147.00	Snow	-36.30	1,147.00
R-741	2,115.50	I.D. No. 5	686.54	2,115.50
R-400	1,650.50	Santa Maria 1666 Zone	1,520.31	1,650.50
R-300	1,813.50	Bargar-Woodson Zone	-2,748.48	1,813.50
R-650	1,721.00	Santa Maria 1666 Zone	1,371.81	1,721.00
R-493	1,655.50	Santa Maria 1666 Zone	-1.39e-3	1,655.50

Scenario: Average Daily
Extended Period Analysis: 0.0 hr / 24.0 hr
Valve Report

Label	Elevation (ft)	Diameter (in)	Discharge (gpm)	Initial Pressure (psi)	Control Status	From HGL (ft)	To HGL (ft)	Headloss (ft)
PRV-117	1,200.00	6	1.77	20.00	Throttling	1,789.56	1,246.16	543.41
PRV-140	1,300.00	8	17.65	80.23	Throttling	1,789.35	1,485.16	304.19
PRV-237	1,255.00	6	22.12	160.00	Throttling	1,673.99	1,670.42	3.58
PRV-120	880.00	6	1.38e-3	124.03	Inactive	1,246.16	1,246.16	0.00
PSV-400	1,635.00	6	0.00	55.00	Closed	1,755.15	1,650.50	0.00
PSV-493	1,644.00	6	0.00	48.14	Closed	1,739.10	1,655.50	0.00
PSV-125	1,140.00	6	0.00	105.00	Closed	1,485.10	1,147.00	0.00

APPENDIX E

Scenario #8 Summary Report: Maximum Daily Demand

Scenario Summary Report
Scenario: Max Day

Scenario Summary	
Physical Alternative	Existing
Demand Alternative	Existing - Max Day - B-W PF=2.3
Initial Settings Alternative	Bargar On - West End On
Operational Alternative	Base-Operational
Age Alternative	Base-Age Alternative
Constituent Alternative	Base-Constituent
Trace Alternative	Base-Trace Alternative
Fire Flow Alternative	Fire Flow - 20 psi min zone pressure
Cost Alternative	Base-Cost
User Data Alternative	Base-User Data

Hydraulic Analysis Summary			
Analysis	Extended Period	Start Time	0.00 hr
Friction Method	Hazen-Williams Formula	Hydraulic Time Step	1.00 hr
Accuracy	0.001000	Duration	24.00 hr
Trials	40		

Quality Analysis Summary			
Analysis	Constituent	Maximum Pipe Segments	100
Quality Time Step	N/A hr	Minimum Pipe Travel Time	0.10 hr

Calibration			
Demand Operation	<None>	Roughness Operation	<None>
Demand	0.00	Roughness	0.00

Created: 03/15/00 10:38:24 AM

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-111	1,400.00	Demand	22.27	Fixed	22.27	1,771.28	160.88
J-115	1,640.00	Demand	5.69	Fixed	5.69	1,770.27	56.44
J-116	1,617.00	Demand	7.32	Fixed	7.32	1,770.13	66.35
J-117	1,200.00	Demand	5.30	Fixed	5.30	1,246.16	20.00
J-121	830.00	Demand	25.34	Fixed	25.34	1,144.02	136.06
J-122	980.00	Demand	32.75	Fixed	32.75	1,145.44	71.69
J-123	740.00	Demand	50.81	Fixed	50.81	1,143.08	174.65
J-126	1,190.00	Demand	44.11	Fixed	44.11	1,484.67	127.68
J-127	1,200.00	Demand	0.00	Fixed	0.00	1,485.12	123.54
J-128	1,200.00	Demand	7.56	Fixed	7.56	1,485.14	123.55
J-131	1,300.00	Demand	22.82	Fixed	22.82	1,769.63	203.49
J-133	1,600.00	Demand	6.94	Fixed	6.94	1,769.80	73.58
J-134	1,600.00	Demand	4.66	Fixed	4.66	1,769.83	73.59
J-140	1,300.00	Demand	1.28	Fixed	1.28	1,485.16	80.23
J-141	1,373.00	Demand	6.68	Fixed	6.68	1,769.96	172.00
J-143	1,300.00	Demand	6.94	Fixed	6.94	1,769.97	203.64
J-148	1,380.00	Demand	32.19	Fixed	32.19	1,770.00	168.99
J-150	1,500.00	Demand	51.37	Fixed	51.37	1,770.10	117.04
J-151	1,550.00	Demand	23.73	Fixed	23.73	1,770.10	95.37
J-152	1,590.00	Demand	7.28	Fixed	7.28	1,770.22	78.09
J-153	1,520.00	Demand	5.92	Fixed	5.92	1,771.21	108.85
J-154	1,450.00	Demand	0.86	Fixed	0.86	1,772.39	139.69
J-158	1,580.00	Demand	1.70	Fixed	1.70	1,770.10	82.37
J-161	1,650.00	Demand	0.00	Fixed	0.00	1,775.23	54.26
J-162	1,600.00	Demand	4.49	Fixed	4.49	1,780.19	78.07
J-163	1,700.00	Demand	7.56	Fixed	7.56	1,786.00	37.26
J-164	1,650.00	Demand	3.62	Fixed	3.62	1,791.04	61.11
J-165	1,700.00	Demand	0.93	Fixed	0.93	1,798.25	42.57
J-168	1,450.00	Demand	0.44	Fixed	0.44	1,791.04	147.77
J-172	1,590.00	Demand	26.98	Fixed	26.98	1,769.95	77.97
J-174	1,540.00	Demand	32.74	Fixed	32.74	1,769.95	99.64
J-175	1,440.00	Demand	7.61	Fixed	7.61	1,770.22	143.08
J-176	1,450.00	Demand	10.26	Fixed	10.26	1,775.30	140.95
J-177	1,640.00	Demand	450.86	Fixed	450.86	1,785.66	63.11
J-178	1,660.00	Demand	25.72	Fixed	25.72	1,792.09	57.24
J-181	1,640.00	Demand	10.34	Fixed	10.34	1,805.50	71.71
J-185	1,670.00	Demand	33.94	Fixed	33.94	1,785.57	50.08
J-186	1,720.00	Demand	51.76	Fixed	51.76	1,789.33	30.04
J-187	1,690.00	Demand	51.01	Fixed	51.01	1,789.34	43.04
J-191	1,550.00	Demand	121.62	Fixed	121.62	1,772.45	96.39
J-192	1,480.00	Demand	131.73	Fixed	131.73	1,758.17	120.53
J-194	1,500.00	Demand	84.46	Fixed	84.46	1,763.78	114.29
J-195	1,455.00	Demand	52.81	Fixed	52.81	1,759.34	131.87
J-196	1,470.00	Demand	124.62	Fixed	124.62	1,738.52	116.35
J-197	1,435.00	Demand	108.18	Fixed	108.18	1,739.91	132.12
J-199	1,430.00	Demand	49.00	Fixed	49.00	1,741.24	134.86
J-201	1,370.00	Demand	0.00	Fixed	0.00	1,769.72	173.20
J-202	1,350.00	Demand	0.00	Fixed	0.00	1,769.21	181.65
J-203	1,370.00	Demand	9.04	Fixed	9.04	1,768.37	172.62
J-204	1,390.00	Demand	32.47	Fixed	32.47	1,753.41	157.46
J-206	1,500.00	Demand	58.85	Fixed	58.85	1,753.27	109.74
J-207	1,405.00	Demand	47.81	Fixed	47.81	1,747.65	148.47

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-208	1,420.00	Demand	0.00	Fixed	0.00	1,731.21	134.85
J-209	1,425.00	Demand	35.87	Fixed	35.87	1,731.39	132.76
J-212	1,370.00	Demand	0.03	Fixed	0.03	1,768.94	172.66
J-213	1,400.00	Demand	0.00	Fixed	0.00	1,768.43	159.64
J-214	1,395.00	Demand	41.55	Fixed	41.55	1,767.94	161.59
J-215	1,395.00	Demand	2.89	Fixed	2.89	1,763.57	159.70
J-216	1,420.00	Demand	46.94	Fixed	46.94	1,763.01	148.63
J-217	1,405.00	Demand	18.97	Fixed	18.97	1,763.50	155.34
J-220	1,370.00	Demand	39.61	Fixed	39.61	1,736.91	156.98
J-221	1,385.00	Demand	10.69	Fixed	10.69	1,731.83	150.28
J-222	1,390.00	Demand	11.96	Fixed	11.96	1,730.91	147.72
J-223	1,375.00	Demand	5.24	Fixed	5.24	1,731.36	154.41
J-224	1,375.00	Demand	11.42	Fixed	11.42	1,731.16	154.32
J-226	1,395.00	Demand	24.39	Fixed	24.39	1,729.53	144.95
J-227	1,390.00	Demand	26.49	Fixed	26.49	1,731.66	148.05
J-230	1,390.00	Demand	28.79	Fixed	28.79	1,723.01	144.29
J-231	1,420.00	Demand	13.78	Fixed	13.78	1,728.75	133.78
J-233	1,600.00	Demand	44.26	Fixed	44.26	1,739.23	60.33
J-236	1,255.00	Demand	3.81	Fixed	3.81	1,670.80	180.17
J-237	1,255.00	Demand	7.68	Fixed	7.68	1,667.66	178.81
J-238	1,200.00	Demand	58.67	Fixed	58.67	1,665.94	201.89
J-241	1,430.00	Demand	94.87	Fixed	94.87	1,726.92	128.65
J-242	1,525.00	Demand	58.57	Fixed	58.57	1,726.17	87.17
J-244	1,430.00	Demand	32.44	Fixed	32.44	1,719.04	125.24
J-245	1,425.00	Demand	19.58	Fixed	19.58	1,715.46	125.86
J-246	1,475.00	Demand	23.18	Fixed	23.18	1,714.92	103.96
J-247	1,435.00	Demand	16.89	Fixed	16.89	1,714.98	121.31
J-248	1,430.00	Demand	18.55	Fixed	18.55	1,715.13	123.55
J-249	1,430.00	Demand	15.44	Fixed	15.44	1,715.24	123.59
J-250	1,395.00	Demand	32.32	Fixed	32.32	1,717.40	139.70
J-252	1,395.00	Demand	43.43	Fixed	43.43	1,716.07	139.12
J-253	1,405.00	Demand	32.98	Fixed	32.98	1,715.13	134.38
J-255	1,430.00	Demand	15.12	Fixed	15.12	1,714.99	123.46
J-256	1,430.00	Demand	128.49	Fixed	128.49	1,714.04	123.07
J-258	1,410.00	Demand	32.92	Fixed	32.92	1,713.86	131.66
J-260	1,395.00	Demand	19.70	Fixed	19.70	1,720.70	141.13
J-262	1,395.00	Demand	43.20	Fixed	43.20	1,719.44	140.58
J-263	1,405.00	Demand	25.40	Fixed	25.40	1,718.24	135.73
J-264	1,400.00	Demand	11.73	Fixed	11.73	1,718.77	138.12
J-265	1,410.00	Demand	12.23	Fixed	12.23	1,717.66	133.31
J-266	1,410.00	Demand	35.38	Fixed	35.38	1,717.32	133.16
J-267	1,410.00	Demand	3.65	Fixed	3.65	1,717.41	133.20
J-270	1,410.00	Demand	36.00	Fixed	36.00	1,719.70	134.19
J-271	1,410.00	Demand	43.89	Fixed	43.89	1,718.15	133.52
J-275	1,420.00	Demand	23.80	Fixed	23.80	1,717.11	128.74
J-277	1,405.00	Demand	208.96	Fixed	208.96	1,717.12	135.24
J-280	1,430.00	Demand	27.39	Fixed	27.39	1,713.15	122.69
J-282	1,540.00	Demand	14.88	Fixed	14.88	1,712.94	74.93
J-283	1,470.00	Demand	25.40	Fixed	25.40	1,712.59	105.11
J-284	1,430.00	Demand	90.31	Fixed	90.31	1,712.46	122.39
J-285	1,440.00	Demand	103.82	Fixed	103.82	1,711.91	117.82
J-287	1,450.00	Demand	25.01	Fixed	25.01	1,711.94	113.50

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-288	1,440.00	Demand	5.67	Fixed	5.67	1,712.02	117.87
J-289	1,450.00	Demand	67.64	Fixed	67.64	1,707.36	111.52
J-290	1,510.00	Demand	0.00	Fixed	0.00	1,704.20	84.15
J-292	1,435.00	Demand	21.98	Fixed	21.98	1,711.82	119.95
J-293	1,450.00	Demand	48.56	Fixed	48.56	1,711.98	113.51
J-294	1,470.00	Demand	46.76	Fixed	46.76	1,711.84	104.79
J-295	1,480.00	Demand	49.46	Fixed	49.46	1,712.13	100.58
J-297	1,430.00	Demand	48.76	Fixed	48.76	1,710.94	121.73
J-301	1,710.00	Demand	110.25	Fixed	110.25	1,809.85	43.27
J-302	1,650.00	Demand	11.83	Fixed	11.83	1,802.94	66.27
J-303	1,560.00	Demand	75.63	Fixed	75.63	1,796.82	102.61
J-304	1,520.00	Demand	67.31	Fixed	67.31	1,788.48	116.33
J-305	1,540.00	Demand	7.08	Fixed	7.08	1,788.46	107.66
J-306	1,550.00	Demand	2.52	Fixed	2.52	1,788.46	103.32
J-307	1,490.00	Demand	10.66	Fixed	10.66	1,773.46	122.82
J-308	1,490.00	Demand	12.07	Fixed	12.07	1,751.81	113.44
J-309	1,520.00	Demand	26.86	Fixed	26.86	1,751.80	100.44
J-310	1,500.00	Demand	5.56	Fixed	5.56	1,751.79	109.10
J-311	1,490.00	Demand	29.46	Fixed	29.46	1,773.29	122.75
J-312	1,480.00	Demand	36.02	Fixed	36.02	1,748.57	116.37
J-313	1,540.00	Demand	57.45	Fixed	57.45	1,728.87	81.84
J-314	1,600.00	Demand	47.47	Fixed	47.47	1,728.42	55.64
J-316	1,540.00	Demand	14.88	Fixed	14.88	1,748.54	90.36
J-318	1,530.00	Demand	7.54	Fixed	7.54	1,725.11	84.54
J-319	1,525.00	Demand	39.46	Fixed	39.46	1,719.24	84.16
J-320	1,525.00	Demand	47.68	Fixed	47.68	1,715.56	82.57
J-321	1,510.00	Demand	12.73	Fixed	12.73	1,692.96	79.27
J-322	1,475.00	Demand	42.31	Fixed	42.31	1,696.16	95.83
J-323	1,550.00	Demand	18.88	Fixed	18.88	1,712.72	70.51
J-324	1,580.00	Demand	3.23	Fixed	3.23	1,711.90	57.15
J-325	1,675.00	Demand	22.50	Fixed	22.50	1,708.82	14.65
J-326	1,590.00	Demand	30.08	Fixed	30.08	1,703.47	49.17
J-328	1,510.00	Demand	19.86	Fixed	19.86	1,708.48	86.00
J-330	1,490.00	Demand	52.34	Fixed	52.34	1,712.72	96.50
J-332	1,490.00	Demand	16.83	Fixed	16.83	1,710.41	95.50
J-333	1,530.00	Demand	9.96	Fixed	9.96	1,709.66	77.65
J-336	1,490.00	Demand	39.65	Fixed	39.65	1,711.73	96.08
J-338	1,500.00	Demand	3.11	Fixed	3.11	1,694.03	84.07
J-340	1,490.00	Demand	38.43	Fixed	38.43	1,780.11	125.70
J-341	1,485.00	Demand	7.44	Fixed	7.44	1,778.53	127.19
J-342	1,490.00	Demand	22.02	Fixed	22.02	1,776.98	124.35
J-343	1,520.00	Demand	5.73	Fixed	5.73	1,778.71	112.10
J-344	1,555.00	Demand	20.93	Fixed	20.93	1,778.65	96.91
J-345	1,590.00	Demand	21.15	Fixed	21.15	1,778.31	81.60
J-346	1,555.00	Demand	21.71	Fixed	21.71	1,778.19	96.71
J-349	1,490.00	Demand	11.82	Fixed	11.82	1,773.73	122.94
J-350	1,510.00	Demand	2.40	Fixed	2.40	1,773.73	114.27
J-351	1,450.00	Demand	3.71	Fixed	3.71	1,774.63	140.66
J-352	1,390.00	Demand	47.93	Fixed	47.93	1,776.07	167.28
J-353	1,500.00	Demand	40.33	Fixed	40.33	1,776.82	119.94
J-354	1,550.00	Demand	1.71	Fixed	1.71	1,777.63	98.63
J-356	1,400.00	Demand	7.73	Fixed	7.73	1,776.81	163.27

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-360	1,550.00	Demand	135.20	Fixed	135.20	1,770.12	95.38
J-361	1,450.00	Demand	114.62	Fixed	114.62	1,767.17	137.43
J-362	1,425.00	Demand	21.36	Fixed	21.36	1,766.80	148.10
J-363	1,430.00	Demand	6.01	Fixed	6.01	1,765.78	145.49
J-364	1,450.00	Demand	17.29	Fixed	17.29	1,765.73	136.80
J-366	1,430.00	Demand	27.53	Fixed	27.53	1,765.56	145.40
J-367	1,410.00	Demand	12.99	Fixed	12.99	1,764.98	153.81
J-368	1,405.00	Demand	15.95	Fixed	15.95	1,764.73	155.87
J-370	1,415.00	Demand	10.19	Fixed	10.19	1,765.12	151.71
J-372	1,410.00	Demand	6.94	Fixed	6.94	1,765.13	153.88
J-373	1,420.00	Demand	8.61	Fixed	8.61	1,765.23	149.59
J-374	1,415.00	Demand	32.61	Fixed	32.61	1,765.46	151.85
J-375	1,410.00	Demand	14.29	Fixed	14.29	1,765.09	153.86
J-376	1,510.00	Demand	31.53	Fixed	31.53	1,765.58	110.74
J-377	1,660.00	Demand	93.96	Fixed	93.96	1,767.08	46.40
J-378	1,615.00	Demand	14.70	Fixed	14.70	1,767.76	66.19
J-402	1,515.00	Demand	59.93	Fixed	59.93	1,670.36	67.32
J-403	1,490.00	Demand	35.26	Fixed	35.26	1,680.45	82.52
J-404	1,495.00	Demand	13.55	Fixed	13.55	1,681.02	80.60
J-405	1,500.00	Demand	1.44	Fixed	1.44	1,681.83	78.79
J-406	1,500.00	Demand	5.38	Fixed	5.38	1,681.97	78.85
J-407	1,540.00	Demand	41.04	Fixed	41.04	1,682.05	61.55
J-408	1,483.00	Demand	16.13	Fixed	16.13	1,682.03	86.24
J-410	1,550.00	Demand	26.50	Fixed	26.50	1,674.99	54.16
J-411	1,470.00	Demand	19.51	Fixed	19.51	1,683.72	92.61
J-412	1,460.00	Demand	17.89	Fixed	17.89	1,683.84	96.99
J-414	1,470.00	Demand	48.70	Fixed	48.70	1,684.17	92.80
J-416	1,470.00	Demand	17.94	Fixed	17.94	1,685.13	93.22
J-417	1,475.00	Demand	10.50	Fixed	10.50	1,684.26	90.67
J-419	1,445.00	Demand	43.11	Fixed	43.11	1,686.58	104.68
J-420	1,460.00	Demand	4.79	Fixed	4.79	1,686.59	98.18
J-421	1,450.00	Demand	10.83	Fixed	10.83	1,686.79	102.60
J-422	1,440.00	Demand	22.42	Fixed	22.42	1,686.80	106.94
J-423	1,430.00	Demand	9.44	Fixed	9.44	1,688.33	111.93
J-424	1,430.00	Demand	51.43	Fixed	51.43	1,688.36	111.96
J-426	1,425.00	Demand	15.18	Fixed	15.18	1,690.70	115.13
J-427	1,420.00	Demand	20.89	Fixed	20.89	1,691.20	117.51
J-429	1,420.00	Demand	9.89	Fixed	9.89	1,695.81	119.51
J-430	1,420.00	Demand	14.91	Fixed	14.91	1,696.23	119.69
J-431	1,420.00	Demand	85.54	Fixed	85.54	1,707.95	124.77
J-432	1,415.00	Demand	38.57	Fixed	38.57	1,709.64	127.67
J-433	1,410.00	Demand	137.17	Fixed	137.17	1,712.69	131.24
J-434	1,420.00	Demand	69.54	Fixed	69.54	1,712.25	126.63
J-435	1,430.00	Demand	0.00	Fixed	0.00	1,691.14	113.15
J-436	1,430.00	Demand	8.18	Fixed	8.18	1,690.51	112.88
J-437	1,420.00	Demand	52.62	Fixed	52.62	1,715.46	128.02
J-438	1,460.00	Demand	0.00	Fixed	0.00	1,686.69	98.22
J-439	1,420.00	Demand	61.24	Fixed	61.24	1,704.57	123.30
J-440	1,425.00	Demand	43.04	Fixed	43.04	1,691.99	115.69
J-442	1,425.00	Demand	39.69	Fixed	39.69	1,691.38	115.42
J-444	1,430.00	Demand	37.97	Fixed	37.97	1,689.16	112.29
J-446	1,440.00	Demand	27.77	Fixed	27.77	1,686.76	106.92

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-449	1,455.00	Demand	4.95	Fixed	4.95	1,686.36	100.25
J-451	1,480.00	Demand	9.51	Fixed	9.51	1,686.02	89.27
J-452	1,470.00	Demand	36.07	Fixed	36.07	1,686.60	93.85
J-454	1,550.00	Demand	27.28	Fixed	27.28	1,687.33	59.51
J-455	1,520.00	Demand	0.00	Fixed	0.00	1,687.91	72.75
J-457	1,530.00	Demand	14.98	Fixed	14.98	1,691.32	69.90
J-458	1,510.00	Demand	10.92	Fixed	10.92	1,687.38	76.86
J-461	1,470.00	Demand	58.81	Fixed	58.81	1,687.33	94.17
J-462	1,470.00	Demand	14.17	Fixed	14.17	1,688.43	94.65
J-464	1,460.00	Demand	32.41	Fixed	32.41	1,686.79	98.27
J-466	1,450.00	Demand	21.39	Fixed	21.39	1,686.96	102.67
J-469	1,440.00	Demand	5.68	Fixed	5.68	1,690.63	108.60
J-470	1,440.00	Demand	34.91	Fixed	34.91	1,694.03	110.07
J-471	1,430.00	Demand	35.39	Fixed	35.39	1,693.88	114.34
J-472	1,430.00	Demand	105.19	Fixed	105.19	1,697.07	115.72
J-474	1,425.00	Demand	133.14	Fixed	133.14	1,701.78	119.93
J-476	1,425.00	Demand	56.08	Fixed	56.08	1,706.56	122.00
J-479	1,435.00	Demand	10.52	Fixed	10.52	1,687.25	109.30
J-480	1,435.00	Demand	4.65	Fixed	4.65	1,687.23	109.29
J-481	1,430.00	Demand	4.15	Fixed	4.15	1,688.33	111.94
J-482	1,435.00	Demand	49.67	Fixed	49.67	1,687.23	109.29
J-483	1,450.00	Demand	3.00	Fixed	3.00	1,686.86	102.63
J-485	1,460.00	Demand	3.47	Fixed	3.47	1,684.64	97.34
J-486	1,460.00	Demand	101.18	Fixed	101.18	1,684.64	97.34
J-490	1,440.00	Demand	8.82	Fixed	8.82	1,712.05	117.88
J-491	1,430.00	Demand	3.33	Fixed	3.33	1,698.13	116.18
J-492	1,440.00	Demand	0.00	Fixed	0.00	1,711.91	117.82
J-494	1,510.00	Demand	4.10	Fixed	4.10	1,704.17	84.13
J-495	1,380.00	Demand	0.00	Fixed	0.00	1,677.84	129.05
J-496	1,280.00	Demand	5.28	Fixed	5.28	1,656.85	163.20
J-497	1,270.00	Demand	7.01	Fixed	7.01	1,649.53	164.45
J-499	1,340.00	Demand	0.00	Fixed	0.00	1,571.70	100.39
J-500	1,335.00	Demand	2,500.00	Fixed	2,500.00	1,546.68	91.72
J-740	1,600.00	Demand	0.00	Fixed	0.00	2,136.83	233.48
J-742	1,800.00	Demand	64.31	Fixed	64.31	2,114.95	136.47
J-743	1,735.00	Demand	36.48	Fixed	36.48	2,114.92	164.62
J-744	1,885.00	Demand	126.27	Fixed	126.27	2,114.82	99.58
J-745	2,100.00	Demand	0.00	Fixed	0.00	2,115.50	6.72
J-1000	1,540.00	Demand	17.49	Fixed	17.49	1,776.76	102.59
J-1001	1,460.00	Demand	0.00	Fixed	0.00	1,771.93	135.16
J-1002	1,420.00	Demand	1.44	Fixed	1.44	1,769.97	151.64
J-1003	1,390.00	Demand	2.27	Fixed	2.27	1,769.49	164.43
J-1005	1,395.00	Demand	0.00	Fixed	0.00	1,765.62	160.59
J-1011	1,450.00	Demand	4.27	Fixed	4.27	1,765.33	136.63
J-1012	1,460.00	Demand	4.89	Fixed	4.89	1,765.89	132.54
J-1013	1,420.00	Demand	9.08	Fixed	9.08	1,765.56	149.73
J-1014	1,420.00	Demand	0.52	Fixed	0.52	1,716.02	128.27
J-1015	1,415.00	Demand	4.16	Fixed	4.16	1,717.14	130.92
J-1016	1,415.00	Demand	15.63	Fixed	15.63	1,716.84	130.79
J-1017	1,405.00	Demand	0.84	Fixed	0.84	1,718.20	135.71
J-1018	1,405.00	Demand	2.75	Fixed	2.75	1,718.13	135.68
J-1019	1,405.00	Demand	0.00	Fixed	0.00	1,718.18	135.70

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-1020	1,410.00	Demand	9.18	Fixed	9.18	1,717.58	133.27
J-1021	1,415.00	Demand	18.05	Fixed	18.05	1,717.36	131.01
J-1022	1,410.00	Demand	0.00	Fixed	0.00	1,717.51	133.24
J-1023	1,415.00	Demand	0.00	Fixed	0.00	1,717.43	131.04
J-1024	1,465.00	Demand	3.10	Fixed	3.10	1,687.25	96.30
J-1025	1,450.00	Demand	0.00	Fixed	0.00	1,686.59	102.52
J-1026	1,460.00	Demand	0.85	Fixed	0.85	1,686.60	98.19
J-1027	1,450.00	Demand	0.00	Fixed	0.00	1,686.67	102.55
J-1028	1,440.00	Demand	0.00	Fixed	0.00	1,686.64	106.87
J-1031	1,465.00	Demand	4.62	Fixed	4.62	1,684.06	94.92
J-1032	1,435.00	Demand	3.96	Fixed	3.96	1,689.47	110.26
J-1033	1,480.00	Demand	5.65	Fixed	5.65	1,764.21	123.15
J-1034	1,440.00	Demand	41.36	Fixed	41.36	1,686.73	106.91
J-1035	1,540.00	Demand	0.92	Fixed	0.92	1,764.21	97.15
J-1036	1,540.00	Demand	23.29	Fixed	23.29	1,751.79	91.77
J-1039	1,430.00	Demand	0.15	Fixed	0.15	1,691.36	113.25
J-1040	1,430.00	Demand	4.71	Fixed	4.71	1,691.91	113.49
J-1041	1,450.00	Demand	0.00	Fixed	0.00	1,686.29	102.39
J-1042	1,460.00	Demand	1.99	Fixed	1.99	1,686.03	97.94
J-1043	1,515.00	Demand	0.67	Fixed	0.67	1,688.52	75.19
J-1044	1,495.00	Demand	7.22	Fixed	7.22	1,693.94	86.20
J-1045	1,480.00	Demand	0.00	Fixed	0.00	1,694.03	92.74
J-1046	1,430.00	Demand	36.79	Fixed	36.79	1,691.40	113.27
J-1047	1,425.00	Demand	0.00	Fixed	0.00	1,731.39	132.76
J-1054	1,430.00	Demand	0.00	Fixed	0.00	1,726.92	128.66
J-1055	1,430.00	Demand	0.00	Fixed	0.00	1,719.05	125.24
J-1057	1,420.00	Demand	0.00	Fixed	0.00	1,714.45	127.58
J-1058	1,420.00	Demand	0.00	Fixed	0.00	1,714.44	127.58
J-1059	1,440.00	Demand	0.00	Fixed	0.00	1,712.05	117.88
J-1060	1,509.00	Demand	0.00	Fixed	0.00	1,702.91	84.02
J-1061	1,410.00	Demand	0.00	Fixed	0.00	1,718.62	133.72
J-1062	1,510.00	Demand	0.00	Fixed	0.00	1,704.20	84.15
J-1063	1,510.00	Demand	0.00	Fixed	0.00	1,704.20	84.15
J-1066	1,455.00	Demand	0.00	Fixed	0.00	1,739.14	123.12
J-1067	1,515.00	Demand	0.00	Fixed	0.00	1,739.14	97.12
J-1068	1,545.00	Demand	0.00	Fixed	0.00	1,739.51	84.28
J-1069	1,265.00	Demand	0.00	Fixed	0.00	1,671.37	176.08
J-1600	1,444.00	Demand	0.00	Fixed	0.00	1,712.13	116.18
J-1601	1,444.00	Demand	0.00	Fixed	0.00	1,712.06	116.15
J-1602	1,444.00	Demand	0.00	Fixed	0.00	1,712.01	116.13
J-1603	1,444.00	Demand	0.00	Fixed	0.00	1,712.01	116.13
J-1605	1,509.00	Demand	0.00	Fixed	0.00	1,704.14	84.55
J-1610	1,506.00	Demand	0.00	Fixed	0.00	1,704.20	85.88
J-1611	1,511.00	Demand	0.00	Fixed	0.00	1,704.60	83.89
J-1612	1,511.00	Demand	0.00	Fixed	0.00	1,703.86	83.57
J-1613	1,506.00	Demand	0.00	Fixed	0.00	1,704.05	85.81
J-1651	1,600.00	Demand	0.00	Fixed	0.00	1,720.86	52.37
J-1652	1,350.00	Demand	0.00	Fixed	0.00	1,720.51	160.54
J-1653	1,370.00	Demand	0.00	Fixed	0.00	1,720.25	151.76
J-9000	1,305.00	Demand	0.00	Fixed	0.00	1,686.17	166.03
J-9001	1,435.00	Demand	0.00	Fixed	0.00	1,681.26	106.70
J-9002	1,435.00	Demand	96.60	Fixed	96.60	1,674.32	103.70

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-9004	1,305.00	Demand	23.00	Fixed	23.00	1,673.72	159.77

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Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P112	J-111	J-115	4,200.00	6	Asbestos Cement	45.88	0.52	1.02	0.24	132.0
P116	J-115	J-116	6,200.00	6	Asbestos Cement	12.63	0.14	0.14	0.02	132.0
P121	PRV-120	J-121	3,300.00	6	Asbestos Cement	0.00	0.00	0.00	0.00	132.0
P122	J-121	J-122	2,300.00	6	Asbestos Cement	-76.15	0.86	1.42	0.62	132.0
P123	J-121	J-123	3,200.00	6	Asbestos Cement	50.81	0.58	0.94	0.29	132.0
P124	R-125	J-122	1,300.00	6	Asbestos Cement	108.90	1.24	1.56	1.20	132.0
P126	J-126	J-127	2,000.00	6	Asbestos Cement	-44.11	0.50	0.45	0.23	132.0
P127	J-127	J-128	2,500.00	12	Asbestos Cement	-44.11	0.13	0.02	0.01	130.0
P131	J-134	J-131	2,900.00	6	Steel	22.82	0.26	0.20	0.07	130.0
P133	J-134	J-133	3,000.00	6	Asbestos Cement	6.94	0.08	0.02	0.01	132.0
P140A	J-143	PRV-140	3,740.00	8	Asbestos Cement	52.95	0.34	0.30	0.08	130.0
P141	J-141	J-143	1,500.00	12	Asbestos Cement	-13.54	0.04	1.34e-3	8.95e-4	130.0
P142	J-134	J-141	3,900.00	8	Asbestos Cement	-34.42	0.22	0.14	0.04	131.0
P145	J-141	J-115	3,200.00	6	Asbestos Cement	-27.56	0.31	0.30	0.09	132.0
P147	J-143	J-148	1,800.00	12	Ductile Iron	-73.43	0.21	0.04	0.02	132.0
P148	J-150	J-148	2,600.00	12	Asbestos Cement	105.62	0.30	0.10	0.04	132.0
P150	J-150	J-151	1,400.00	8	Asbestos Cement	4.88	0.03	1.34e-3	9.59e-4	132.0
P151	J-151	J-152	2,000.00	6	Asbestos Cement	-20.55	0.23	0.12	0.06	128.0
P152	J-152	J-154	2,200.00	6	Asbestos Cement	-98.12	1.11	2.18	0.99	132.0
P153	J-150	J-153	1,800.00	8	Asbestos Cement	-161.87	1.03	1.11	0.62	132.0
P154	J-153	J-154	1,800.00	8	Asbestos Cement	-167.79	1.07	1.18	0.66	132.0
P155	J-154	J-111	2,200.00	6	Asbestos Cement	68.15	0.77	1.11	0.50	132.0
P158	J-151	J-158	4,000.00	6	Asbestos Cement	1.70	0.02	2.2e-3	5.49e-4	132.0
P160	J-154	J-161	1,200.00	8	Ductile Iron	-334.91	2.14	2.83	2.36	132.0
P161	J-161	J-162	2,100.00	8	Asbestos Cement	-334.91	2.14	4.96	2.36	132.0
P162	J-162	J-163	2,400.00	8	Asbestos Cement	-339.41	2.17	5.81	2.42	132.0
P163	J-163	J-164	2,000.00	8	Asbestos Cement	-346.96	2.21	5.04	2.52	132.0
P164	J-164	J-165	2,800.00	8	Asbestos Cement	-351.02	2.24	7.21	2.58	132.0
P165	J-165	R-180	2,800.00	8	Asbestos Cement	-351.95	2.25	7.25	2.59	132.0
P167	J-164	J-168	2,100.00	6	Asbestos Cement	0.44	4.97e-3	1.22e-4	5.81e-5	132.0
P170	J-152	J-175	3,600.00	20	Steel	39.84	0.04	1.95e-3	5.43e-4	132.0
P171	J-152	J-172	2,200.00	6	Asbestos Cement	30.44	0.35	0.26	0.12	128.0
P173	J-172	J-174	2,800.00	6	Asbestos Cement	3.46	0.04	0.01	2.18e-3	128.0
P174	J-174	J-175	2,400.00	6	Asbestos Cement	-29.28	0.33	0.27	0.11	128.0
P175	J-175	J-176	2,900.00	12	Steel	-828.60	2.35	5.08	1.75	132.0
P177	J-177	J-178	1,100.00	12	Steel	-1,589.79	4.51	6.43	5.85	132.0
P179	J-178	R-180	4,100.00	24	Steel	-6,926.94	4.91	13.41	3.27	127.0
P180	J-181	R-180	3,030.00	18	Steel	-10.34	0.01	2.44e-4	8.06e-5	127.0
P185	J-177	J-185	2,680.00	8	Asbestos Cement	33.94	0.22	0.09	0.03	132.0
P186N	J-186	J-187	800.00	12	PVC	-51.76	0.15	0.01	0.01	135.0
P187	J-178	J-187	2,380.00	6	Asbestos Cement	102.78	1.17	2.76	1.16	127.0
P190	J-178	J-191	4,190.00	20	Steel	5,208.66	5.32	19.65	4.69	127.0
P192	J-191	J-192	3,930.00	20	Ductile Iron	4,538.03	4.63	14.28	3.63	127.0
P193	J-192	J-199	4,920.00	20	Steel	4,406.30	4.50	16.93	3.44	127.0
P194	J-191	J-194	4,180.00	10	Asbestos Cement	549.01	2.24	8.67	2.07	129.0
P195	J-194	J-195	3,000.00	10	Asbestos Cement	464.55	1.90	4.44	1.48	131.0
P196	J-195	J-196	1,420.00	6	Asbestos Cement	411.74	4.67	20.81	14.66	129.0
P198	J-197	J-199	1,620.00	8	PVC	-215.03	1.37	1.33	0.82	150.0
P199	J-199	J-209	1,920.00	18	Steel	4,142.26	5.22	9.84	5.13	127.0
P201	J-175	J-201	3,350.00	20	Steel	831.54	0.85	0.49	0.15	132.0
P202	J-201	J-202	3,460.00	20	Steel	831.54	0.85	0.51	0.15	132.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P204	J-203	J-204	3,470.00	10	Asbestos Cement	802.88	3.28	14.97	4.31	127.0
P206	J-204	J-206	4,260.00	10	Asbestos Cement	58.85	0.24	0.14	0.03	131.0
P207	J-204	J-207	1,670.00	10	Asbestos Cement	711.57	2.91	5.76	3.45	127.0
P208	J-207	J-208	5,420.00	10	Asbestos Cement	663.76	2.71	16.44	3.03	127.0
P213	J-213	J-214	4,920.00	14	Steel	264.53	0.55	0.49	0.10	132.0
P216	J-215	J-216	2,050.00	6	Asbestos Cement	46.94	0.53	0.56	0.27	127.0
P217	J-215	J-217	1,500.00	14	Steel	173.14	0.36	0.07	0.05	127.0
P221	J-220	J-221	1,690.00	6	Asbestos Cement	177.59	2.02	5.08	3.01	131.0
P222	J-221	J-222	710.00	6	Asbestos Cement	111.63	1.27	0.92	1.29	130.0
P223	J-221	J-223	1,380.00	6	Asbestos Cement	55.27	0.63	0.47	0.34	132.0
P224	J-223	J-224	710.00	6	Asbestos Cement	50.03	0.57	0.20	0.28	132.0
P225	J-224	J-222	1,380.00	6	Asbestos Cement	38.61	0.44	0.24	0.18	132.0
P226	J-222	J-226	720.00	6	Asbestos Cement	138.29	1.57	1.38	1.92	130.0
P227	J-226	J-227	1,100.00	6	Asbestos Cement	-138.41	1.57	2.15	1.95	129.0
P228	J-220	J-227	1,570.00	8	Asbestos Cement	394.39	2.52	5.23	3.33	129.0
P229	J-226	J-230	1,070.00	6	Asbestos Cement	252.30	2.86	6.52	6.10	127.0
P230	J-230	J-231	4,000.00	16	Steel	-1,527.20	2.44	5.75	1.44	127.0
P231	J-231	J-208	1,680.00	16	Steel	-1,540.98	2.46	2.45	1.46	127.0
P237A	J-236	PRV-237	6,180.00	6	Ductile Iron	66.35	0.75	3.14	0.51	128.0
P242	J-241	J-242	1,860.00	6	Asbestos Cement	58.57	0.66	0.75	0.40	128.0
P243	J-241	J-244	6,700.00	10	Asbestos Cement	397.63	1.62	7.88	1.18	127.0
P244	J-244	J-245	2,100.00	10	Asbestos Cement	486.10	1.99	3.58	1.70	127.0
P245	J-245	J-246	1,400.00	8	Asbestos Cement	125.84	0.80	0.54	0.39	132.0
P246	J-246	J-247	830.00	6	Asbestos Cement	-22.02	0.25	0.05	0.06	129.0
P247	J-247	J-248	1,160.00	6	Asbestos Cement	-32.72	0.37	0.15	0.13	130.0
P248	J-248	J-249	1,640.00	8	PVC	-48.68	0.31	0.11	0.07	133.0
P249	J-249	J-245	2,050.00	8	PVC	-64.11	0.41	0.22	0.11	133.0
P250	J-230	J-250	1,880.00	4	Asbestos Cement	58.98	1.51	5.61	2.98	127.0
P251	J-250	J-252	1,940.00	4	Asbestos Cement	26.66	0.68	1.33	0.69	127.0
P252	J-252	J-255	1,400.00	14	Steel	767.11	1.60	1.08	0.77	127.0
P253	J-252	J-253	820.00	4	Asbestos Cement	35.57	0.91	0.93	1.14	129.0
P254	J-253	J-248	810.00	6	Asbestos Cement	2.60	0.03	9.77e-4	1.21e-3	130.0
P255	J-247	J-255	1,760.00	6	Asbestos Cement	-6.18	0.07	0.01	0.01	127.0
P256	J-255	J-256	1,300.00	14	Steel	745.80	1.55	0.95	0.73	127.0
P257	J-246	J-256	2,300.00	8	Asbestos Cement	124.68	0.80	0.89	0.38	131.0
P258	J-256	J-258	1,340.00	6	Asbestos Cement	32.92	0.37	0.18	0.13	131.0
P259	J-252	J-263	2,500.00	14	Steel	-819.46	1.71	2.18	0.87	127.0
P260	J-230	J-260	1,330.00	16	Steel	1,691.74	2.70	2.31	1.74	127.0
P261	J-260	J-264	1,330.00	16	Steel	1,536.22	2.45	1.93	1.45	127.0
P262	J-260	J-262	650.00	6	Asbestos Cement	135.82	1.54	1.26	1.94	127.0
P263	J-262	J-263	1,330.00	6	Asbestos Cement	92.62	1.05	1.20	0.90	131.0
P264	J-263	J-264	650.00	14	Steel	-789.61	1.65	0.53	0.81	127.0
P267	J-266	J-267	650.00	6	Asbestos Cement	-33.32	0.38	0.09	0.14	127.0
P268	J-265	J-267	630.00	14	Steel	527.41	1.10	0.24	0.39	127.0
P270	J-227	J-270	2,480.00	6	Asbestos Cement	229.49	2.60	11.98	4.83	131.0
P271	J-270	J-271	1,330.00	6	Asbestos Cement	106.42	1.21	1.55	1.17	131.0
P272	J-271	J-265	1,090.00	6	Asbestos Cement	62.53	0.71	0.49	0.45	129.0
P273	J-270	J-264	1,090.00	6	Asbestos Cement	87.07	0.99	0.93	0.85	127.0
P276	J-275	J-277	1,500.00	14	Steel	-34.89	0.07	3.78e-3	2.52e-3	127.0
P280	J-256	J-280	1,330.00	14	Steel	709.07	1.48	0.89	0.67	127.0
P281	J-280	J-284	1,330.00	14	Steel	619.32	1.29	0.69	0.52	127.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P282	J-280	J-282	2,000.00	8	Asbestos Cement	62.37	0.40	0.21	0.11	131.0
P283	J-282	J-283	1,330.00	6	Asbestos Cement	47.49	0.54	0.35	0.26	131.0
P284	J-283	J-284	2,000.00	6	Asbestos Cement	22.08	0.25	0.13	0.06	131.0
P286	J-285	J-287	2,640.00	10	Asbestos Cement	-35.11	0.14	0.03	0.01	127.0
P289	J-288	J-289	1,300.00	6	Asbestos Cement	189.36	2.15	4.66	3.59	127.0
P292	J-285	J-292	1,280.00	6	Asbestos Cement	21.98	0.25	0.09	0.07	127.0
P295	J-294	J-295	2,640.00	6	Asbestos Cement	-29.80	0.34	0.29	0.11	131.0
P296	J-295	J-293	1,310.00	14	Steel	275.46	0.57	0.15	0.12	127.0
P297	J-293	J-297	3,560.00	6	Asbestos Cement	48.76	0.55	1.04	0.29	127.0
P299	J-490	J-494	3,300.00	14	Asbestos Cement	1,413.80	2.95	7.88	2.39	127.0
P300	R-300	J-301	1,460.00	20	Asbestos Cement	3,823.89	3.91	3.65	2.50	131.0
P301	J-301	J-302	2,920.00	20	Asbestos Cement	3,713.64	3.79	6.91	2.37	131.0
P302	J-302	J-303	2,600.00	20	Asbestos Cement	3,701.81	3.78	6.12	2.35	131.0
P303	J-303	J-304	3,680.00	20	Asbestos Cement	3,626.17	3.70	8.34	2.27	131.0
P305	J-304	J-305	1,350.00	6	Asbestos Cement	9.60	0.11	0.02	0.01	127.0
P306	J-305	J-306	1,690.00	6	Asbestos Cement	2.52	0.03	1.95e-3	1.16e-3	130.0
P307	J-304	J-307	2,650.00	14	Steel	2,256.77	4.70	15.02	5.67	127.0
P309	J-308	J-309	1,670.00	6	Asbestos Cement	7.34	0.08	0.01	0.01	127.0
P311	J-307	J-311	1,530.00	6	Asbestos Cement	29.46	0.33	0.17	0.11	129.0
P312	J-308	J-312	630.00	14	Steel	2,142.29	4.46	3.24	5.15	127.0
P313	J-312	J-313	4,000.00	14	Steel	2,091.39	4.36	19.70	4.92	127.0
P314	J-313	J-314	1,640.00	6	Asbestos Cement	47.47	0.54	0.45	0.28	127.0
P316	J-312	J-316	2,720.00	8	Asbestos Cement	14.88	0.09	0.02	0.01	127.0
P318	J-313	J-318	840.00	14	Steel	1,986.46	4.14	3.76	4.48	127.0
P319	J-318	J-319	1,320.00	14	Steel	1,978.92	4.12	5.87	4.45	127.0
P320	J-319	J-320	1,300.00	14	Steel	1,551.40	3.23	3.68	2.83	127.0
P322	J-320	J-322	2,650.00	6	Asbestos Cement	278.50	3.16	19.40	7.32	127.0
P323	J-320	J-323	1,320.00	8	Asbestos Cement	306.42	1.96	2.84	2.15	127.0
P324	J-323	J-324	1,200.00	8	Asbestos Cement	164.84	1.05	0.82	0.68	127.0
P325	J-324	J-325	1,150.00	6	Asbestos Cement	161.61	1.83	3.08	2.67	127.0
P326	J-325	J-326	2,640.00	6	Asbestos Cement	139.11	1.58	5.35	2.03	127.0
P326	J-326	J-328	2,420.00	10	Asbestos Cement	-548.14	2.24	5.00	2.07	129.0
P329	J-328	J-323	2,640.00	6	Asbestos Cement	-122.70	1.39	4.24	1.61	127.0
P330	J-328	J-330	1,320.00	8	Asbestos Cement	-383.69	2.45	4.24	3.21	128.0
P331	J-330	J-320	2,640.00	14	Steel	-918.81	1.91	2.84	1.08	127.0
P332	J-330	J-332	2,640.00	6	Asbestos Cement	88.41	1.00	2.31	0.88	127.0
P333	J-332	J-333	1,330.00	6	Asbestos Cement	71.58	0.81	0.74	0.56	131.0
P334	J-333	J-328	2,640.00	6	Asbestos Cement	61.62	0.70	1.19	0.45	127.0
P335	J-330	J-295	2,630.00	14	Steel	394.37	0.82	0.59	0.22	127.0
P336	J-295	J-336	2,000.00	6	Asbestos Cement	39.65	0.45	0.40	0.20	127.0
P340	J-304	J-340	4,140.00	14	Steel	1,292.49	2.69	8.37	2.02	127.0
P341	J-340	J-341	1,330.00	14	Steel	969.11	2.02	1.58	1.19	127.0
P342	J-341	J-342	1,330.00	14	Steel	961.67	2.00	1.56	1.17	127.0
P343	J-340	J-343	2,360.00	10	Asbestos Cement	284.94	1.16	1.39	0.59	132.0
P344	J-343	J-344	1,510.00	10	Asbestos Cement	69.70	0.28	0.07	0.04	131.0
P345	J-344	J-345	1,220.00	6	Asbestos Cement	48.76	0.55	0.34	0.28	131.0
P346	J-345	J-346	1,200.00	6	Asbestos Cement	27.61	0.31	0.12	0.10	129.0
P347	J-346	J-343	1,580.00	10	Asbestos Cement	-209.52	0.86	0.52	0.33	133.0
P348	J-346	J-342	3,980.00	6	Asbestos Cement	50.48	0.57	1.22	0.31	128.0
P349	J-342	J-349	2,630.00	14	Steel	990.13	2.06	3.25	1.23	127.0
P350	J-349	J-350	2,570.00	6	Asbestos Cement	2.40	0.03	2.69e-3	1.04e-3	130.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P351	J-349	J-351	1,900.00	6	Asbestos Cement	-63.53	0.72	0.90	0.48	127.0
P352	J-351	J-352	2,720.00	6	Asbestos Cement	-67.24	0.76	1.44	0.53	127.0
P353	J-352	J-353	2,250.00	8	Asbestos Cement	-115.17	0.74	0.75	0.33	131.0
P354	J-353	J-354	3,930.00	10	Asbestos Cement	-163.23	0.67	0.82	0.21	133.0
P355	J-354	J-346	2,650.00	10	Asbestos Cement	-164.94	0.67	0.56	0.21	133.0
P356	J-353	J-356	4,240.00	8	Asbestos Cement	7.73	0.05	0.01	2.25e-3	131.0
P359	J-349	J-360	2,670.00	14	Steel	1,039.45	2.17	3.61	1.35	127.0
P360	J-360	J-361	4,000.00	14	Steel	749.37	1.56	2.95	0.74	127.0
P361	J-361	J-362	1,520.00	6	Asbestos Cement	44.66	0.51	0.38	0.25	127.0
P362	J-362	J-363	1,900.00	4	Steel	23.30	0.59	1.02	0.54	127.0
P363	J-363	J-364	1,240.00	6	Asbestos Cement	17.29	0.20	0.05	0.04	129.0
P365	J-374	J-366	980.00	10	Asbestos Cement	-108.60	0.44	0.10	0.10	130.0
P368	J-367	J-368	980.00	14	Steel	422.72	0.88	0.25	0.26	127.0
P369	J-368	J-217	4,170.00	14	Steel	457.41	0.95	1.23	0.30	127.0
P370	J-368	J-370	1,240.00	6	Asbestos Cement	-50.63	0.57	0.39	0.31	127.0
P371	J-370	J-374	980.00	6	Ductile Iron	-53.64	0.61	0.34	0.35	127.0
P372	J-370	J-372	1,320.00	6	Asbestos Cement	-7.18	0.08	0.01	0.01	127.0
P373	J-372	J-373	980.00	6	Asbestos Cement	-28.41	0.32	0.11	0.11	127.0
P374	J-373	J-374	1,320.00	6	Asbestos Cement	-37.02	0.42	0.22	0.17	129.0
P375	J-372	J-375	1,300.00	6	Asbestos Cement	14.29	0.16	0.04	0.03	127.0
P376	J-374	J-376	3,880.00	6	Asbestos Cement	-14.67	0.17	0.12	0.03	127.0
P377	J-376	J-377	5,680.00	6	Asbestos Cement	-46.21	0.52	1.50	0.26	127.0
P378	J-377	J-378	1,340.00	8	Asbestos Cement	-140.17	0.89	0.68	0.51	127.0
P379	J-378	J-360	3,880.00	8	Asbestos Cement	-154.87	0.99	2.36	0.61	127.0
P401	J-420	J-438	50.00	8	Ductile Iron	-296.71	1.89	0.10	2.03	127.0
P403	J-402	J-403	1,370.00	10	Asbestos Cement	-1,071.91	4.38	10.08	7.36	127.0
P404	J-403	J-404	360.00	10	Asbestos Cement	-468.83	1.92	0.57	1.59	127.0
P405	J-404	J-405	790.00	10	Asbestos Cement	-367.60	1.50	0.80	1.02	127.0
P406	J-405	J-406	350.00	10	Asbestos Cement	-227.66	0.93	0.15	0.42	127.0
P407	J-406	J-407	800.00	8	Cast Iron	-42.66	0.27	0.08	0.10	95.0
P408	J-407	J-408	1,100.00	8	Cast Iron	16.13	0.10	0.02	0.02	95.0
P409	J-402	J-410	1,380.00	4	Cast Iron	-46.95	1.20	4.62	3.35	95.0
P410	J-410	J-411	1,140.00	4	Cast Iron	-73.45	1.88	8.74	7.66	95.0
P411	J-411	J-403	1,160.00	10	Asbestos Cement	638.34	2.61	3.27	2.82	127.0
P412	J-411	J-412	350.00	10	Cast Iron	-152.37	0.62	0.12	0.34	95.0
P413	J-412	J-404	1,160.00	6	Cast Iron	114.78	1.30	2.82	2.43	95.0
P415	J-414	J-405	1,120.00	6	Ductile Iron	141.39	1.60	2.34	2.09	127.0
P416	J-416	J-406	510.00	6	Cast Iron	190.37	2.16	3.16	6.20	95.0
P417	J-416	J-417	420.00	4	Ductile Iron	36.17	0.92	0.87	2.07	95.0
P418	J-417	J-407	1,180.00	6	Cast Iron	99.84	1.13	2.22	1.88	95.0
P419	J-486	J-419	600.00	6	Ductile Iron	-178.81	2.03	1.93	3.22	127.0
P420N	J-483	J-419	400.00	8	PVC	176.85	1.13	0.28	0.70	135.0
P421	J-420	J-421	600.00	6	Cast Iron	-39.00	0.44	0.20	0.33	95.0
P422	J-421	J-422	560.00	6	Cast Iron	-10.66	0.12	0.02	0.03	95.0
P423	J-479	J-423	600.00	6	Cast Iron	-97.49	1.11	1.08	1.80	95.0
P424	J-481	J-424	400.00	6	Cast Iron	-22.64	0.26	0.05	0.12	95.0
P425	J-424	J-482	600.00	6	Ductile Iron	135.07	1.53	1.15	1.92	127.0
P426	J-423	J-426	1,140.00	4	Asbestos Cement	-49.29	1.26	2.37	2.08	129.0
P427	J-426	J-427	600.00	4	Asbestos Cement	-29.46	0.75	0.50	0.83	127.0
P428	J-430	J-429	400.00	8	Asbestos Cement	219.24	1.40	0.43	1.06	133.0
P429	J-429	J-424	1,720.00	6	Asbestos Cement	209.35	2.38	7.42	4.32	127.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P430	J-430	J-431	1,200.00	8	Asbestos Cement	-694.00	4.43	11.72	9.76	127.0
P431	J-431	J-432	1,050.00	10	Asbestos Cement	-490.04	2.00	1.69	1.61	132.0
P432	J-432	J-433	600.00	8	Asbestos Cement	-528.61	3.37	3.25	5.42	133.0
P433	J-430	J-435	1,200.00	8	Asbestos Cement	459.86	2.94	5.09	4.25	132.0
P434	J-433	J-434	1,050.00	8	Asbestos Cement	161.75	1.03	0.65	0.61	132.0
P435	J-434	J-431	570.00	8	Asbestos Cement	603.44	3.85	4.30	7.54	127.0
P436	J-431	J-439	370.00	6	Asbestos Cement	313.94	3.56	3.38	9.14	127.0
P437	J-434	J-437	580.00	8	Asbestos Cement	-511.23	3.26	3.22	5.55	127.0
P438	J-435	J-436	400.00	12	Steel	747.57	2.12	0.62	1.56	127.0
P440	J-439	J-440	1,160.00	4	Asbestos Cement	119.96	3.06	12.58	10.94	128.0
P441	J-440	J-427	360.00	4	Ductile Iron	50.35	1.29	0.79	2.19	128.0
P442	J-440	J-442	600.00	6	Cast Iron	71.34	0.81	0.60	1.01	95.0
P443	J-442	J-426	350.00	4	Cast Iron	35.01	0.89	0.68	1.95	95.0
P445	J-444	J-423	350.00	4	Cast Iron	38.96	0.99	0.83	2.37	95.0
P446	J-444	J-446	1,150.00	6	Ductile Iron	141.33	1.60	2.40	2.09	127.0
P447	J-422	J-446	350.00	8	Cast Iron	48.21	0.31	0.04	0.12	95.0
P448	J-446	J-449	600.00	6	Ductile Iron	57.36	0.65	0.40	0.67	95.0
P449N	J-421	J-449	400.00	8	PVC	223.66	1.43	0.43	1.07	135.0
P450	J-411	J-451	570.00	10	Cast Iron	-578.93	2.36	2.30	4.03	95.0
P451	J-420	J-416	600.00	8	Ductile Iron	244.47	1.56	1.45	2.42	95.0
P452	J-451	J-452	570.00	10	Cast Iron	-275.14	1.12	0.58	1.02	95.0
P454N	J-451	J-454	790.00	8	PVC	-283.48	1.81	1.31	1.66	135.0
P455N	J-454	J-455	370.00	8	PVC	-272.24	1.74	0.57	1.54	135.0
P458	J-457	J-458	370.00	6	Ductile Iron	255.08	2.89	3.94	10.65	95.0
P459	J-458	J-454	580.00	8	Cast Iron	38.52	0.25	0.05	0.08	95.0
P460	J-452	J-458	790.00	8	Cast Iron	-150.51	0.96	0.78	0.99	95.0
P461	J-458	J-461	580.00	8	Asbestos Cement	55.14	0.35	0.05	0.09	127.0
P462	J-461	J-462	370.00	4	Cast Iron	-44.04	1.12	1.10	2.97	95.0
P463	J-462	J-457	580.00	4	Cast Iron	-58.20	1.49	2.89	4.98	95.0
P465	J-464	J-452	580.00	10	Cast Iron	150.42	0.61	0.19	0.33	95.0
P466	J-464	J-466	580.00	10	Cast Iron	-137.54	0.56	0.16	0.28	95.0
P468	J-466	J-469	400.00	4	Asbestos Cement	-111.74	2.85	3.68	9.19	131.0
P469	J-469	J-470	600.00	6	Cast Iron	-181.21	2.06	3.39	5.65	95.0
P470	J-470	J-471	580.00	6	Cast Iron	33.20	0.38	0.14	0.24	95.0
P472	J-471	J-472	600.00	4	Cast Iron	-60.26	1.54	3.19	5.31	95.0
P473	J-472	J-440	1,500.00	4	Cast Iron	44.77	1.14	5.09	3.39	90.0
P474	J-472	J-474	1,130.00	6	Asbestos Cement	-210.22	2.39	4.71	4.17	130.0
P475	J-474	J-439	1,500.00	6	Asbestos Cement	-132.75	1.51	2.79	1.86	127.0
P476	J-474	J-476	1,160.00	6	Asbestos Cement	-210.61	2.39	4.78	4.12	131.0
P478	J-423	J-481	50.00	6	Ductile Iron	-18.69	0.21	2.44e-3	0.05	127.0
P479	J-479	J-422	600.00	6	Ductile Iron	81.29	0.92	0.45	0.75	127.0
P480	J-479	J-480	50.00	3	Ductile Iron	5.68	0.37	0.02	0.39	127.0
P482	J-480	J-482	400.00	3	Ductile Iron	1.03	0.05	2.69e-3	0.01	127.0
P484N	J-421	J-483	50.00	8	PVC	-262.83	1.68	0.07	1.45	135.0
P486	J-485	J-486	400.00	4	Ductile Iron	-3.47	0.09	0.01	0.02	127.0
P487	J-486	J-417	600.00	6	Ductile Iron	74.17	0.84	0.38	0.63	127.0
P489	J-420	J-414	400.00	4	Ductile Iron	86.44	2.21	2.42	6.05	127.0
P495	J-449	J-414	600.00	6	Ductile Iron	195.73	2.22	2.19	3.65	130.0
P496	J-495	J-496	3,200.00	14	Asbestos Cement	2,512.29	5.24	21.19	6.62	130.0
P497	J-496	J-497	1,080.00	14	Asbestos Cement	2,507.01	5.23	7.12	6.59	130.0
P498	J-497	J-499	5,600.00	12	Ductile Iron	2,500.00	7.09	77.83	13.90	130.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P499	J-499	J-500	1,800.00	12	Ductile Iron	2,500.00	7.09	25.02	13.90	130.0
P741	J-740	J-745	2,760.00	8	Steel	657.18	4.19	23.33	8.45	130.0
P742	R-741	J-742	3,320.00	12	Steel	227.07	0.64	0.55	0.16	130.0
P743	J-742	J-743	920.00	8	Asbestos Cement	36.48	0.23	0.04	0.04	130.0
P744	J-742	J-744	2,440.00	12	Steel	126.27	0.36	0.14	0.06	130.0
P745	J-745	R-741	1.00	99	Ductile Iron	657.17	0.03	0.00	0.00	130.0
P117A	J-116	PRV-117	7,080.00	6	Asbestos Cement	5.31	0.06	0.03	4.62e-3	130.0
P400	R-400	J-402	2,760.00	10	Ductile Iron	-1,058.92	4.33	19.86	7.20	127.0
P740A	J-326	PMP-740	719.00	10	Steel	328.59	1.34	0.57	0.79	130.0
P740B	PMP-740	J-740	1.00	10	Steel	328.59	1.34	7.32e-4	0.73	130.0
P746A	J-326	PMP-746	719.00	10	Ductile Iron	328.59	1.34	0.57	0.79	130.0
P746B	PMP-746	J-740	1.00	10	Ductile Iron	328.59	1.34	7.32e-4	0.73	130.0
P117B	PRV-117	J-117	0.10	6	Asbestos Cement	5.31	0.06	0.00	0.00	130.0
P120A	J-117	PRV-120	5,690.00	6	Steel	0.01	6.0e-5	0.00	0.00	130.0
P128	J-128	J-140	1,800.00	12	Asbestos Cement	-51.67	0.15	0.02	0.01	130.0
P140B	J-140	PRV-140	0.10	8	Asbestos Cement	-52.95	0.34	0.00	0.00	130.0
P237B	PRV-237	J-237	0.10	6	Ductile Iron	66.35	0.75	0.00	0.00	128.0
P238	J-237	J-238	4,240.00	6	Steel	58.67	0.67	1.71	0.40	128.0
P211	J-202	J-212	2,760.00	14	Steel	264.56	0.55	0.28	0.10	132.0
P212	J-212	J-213	5,080.00	14	Steel	264.53	0.55	0.51	0.10	132.0
P294	J-294	J-287	2,620.00	6	Asbestos Cement	-16.96	0.19	0.10	0.04	129.0
P490	J-470	J-491	1,060.00	10	Asbestos Cement	-793.37	3.24	4.11	3.87	133.0
P240	J-241	J-209	3,120.00	10	Asbestos Cement	-442.70	1.81	4.47	1.43	127.0
P293	J-293	J-285	1,330.00	14	Steel	178.13	0.37	0.07	0.05	127.0
P218	J-217	J-220	3,440.00	8	Asbestos Cement	611.59	3.90	26.58	7.73	127.0
P176A	J-176	J-1000	816.00	12	Steel	-838.85	2.38	1.46	1.79	132.0
P176B	J-1000	J-177	2,984.00	12	Steel	-1,104.99	3.13	8.90	2.98	132.0
P1000	J-1000	J-1001	3,700.00	8	PVC	248.65	1.59	4.83	1.31	135.0
P1001	J-1001	J-1002	1,500.00	8	PVC	248.65	1.59	1.96	1.31	135.0
P1002	J-1002	J-1003	1,100.00	10	PVC	247.21	1.01	0.48	0.44	135.0
P1004	J-1003	J-203	2,600.00	10	PVC	244.94	1.00	1.11	0.43	135.0
P214A	J-214	J-1005	500.00	6	Ductile Iron	222.98	2.53	2.32	4.65	130.0
P214B	J-1005	J-215	440.00	6	Ductile Iron	222.98	2.53	2.04	4.65	130.0
P1652	J-1653	J-1652	2,760.00	24	Ductile Iron	-1,071.38	0.76	0.26	0.09	135.0
P1651	J-1652	J-1651	11,250.00	30	Ductile Iron	-1,071.38	0.49	0.35	0.03	135.0
P1650	J-1651	R-650	4,500.00	30	Ductile Iron	-1,071.38	0.49	0.14	0.03	135.0
P1011	J-277	J-433	350.00	8	Asbestos Cement	827.53	5.28	4.23	12.08	135.0
P367B	J-366	J-1011	1,280.00	14	Steel	345.99	0.72	0.23	0.18	127.0
P367A	J-1011	J-367	1,300.00	14	Steel	435.71	0.91	0.35	0.27	127.0
P366A	J-366	J-1012	1,018.00	14	Steel	-482.13	1.00	0.33	0.33	127.0
P366B	J-1012	J-361	2,702.00	14	Steel	-590.09	1.23	1.28	0.47	127.0
P1016	J-1012	J-1013	1,298.00	8	PVC	103.07	0.66	0.33	0.26	135.0
P1017	J-1013	J-1011	1,045.00	8	PVC	93.99	0.60	0.23	0.22	135.0
P1018	J-275	J-437	400.00	8	Asbestos Cement	463.16	2.96	1.65	4.13	135.0
P477B	J-476	J-1014	1,400.00	6	Asbestos Cement	-266.69	3.03	9.46	6.76	127.0
P477A	J-1014	J-437	500.00	6	Asbestos Cement	100.69	1.14	0.56	1.11	127.0
P275A	J-267	J-1015	819.00	14	Steel	490.44	1.02	0.28	0.34	127.0
P275B	J-1015	J-275	511.00	14	Steel	174.82	0.36	0.03	0.05	127.0
P1021	J-1015	J-1016	450.00	10	PVC	311.46	1.27	0.30	0.67	135.0
P1022	J-1016	J-1014	900.00	10	PVC	367.90	1.50	0.82	0.91	135.0
P1023	J-1016	J-266	900.00	6	Asbestos Cement	-72.08	0.82	0.48	0.54	135.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P265A	J-264	J-1017	653.00	14	Steel	821.95	1.71	0.57	0.88	127.0
P265B	J-1017	J-265	677.00	14	Steel	781.60	1.63	0.54	0.80	127.0
P266A	J-263	J-1018	660.00	6	Asbestos Cement	37.36	0.42	0.11	0.17	129.0
P266B	J-1018	J-266	1,310.00	6	Asbestos Cement	74.13	0.84	0.81	0.61	129.0
P1026	J-1017	J-1019	331.00	8	PVC	39.52	0.25	0.01	0.04	135.0
P1027	J-1019	J-1018	320.00	6	Asbestos Cement	39.52	0.45	0.06	0.18	135.0
P1028	J-265	J-1020	650.00	14	PVC	304.49	0.63	0.08	0.12	135.0
P1029	J-1020	J-1021	656.00	10	PVC	186.01	0.76	0.22	0.26	135.0
P1030	J-1021	J-275	450.00	10	PVC	277.26	1.13	0.24	0.54	135.0
P1031	J-1020	J-1022	720.00	10	PVC	109.30	0.45	0.07	0.10	135.0
P1032	J-1022	J-1023	849.00	10	PVC	109.30	0.45	0.08	0.10	135.0
P1033	J-1023	J-1021	720.00	10	PVC	109.30	0.45	0.07	0.10	135.0
P464B	J-461	J-1024	383.00	6	Ductile Iron	40.36	0.46	0.08	0.21	127.0
P464A	J-1024	J-464	407.00	6	Ductile Iron	101.05	1.15	0.46	1.12	127.0
P1036	J-446	J-1025	330.00	8	Cast Iron	104.41	0.67	0.17	0.50	95.0
P453A	J-1025	J-1026	340.00	8	Cast Iron	-19.71	0.13	0.01	0.02	95.0
P453B	J-1026	J-452	340.00	8	Cast Iron	10.29	0.07	2.32e-3	0.01	95.0
P414B	J-412	J-1031	770.00	10	Cast Iron	-138.51	0.57	0.22	0.29	95.0
P414A	J-1031	J-414	770.00	10	Cast Iron	-92.08	0.38	0.10	0.13	95.0
P467B	J-466	J-1032	743.00	4	Cast Iron	-47.20	1.20	2.51	3.38	95.0
P467A	J-1032	J-444	377.00	4	Cast Iron	21.93	0.56	0.31	0.82	95.0
P1041	J-464	J-1027	379.00	6	Asbestos Cement	55.78	0.63	0.13	0.33	135.0
P1042	J-1027	J-1028	376.00	6	Asbestos Cement	24.92	0.28	0.03	0.08	135.0
P1043	J-1028	J-1025	583.00	6	Asbestos Cement	24.92	0.28	0.04	0.08	135.0
P1044	J-1027	J-1026	576.00	6	Asbestos Cement	30.85	0.35	0.06	0.11	135.0
P1050	J-482	J-1034	592.00	6	Ductile Iron	86.43	0.98	0.50	0.84	127.0
P1051	J-1034	J-419	608.00	6	Ductile Iron	45.07	0.51	0.15	0.25	127.0
P308A	J-307	J-1033	1,687.00	14	Steel	2,216.65	4.62	9.25	5.48	127.0
P308B	J-1033	J-308	2,273.00	14	Steel	2,210.08	4.61	12.40	5.45	127.0
P1046	J-1033	J-1035	1,400.00	8	Asbestos Cement	0.92	0.01	0.00	0.00	135.0
P1047	J-308	J-309	1,670.00	12	PVC	48.38	0.14	0.01	0.01	135.0
P310A	J-309	J-1036	550.00	6	Asbestos Cement	3.93	0.04	1.46e-3	2.66e-3	132.0
P310B	J-1036	J-310	1,770.00	6	Asbestos Cement	5.56	0.06	0.01	4.9e-3	132.0
P1049	J-309	J-1036	550.00	12	PVC	24.92	0.07	1.46e-3	2.66e-3	135.0
P444A	J-442	J-1039	577.00	6	Asbestos Cement	17.93	0.20	0.03	0.05	127.0
P444B	J-1039	J-444	573.00	6	Asbestos Cement	196.32	2.23	2.20	3.83	127.0
P1056	J-1039	J-1040	392.00	10	PVC	-466.26	1.90	0.55	1.41	135.0
P1057	J-1040	J-470	1,129.00	10	PVC	-544.06	2.22	2.12	1.88	135.0
P1058	J-1040	J-1032	574.00	4	Asbestos Cement	73.09	1.87	2.44	4.25	130.0
P1059	J-1039	J-435	380.00	10	PVC	287.71	1.18	0.22	0.58	135.0
P439A	J-436	J-483	2,400.00	12	Ductile Iron	739.39	2.10	3.66	1.52	127.0
P439B	J-483	J-438	600.00	12	Ductile Iron	296.71	0.84	0.17	0.28	127.0
P1035	J-469	J-1024	573.00	4	Cast Iron	63.79	1.63	3.38	5.90	95.0
P1060	J-449	J-1041	385.00	8	PVC	80.34	0.51	0.06	0.16	135.0
P1061	J-1041	J-1031	571.00	4	Cast Iron	51.04	1.30	2.23	3.91	95.0
P1062	J-1041	J-1025	593.00	8	PVC	-149.04	0.95	0.30	0.51	135.0
P1063	J-1041	J-1042	374.00	8	PVC	178.35	1.14	0.26	0.71	135.0
P1064	J-1042	J-451	391.00	8	PVC	29.82	0.19	0.01	0.03	135.0
P1065	J-1042	J-412	573.00	6	Cast Iron	146.54	1.66	2.19	3.82	95.0
P1066	J-455	J-1043	400.00	8	PVC	-272.24	1.74	0.62	1.54	135.0
P1067	J-319	J-1044	1,871.00	6	Asbestos Cement	388.05	4.40	25.30	13.52	127.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P1068	J-1044	J-321	779.00	6	Asbestos Cement	107.92	1.22	0.99	1.27	127.0
P1069	J-1043	J-1044	780.00	6	Asbestos Cement	-272.91	3.10	5.42	6.95	128.0
P337A	J-322	J-1045	400.00	6	Asbestos Cement	236.19	2.68	2.13	5.32	128.0
P337B	J-1045	J-338	1,660.00	6	Asbestos Cement	3.11	0.04	2.93e-3	1.76e-3	128.0
P1070	J-457	J-321	750.00	8	PVC	-328.26	2.10	1.64	2.18	135.0
P1071	J-321	J-1045	930.00	8	PVC	-233.08	1.49	1.08	1.16	135.0
P471A	J-471	J-1046	500.00	4	Cast Iron	58.07	1.48	2.48	4.96	95.0
P471N	J-1046	J-442	1,000.00	8	PVC	21.29	0.14	0.02	0.02	112.0
P209A	J-208	J-1047	630.00	18	Steel	-877.23	1.11	0.18	0.29	127.0
P209B	J-1047	J-209	0.01	18	Steel	-3,663.69	4.62	1.22e-4	12.21	127.0
P287	J-287	J-1603	1,240.00	10	Asbestos Cement	-77.07	0.31	0.07	0.06	127.0
P1624	J-1603	J-288	90.00	10	Asbestos Cement	-128.27	0.52	0.01	0.15	127.0
P1602	J-1601	J-1602	25.00	12	Ductile Iron	929.67	2.64	0.05	2.08	135.0
P1620	J-1600	J-490	40.00	14	Asbestos Cement	1,367.22	2.85	0.09	2.15	130.0
P1610	J-290	J-1610	40.00	14	Asbestos Cement	-1.62e-3	3.79e-6	0.00	0.00	127.0
P1611	J-1610	J-1611	25.00	12	Ductile Iron	-2,776.40	7.88	0.39	15.74	135.0
P1612A	J-1611	PMP-612	0.50	12	Ductile Iron	-1,388.20	3.94	2.08e-3	4.15	135.0
P1612B	PMP-612	J-1612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P1615	J-1612	J-1613	25.00	14	Ductile Iron	-2,776.40	5.79	0.19	7.43	135.0
P493	R-493	J-1613	2,275.00	14	Asbestos Cement	0.00	0.00	0.00	0.00	132.0
P1622	J-494	J-1605	5.00	14	Asbestos Cement	2,333.42	4.86	0.03	6.03	127.0
P1613A	J-1611	PMP-613	0.50	12	Ductile Iron	-1,388.20	3.94	2.08e-3	4.15	135.0
P1613B	PMP-613	J-1612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P285A	J-284	J-492	1,329.00	14	Steel	551.09	1.15	0.55	0.42	127.0
P285B	J-492	J-285	1.00	14	Steel	-87.45	0.18	0.00	0.00	127.0
P491	J-492	J-491	3,480.00	10	Asbestos Cement	796.70	3.25	13.78	3.96	132.0
P492	J-1601	J-492	3,900.00	14	Asbestos Cement	158.17	0.33	0.15	0.04	130.0
P1076	J-1047	J-1054	3,395.00	20	Ductile Iron	2,786.47	2.85	4.47	1.32	135.0
P1078	J-1054	J-1055	6,437.00	20	Ductile Iron	2,678.10	2.73	7.87	1.22	135.0
P1080	J-241	J-1054	40.00	10	Ductile Iron	-108.37	0.44	3.78e-3	0.09	135.0
P1081	J-1055	J-244	40.00	10	Ductile Iron	120.90	0.49	4.64e-3	0.12	135.0
P1082	J-1055	J-1057	4,097.00	20	Ductile Iron	2,557.20	2.61	4.60	1.12	135.0
P1083	J-1057	J-1600	2,221.00	20	Ductile Iron	2,455.06	2.51	2.31	1.04	135.0
P286A	J-245	J-1058	1,700.00	10	Asbestos Cement	276.56	1.13	1.02	0.60	127.0
P1085	J-1057	J-1058	40.00	10	Ductile Iron	102.14	0.42	3.42e-3	0.09	135.0
P1086	J-1058	J-1059	2,230.00	10	Asbestos Cement	378.70	1.55	2.40	1.07	127.0
P1087	J-1059	J-288	30.00	10	Asbestos Cement	323.30	1.32	0.02	0.80	127.0
P1088	J-490	J-1059	25.00	10	Asbestos Cement	-55.40	0.23	7.32e-4	0.03	127.0
P1089	J-1601	J-1600	50.00	14	Asbestos Cement	-1,087.84	2.27	0.07	1.41	130.0
P1090	J-1602	J-1603	10.00	12	Ductile Iron	-51.20	0.15	1.22e-4	0.01	135.0
P1091	J-1605	J-1060	214.00	14	Asbestos Cement	2,333.42	4.86	1.24	5.77	130.0
P1092	J-1060	J-495	3,786.00	14	Asbestos Cement	2,512.29	5.24	25.07	6.62	130.0
P1094	J-367	J-1061	0.10	14	Steel	0.00	0.00	0.00	0.00	127.0
P278	J-1061	J-277	1,050.00	14	Steel	1,071.38	2.23	1.50	1.43	127.0
P1653	J-1653	J-1061	17,700.00	24	Ductile Iron	1,071.38	0.76	1.64	0.09	135.0
P1604	J-1602	J-1062	3,400.00	12	Ductile Iron	980.87	2.78	7.81	2.30	135.0
P1095	J-289	J-1063	2,000.00	6	Asbestos Cement	121.72	1.38	3.17	1.58	127.0
P1096	J-1063	J-1060	400.00	6	Asbestos Cement	178.87	2.03	1.29	3.23	127.0
P1097	J-290	J-1063	20.00	6	Asbestos Cement	57.15	0.65	0.01	0.39	127.0
P1098	J-290	J-1062	10.00	14	Asbestos Cement	-57.15	0.12	0.00	0.00	127.0
P1099	J-1062	J-494	30.00	14	Asbestos Cement	923.72	1.93	0.03	1.09	127.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P1102	J-1613	J-1610	20.00	14	Asbestos Cement	-2,776.40	5.79	0.15	7.75	132.0
P203	J-202	J-203	2,050.00	14	Steel	566.98	1.18	0.84	0.41	132.0
P315A	J-313	PSV-400	795.00	16	Ductile Iron	0.00	0.00	0.00	0.00	127.0
P315B	PSV-400	R-400	5.00	16	Ductile Iron	-5.82e-4	9.28e-7	0.00	0.00	127.0
P1605A	J-1605	PSV-493	2,345.00	6	Ductile Iron	0.00	0.00	0.00	0.00	130.0
P1605B	PSV-493	R-493	5.00	6	Ductile Iron	-1.79e-3	2.03e-5	0.00	0.00	130.0
P125B	R-125	PSV-125	5.00	6	Ductile Iron	-1.51e-3	1.72e-5	0.00	0.00	130.0
P125A	PSV-125	J-126	2,995.00	6	Ductile Iron	-1.52e-3	1.72e-5	0.00	0.00	130.0
P1	J-196	J-9000	4,580.00	6	Steel	349.72	3.97	50.35	10.99	128.0
P1110	J-197	J-1066	1,650.00	6	Asbestos Cement	62.60	0.71	0.76	0.46	127.0
P1111	J-1066	J-196	1,340.00	6	Asbestos Cement	62.60	0.71	0.62	0.46	127.0
P1112	J-1066	J-1067	650.00	6	Asbestos Cement	0.00	0.00	0.00	0.00	127.0
P1113	J-197	J-1068	1,629.00	6	Asbestos Cement	44.26	0.50	0.40	0.24	127.0
P1114	J-1068	J-233	1,131.00	6	Asbestos Cement	44.26	0.50	0.28	0.24	127.0
P9000	J-9000	J-9001	3,421.00	8	PVC	349.72	2.23	6.91	2.02	150.0
P9001	J-9001	T-1	3,100.00	8	PVC	349.72	2.23	6.26	2.02	150.0
P1118	J-1069	J-236	1,020.00	6	Steel	70.17	0.80	0.57	0.56	128.0
P1116	J-9000	J-9004	30.00	6	Steel	0.00	0.00	0.00	0.00	128.0
P1117	J-9004	J-1069	4,170.00	6	Steel	70.17	0.80	2.35	0.56	128.0
P9002	T-1	J-9002	3,100.00	10	PVC	189.77	0.78	0.68	0.22	150.0
P9004	J-9002	J-9004	3,421.00	8	PVC	93.17	0.59	0.60	0.17	150.0

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Calculated Hydraulic Grade (ft)
R-180	1,805.50	Bargar-Woodson Zone	-7,269.24	1,805.50
R-125	1,147.00	Snow	-108.90	1,147.00
R-741	2,115.50	I.D. No. 5	430.11	2,115.50
R-400	1,650.50	Santa Maria 1666 Zone	1,058.92	1,650.50
R-300	1,813.50	Bargar-Woodson Zone	-3,623.89	1,813.50
R-650	1,721.00	Santa Maria 1666 Zone	-1,071.38	1,721.00
R-493	1,655.50	Santa Maria 1666 Zone	-1.57e-3	1,655.50

Scenario: Max Day
Extended Period Analysis: 0.0 hr / 24.0 hr
Valve Report

Label	Elevation (ft)	Diameter (in)	Discharge (gpm)	Initial Pressure (psi)	Control Status	From HGL (ft)	To HGL (ft)	Headloss (ft)
PRV-117	1,200.00	6	5.31	20.00	Throttling	1,770.10	1,246.16	523.94
PRV-140	1,300.00	8	52.95	80.23	Throttling	1,769.67	1,485.16	284.51
PRV-237	1,255.00	6	66.35	180.00	Inactive	1,667.66	1,667.66	0.00
PRV-120	880.00	6	3.51e-3	124.03	Inactive	1,246.16	1,246.16	0.00
PSV-400	1,635.00	6	0.00	55.00	Closed	1,728.87	1,650.50	0.00
PSV-493	1,644.00	6	0.00	48.14	Closed	1,704.14	1,655.50	0.00
PSV-125	1,140.00	6	0.00	105.00	Closed	1,484.67	1,147.00	0.00

APPENDIX F

Scenario #8 Summary Report: Maximum Daily Plus 2,500 GPM Fire Flow Demand

Scenario Summary Report
Scenario: Max Day + Fire

Scenario Summary	
Physical Alternative	Existing
Demand Alternative	Existing - Max Day + Fire - B-W PF=2.3
Initial Settings Alternative	Barger On - West End On
Operational Alternative	Base-Operational
Age Alternative	Base-Age Alternative
Constituent Alternative	Base-Constituent
Trace Alternative	Base-Trace Alternative
Fire Flow Alternative	Fire Flow - 20 psi min zone pressure
Cost Alternative	Base-Cost
User Data Alternative	Base-User Data

Hydraulic Analysis Summary	
Analysis	Steady State
Friction Method	Hazen-Williams Formula
Accuracy	0.001000
Trials	40

Quality Analysis Summary			
Analysis	Constituent	Maximum Pipe Segments	100
Quality Time Step	N/A hr	Minimum Pipe Travel Time	0.10 hr

Calibration			
Demand Operation	<None>	Roughness Operation	<None>
Demand	0.00	Roughness	0.00

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Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-111	1,400.00	Demand	22.27	Fixed	22.27	1,771.28	160.88
J-115	1,640.00	Demand	5.69	Fixed	5.69	1,770.27	56.44
J-116	1,617.00	Demand	7.32	Fixed	7.32	1,770.13	66.35
J-117	1,200.00	Demand	5.30	Fixed	5.30	1,246.16	20.00
J-121	830.00	Demand	25.34	Fixed	25.34	1,144.02	136.06
J-122	980.00	Demand	32.75	Fixed	32.75	1,145.44	71.69
J-123	740.00	Demand	50.81	Fixed	50.81	1,143.08	174.65
J-126	1,190.00	Demand	44.11	Fixed	44.11	1,464.67	127.68
J-127	1,200.00	Demand	0.00	Fixed	0.00	1,485.12	123.54
J-128	1,200.00	Demand	7.56	Fixed	7.56	1,485.14	123.55
J-131	1,300.00	Demand	22.82	Fixed	22.82	1,769.63	203.49
J-133	1,600.00	Demand	6.94	Fixed	6.94	1,769.80	73.58
J-134	1,600.00	Demand	4.66	Fixed	4.66	1,769.83	73.59
J-140	1,300.00	Demand	1.28	Fixed	1.28	1,485.16	80.23
J-141	1,373.00	Demand	6.68	Fixed	6.68	1,769.96	172.00
J-143	1,300.00	Demand	6.94	Fixed	6.94	1,769.97	203.64
J-148	1,380.00	Demand	32.19	Fixed	32.19	1,770.00	168.99
J-150	1,500.00	Demand	51.37	Fixed	51.37	1,770.10	117.04
J-151	1,550.00	Demand	23.73	Fixed	23.73	1,770.10	95.37
J-152	1,590.00	Demand	7.28	Fixed	7.28	1,770.22	78.09
J-153	1,520.00	Demand	5.92	Fixed	5.92	1,771.21	108.85
J-154	1,450.00	Demand	0.86	Fixed	0.86	1,772.39	139.69
J-158	1,580.00	Demand	1.70	Fixed	1.70	1,770.10	82.37
J-161	1,650.00	Demand	0.00	Fixed	0.00	1,775.23	54.26
J-162	1,600.00	Demand	4.49	Fixed	4.49	1,780.19	78.07
J-163	1,700.00	Demand	7.56	Fixed	7.56	1,786.00	37.26
J-164	1,650.00	Demand	3.62	Fixed	3.62	1,791.04	61.11
J-165	1,700.00	Demand	0.93	Fixed	0.93	1,798.25	42.57
J-168	1,450.00	Demand	0.44	Fixed	0.44	1,791.04	147.77
J-172	1,590.00	Demand	26.98	Fixed	26.98	1,769.95	77.97
J-174	1,540.00	Demand	32.74	Fixed	32.74	1,769.95	99.64
J-175	1,440.00	Demand	7.61	Fixed	7.61	1,770.22	143.08
J-176	1,450.00	Demand	10.26	Fixed	10.26	1,775.30	140.95
J-177	1,640.00	Demand	450.86	Fixed	450.86	1,785.66	63.11
J-178	1,660.00	Demand	25.72	Fixed	25.72	1,792.09	57.24
J-181	1,640.00	Demand	10.34	Fixed	10.34	1,805.50	71.71
J-185	1,670.00	Demand	33.94	Fixed	33.94	1,785.57	50.08
J-186	1,720.00	Demand	51.76	Fixed	51.76	1,789.33	30.04
J-187	1,690.00	Demand	51.01	Fixed	51.01	1,789.34	43.04
J-191	1,550.00	Demand	121.62	Fixed	121.62	1,772.45	96.39
J-192	1,480.00	Demand	131.73	Fixed	131.73	1,758.17	120.53
J-194	1,500.00	Demand	84.46	Fixed	84.46	1,763.78	114.29
J-195	1,455.00	Demand	52.81	Fixed	52.81	1,759.34	131.87
J-196	1,470.00	Demand	124.62	Fixed	124.62	1,738.52	116.35
J-197	1,435.00	Demand	108.18	Fixed	108.18	1,739.91	132.12
J-199	1,430.00	Demand	49.00	Fixed	49.00	1,741.24	134.86
J-201	1,370.00	Demand	0.00	Fixed	0.00	1,769.72	173.20
J-202	1,350.00	Demand	0.00	Fixed	0.00	1,769.21	181.65
J-203	1,370.00	Demand	9.04	Fixed	9.04	1,768.37	172.62
J-204	1,390.00	Demand	32.47	Fixed	32.47	1,753.41	157.46
J-206	1,500.00	Demand	58.85	Fixed	58.85	1,753.27	109.74
J-207	1,405.00	Demand	47.81	Fixed	47.81	1,747.65	148.47

Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-208	1,420.00	Demand	0.00	Fixed	0.00	1,731.21	134.85
J-209	1,425.00	Demand	35.87	Fixed	35.87	1,731.39	132.76
J-212	1,370.00	Demand	0.03	Fixed	0.03	1,768.94	172.86
J-213	1,400.00	Demand	0.00	Fixed	0.00	1,768.43	159.64
J-214	1,395.00	Demand	41.55	Fixed	41.55	1,767.94	161.59
J-215	1,395.00	Demand	2.89	Fixed	2.89	1,763.57	159.70
J-216	1,420.00	Demand	46.94	Fixed	46.94	1,763.01	148.63
J-217	1,405.00	Demand	18.97	Fixed	18.97	1,763.50	155.34
J-220	1,370.00	Demand	39.61	Fixed	39.61	1,736.91	158.98
J-221	1,385.00	Demand	10.69	Fixed	10.69	1,731.83	150.28
J-222	1,390.00	Demand	11.96	Fixed	11.96	1,730.91	147.72
J-223	1,375.00	Demand	5.24	Fixed	5.24	1,731.36	154.41
J-224	1,375.00	Demand	11.42	Fixed	11.42	1,731.16	154.32
J-226	1,395.00	Demand	24.39	Fixed	24.39	1,729.53	144.95
J-227	1,390.00	Demand	26.49	Fixed	26.49	1,731.68	148.05
J-230	1,390.00	Demand	28.79	Fixed	28.79	1,723.01	144.29
J-231	1,420.00	Demand	13.78	Fixed	13.78	1,728.75	133.78
J-233	1,600.00	Demand	44.26	Fixed	44.26	1,739.23	60.33
J-236	1,255.00	Demand	3.81	Fixed	3.81	1,579.48	140.60
J-237	1,255.00	Demand	7.68	Fixed	7.68	1,576.35	139.24
J-238	1,200.00	Demand	58.67	Fixed	58.67	1,574.63	162.33
J-241	1,430.00	Demand	94.87	Fixed	94.87	1,726.92	128.65
J-242	1,525.00	Demand	58.57	Fixed	58.57	1,726.17	87.17
J-244	1,430.00	Demand	32.44	Fixed	32.44	1,719.04	125.24
J-245	1,425.00	Demand	19.58	Fixed	19.58	1,715.46	125.86
J-246	1,475.00	Demand	23.18	Fixed	23.18	1,714.92	103.96
J-247	1,435.00	Demand	16.89	Fixed	16.89	1,714.98	121.31
J-248	1,430.00	Demand	18.55	Fixed	18.55	1,715.13	123.55
J-249	1,430.00	Demand	15.44	Fixed	15.44	1,715.24	123.59
J-250	1,395.00	Demand	32.32	Fixed	32.32	1,717.40	139.69
J-252	1,395.00	Demand	43.43	Fixed	43.43	1,716.07	139.12
J-253	1,405.00	Demand	32.98	Fixed	32.98	1,715.13	134.38
J-255	1,430.00	Demand	15.12	Fixed	15.12	1,714.99	123.48
J-256	1,430.00	Demand	128.49	Fixed	128.49	1,714.04	123.07
J-258	1,410.00	Demand	32.92	Fixed	32.92	1,713.86	131.66
J-260	1,395.00	Demand	19.70	Fixed	19.70	1,720.70	141.13
J-262	1,395.00	Demand	43.20	Fixed	43.20	1,719.44	140.58
J-263	1,405.00	Demand	25.40	Fixed	25.40	1,718.24	135.73
J-264	1,400.00	Demand	11.73	Fixed	11.73	1,718.77	138.12
J-265	1,410.00	Demand	12.23	Fixed	12.23	1,717.66	133.31
J-266	1,410.00	Demand	35.38	Fixed	35.38	1,717.32	133.16
J-267	1,410.00	Demand	3.65	Fixed	3.65	1,717.41	133.20
J-270	1,410.00	Demand	36.00	Fixed	36.00	1,719.70	134.19
J-271	1,410.00	Demand	43.89	Fixed	43.89	1,718.15	133.52
J-275	1,420.00	Demand	23.80	Fixed	23.80	1,717.11	128.74
J-277	1,405.00	Demand	208.96	Fixed	208.96	1,717.12	135.24
J-280	1,430.00	Demand	27.39	Fixed	27.39	1,713.15	122.69
J-282	1,540.00	Demand	14.88	Fixed	14.88	1,712.94	74.93
J-283	1,470.00	Demand	25.40	Fixed	25.40	1,712.59	105.11
J-284	1,430.00	Demand	90.31	Fixed	90.31	1,712.46	122.39
J-285	1,440.00	Demand	103.82	Fixed	103.82	1,711.91	117.82
J-287	1,450.00	Demand	25.01	Fixed	25.01	1,711.94	113.50

Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-288	1,440.00	Demand	5.67	Fixed	5.67	1,712.02	117.87
J-289	1,450.00	Demand	67.64	Fixed	67.64	1,707.36	111.52
J-290	1,510.00	Demand	0.00	Fixed	0.00	1,704.20	84.15
J-292	1,435.00	Demand	21.98	Fixed	21.98	1,711.82	119.95
J-293	1,450.00	Demand	48.56	Fixed	48.56	1,711.98	113.51
J-294	1,470.00	Demand	46.76	Fixed	46.76	1,711.84	104.79
J-295	1,480.00	Demand	49.46	Fixed	49.46	1,712.13	100.58
J-297	1,430.00	Demand	48.76	Fixed	48.76	1,710.94	121.73
J-301	1,710.00	Demand	110.25	Fixed	110.25	1,809.85	43.27
J-302	1,650.00	Demand	11.83	Fixed	11.83	1,802.94	66.27
J-303	1,560.00	Demand	75.63	Fixed	75.63	1,796.82	102.61
J-304	1,520.00	Demand	67.31	Fixed	67.31	1,788.48	116.33
J-305	1,540.00	Demand	7.08	Fixed	7.08	1,788.46	107.66
J-306	1,550.00	Demand	2.52	Fixed	2.52	1,788.46	103.32
J-307	1,490.00	Demand	10.66	Fixed	10.66	1,773.46	122.82
J-308	1,490.00	Demand	12.07	Fixed	12.07	1,751.81	113.44
J-309	1,520.00	Demand	26.86	Fixed	26.86	1,751.80	100.44
J-310	1,500.00	Demand	5.56	Fixed	5.56	1,751.79	109.10
J-311	1,490.00	Demand	29.46	Fixed	29.46	1,773.29	122.75
J-312	1,480.00	Demand	36.02	Fixed	36.02	1,748.57	116.37
J-313	1,540.00	Demand	57.45	Fixed	57.45	1,728.87	81.84
J-314	1,600.00	Demand	47.47	Fixed	47.47	1,728.42	55.64
J-316	1,540.00	Demand	14.88	Fixed	14.88	1,748.54	90.36
J-318	1,530.00	Demand	7.54	Fixed	7.54	1,725.11	84.54
J-319	1,525.00	Demand	39.46	Fixed	39.46	1,719.24	84.16
J-320	1,525.00	Demand	47.68	Fixed	47.68	1,715.56	82.57
J-321	1,510.00	Demand	12.73	Fixed	12.73	1,692.96	79.27
J-322	1,475.00	Demand	42.31	Fixed	42.31	1,696.16	95.83
J-323	1,550.00	Demand	18.88	Fixed	18.88	1,712.72	70.51
J-324	1,580.00	Demand	3.23	Fixed	3.23	1,711.90	57.15
J-325	1,675.00	Demand	22.50	Fixed	22.50	1,708.82	14.65
J-326	1,590.00	Demand	30.08	Fixed	30.08	1,703.47	49.17
J-328	1,510.00	Demand	19.86	Fixed	19.86	1,708.48	86.00
J-330	1,490.00	Demand	52.34	Fixed	52.34	1,712.72	96.50
J-332	1,490.00	Demand	16.83	Fixed	16.83	1,710.41	95.50
J-333	1,530.00	Demand	9.96	Fixed	9.96	1,709.66	77.85
J-336	1,490.00	Demand	39.65	Fixed	39.65	1,711.73	96.08
J-338	1,500.00	Demand	3.11	Fixed	3.11	1,694.03	84.07
J-340	1,490.00	Demand	38.43	Fixed	38.43	1,780.11	125.70
J-341	1,485.00	Demand	7.44	Fixed	7.44	1,778.53	127.19
J-342	1,490.00	Demand	22.02	Fixed	22.02	1,776.98	124.35
J-343	1,520.00	Demand	5.73	Fixed	5.73	1,778.71	112.10
J-344	1,555.00	Demand	20.93	Fixed	20.93	1,778.65	96.91
J-345	1,590.00	Demand	21.15	Fixed	21.15	1,778.31	81.60
J-346	1,555.00	Demand	21.71	Fixed	21.71	1,778.19	96.71
J-349	1,490.00	Demand	11.82	Fixed	11.82	1,773.73	122.94
J-350	1,510.00	Demand	2.40	Fixed	2.40	1,773.73	114.27
J-351	1,450.00	Demand	3.71	Fixed	3.71	1,774.63	140.66
J-352	1,390.00	Demand	47.93	Fixed	47.93	1,776.07	167.28
J-353	1,500.00	Demand	40.33	Fixed	40.33	1,776.82	119.94
J-354	1,550.00	Demand	1.71	Fixed	1.71	1,777.63	98.63
J-356	1,400.00	Demand	7.73	Fixed	7.73	1,776.81	163.27

Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-360	1,550.00	Demand	135.20	Fixed	135.20	1,770.12	95.38
J-361	1,450.00	Demand	114.62	Fixed	114.62	1,767.17	137.43
J-362	1,425.00	Demand	21.36	Fixed	21.36	1,766.80	148.10
J-363	1,430.00	Demand	6.01	Fixed	6.01	1,765.78	145.49
J-364	1,450.00	Demand	17.29	Fixed	17.29	1,765.73	136.80
J-366	1,430.00	Demand	27.53	Fixed	27.53	1,765.56	145.40
J-367	1,410.00	Demand	12.99	Fixed	12.99	1,764.98	153.81
J-368	1,405.00	Demand	15.95	Fixed	15.95	1,764.73	155.87
J-370	1,415.00	Demand	10.19	Fixed	10.19	1,765.12	151.71
J-372	1,410.00	Demand	6.94	Fixed	6.94	1,765.13	153.88
J-373	1,420.00	Demand	8.61	Fixed	8.61	1,765.23	149.59
J-374	1,415.00	Demand	32.61	Fixed	32.61	1,765.46	151.85
J-375	1,410.00	Demand	14.29	Fixed	14.29	1,765.09	153.86
J-376	1,510.00	Demand	31.53	Fixed	31.53	1,765.58	110.74
J-377	1,660.00	Demand	93.96	Fixed	93.96	1,767.08	46.40
J-378	1,615.00	Demand	14.70	Fixed	14.70	1,767.76	66.19
J-402	1,515.00	Demand	59.93	Fixed	59.93	1,670.36	67.32
J-403	1,490.00	Demand	35.26	Fixed	35.26	1,680.45	82.52
J-404	1,495.00	Demand	13.55	Fixed	13.55	1,681.02	80.60
J-405	1,500.00	Demand	1.44	Fixed	1.44	1,681.83	78.79
J-406	1,500.00	Demand	5.38	Fixed	5.38	1,681.97	78.85
J-407	1,540.00	Demand	41.04	Fixed	41.04	1,682.05	61.55
J-408	1,483.00	Demand	16.13	Fixed	16.13	1,682.03	86.24
J-410	1,550.00	Demand	26.50	Fixed	26.50	1,674.99	54.16
J-411	1,470.00	Demand	19.51	Fixed	19.51	1,683.72	92.61
J-412	1,460.00	Demand	17.89	Fixed	17.89	1,683.84	96.99
J-414	1,470.00	Demand	48.70	Fixed	48.70	1,684.17	92.80
J-416	1,470.00	Demand	17.94	Fixed	17.94	1,685.13	93.22
J-417	1,475.00	Demand	10.50	Fixed	10.50	1,684.26	90.67
J-419	1,445.00	Demand	43.11	Fixed	43.11	1,686.58	104.68
J-420	1,460.00	Demand	4.79	Fixed	4.79	1,686.59	98.18
J-421	1,450.00	Demand	10.83	Fixed	10.83	1,686.79	102.60
J-422	1,440.00	Demand	22.42	Fixed	22.42	1,686.80	106.94
J-423	1,430.00	Demand	9.44	Fixed	9.44	1,688.33	111.93
J-424	1,430.00	Demand	51.43	Fixed	51.43	1,688.38	111.96
J-426	1,425.00	Demand	15.18	Fixed	15.18	1,690.70	115.13
J-427	1,420.00	Demand	20.89	Fixed	20.89	1,691.20	117.51
J-429	1,420.00	Demand	9.89	Fixed	9.89	1,695.81	119.51
J-430	1,420.00	Demand	14.91	Fixed	14.91	1,696.23	119.69
J-431	1,420.00	Demand	85.54	Fixed	85.54	1,707.95	124.77
J-432	1,415.00	Demand	38.57	Fixed	38.57	1,709.64	127.67
J-433	1,410.00	Demand	137.17	Fixed	137.17	1,712.89	131.24
J-434	1,420.00	Demand	69.54	Fixed	69.54	1,712.25	126.63
J-435	1,430.00	Demand	0.00	Fixed	0.00	1,691.14	113.15
J-436	1,430.00	Demand	8.18	Fixed	8.18	1,690.51	112.88
J-437	1,420.00	Demand	52.62	Fixed	52.62	1,715.46	128.02
J-438	1,460.00	Demand	0.00	Fixed	0.00	1,686.69	98.22
J-439	1,420.00	Demand	61.24	Fixed	61.24	1,704.57	123.30
J-440	1,425.00	Demand	43.04	Fixed	43.04	1,691.99	115.69
J-442	1,425.00	Demand	39.69	Fixed	39.69	1,691.38	115.42
J-444	1,430.00	Demand	37.97	Fixed	37.97	1,689.16	112.29
J-446	1,440.00	Demand	27.77	Fixed	27.77	1,686.76	106.92

Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-449	1,455.00	Demand	4.95	Fixed	4.95	1,686.36	100.25
J-451	1,480.00	Demand	9.51	Fixed	9.51	1,686.02	89.27
J-452	1,470.00	Demand	36.07	Fixed	36.07	1,686.60	93.85
J-454	1,550.00	Demand	27.28	Fixed	27.28	1,687.33	59.51
J-455	1,520.00	Demand	0.00	Fixed	0.00	1,687.91	72.75
J-457	1,530.00	Demand	14.98	Fixed	14.98	1,691.32	69.90
J-458	1,510.00	Demand	10.92	Fixed	10.92	1,687.38	76.86
J-461	1,470.00	Demand	58.81	Fixed	58.81	1,687.33	94.17
J-462	1,470.00	Demand	14.17	Fixed	14.17	1,688.43	94.65
J-464	1,460.00	Demand	32.41	Fixed	32.41	1,686.79	98.27
J-466	1,450.00	Demand	21.39	Fixed	21.39	1,686.96	102.67
J-469	1,440.00	Demand	5.68	Fixed	5.68	1,690.63	108.60
J-470	1,440.00	Demand	34.91	Fixed	34.91	1,694.03	110.07
J-471	1,430.00	Demand	35.39	Fixed	35.39	1,693.88	114.34
J-472	1,430.00	Demand	105.19	Fixed	105.19	1,697.07	115.72
J-474	1,425.00	Demand	133.14	Fixed	133.14	1,701.78	119.93
J-476	1,425.00	Demand	56.08	Fixed	56.08	1,706.56	122.00
J-479	1,435.00	Demand	10.52	Fixed	10.52	1,687.25	109.30
J-480	1,435.00	Demand	4.65	Fixed	4.65	1,687.23	109.29
J-481	1,430.00	Demand	4.15	Fixed	4.15	1,688.33	111.94
J-482	1,435.00	Demand	49.67	Fixed	49.67	1,687.23	109.29
J-483	1,450.00	Demand	3.00	Fixed	3.00	1,686.86	102.63
J-485	1,460.00	Demand	3.47	Fixed	3.47	1,684.64	97.34
J-486	1,460.00	Demand	101.18	Fixed	101.18	1,684.64	97.34
J-490	1,440.00	Demand	8.82	Fixed	8.82	1,712.05	117.88
J-491	1,430.00	Demand	3.33	Fixed	3.33	1,698.13	116.18
J-492	1,440.00	Demand	0.00	Fixed	0.00	1,711.91	117.82
J-494	1,510.00	Demand	4.10	Fixed	4.10	1,704.17	84.13
J-495	1,380.00	Demand	0.00	Fixed	0.00	1,677.84	129.05
J-496	1,280.00	Demand	5.28	Fixed	5.28	1,656.65	163.20
J-497	1,270.00	Demand	7.01	Fixed	7.01	1,649.53	164.45
J-499	1,340.00	Demand	0.00	Fixed	0.00	1,571.70	100.39
J-500	1,335.00	Demand	2,500.00	Fixed	2,500.00	1,546.68	91.72
J-740	1,600.00	Demand	0.00	Fixed	0.00	2,138.83	233.48
J-742	1,800.00	Demand	64.31	Fixed	64.31	2,114.95	136.47
J-743	1,735.00	Demand	36.48	Fixed	36.48	2,114.92	164.62
J-744	1,885.00	Demand	126.27	Fixed	126.27	2,114.82	99.58
J-745	2,100.00	Demand	0.00	Fixed	0.00	2,115.50	6.72
J-1000	1,540.00	Demand	17.49	Fixed	17.49	1,776.76	102.59
J-1001	1,460.00	Demand	0.00	Fixed	0.00	1,771.93	135.16
J-1002	1,420.00	Demand	1.44	Fixed	1.44	1,769.97	151.64
J-1003	1,390.00	Demand	2.27	Fixed	2.27	1,769.49	164.43
J-1005	1,395.00	Demand	0.00	Fixed	0.00	1,765.62	160.59
J-1011	1,450.00	Demand	4.27	Fixed	4.27	1,765.33	136.63
J-1012	1,460.00	Demand	4.89	Fixed	4.89	1,765.89	132.54
J-1013	1,420.00	Demand	9.08	Fixed	9.08	1,765.56	149.73
J-1014	1,420.00	Demand	0.52	Fixed	0.52	1,716.02	128.27
J-1015	1,415.00	Demand	4.16	Fixed	4.16	1,717.14	130.92
J-1016	1,415.00	Demand	15.63	Fixed	15.63	1,716.84	130.79
J-1017	1,405.00	Demand	0.84	Fixed	0.84	1,718.20	135.71
J-1018	1,405.00	Demand	2.75	Fixed	2.75	1,718.13	135.68
J-1019	1,405.00	Demand	0.00	Fixed	0.00	1,718.18	135.70

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Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-1020	1,410.00	Demand	9.18	Fixed	9.18	1,717.58	133.27
J-1021	1,415.00	Demand	18.05	Fixed	18.05	1,717.36	131.01
J-1022	1,410.00	Demand	0.00	Fixed	0.00	1,717.51	133.24
J-1023	1,415.00	Demand	0.00	Fixed	0.00	1,717.43	131.04
J-1024	1,465.00	Demand	3.10	Fixed	3.10	1,687.25	96.30
J-1025	1,450.00	Demand	0.00	Fixed	0.00	1,686.59	102.52
J-1026	1,460.00	Demand	0.85	Fixed	0.85	1,686.60	98.19
J-1027	1,450.00	Demand	0.00	Fixed	0.00	1,686.67	102.55
J-1028	1,440.00	Demand	0.00	Fixed	0.00	1,686.64	106.87
J-1031	1,465.00	Demand	4.62	Fixed	4.62	1,684.06	94.92
J-1032	1,435.00	Demand	3.96	Fixed	3.96	1,689.47	110.26
J-1033	1,480.00	Demand	5.65	Fixed	5.65	1,764.21	123.15
J-1034	1,440.00	Demand	41.36	Fixed	41.36	1,686.73	106.91
J-1035	1,540.00	Demand	0.92	Fixed	0.92	1,764.21	97.15
J-1036	1,540.00	Demand	23.29	Fixed	23.29	1,751.79	91.77
J-1039	1,430.00	Demand	0.15	Fixed	0.15	1,691.36	113.25
J-1040	1,430.00	Demand	4.71	Fixed	4.71	1,691.91	113.49
J-1041	1,450.00	Demand	0.00	Fixed	0.00	1,686.29	102.39
J-1042	1,460.00	Demand	1.99	Fixed	1.99	1,686.03	97.94
J-1043	1,515.00	Demand	0.67	Fixed	0.67	1,688.52	75.19
J-1044	1,495.00	Demand	7.22	Fixed	7.22	1,693.94	86.20
J-1045	1,480.00	Demand	0.00	Fixed	0.00	1,694.03	92.74
J-1046	1,430.00	Demand	36.79	Fixed	36.79	1,691.40	113.27
J-1047	1,425.00	Demand	0.00	Fixed	0.00	1,731.39	132.76
J-1054	1,430.00	Demand	0.00	Fixed	0.00	1,726.92	128.66
J-1055	1,430.00	Demand	0.00	Fixed	0.00	1,719.05	125.24
J-1057	1,420.00	Demand	0.00	Fixed	0.00	1,714.45	127.58
J-1058	1,420.00	Demand	0.00	Fixed	0.00	1,714.44	127.58
J-1059	1,440.00	Demand	0.00	Fixed	0.00	1,712.05	117.88
J-1060	1,509.00	Demand	0.00	Fixed	0.00	1,702.91	84.02
J-1061	1,410.00	Demand	0.00	Fixed	0.00	1,718.62	133.72
J-1062	1,510.00	Demand	0.00	Fixed	0.00	1,704.20	84.15
J-1063	1,510.00	Demand	0.00	Fixed	0.00	1,704.20	84.15
J-1066	1,455.00	Demand	0.00	Fixed	0.00	1,739.14	123.12
J-1067	1,515.00	Demand	0.00	Fixed	0.00	1,739.14	97.12
J-1068	1,545.00	Demand	0.00	Fixed	0.00	1,739.51	84.28
J-1069	1,265.00	Demand	0.00	Fixed	0.00	1,580.06	136.51
J-1600	1,444.00	Demand	0.00	Fixed	0.00	1,712.13	116.18
J-1601	1,444.00	Demand	0.00	Fixed	0.00	1,712.06	116.15
J-1602	1,444.00	Demand	0.00	Fixed	0.00	1,712.01	116.13
J-1603	1,444.00	Demand	0.00	Fixed	0.00	1,712.01	116.13
J-1605	1,509.00	Demand	0.00	Fixed	0.00	1,704.14	84.55
J-1610	1,506.00	Demand	0.00	Fixed	0.00	1,704.20	85.88
J-1611	1,511.00	Demand	0.00	Fixed	0.00	1,704.60	83.89
J-1612	1,511.00	Demand	0.00	Fixed	0.00	1,703.86	83.57
J-1613	1,506.00	Demand	0.00	Fixed	0.00	1,704.05	85.81
J-1651	1,600.00	Demand	0.00	Fixed	0.00	1,720.86	52.37
J-1652	1,350.00	Demand	0.00	Fixed	0.00	1,720.51	160.54
J-1653	1,370.00	Demand	0.00	Fixed	0.00	1,720.25	151.76
J-9000	1,305.00	Demand	0.00	Fixed	0.00	1,688.17	166.03
J-9001	1,435.00	Demand	0.00	Fixed	0.00	1,681.26	106.70
J-9002	1,435.00	Demand	2,596.60	Fixed	2,596.60	1,583.00	64.13

Scenario: Max Day + Fire
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-9004	1,305.00	Demand	23.00	Fixed	23.00	1,582.41	120.20

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Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P112	J-111	J-115	4,200.00	6	Asbestos Cement	45.88	0.52	1.02	0.24	132.0
P116	J-115	J-116	6,200.00	6	Asbestos Cement	12.63	0.14	0.14	0.02	132.0
P121	PRV-120	J-121	3,300.00	6	Asbestos Cement	0.00	0.00	0.00	0.00	132.0
P122	J-121	J-122	2,300.00	6	Asbestos Cement	-76.15	0.86	1.42	0.62	132.0
P123	J-121	J-123	3,200.00	8	Asbestos Cement	50.81	0.58	0.94	0.29	132.0
P124	R-125	J-122	1,300.00	8	Asbestos Cement	108.90	1.24	1.56	1.20	132.0
P126	J-126	J-127	2,000.00	6	Asbestos Cement	-44.11	0.50	0.45	0.23	132.0
P127	J-127	J-128	2,500.00	12	Asbestos Cement	-44.11	0.13	0.02	0.01	130.0
P131	J-134	J-131	2,900.00	6	Steel	22.82	0.26	0.20	0.07	130.0
P133	J-134	J-133	3,000.00	6	Asbestos Cement	6.94	0.08	0.02	0.01	132.0
P140A	J-143	PRV-140	3,740.00	8	Asbestos Cement	52.95	0.34	0.30	0.08	130.0
P141	J-141	J-143	1,500.00	12	Asbestos Cement	-13.54	0.04	1.34e-3	8.95e-4	130.0
P142	J-134	J-141	3,900.00	8	Asbestos Cement	-34.42	0.22	0.14	0.04	131.0
P145	J-141	J-115	3,200.00	6	Asbestos Cement	-27.56	0.31	0.30	0.09	132.0
P147	J-143	J-148	1,800.00	12	Ductile Iron	-73.43	0.21	0.04	0.02	132.0
P148	J-150	J-148	2,600.00	12	Asbestos Cement	105.62	0.30	0.10	0.04	132.0
P150	J-150	J-151	1,400.00	8	Asbestos Cement	4.88	0.03	1.34e-3	9.59e-4	132.0
P151	J-151	J-152	2,000.00	6	Asbestos Cement	-20.55	0.23	0.12	0.06	128.0
P152	J-152	J-154	2,200.00	6	Asbestos Cement	-96.12	1.11	2.18	0.99	132.0
P153	J-150	J-153	1,800.00	8	Asbestos Cement	-161.87	1.03	1.11	0.62	132.0
P154	J-153	J-154	1,800.00	8	Asbestos Cement	-167.79	1.07	1.18	0.66	132.0
P155	J-154	J-111	2,200.00	6	Asbestos Cement	68.15	0.77	1.11	0.50	132.0
P158	J-151	J-158	4,000.00	6	Asbestos Cement	1.70	0.02	2.2e-3	5.49e-4	132.0
P160	J-154	J-161	1,200.00	8	Ductile Iron	-334.91	2.14	2.83	2.36	132.0
P161	J-161	J-162	2,100.00	8	Asbestos Cement	-334.91	2.14	4.96	2.36	132.0
P162	J-162	J-163	2,400.00	8	Asbestos Cement	-339.41	2.17	5.81	2.42	132.0
P163	J-163	J-164	2,000.00	8	Asbestos Cement	-346.98	2.21	5.04	2.52	132.0
P164	J-164	J-165	2,800.00	8	Asbestos Cement	-351.02	2.24	7.21	2.58	132.0
P165	J-165	R-180	2,800.00	8	Asbestos Cement	-351.95	2.25	7.25	2.59	132.0
P167	J-164	J-168	2,100.00	6	Asbestos Cement	0.44	4.97e-3	1.22e-4	5.81e-5	132.0
P170	J-152	J-175	3,600.00	20	Steel	39.84	0.04	1.95e-3	5.43e-4	132.0
P171	J-152	J-172	2,200.00	6	Asbestos Cement	30.44	0.35	0.26	0.12	128.0
P173	J-172	J-174	2,800.00	6	Asbestos Cement	3.46	0.04	0.01	2.18e-3	128.0
P174	J-174	J-175	2,400.00	6	Asbestos Cement	-29.28	0.33	0.27	0.11	128.0
P175	J-175	J-176	2,900.00	12	Steel	-828.60	2.35	5.08	1.75	132.0
P177	J-177	J-178	1,100.00	12	Steel	-1,589.79	4.51	6.43	5.85	132.0
P179	J-178	R-180	4,100.00	24	Steel	-6,926.94	4.91	13.41	3.27	127.0
P180	J-181	R-180	3,030.00	18	Steel	-10.34	0.01	2.44e-4	8.06e-5	127.0
P185	J-177	J-185	2,680.00	8	Asbestos Cement	33.94	0.22	0.09	0.03	132.0
P186N	J-186	J-187	800.00	12	PVC	-51.76	0.15	0.01	0.01	135.0
P187	J-178	J-187	2,380.00	6	Asbestos Cement	102.78	1.17	2.76	1.16	127.0
P190	J-178	J-191	4,190.00	20	Steel	5,208.66	5.32	19.65	4.69	127.0
P192	J-191	J-192	3,930.00	20	Ductile Iron	4,538.03	4.63	14.28	3.63	127.0
P193	J-192	J-199	4,920.00	20	Steel	4,406.30	4.50	16.93	3.44	127.0
P194	J-191	J-194	4,180.00	10	Asbestos Cement	549.01	2.24	8.67	2.07	129.0
P195	J-194	J-195	3,000.00	10	Asbestos Cement	464.55	1.90	4.44	1.48	131.0
P196	J-195	J-196	1,420.00	6	Asbestos Cement	411.74	4.67	20.81	14.66	129.0
P198	J-197	J-199	1,620.00	8	PVC	-215.04	1.37	1.33	0.82	150.0
P199	J-199	J-209	1,920.00	18	Steel	4,142.26	5.22	9.84	5.13	127.0
P201	J-175	J-201	3,350.00	20	Steel	831.54	0.85	0.49	0.15	132.0
P202	J-201	J-202	3,480.00	20	Steel	831.54	0.85	0.51	0.15	132.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P204	J-203	J-204	3,470.00	10	Asbestos Cement	802.86	3.28	14.97	4.31	127.0
P206	J-204	J-206	4,260.00	10	Asbestos Cement	56.85	0.24	0.14	0.03	131.0
P207	J-204	J-207	1,670.00	10	Asbestos Cement	711.57	2.91	5.76	3.45	127.0
P208	J-207	J-208	5,420.00	10	Asbestos Cement	663.76	2.71	16.44	3.03	127.0
P213	J-213	J-214	4,920.00	14	Steel	264.53	0.55	0.49	0.10	132.0
P216	J-215	J-216	2,050.00	6	Asbestos Cement	46.94	0.53	0.56	0.27	127.0
P217	J-215	J-217	1,500.00	14	Steel	173.14	0.36	0.07	0.05	127.0
P221	J-220	J-221	1,690.00	6	Asbestos Cement	177.59	2.02	5.08	3.01	131.0
P222	J-221	J-222	710.00	6	Asbestos Cement	111.63	1.27	0.92	1.29	130.0
P223	J-221	J-223	1,380.00	6	Asbestos Cement	55.27	0.63	0.47	0.34	132.0
P224	J-223	J-224	710.00	6	Asbestos Cement	50.03	0.57	0.20	0.28	132.0
P225	J-224	J-222	1,380.00	6	Asbestos Cement	38.61	0.44	0.24	0.18	132.0
P226	J-222	J-226	720.00	6	Asbestos Cement	138.29	1.57	1.38	1.92	130.0
P227	J-226	J-227	1,100.00	6	Asbestos Cement	-138.41	1.57	2.15	1.95	129.0
P228	J-220	J-227	1,570.00	8	Asbestos Cement	394.39	2.52	5.23	3.33	129.0
P229	J-226	J-230	1,070.00	6	Asbestos Cement	252.30	2.86	6.52	6.10	127.0
P230	J-230	J-231	4,000.00	16	Steel	-1,527.20	2.44	5.75	1.44	127.0
P231	J-231	J-208	1,680.00	16	Steel	-1,540.98	2.46	2.45	1.46	127.0
P237A	J-236	PRV-237	6,180.00	6	Ductile Iron	66.35	0.75	3.14	0.51	128.0
P242	J-241	J-242	1,860.00	6	Asbestos Cement	58.57	0.66	0.75	0.40	128.0
P243	J-241	J-244	6,700.00	10	Asbestos Cement	397.63	1.62	7.88	1.18	127.0
P244	J-244	J-245	2,100.00	10	Asbestos Cement	486.10	1.99	3.56	1.70	127.0
P245	J-245	J-246	1,400.00	8	Asbestos Cement	125.84	0.80	0.54	0.39	132.0
P246	J-246	J-247	830.00	6	Asbestos Cement	-22.02	0.25	0.05	0.06	129.0
P247	J-247	J-248	1,160.00	6	Asbestos Cement	-32.72	0.37	0.15	0.13	130.0
P248	J-248	J-249	1,640.00	6	PVC	-48.68	0.31	0.11	0.07	133.0
P249	J-249	J-245	2,050.00	8	PVC	-64.11	0.41	0.22	0.11	133.0
P250	J-230	J-250	1,880.00	4	Asbestos Cement	58.98	1.51	5.61	2.98	127.0
P251	J-250	J-252	1,940.00	4	Asbestos Cement	26.66	0.68	1.33	0.69	127.0
P252	J-252	J-255	1,400.00	14	Steel	767.11	1.60	1.08	0.77	127.0
P253	J-252	J-253	820.00	4	Asbestos Cement	35.57	0.91	0.93	1.14	129.0
P254	J-253	J-248	810.00	6	Asbestos Cement	2.60	0.03	9.77e-4	1.21e-3	130.0
P255	J-247	J-255	1,760.00	6	Asbestos Cement	-6.18	0.07	0.01	0.01	127.0
P256	J-255	J-256	1,300.00	14	Steel	745.80	1.55	0.95	0.73	127.0
P257	J-246	J-256	2,300.00	8	Asbestos Cement	124.66	0.80	0.89	0.38	131.0
P258	J-256	J-258	1,340.00	6	Asbestos Cement	32.92	0.37	0.18	0.13	131.0
P259	J-252	J-263	2,500.00	14	Steel	-819.46	1.71	2.18	0.87	127.0
P260	J-230	J-260	1,330.00	16	Steel	1,691.74	2.70	2.31	1.74	127.0
P261	J-260	J-264	1,330.00	16	Steel	1,536.22	2.45	1.93	1.45	127.0
P262	J-260	J-262	650.00	6	Asbestos Cement	135.62	1.54	1.26	1.94	127.0
P263	J-262	J-263	1,330.00	6	Asbestos Cement	92.62	1.05	1.20	0.90	131.0
P264	J-263	J-264	650.00	14	Steel	-789.61	1.65	0.53	0.81	127.0
P267	J-266	J-267	650.00	6	Asbestos Cement	-33.32	0.38	0.09	0.14	127.0
P268	J-265	J-267	630.00	14	Steel	527.41	1.10	0.24	0.39	127.0
P270	J-227	J-270	2,480.00	6	Asbestos Cement	229.49	2.60	11.98	4.83	131.0
P271	J-270	J-271	1,330.00	6	Asbestos Cement	106.42	1.21	1.55	1.17	131.0
P272	J-271	J-265	1,090.00	6	Asbestos Cement	62.53	0.71	0.49	0.45	129.0
P273	J-270	J-264	1,090.00	6	Asbestos Cement	87.07	0.99	0.93	0.85	127.0
P276	J-275	J-277	1,500.00	14	Steel	-34.89	0.07	3.78e-3	2.52e-3	127.0
P280	J-256	J-280	1,330.00	14	Steel	709.07	1.48	0.89	0.67	127.0
P281	J-280	J-284	1,330.00	14	Steel	619.32	1.29	0.69	0.52	127.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P282	J-280	J-282	2,000.00	8	Asbestos Cement	62.37	0.40	0.21	0.11	131.0
P283	J-282	J-283	1,330.00	6	Asbestos Cement	47.49	0.54	0.35	0.26	131.0
P284	J-283	J-284	2,000.00	6	Asbestos Cement	22.08	0.25	0.13	0.06	131.0
P286	J-285	J-287	2,640.00	10	Asbestos Cement	-35.11	0.14	0.03	0.01	127.0
P289	J-288	J-289	1,300.00	6	Asbestos Cement	189.36	2.15	4.66	3.59	127.0
P292	J-285	J-292	1,280.00	6	Asbestos Cement	21.98	0.25	0.09	0.07	127.0
P295	J-294	J-295	2,640.00	6	Asbestos Cement	-29.80	0.34	0.29	0.11	131.0
P296	J-295	J-293	1,310.00	14	Steel	275.46	0.57	0.15	0.12	127.0
P297	J-293	J-297	3,560.00	6	Asbestos Cement	48.76	0.55	1.04	0.29	127.0
P299	J-490	J-494	3,300.00	14	Asbestos Cement	1,413.80	2.95	7.88	2.39	127.0
P300	R-300	J-301	1,460.00	20	Asbestos Cement	3,823.89	3.91	3.65	2.50	131.0
P301	J-301	J-302	2,920.00	20	Asbestos Cement	3,713.64	3.79	6.91	2.37	131.0
P302	J-302	J-303	2,600.00	20	Asbestos Cement	3,701.81	3.78	6.12	2.35	131.0
P303	J-303	J-304	3,680.00	20	Asbestos Cement	3,626.17	3.70	8.34	2.27	131.0
P305	J-304	J-305	1,350.00	6	Asbestos Cement	9.60	0.11	0.02	0.01	127.0
P306	J-305	J-306	1,690.00	6	Asbestos Cement	2.52	0.03	1.95e-3	1.16e-3	130.0
P307	J-304	J-307	2,650.00	14	Steel	2,256.77	4.70	15.02	5.67	127.0
P309	J-308	J-309	1,670.00	6	Asbestos Cement	7.34	0.08	0.01	0.01	127.0
P311	J-307	J-311	1,530.00	6	Asbestos Cement	29.46	0.33	0.17	0.11	129.0
P312	J-308	J-312	630.00	14	Steel	2,142.29	4.46	3.24	5.15	127.0
P313	J-312	J-313	4,000.00	14	Steel	2,091.39	4.36	19.70	4.92	127.0
P314	J-313	J-314	1,640.00	6	Asbestos Cement	47.47	0.54	0.45	0.28	127.0
P316	J-312	J-316	2,720.00	8	Asbestos Cement	14.88	0.09	0.02	0.01	127.0
P318	J-313	J-318	840.00	14	Steel	1,986.46	4.14	3.76	4.48	127.0
P319	J-318	J-319	1,320.00	14	Steel	1,978.92	4.12	5.87	4.45	127.0
P320	J-319	J-320	1,300.00	14	Steel	1,551.40	3.23	3.68	2.83	127.0
P322	J-320	J-322	2,650.00	6	Asbestos Cement	278.50	3.16	19.40	7.32	127.0
P323	J-320	J-323	1,320.00	8	Asbestos Cement	306.42	1.96	2.84	2.15	127.0
P324	J-323	J-324	1,200.00	8	Asbestos Cement	164.84	1.05	0.82	0.68	127.0
P325	J-324	J-325	1,150.00	6	Asbestos Cement	161.61	1.83	3.08	2.67	127.0
P326	J-325	J-326	2,640.00	6	Asbestos Cement	139.11	1.58	5.35	2.03	127.0
P328	J-326	J-328	2,420.00	10	Asbestos Cement	-548.14	2.24	5.00	2.07	129.0
P329	J-328	J-323	2,640.00	6	Asbestos Cement	-122.70	1.39	4.24	1.61	127.0
P330	J-328	J-330	1,320.00	8	Asbestos Cement	-383.69	2.45	4.24	3.21	128.0
P331	J-330	J-320	2,640.00	14	Steel	-918.81	1.91	2.84	1.08	127.0
P332	J-330	J-332	2,640.00	6	Asbestos Cement	88.41	1.00	2.31	0.88	127.0
P333	J-332	J-333	1,330.00	6	Asbestos Cement	71.58	0.81	0.74	0.56	131.0
P334	J-333	J-328	2,640.00	6	Asbestos Cement	61.62	0.70	1.19	0.45	127.0
P335	J-330	J-295	2,630.00	14	Steel	394.37	0.82	0.59	0.22	127.0
P336	J-295	J-336	2,000.00	6	Asbestos Cement	39.65	0.45	0.40	0.20	127.0
P340	J-304	J-340	4,140.00	14	Steel	1,292.49	2.69	8.37	2.02	127.0
P341	J-340	J-341	1,330.00	14	Steel	969.11	2.02	1.58	1.19	127.0
P342	J-341	J-342	1,330.00	14	Steel	961.67	2.00	1.56	1.17	127.0
P343	J-340	J-343	2,360.00	10	Asbestos Cement	284.94	1.16	1.39	0.59	132.0
P344	J-343	J-344	1,510.00	10	Asbestos Cement	59.70	0.28	0.07	0.04	131.0
P345	J-344	J-345	1,220.00	6	Asbestos Cement	48.76	0.55	0.34	0.28	131.0
P346	J-345	J-346	1,200.00	6	Asbestos Cement	27.61	0.31	0.12	0.10	129.0
P347	J-346	J-343	1,580.00	10	Asbestos Cement	-209.52	0.86	0.52	0.33	133.0
P348	J-346	J-342	3,980.00	6	Asbestos Cement	50.48	0.57	1.22	0.31	128.0
P349	J-342	J-349	2,630.00	14	Steel	990.13	2.06	3.25	1.23	127.0
P350	J-349	J-350	2,570.00	6	Asbestos Cement	2.40	0.03	2.81e-3	1.09e-3	130.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P351	J-349	J-351	1,900.00	6	Asbestos Cement	-63.53	0.72	0.90	0.48	127.0
P352	J-351	J-352	2,720.00	6	Asbestos Cement	-67.24	0.76	1.44	0.53	127.0
P353	J-352	J-353	2,250.00	8	Asbestos Cement	-115.17	0.74	0.75	0.33	131.0
P354	J-353	J-354	3,930.00	10	Asbestos Cement	-163.23	0.67	0.82	0.21	133.0
P355	J-354	J-346	2,650.00	10	Asbestos Cement	-164.94	0.67	0.56	0.21	133.0
P356	J-353	J-356	4,240.00	8	Asbestos Cement	7.73	0.05	0.01	2.25e-3	131.0
P359	J-349	J-360	2,670.00	14	Steel	1,039.45	2.17	3.61	1.35	127.0
P360	J-360	J-361	4,000.00	14	Steel	749.37	1.56	2.95	0.74	127.0
P361	J-361	J-362	1,520.00	6	Asbestos Cement	44.66	0.51	0.38	0.25	127.0
P362	J-362	J-363	1,900.00	4	Steel	23.30	0.59	1.02	0.54	127.0
P363	J-363	J-364	1,240.00	6	Asbestos Cement	17.29	0.20	0.05	0.04	129.0
P365	J-374	J-366	980.00	10	Asbestos Cement	-108.60	0.44	0.10	0.10	130.0
P368	J-367	J-368	980.00	14	Steel	422.72	0.68	0.25	0.26	127.0
P369	J-368	J-217	4,170.00	14	Steel	457.41	0.95	1.23	0.30	127.0
P370	J-368	J-370	1,240.00	6	Asbestos Cement	-50.63	0.57	0.39	0.31	127.0
P371	J-370	J-374	980.00	6	Ductile Iron	-53.64	0.61	0.34	0.35	127.0
P372	J-370	J-372	1,320.00	6	Asbestos Cement	-7.18	0.08	0.01	0.01	127.0
P373	J-372	J-373	980.00	6	Asbestos Cement	-28.41	0.32	0.11	0.11	127.0
P374	J-373	J-374	1,320.00	6	Asbestos Cement	-37.02	0.42	0.22	0.17	129.0
P375	J-372	J-375	1,300.00	6	Asbestos Cement	14.29	0.16	0.04	0.03	127.0
P376	J-374	J-376	3,880.00	6	Asbestos Cement	-14.67	0.17	0.12	0.03	127.0
P377	J-376	J-377	5,680.00	6	Asbestos Cement	-46.21	0.52	1.50	0.26	127.0
P378	J-377	J-378	1,340.00	8	Asbestos Cement	-140.17	0.89	0.68	0.51	127.0
P379	J-378	J-360	3,880.00	8	Asbestos Cement	-154.87	0.99	2.36	0.61	127.0
P401	J-420	J-438	50.00	8	Ductile Iron	-296.71	1.89	0.10	2.03	127.0
P403	J-402	J-403	1,370.00	10	Asbestos Cement	-1,071.91	4.38	10.08	7.36	127.0
P404	J-403	J-404	360.00	10	Asbestos Cement	-468.83	1.92	0.57	1.59	127.0
P405	J-404	J-405	790.00	10	Asbestos Cement	-367.60	1.50	0.80	1.02	127.0
P406	J-405	J-406	350.00	10	Asbestos Cement	-227.66	0.93	0.15	0.42	127.0
P407	J-406	J-407	800.00	8	Cast iron	-42.66	0.27	0.08	0.10	95.0
P408	J-407	J-408	1,100.00	8	Cast iron	16.13	0.10	0.02	0.02	95.0
P409	J-402	J-410	1,380.00	4	Cast iron	-46.95	1.20	4.62	3.35	95.0
P410	J-410	J-411	1,140.00	4	Cast iron	-73.45	1.88	8.74	7.66	95.0
P411	J-411	J-403	1,160.00	10	Asbestos Cement	638.34	2.61	3.27	2.82	127.0
P412	J-411	J-412	350.00	10	Cast iron	-152.37	0.62	0.12	0.34	95.0
P413	J-412	J-404	1,160.00	6	Cast iron	114.78	1.30	2.82	2.43	95.0
P415	J-414	J-405	1,120.00	6	Ductile Iron	141.39	1.60	2.34	2.09	127.0
P416	J-416	J-406	510.00	6	Cast iron	190.37	2.16	3.16	6.20	95.0
P417	J-416	J-417	420.00	4	Ductile Iron	36.17	0.92	0.87	2.07	95.0
P418	J-417	J-407	1,180.00	6	Cast iron	99.84	1.13	2.22	1.88	95.0
P419	J-486	J-419	600.00	6	Ductile Iron	-178.81	2.03	1.93	3.22	127.0
P420N	J-483	J-419	400.00	8	PVC	176.85	1.13	0.28	0.70	135.0
P421	J-420	J-421	600.00	6	Cast iron	-39.00	0.44	0.20	0.33	95.0
P422	J-421	J-422	560.00	6	Cast iron	-10.66	0.12	0.02	0.03	95.0
P423	J-479	J-423	600.00	6	Cast iron	-97.49	1.11	1.08	1.80	95.0
P424	J-481	J-424	400.00	6	Cast iron	-22.84	0.26	0.05	0.12	95.0
P425	J-424	J-482	600.00	6	Ductile Iron	135.07	1.53	1.15	1.92	127.0
P426	J-423	J-426	1,140.00	4	Asbestos Cement	-49.29	1.26	2.37	2.08	129.0
P427	J-426	J-427	600.00	4	Asbestos Cement	-29.46	0.75	0.50	0.83	127.0
P428	J-430	J-429	400.00	8	Asbestos Cement	219.24	1.40	0.43	1.06	133.0
P429	J-429	J-424	1,720.00	6	Asbestos Cement	209.35	2.38	7.42	4.32	127.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P430	J-430	J-431	1,200.00	8	Asbestos Cement	-694.00	4.43	11.72	9.76	127.0
P431	J-431	J-432	1,050.00	10	Asbestos Cement	-490.04	2.00	1.69	1.61	132.0
P432	J-432	J-433	600.00	8	Asbestos Cement	-528.61	3.37	3.25	5.42	133.0
P433	J-430	J-435	1,200.00	8	Asbestos Cement	459.86	2.94	5.09	4.25	132.0
P434	J-433	J-434	1,050.00	8	Asbestos Cement	161.75	1.03	0.65	0.61	132.0
P435	J-434	J-431	570.00	8	Asbestos Cement	603.44	3.85	4.30	7.54	127.0
P436	J-431	J-439	370.00	6	Asbestos Cement	313.94	3.56	3.38	9.14	127.0
P437	J-434	J-437	580.00	8	Asbestos Cement	-511.23	3.26	3.22	5.55	127.0
P438	J-435	J-436	400.00	12	Steel	747.57	2.12	0.62	1.56	127.0
P440	J-439	J-440	1,150.00	4	Asbestos Cement	119.96	3.06	12.58	10.94	128.0
P441	J-440	J-427	360.00	4	Ductile Iron	50.35	1.29	0.79	2.20	128.0
P442	J-440	J-442	600.00	6	Cast Iron	71.34	0.81	0.60	1.01	95.0
P443	J-442	J-426	350.00	4	Cast Iron	35.01	0.89	0.68	1.95	95.0
P445	J-444	J-423	350.00	4	Cast Iron	38.96	0.99	0.83	2.37	95.0
P446	J-444	J-446	1,150.00	6	Ductile Iron	141.33	1.60	2.40	2.09	127.0
P447	J-422	J-446	350.00	8	Cast Iron	48.21	0.31	0.04	0.12	95.0
P448	J-446	J-449	600.00	6	Ductile Iron	57.36	0.65	0.40	0.67	95.0
P449N	J-421	J-449	400.00	8	PVC	223.66	1.43	0.43	1.07	135.0
P450	J-411	J-451	570.00	10	Cast Iron	-578.93	2.36	2.30	4.03	95.0
P451	J-420	J-416	600.00	8	Ductile Iron	244.47	1.56	1.45	2.42	95.0
P452	J-451	J-452	570.00	10	Cast Iron	-275.14	1.12	0.58	1.02	95.0
P454N	J-451	J-454	790.00	8	PVC	-283.48	1.81	1.31	1.66	135.0
P455N	J-454	J-455	370.00	8	PVC	-272.24	1.74	0.57	1.54	135.0
P458	J-457	J-458	370.00	6	Ductile Iron	255.08	2.89	3.94	10.65	95.0
P459	J-458	J-454	580.00	8	Cast Iron	38.52	0.25	0.05	0.08	95.0
P460	J-452	J-458	790.00	8	Cast Iron	-150.51	0.96	0.78	0.99	95.0
P461	J-458	J-461	580.00	8	Asbestos Cement	55.14	0.35	0.05	0.09	127.0
P462	J-461	J-462	370.00	4	Cast Iron	-44.04	1.12	1.10	2.97	95.0
P463	J-462	J-457	580.00	4	Cast Iron	-58.20	1.49	2.89	4.98	95.0
P465	J-464	J-452	580.00	10	Cast Iron	150.42	0.61	0.19	0.33	95.0
P466	J-464	J-466	580.00	10	Cast Iron	-137.54	0.56	0.16	0.28	95.0
P468	J-466	J-469	400.00	4	Asbestos Cement	-111.74	2.85	3.68	9.19	131.0
P469	J-469	J-470	600.00	6	Cast Iron	-181.21	2.06	3.39	5.65	95.0
P470	J-470	J-471	580.00	6	Cast Iron	33.20	0.38	0.14	0.24	95.0
P472	J-471	J-472	600.00	4	Cast Iron	-60.26	1.54	3.19	5.31	95.0
P473	J-472	J-440	1,500.00	4	Cast Iron	44.77	1.14	5.09	3.39	90.0
P474	J-472	J-474	1,130.00	6	Asbestos Cement	-210.22	2.39	4.71	4.17	130.0
P475	J-474	J-439	1,500.00	6	Asbestos Cement	-132.75	1.51	2.79	1.86	127.0
P476	J-474	J-476	1,160.00	6	Asbestos Cement	-210.61	2.39	4.78	4.12	131.0
P478	J-423	J-481	50.00	6	Ductile Iron	-18.69	0.21	2.44e-3	0.05	127.0
P479	J-479	J-422	600.00	6	Ductile Iron	81.29	0.92	0.45	0.75	127.0
P480	J-479	J-480	50.00	3	Ductile Iron	5.68	0.37	0.02	0.39	127.0
P482	J-480	J-482	400.00	3	Ductile Iron	1.03	0.05	2.69e-3	0.01	127.0
P484N	J-421	J-483	50.00	8	PVC	-262.83	1.68	0.07	1.45	135.0
P486	J-485	J-486	400.00	4	Ductile Iron	-3.47	0.09	0.01	0.02	127.0
P487	J-486	J-417	600.00	6	Ductile Iron	74.17	0.84	0.38	0.63	127.0
P489	J-420	J-414	400.00	4	Ductile Iron	86.44	2.21	2.42	6.05	127.0
P495	J-449	J-414	600.00	6	Ductile Iron	195.73	2.22	2.19	3.65	130.0
P496	J-495	J-496	3,200.00	14	Asbestos Cement	2,512.29	5.24	21.19	6.62	130.0
P497	J-496	J-497	1,080.00	14	Asbestos Cement	2,507.01	5.23	7.12	6.59	130.0
P498	J-497	J-499	5,600.00	12	Ductile Iron	2,500.00	7.09	77.63	13.90	130.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P499	J-499	J-500	1,800.00	12	Ductile Iron	2,500.00	7.09	25.02	13.90	130.0
P741	J-740	J-745	2,760.00	8	Steel	657.18	4.19	23.33	8.45	130.0
P742	R-741	J-742	3,320.00	12	Steel	227.07	0.64	0.55	0.16	130.0
P743	J-742	J-743	920.00	8	Asbestos Cement	36.48	0.23	0.04	0.04	130.0
P744	J-742	J-744	2,440.00	12	Steel	126.27	0.36	0.14	0.06	130.0
P745	J-745	R-741	1.00	99	Ductile Iron	657.17	0.03	0.00	0.00	130.0
P117A	J-116	PRV-117	7,080.00	6	Asbestos Cement	5.31	0.06	0.03	4.62e-3	130.0
P400	R-400	J-402	2,760.00	10	Ductile Iron	-1,058.92	4.33	19.86	7.20	127.0
P740A	J-326	PMP-740	719.00	10	Steel	328.59	1.34	0.57	0.79	130.0
P740B	PMP-740	J-740	1.00	10	Steel	328.59	1.34	7.32e-4	0.73	130.0
P746A	J-326	PMP-746	719.00	10	Ductile Iron	328.59	1.34	0.57	0.79	130.0
P746B	PMP-746	J-740	1.00	10	Ductile Iron	328.59	1.34	7.32e-4	0.73	130.0
P117B	PRV-117	J-117	0.10	6	Asbestos Cement	5.31	0.06	0.00	0.00	130.0
P120A	J-117	PRV-120	5,690.00	6	Steel	0.01	6.0e-5	0.00	0.00	130.0
P128	J-128	J-140	1,800.00	12	Asbestos Cement	-51.67	0.15	0.02	0.01	130.0
P140B	J-140	PRV-140	0.10	8	Asbestos Cement	-52.95	0.34	0.00	0.00	130.0
P237B	PRV-237	J-237	0.10	6	Ductile Iron	66.35	0.75	0.00	0.00	128.0
P238	J-237	J-238	4,240.00	6	Steel	58.67	0.67	1.71	0.40	128.0
P211	J-202	J-212	2,760.00	14	Steel	264.56	0.55	0.28	0.10	132.0
P212	J-212	J-213	5,080.00	14	Steel	264.53	0.55	0.51	0.10	132.0
P294	J-294	J-287	2,620.00	6	Asbestos Cement	-16.96	0.19	0.11	0.04	129.0
P490	J-470	J-491	1,060.00	10	Asbestos Cement	-793.37	3.24	4.11	3.87	133.0
P240	J-241	J-209	3,120.00	10	Asbestos Cement	-442.70	1.81	4.47	1.43	127.0
P293	J-293	J-285	1,330.00	14	Steel	176.13	0.37	0.07	0.05	127.0
P218	J-217	J-220	3,440.00	8	Asbestos Cement	611.59	3.90	26.58	7.73	127.0
P176A	J-176	J-1000	816.00	12	Steel	-838.86	2.38	1.46	1.79	132.0
P176B	J-1000	J-177	2,984.00	12	Steel	-1,104.99	3.13	8.90	2.98	132.0
P1000	J-1000	J-1001	3,700.00	8	PVC	248.65	1.59	4.83	1.31	135.0
P1001	J-1001	J-1002	1,500.00	8	PVC	248.65	1.59	1.96	1.31	135.0
P1002	J-1002	J-1003	1,100.00	10	PVC	247.21	1.01	0.48	0.44	135.0
P1004	J-1003	J-203	2,600.00	10	PVC	244.94	1.00	1.11	0.43	135.0
P214A	J-214	J-1005	500.00	6	Ductile Iron	222.98	2.53	2.32	4.65	130.0
P214B	J-1005	J-215	440.00	6	Ductile Iron	222.98	2.53	2.04	4.65	130.0
P1652	J-1653	J-1652	2,760.00	24	Ductile Iron	-1,071.38	0.76	0.26	0.09	135.0
P1651	J-1652	J-1651	11,250.00	30	Ductile Iron	-1,071.38	0.49	0.35	0.03	135.0
P1650	J-1651	R-650	4,500.00	30	Ductile Iron	-1,071.38	0.49	0.14	0.03	135.0
P1011	J-277	J-433	350.00	8	Asbestos Cement	827.53	5.28	4.23	12.08	135.0
P367B	J-366	J-1011	1,280.00	14	Steel	345.99	0.72	0.23	0.18	127.0
P367A	J-1011	J-367	1,300.00	14	Steel	435.71	0.91	0.35	0.27	127.0
P366A	J-366	J-1012	1,018.00	14	Steel	-482.13	1.00	0.33	0.33	127.0
P366B	J-1012	J-361	2,702.00	14	Steel	-590.09	1.23	1.28	0.47	127.0
P1016	J-1012	J-1013	1,298.00	8	PVC	103.07	0.66	0.33	0.26	135.0
P1017	J-1013	J-1011	1,045.00	8	PVC	93.99	0.60	0.23	0.22	135.0
P1018	J-275	J-437	400.00	8	Asbestos Cement	463.16	2.96	1.65	4.13	135.0
P477B	J-476	J-1014	1,400.00	6	Asbestos Cement	-266.69	3.03	9.46	6.76	127.0
P477A	J-1014	J-437	500.00	6	Asbestos Cement	100.69	1.14	0.56	1.11	127.0
P275A	J-267	J-1015	819.00	14	Steel	490.43	1.02	0.28	0.34	127.0
P275B	J-1015	J-275	511.00	14	Steel	174.81	0.36	0.03	0.05	127.0
P1021	J-1015	J-1016	450.00	10	PVC	311.46	1.27	0.30	0.67	135.0
P1022	J-1016	J-1014	900.00	10	PVC	367.90	1.50	0.82	0.91	135.0
P1023	J-1016	J-266	900.00	6	Asbestos Cement	-72.08	0.82	0.48	0.54	135.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P265A	J-264	J-1017	653.00	14	Steel	821.95	1.71	0.57	0.88	127.0
P265B	J-1017	J-265	677.00	14	Steel	781.59	1.63	0.54	0.80	127.0
P266A	J-263	J-1018	660.00	6	Asbestos Cement	37.36	0.42	0.11	0.17	129.0
P266B	J-1018	J-266	1,310.00	6	Asbestos Cement	74.13	0.84	0.81	0.61	129.0
P1026	J-1017	J-1019	331.00	8	PVC	39.52	0.25	0.01	0.04	135.0
P1027	J-1019	J-1018	320.00	6	Asbestos Cement	39.52	0.45	0.06	0.18	135.0
P1028	J-265	J-1020	650.00	14	PVC	304.49	0.63	0.08	0.12	135.0
P1029	J-1020	J-1021	856.00	10	PVC	186.01	0.76	0.22	0.26	135.0
P1030	J-1021	J-275	450.00	10	PVC	277.26	1.13	0.24	0.54	135.0
P1031	J-1020	J-1022	720.00	10	PVC	109.30	0.45	0.07	0.10	135.0
P1032	J-1022	J-1023	849.00	10	PVC	109.30	0.45	0.08	0.10	135.0
P1033	J-1023	J-1021	720.00	10	PVC	109.30	0.45	0.07	0.10	135.0
P464B	J-461	J-1024	383.00	6	Ductile Iron	40.36	0.46	0.08	0.21	127.0
P464A	J-1024	J-464	407.00	6	Ductile Iron	101.05	1.15	0.46	1.12	127.0
P1036	J-446	J-1025	330.00	8	Cast Iron	104.41	0.67	0.17	0.50	95.0
P453A	J-1025	J-1026	340.00	8	Cast Iron	-19.71	0.13	0.01	0.02	95.0
P453B	J-1026	J-452	340.00	8	Cast Iron	10.29	0.07	2.32e-3	0.01	95.0
P414B	J-412	J-1031	770.00	10	Cast Iron	-138.51	0.57	0.22	0.29	95.0
P414A	J-1031	J-414	770.00	10	Cast Iron	-92.08	0.38	0.10	0.13	95.0
P467B	J-466	J-1032	743.00	4	Cast Iron	-47.20	1.20	2.51	3.38	95.0
P467A	J-1032	J-444	377.00	4	Cast Iron	21.93	0.56	0.31	0.82	95.0
P1041	J-464	J-1027	379.00	6	Asbestos Cement	55.78	0.63	0.13	0.33	135.0
P1042	J-1027	J-1028	376.00	6	Asbestos Cement	24.92	0.28	0.03	0.08	135.0
P1043	J-1028	J-1025	583.00	6	Asbestos Cement	24.92	0.28	0.04	0.08	135.0
P1044	J-1027	J-1026	576.00	6	Asbestos Cement	30.85	0.35	0.06	0.11	135.0
P1050	J-482	J-1034	592.00	6	Ductile Iron	86.43	0.98	0.50	0.84	127.0
P1051	J-1034	J-419	609.00	6	Ductile Iron	45.07	0.51	0.15	0.25	127.0
P308A	J-307	J-1033	1,687.00	14	Steel	2,216.65	4.62	9.25	5.48	127.0
P308B	J-1033	J-308	2,273.00	14	Steel	2,210.08	4.61	12.40	5.45	127.0
P1046	J-1033	J-1035	1,400.00	8	Asbestos Cement	0.92	0.01	0.00	0.00	135.0
P1047	J-308	J-309	1,670.00	12	PVC	48.38	0.14	0.01	0.01	135.0
P310A	J-309	J-1036	550.00	6	Asbestos Cement	3.93	0.04	1.46e-3	2.66e-3	132.0
P310B	J-1036	J-310	1,770.00	6	Asbestos Cement	5.56	0.06	0.01	4.9e-3	132.0
P1049	J-309	J-1036	550.00	12	PVC	24.92	0.07	1.46e-3	2.66e-3	135.0
P444A	J-442	J-1039	577.00	6	Asbestos Cement	17.93	0.20	0.03	0.05	127.0
P444B	J-1039	J-444	573.00	6	Asbestos Cement	196.32	2.23	2.20	3.83	127.0
P1056	J-1039	J-1040	392.00	10	PVC	-466.26	1.90	0.55	1.41	135.0
P1057	J-1040	J-470	1,129.00	10	PVC	-544.06	2.22	2.12	1.88	135.0
P1058	J-1040	J-1032	574.00	4	Asbestos Cement	73.09	1.87	2.44	4.25	130.0
P1059	J-1039	J-435	380.00	10	PVC	287.71	1.18	0.22	0.58	135.0
P439A	J-436	J-483	2,400.00	12	Ductile Iron	739.39	2.10	3.66	1.52	127.0
P439B	J-483	J-438	600.00	12	Ductile Iron	296.71	0.84	0.17	0.28	127.0
P1035	J-469	J-1024	573.00	4	Cast Iron	63.79	1.63	3.38	5.90	95.0
P1060	J-449	J-1041	385.00	8	PVC	80.34	0.51	0.06	0.16	135.0
P1061	J-1041	J-1031	571.00	4	Cast Iron	51.04	1.30	2.23	3.91	95.0
P1062	J-1041	J-1025	593.00	8	PVC	-149.04	0.95	0.30	0.51	135.0
P1063	J-1041	J-1042	374.00	8	PVC	178.35	1.14	0.26	0.71	135.0
P1064	J-1042	J-451	391.00	8	PVC	29.82	0.19	0.01	0.03	135.0
P1065	J-1042	J-412	573.00	6	Cast Iron	146.54	1.66	2.19	3.82	95.0
P1066	J-455	J-1043	400.00	8	PVC	-272.24	1.74	0.62	1.54	135.0
P1067	J-319	J-1044	1,871.00	6	Asbestos Cement	388.05	4.40	25.30	13.52	127.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P1068	J-1044	J-321	779.00	6	Asbestos Cement	107.92	1.22	0.99	1.27	127.0
P1069	J-1043	J-1044	780.00	6	Asbestos Cement	-272.91	3.10	5.42	6.95	128.0
P337A	J-322	J-1045	400.00	6	Asbestos Cement	236.19	2.68	2.13	5.32	128.0
P337B	J-1045	J-338	1,660.00	6	Asbestos Cement	3.11	0.04	2.93e-3	1.76e-3	128.0
P1070	J-457	J-321	750.00	8	PVC	-328.26	2.10	1.64	2.18	135.0
P1071	J-321	J-1045	930.00	8	PVC	-233.08	1.49	1.08	1.16	135.0
P471A	J-471	J-1046	500.00	4	Cast iron	58.07	1.48	2.48	4.96	95.0
P471N	J-1046	J-442	1,000.00	8	PVC	21.29	0.14	0.02	0.02	112.0
P209A	J-208	J-1047	630.00	18	Steel	-877.23	1.11	0.18	0.29	127.0
P209B	J-1047	J-209	0.01	18	Steel	-3,663.69	4.62	1.22e-4	12.21	127.0
P287	J-287	J-1603	1,240.00	10	Asbestos Cement	-77.07	0.31	0.07	0.06	127.0
P1624	J-1603	J-288	90.00	10	Asbestos Cement	-128.27	0.52	0.01	0.15	127.0
P1602	J-1601	J-1602	25.00	12	Ductile Iron	929.67	2.64	0.05	2.08	135.0
P1620	J-1600	J-490	40.00	14	Asbestos Cement	1,367.22	2.85	0.09	2.15	130.0
P1610	J-290	J-1610	40.00	14	Asbestos Cement	-1.87e-3	3.9e-6	0.00	0.00	127.0
P1611	J-1610	J-1611	25.00	12	Ductile Iron	-2,776.40	7.88	0.39	15.74	135.0
P1612A	J-1611	PMP-612	0.50	12	Ductile Iron	-1,388.20	3.94	2.08e-3	4.15	135.0
P1612B	PMP-612	J-1612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P1615	J-1612	J-1613	25.00	14	Ductile Iron	-2,776.40	5.79	0.19	7.43	135.0
P493	R-493	J-1613	2,275.00	14	Asbestos Cement	0.00	0.00	0.00	0.00	132.0
P1622	J-494	J-1605	5.00	14	Asbestos Cement	2,333.42	4.86	0.03	6.03	127.0
P1613A	J-1611	PMP-613	0.50	12	Ductile Iron	-1,388.20	3.94	2.08e-3	4.15	135.0
P1613B	PMP-613	J-1612	0.50	12	Ductile Iron	-1,388.20	3.94	2.2e-3	4.39	135.0
P285A	J-284	J-492	1,329.00	14	Steel	551.09	1.15	0.56	0.42	127.0
P285B	J-492	J-285	1.00	14	Steel	-87.45	0.18	1.22e-4	0.12	127.0
P491	J-492	J-491	3,480.00	10	Asbestos Cement	796.70	3.25	13.78	3.96	132.0
P492	J-1601	J-492	3,900.00	14	Asbestos Cement	158.17	0.33	0.15	0.04	130.0
P1076	J-1047	J-1054	3,395.00	20	Ductile Iron	2,786.47	2.85	4.47	1.32	135.0
P1078	J-1054	J-1055	6,437.00	20	Ductile Iron	2,678.10	2.73	7.87	1.22	135.0
P1080	J-241	J-1054	40.00	10	Ductile Iron	-108.37	0.44	3.78e-3	0.09	135.0
P1081	J-1055	J-244	40.00	10	Ductile Iron	120.90	0.49	4.64e-3	0.12	135.0
P1082	J-1055	J-1057	4,097.00	20	Ductile Iron	2,557.20	2.61	4.60	1.12	135.0
P1083	J-1057	J-1600	2,221.00	20	Ductile Iron	2,455.06	2.51	2.31	1.04	135.0
P288A	J-245	J-1058	1,700.00	10	Asbestos Cement	276.56	1.13	1.02	0.60	127.0
P1085	J-1057	J-1058	40.00	10	Ductile Iron	102.14	0.42	3.42e-3	0.09	135.0
P1086	J-1058	J-1059	2,230.00	10	Asbestos Cement	378.70	1.55	2.40	1.07	127.0
P1087	J-1059	J-288	30.00	10	Asbestos Cement	323.30	1.32	0.02	0.80	127.0
P1088	J-490	J-1059	25.00	10	Asbestos Cement	-55.40	0.23	7.32e-4	0.03	127.0
P1089	J-1601	J-1600	50.00	14	Asbestos Cement	-1,087.84	2.27	0.07	1.41	130.0
P1090	J-1602	J-1603	10.00	12	Ductile Iron	-51.20	0.15	1.22e-4	0.01	135.0
P1091	J-1605	J-1060	214.00	14	Asbestos Cement	2,333.42	4.86	1.24	5.77	130.0
P1092	J-1060	J-495	3,786.00	14	Asbestos Cement	2,512.29	5.24	25.07	6.62	130.0
P1094	J-367	J-1061	0.10	14	Steel	0.00	0.00	0.00	0.00	127.0
P278	J-1061	J-277	1,050.00	14	Steel	1,071.38	2.23	1.50	1.43	127.0
P1653	J-1653	J-1061	17,700.00	24	Ductile Iron	1,071.38	0.76	1.64	0.09	135.0
P1604	J-1602	J-1062	3,400.00	12	Ductile Iron	980.87	2.78	7.81	2.30	135.0
P1095	J-289	J-1063	2,000.00	6	Asbestos Cement	121.72	1.38	3.17	1.58	127.0
P1096	J-1063	J-1060	400.00	6	Asbestos Cement	178.87	2.03	1.29	3.23	127.0
P1097	J-290	J-1063	20.00	6	Asbestos Cement	57.15	0.65	0.01	0.39	127.0
P1098	J-290	J-1062	10.00	14	Asbestos Cement	-57.15	0.12	0.00	0.00	127.0
P1099	J-1062	J-494	30.00	14	Asbestos Cement	923.72	1.93	0.03	1.09	127.0

Scenario: Max Day + Fire
Steady State Analysis
Pipe Report

Label	From Node	To Node	Length (ft)	Diameter (in)	Material	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Hazen-Williams C
P1102	J-1613	J-1610	20.00	14	Asbestos Cement	-2,776.40	5.79	0.15	7.75	132.0
P203	J-202	J-203	2,050.00	14	Steel	566.98	1.18	0.84	0.41	132.0
P315A	J-313	PSV-400	795.00	16	Ductile Iron	0.00	0.00	0.00	0.00	127.0
P315B	PSV-400	R-400	5.00	16	Ductile Iron	-5.82e-4	9.28e-7	0.00	0.00	127.0
P1605A	J-1605	PSV-493	2,345.00	6	Ductile Iron	0.00	0.00	0.00	0.00	130.0
P1605B	PSV-493	R-493	5.00	6	Ductile Iron	-1.79e-3	2.03e-5	0.00	0.00	130.0
P125B	R-125	PSV-125	5.00	6	Ductile Iron	-1.51e-3	1.72e-5	0.00	0.00	130.0
P125A	PSV-125	J-126	2,995.00	6	Ductile Iron	-1.52e-3	1.72e-5	0.00	0.00	130.0
P1	J-196	J-9000	4,580.00	6	Steel	349.72	3.97	50.35	10.99	128.0
P1110	J-197	J-1066	1,650.00	6	Asbestos Cement	62.60	0.71	0.76	0.46	127.0
P1111	J-1066	J-196	1,340.00	6	Asbestos Cement	62.60	0.71	0.62	0.46	127.0
P1112	J-1066	J-1067	650.00	6	Asbestos Cement	0.00	0.00	0.00	0.00	127.0
P1113	J-197	J-1068	1,629.00	6	Asbestos Cement	44.26	0.50	0.40	0.24	127.0
P1114	J-1068	J-233	1,131.00	6	Asbestos Cement	44.26	0.50	0.28	0.24	127.0
P9000	J-9000	J-9001	3,421.00	8	PVC	349.72	2.23	6.91	2.02	150.0
P9001	J-9001	T-1	3,100.00	8	PVC	349.72	2.23	6.26	2.02	150.0
P1118	J-1069	J-236	1,020.00	6	Steel	70.17	0.80	0.57	0.56	128.0
P1116	J-9000	J-9004	30.00	6	Steel	0.00	0.00	0.00	0.00	128.0
P1117	J-9004	J-1069	4,170.00	6	Steel	70.17	0.80	2.35	0.56	128.0
P9002	T-1	J-9002	3,100.00	10	PVC	2,689.77	10.99	92.00	29.68	150.0
P9004	J-9002	J-9004	3,421.00	8	PVC	93.17	0.59	0.60	0.17	150.0

Scenario: Max Day + Fire
Steady State Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Calculated Hydraulic Grade (ft)
R-180	1,805.50	Bargar-Woodson Zone	-7,289.24	1,805.50
R-125	1,147.00	Snow	-108.90	1,147.00
R-741	2,115.50	I.D. No. 5	430.11	2,115.50
R-400	1,650.50	Santa Maria 1666 Zone	1,058.92	1,650.50
R-300	1,813.50	Bargar-Woodson Zone	-3,823.89	1,813.50
R-650	1,721.00	Santa Maria 1666 Zone	-1,071.38	1,721.00
R-493	1,655.50	Santa Maria 1666 Zone	-1.57e-3	1,655.50

Scenario: Max Day + Fire
Steady State Analysis
Valve Report

Label	Elevation (ft)	Diameter (in)	Discharge (gpm)	Initial Pressure (psi)	Control Status	From HGL (ft)	To HGL (ft)	Headloss (ft)
PRV-117	1,200.00	6	5.31	20.00	Throttling	1,770.10	1,246.16	523.94
PRV-140	1,300.00	8	52.95	80.23	Throttling	1,769.67	1,485.16	284.51
PRV-237	1,255.00	6	66.35	180.00	Inactive	1,576.35	1,576.35	0.00
PRV-120	880.00	6	3.49e-3	124.03	Inactive	1,246.16	1,246.16	0.00
PSV-400	1,635.00	6	0.00	55.00	Closed	1,728.87	1,650.50	0.00
PSV-493	1,644.00	6	0.00	48.14	Closed	1,704.14	1,655.50	0.00
PSV-125	1,140.00	6	0.00	105.00	Closed	1,484.67	1,147.00	0.00

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