

**MASTER WATER REPORT  
FOR  
DEVELOPMENT UNIT 3 SOUTH  
AT  
EASTMARK**

November 26, 2013  
WP# 113697.08

REVIEWED BY  
CITY STAFF  
BY DD DATE 11/5/14  
no comments

<b>DMB®</b>	Master Developer Approval		<b>EASTMARK</b>
		Date	<u>12-19-13</u>
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EXPIRES 6-30-16

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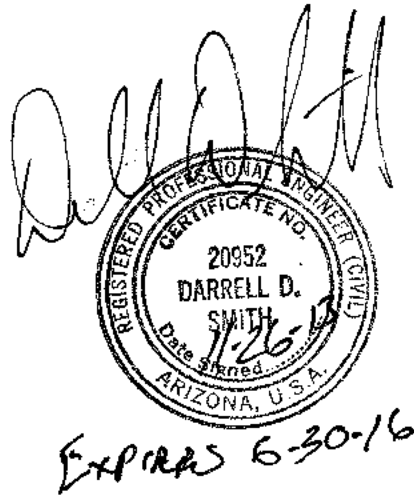
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## 1.0 INTRODUCTION

### 1.1 General Background and Project Location

The proposed Development Unit 3 South (Site) is anticipated to be an approximate 92.3-acre Development Unit (DU) within the 3,151-acre Eastmark master planned community (formerly known as Mesa Proving Grounds), in Mesa, Arizona. It is a Planned Community District (PCD) which is a mixed-use development that will include single-family residential, multi-family residential, commercial uses, various community uses, and open space.

This Master Water Report has been prepared in accordance with Wood, Patel & Associates, Inc.'s (Wood/Patel's) understanding of the City's technical requirements for water distribution systems as applicable for the Eastmark.

The Site is located within Sections 26 and 27 of Township 1 South, Range 7 East of the Gila and Salt River Meridian. The Site is bounded by Ray Road and the Powerline Floodway to the north, the Eastmark boundary and Pacific Proving Grounds on the south and west, and future Inspirian Parkway on the east (refer to the attached Plate 1 – *Vicinity Map*).

### 1.2 Scope of Master Water Report

This Master Water Report for Development Unit 3 South at Eastmark presents water design flows, pipe sizes, and backbone waterline locations, as required to provide water service to the Site. This update reflects the City of Mesa Water Master Plan modeled waterline sizes in this area of the Desert Wells system. Report results indicate pressures and flows which are adequate to serve DU-3S.

The purpose of this report is to provide a water analysis reflecting the developed condition of DU-3S, based on the land uses provided by DMB Mesa Proving Grounds, LLC and to identify the water infrastructure required to serve the Site, while meeting the requirements of the City's Engineering and Design Standards. Updates to the DU-3S Master Water Report may be required if significant changes are made to the land uses and assumptions utilized to prepare this report. Additionally, design criteria may change based on actual water demands to calculate draws on the system in the future.

### **1.3 Water Master Report for Eastmark**

The *Master Water Report Update for Eastmark*, by Wood, Patel & Associates, Inc. dated February 4, 2013 was approved by the City of Mesa. The approved report set the design criteria required within Eastmark. The *Master Water Report Update for Eastmark*, by Wood, Patel and Associates, Inc. updated August 9, 2013, was submitted to the City of Mesa for review and re-approval to incorporate development changes within DU-8 and DU-9. Additionally, the *Master Water Report Update for Eastmark*, by Wood, Patel and Associates, Inc. updated November 26, 2013, is being submitted with this report to the City of Mesa for review and re-approval to incorporate development changes within DU-3S. The updated master report includes the revised information utilized as the basis for this report.

### **1.4 Full Build-Out Condition**

The design criteria utilized to calculate water flows and to determine required pipe sizes for the Site are based on projected full build-out conditions for DU -3S. For a detailed breakdown of DU-3S modeled land use, please refer to the following:

- Table 2 – *DU-3S Modeled Land Use*
- Table 3 – *DU-3S Water Demand Design Flows*
- Plate 2 – *DU 3 South Master Water Exhibit*

### **1.5 Basis of Design Reports for Specific Individual Developments**

As development progresses within the Site, Basis of Design (BOD) reports are required for specific individual developments to ensure compliance with the Master Report and this Development Unit Master Report, and to identify significant variations in land use, water demands, and the water infrastructure needed to serve the parcel. The Site will be developed in phases, and the infrastructure needed to support a phased development will be determined at the time of platting.

## 2.0 EXISTING CONDITIONS

### 2.1 Topographic Conditions

The Site consists of multiple automotive test tracks and undisturbed desert which will surround the Site to the south, west, and east. Along the eastern boundary, development plans for DU 8 are within the design phase and may be constructed prior to the Site. To the north, the site is bound by the Powerline Floodway and Ray Road. The land generally slopes in a southwesterly direction, at approximately 0.5 to 1 percent. The peak elevation within the Site is approximately 1,420 feet above mean sea level (MSL), located near the intersection of Inspirian Parkway and Ray Road. The lowest elevation within the Site is approximately 1,392 feet MSL, located at the northwest tip of DU-3S. Refer to Plate 1 – *Vicinity Map* for roadway alignments.

### 2.2 Existing Pressure Zones and Hydraulic Grade Lines

The Site is located within the Desert Wells water pressure zone, defined by the City of Mesa as follows:

Desert Wells Pressure Zone:

- Ground elevation range = 1,370 to 1,520 feet
- Static hydraulic grade line (HGL) = 1,634 feet.

### 2.3 Existing Offsite Water Infrastructure

Relevant existing water infrastructure adjacent to the Site includes the following within the Desert Wells Pressure Zone:

- 16-inch waterline extending south along Ellsworth Road, from Elliot Road to Pecos Road.
- 16-inch waterline extending east along Elliot Road, from Ellsworth Road to Signal Butte Road.
- 16-inch waterline extending south along Signal Butte Road, from Elliot Road to Ray Road.
- 16-inch waterline extending east along Ray Road, from Ellsworth Road to Signal Butte Road.

### 2.4 Existing Onsite Water Infrastructure

It is Wood/Patel's understanding there are no existing onsite waterlines within DU-3S. If waterlines are discovered, they will be removed by the developer, where applicable, with construction of DU-3S.

### 3.0 DESIGN CRITERIA AND PROJECTED WATER DEMANDS

#### 3.1 Design Criteria

Water demand and pipe-sizing criteria utilized in this DU 3 South Master Water Report are based on Wood/Patel's understanding of the following:

- The Master Water Report for Eastmark,
- Design Criteria listed in the *2012 City of Mesa Engineering Design Standards*,
- Regionally accepted design standards.

Table 1 – *Water System Design Criteria* represents Unit Daily Water Demand design criteria for each land use category. The Development Unit Daily Water Demand was used to estimate demands at each node in the hydraulic model to determine flow rates, velocities, and pipe sizing.

#### 3.2 Water Demand Design Flows

Water demand flows under full build-out conditions are calculated using the design criteria listed in Section 3.1. For detailed calculations, see Table 3 – *DU-3S Water Demand Design Flows*. Design flows are summarized below and include the development unit adjustments.

	<b>Average-Day Demand MGD (gpm)</b>	<b>Peak-Day Demand MGD (gpm)</b>	<b>Peak-Hour Demand MGD (gpm)</b>
DU-3S	0.124 (86)	0.248 (172)	0.373 (259)

## 4.0 HYDRAULIC MODEL

Bentley WaterCAD Version 8i, a potable water transmission and distribution system numerical modeling program, was utilized to analyze the proposed potable water system. A hydraulic grade line (HGL) of 1,634 feet was used to simulate the water supply pressure for the Desert Wells pressure zone. Water demands and peaking factors utilized are based on information listed in Section 3.0. Pipes are sized to accommodate modeled conditions of flow.

### 4.1 Modeled Scenarios

The following primary modeling scenarios were selected to demonstrate compliance with City of Mesa requirements, and analyze the proposed water system:

- Average-Daily Demand
- Peak-Daily Demand
- Peak-Hour Demand
- Peak-Daily Demand Plus Fire Flow
- Fire Flow Analyses

The hydraulic model utilizes the Hazen-Williams equation to calculate head losses throughout the system during the modeled scenarios. Refer to Table 1 for additional information regarding hydraulic modeling parameters.

### 4.2 Hydraulic Modeling Criteria

Estimations were made regarding offsite water infrastructure for the purpose of modeling DU-3S to full build-out design conditions.

- The DU 7 water infrastructure has been constructed and is operational.
- The proposed infrastructure requires several connections to existing offsite waterlines.
  - The first location is in Ray Road, at the northwest tip of DU-3S, east of Ellsworth Road, connecting to the existing 16-inch waterline.
  - The second location is at the intersection of Inspirian Road and Ray Road. At this location, a proposed 16-inch waterline will connect to the existing 16-inch waterline in Ray Road and extend south to an anticipated site entrance.

Refer to Plate 2 for detailed information regarding existing and proposed offsite water infrastructure. With multiple connections to existing waterlines, the system has



redundancy allowing the water system to function in compliance with City of Mesa standards and specifications. Additional connections to existing waterlines may be required to provide looped systems if construction is phased.

**4.3 Hydraulic Modeling Results**

The hydraulic modeling results indicate the onsite system in DU-3S is capable of delivering average daily and peak hour demands within the following onsite pressure ranges:

**DU-3S Full Build-Out Pressure (psi)**

<b>Hydraulic Model Scenario</b>	<b>Low</b>	<b>Node</b>	<b>High</b>	<b>Node</b>
Average Daily Demand	94	J-DU3S-070	101	J-DU3S-040
Peak Hour Demand	91	J-DU3S-070	99	J-DU3S-040

As shown in the above table, the proposed water distribution infrastructure will serve DU-3S. Fire flow results from the model indicate available mainline fire flows exceed 3,400 gpm at individual modeling nodes during peak daily demand, while maintaining residual pressures greater than 20 psi throughout the Site at full build-out conditions. Detailed hydraulic modeling results, calculations, and exhibits are provided in the attached appendices and plates. Modeled outflow from each water source is shown below:

**Flow from South C.A.P. Desert Wells Pump Station:**

Average Day Demand: 1,291 gpm  
 Peak Day Demand: 2,581 gpm  
 Peak Hour Demand: 3,872 gpm

**Flow from City of Mesa Water System, North of Elliot Road:**

Average Day Demand: 170 gpm  
 Peak Day Demand: 341 gpm  
 Peak Hour Demand: 511 gpm

## 5.0 GENERAL PLAN FOR ONSITE WATER DISTRIBUTION

### 5.1 Piping Layout

The planned water distribution system for the Site consists of looped public waterlines ranging in diameter from 8 inches (onsite) up to 30 inches (offsite), using pipe materials per City of Mesa standards. Main waterlines have been located within designated public rights-of-way. In accordance with City of Mesa standards, 12-inch and 16-inch waterlines are generally located near ½-mile and 1-mile street alignments, or are upsized as needed to meet design constraints (refer to Plate 2 – *DU 3 South Master Water Exhibit*). As noted on the exhibit, some offsite waterlines require upsizing to meet regional City of Mesa water demands.

### 5.2 Water Sources

According to the *2010 City of Mesa Water Master Plan Update*, two primary sources of water will supply Eastmark. These sources are surface water supplied from the CAP canal, and groundwater from proposed well sites.

#### 5.2.1 Surface Water

The first phase of the South CAP Water Treatment Plant, consisting of the first reservoir and the first section of the booster pump station, is currently being constructed to provide storage and assist in meeting peak demands in the Desert Wells Zone. A portion of the facility will serve Eastmark in the interim until such time as the City deems it necessary to construct the CAP raw water conveyance system from the CAP canal and the water treatment portion of the plant.

According to the *2010 City of Mesa Water Master Plan Update*, the CAP water supply system typically provides a constant supply of surface water, although outages are possible as a result of failures and for periodic maintenance. CAP has indicated that short dry-ups (ranging from one week to one month in duration) may be required every two to three years, on average, for maintenance purposes. According to the *2010 City of Mesa Water Master Plan Update*, the South CAP water facilities will be supplied by groundwater production wells during CAP dry-ups to provide adequate storage and pumping to the Desert Wells Pressure Zone and other pressure zones.

### **5.2.2 Groundwater Wells**

Conceptual locations of the future groundwater wells are shown on Plate 2. Well locations are conceptual in nature and will be coordinated with the City of Mesa during the construction plan design and preparation. Well collection lines will be required extending from each well site to supply the South CAP water facilities. It is Wood/Patel's understanding the well sites and well collector mains will be phased with development and will be owned, operated, and maintained by the City of Mesa.

### **5.3 Water Pressure to Multi-Story Buildings**

Based on full build-out hydraulic modeling results, peak-hour residual pressures within the Site are at or above 90 pounds per square inch (psi). Private individual booster pumps may be required to serve multi-story buildings, and should be evaluated on an individual basis.

## 6.0 CONCLUSIONS

The *Master Water Report for Development Unit 3 South at Eastmark* meets accepted standards and requirements, and will serve, in conjunction with the *Master Water Report for Eastmark*, as a guide for construction documents associated with the planned potable water systems of DU-3S. No critical issues were identified that would preclude the anticipated development as presented in this Master Water Report. The following are critical conclusions:

1. The Site is located within the existing Desert Wells water pressure zone currently served by the City of Mesa.
2. For the purpose of this Master Water Report, the full build-out conditions for DU-3S have been evaluated for the design of the water distribution system.
3. The approximate average daily water demand for DU-3S is 0.124 million gallons per day (MGD) at full build-out conditions, per Section 3.2 of this report.
4. A hydraulic model was utilized to analyze the proposed potable water system and size pipes for the water distribution system. Modeling results indicate minimum residual pressures are met, and head loss and velocities within the planned waterlines meet the design criteria presented herein.
5. The planned onsite water distribution system for DU-3S consists of looped 8-inch public waterlines.
6. Modeling results indicated the proposed waterline layout would adequately serve DU-3S.
7. The proposed water distribution system and resulting hydraulic modeling output anticipates City of Mesa water production facilities and booster pump station facilities will be brought into service as necessary.
8. This *Master Water Report Update for Development Unit 3 South at Eastmark* demonstrates the sufficiency of the proposed water distribution system to serve the Site in accordance with City of Mesa Water Standards and the *Master Water Report for Eastmark*.

**TABLE 1**

**Water System Design Criteria**

**WOOD/PATEL**

**TABLE 1 - WATER SYSTEM DESIGN CRITERIA**

Project: Eastmark  
 Location: Mesa, Arizona  
 References: 2012 City of Mesa Engineering Design Standards

CIVIL ENGINEERS • HYDROLOGISTS • LAND SURVEYORS • CONSTRUCTION MANAGERS  
 Proj. Number: 113697.08  
 Proj. Engineer: Darrell Smith, P.E.

UNIT DAILY RESIDENTIAL WATER DEMANDS						
LAND USE CATEGORY	LAND USE	DWELLING UNIT DENSITY		UNIT DAILY WATER DEMAND		NOTES
		RANGE / VALUE	UNITS	VALUE	UNITS	
LDR-1	Low Density Residential (LDR 0-1)	0-1	DU/AC	126	GPD/AC	Source: Dwelling unit density divisions are based on City of Mesa 2025 General Plan. Unit water demands are based on the City of Mesa 2009 Engineering and Design Standards. LDR 1.0 Average and MDR 4.0 Average are used at locations where the dwelling unit densities are at or near 1 DU/AC and 4 DU/AC, respectively.
LDR-2	LDR 0-1 & LDR 1-2 AVG.	1	DU/AC	204	GPD/AC	
LDR-3	Low Density Residential (LDR 1-2)	1-2	DU/AC	281	GPD/AC	
MDR-1	Medium Density Residential (MDR 2-4)	2-4	DU/AC	834	GPD/AC	
MDR-2	MDR 2-4 & MDR 4-6 AVG.	4	DU/AC	1,216	GPD/AC	
MDR-3	Medium Density Residential (MDR 4-6)	4-6	DU/AC	1,602	GPD/AC	
MDR-4	Medium Density Residential (MDR 6-10)	6-10	DU/AC	1,523	GPD/AC	
HDR-1	High Density Residential (HDR 10-16)	10-16	DU/AC	1,936	GPD/AC	
HDR-2	High Density Residential (HDR 15+)	15+	DU/AC	2,356	GPD/AC	
MUR-1	Mixed Use/Residential (MUR) - Residential	30% Max. 15+	DU/AC	2,307	GPD/AC	

UNIT DAILY NON-RESIDENTIAL WATER DEMANDS			
LAND USE	UNIT DAILY WATER DEMAND		NOTES
	VALUE	UNITS	
Hotel	300	GPO/UNIT	Based on actual water use data for resorts and discussions with City of Mesa Staff.
Commercial / Retail / Office	1,700	GPD/AC	
Education/Civic/Church	1,500	GPD/AC	Source: City of Mesa 2009 Engineering and Design Standards.
Potable Irrigated Turf	4,400	GPD/AC	

HYDRAULIC MODELING CRITERIA			
DESCRIPTION	VALUE	UNITS	NOTES
<b>PEAKING FACTORS</b>			
Peak Day	2.00	x Ave Day Demand	2
Peak Hour	3.00	x Ave Day Demand	2
<b>MODELED FIRE HYDRANT FLOW (MINIMUMS)</b>			
Residential	1,500	gpm	
Commercial (represents flow in backbone waterlines)	4,000	gpm	
<b>HYDRAULICS (ON SITE)</b>			
Minimum Residual Pressure, Peak Hour	40	psi	
Minimum Residual Pressure, Peak Day + Fire Flow	20	psi	2
Maximum Pipe Headloss, Peak Day Demand	10 ft/1000 ft	-	3
Maximum Velocity, Peak Hour Demand	5 (+/-)	ft/s	3
Maximum Velocity, Peak Day + Fire Flow	10	ft/s	3
Minimum Pipe Diameter, Looped System	8	in	2
Hazen-Williams C-value	120	-	3

- Notes:**
1. City of Scottsdale Design Standards and Policy Manual
  2. Per 2012 City of Mesa Engineering Design Standards.
  3. Per City of Phoenix Design Standards Manual for Water and Wastewater Systems.

**TABLE 2**

**DU-3S Modeled Land Use**

**Project:** Eastmark  
**Location:** Mesa, Arizona

**PRELIMINARY LAND USE AND DWELLING UNIT BREAKDOWN BY PARCEL**

Parcel	DU Sub-area	No. of DUs	Acres	Density	Land Use	GPD/AC/Land Use	Avg Day (GPD)	Avg Day (GPM)
1	DU-3I	137	30.9	4.4	MDR-3	1602	49,502	34.4
2	DU-3H	115	31.4	3.7	MDR-1	834	26,188	18.2
3	DU-3H	139	30.0	4.6	MDR-3	1602	48,060	33.4
<b>Total</b>		<b>391</b>	<b>92.3</b>				<b>123,750</b>	<b>86.0</b>

**PRELIMINARY LAND USE AND DWELLING UNIT BREAKDOWN BY JUNCTION**

Junction	DU Sub-area	No. of DUs	Acres	Density	Land Use	GPD/AC/Land Use	Avg Day (GPD)	Avg Day (GPM)
J-DU3S-010	DU-3H	55	12.0	4.6	MDR-3	1602	19,224	13.4
J-DU3S-020	DU-3H	52	13.0	4.0	MDR-1 & MDR-3	1087	14,131	9.8
J-DU3S-030	DU-3H & DU-3I	73	17.7	4.1	MDR-1 & MDR-3	1295	22,922	15.9
J-DU3S-040	DU-3I	57	13.0	4.4	MDR-3	1602	20,826	14.5
J-DU3S-050	DU-3H & DU-3I	58	14.3	4.1	MDR-1 & MDR-3	1218	17,417	12.1
J-DU3S-060	DU-3H	58	14.0	4.1	MDR-1 & MDR-3	1138	15,932	11.1
J-DU3S-070	DU-3H	38	8.3	4.6	MDR-3	1602	13,297	9.2
<b>Total</b>		<b>391</b>	<b>92.3</b>				<b>123,749</b>	<b>86.0</b>



**TABLE 3**

**DU-3S**

**Water Demand Design Flows**

Project: Eastmark  
 Location: Mesa, Arizona  
 References: 2012 City of Mesa Engineering Design Standards

Proj. Number: 113697.08  
 Proj. Engineer: Darrell Smith, P.E.

Eastmark

DEVELOPMENT UNITS SERVED	DEVELOPMENT UNIT SUB-AREA	DEVELOPMENT UNIT DEMAND AREA (ACRES)	UNIT FLOW (GPD/AC)	HYD. MODEL NODE	AVE. DAY DEMAND		AVE DAY DEMAND ASSIGNED TO JUNCTIONS (GPM)	PEAK DAY DEMAND		PEAK HOUR DEMAND (GPM)
					(GPD)	(GPM)		(GPD)	(GPM)	
DU-3S	DU-3H	60.3	1,208	J-DU3S-010, J-DU3S-020, J-DU3S-030, J-DU3S-050, J-DU3S-060, J-DU3S-070	72,903	51	51	145,806	102	153
	DU-3I	32.0	1,602	J-DU3S-030, J-DU3S-040, J-DU3S-050	51,284	36	36	102,528	72	108
<b>Total</b>		<b>92.3</b>			<b>124,167</b>	<b>86</b>	<b>86</b>	<b>248,334</b>	<b>172</b>	<b>269</b>

**TABLE 4**

**Water Demand Design Flows by Junction Node**

**WOOD/PATEL**

**TABLE 4 - WATER DEMAND DESIGN FLOWS BY JUNCTION NODE**

CIVIL ENGINEERS \* HYDROLOGISTS \* LAND SURVEYORS \* CONSTRUCTION MANAGERS

**Project:** Eastmark

**Location:** Mesa, Arizona

**Proj. Number:** 113697.08

**References:** 2012 City of Mesa Engineering Design Standards

**Proj. Engineer:** Darrell Smith, P.E.

**EASTMARK**

HYDRAULIC MODEL NODE	WATER DEMAND (GPM)		
	AVE. DAY	PEAK DAY	PEAK HOUR
J-DU3S-010	13.4	27	40
J-DU3S-020	9.8	20	29
J-DU3S-030	15.9	32	48
J-DU3S-040	14.5	29	44
J-DU3S-050	12.1	24	36
J-DU3S-060	11.1	22	33
J-DU3S-070	9.2	18	28
<b>TOTAL</b>	<b>86</b>	<b>172</b>	<b>258</b>

## **APPENDIX A**

### **Hydraulic Modeling Results – Served by South CAP Water Treatment Plant**

**Active Scenario: DU3S Ave Day Demand - SCAP**  
**FlexTable: Reservoir Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Elevation (ft)	Flow (Out net) (gpm)	Zone	Hydraulic Grade (ft)
C.O.M. DW SUPPLY FROM NORTH	1,634.0	170	Desert Wells	1,634.0
SCAP DWPS	1,634.0	1,291	Desert Wells	1,634.0
DWGWF - DWPS	1,634.0	(N/A)	Desert Wells	(N/A)

**Active Scenario: DU3S Ave Day Demand - SCAP**

**FlexTable: Junction Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Elevation (ft)	Zone	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-100EX	1,406.0	Desert Wells	0	98	1,633.4
J-110EX	1,440.0	Desert Wells	0	84	1,633.4
J-120EX	1,462.0	Desert Wells	0	74	1,634.0
J-135EX	1,460.0	Desert Wells	0	75	1,633.7
J-150EX	1,472.0	Desert Wells	0	70	1,633.3
J-160EX	1,435.0	Desert Wells	0	86	1,633.2
J-170EX	1,430.0	Desert Wells	0	88	1,633.2
J-180EX	1,405.0	Desert Wells	0	99	1,633.2
J-190EX	1,395.0	Desert Wells	0	103	1,633.2
J-200EX	1,385.0	Desert Wells	0	107	1,633.2
J-210EX	1,393.0	Desert Wells	0	104	1,633.3
J-220EX	1,480.0	Desert Wells	0	66	1,633.7
J-230EX	1,475.0	Desert Wells	0	69	1,633.5
J-250EX	1,452.0	Desert Wells	0	78	1,633.2
J-260	1,437.0	Desert Wells	0	85	1,633.2
J-260EX	1,453.0	Desert Wells	0	78	1,633.3
J-280EX	1,460.0	Desert Wells	0	75	1,633.2
J-300EX	1,392.0	Desert Wells	0	104	1,633.2
J-310	1,420.0	Desert Wells	0	92	1,633.2
J-330EX	1,455.0	Desert Wells	0	77	1,633.2
J-350	1,420.0	Desert Wells	0	92	1,633.2
J-360EX	1,405.0	Desert Wells	0	99	1,633.3
J-430	1,420.0	Desert Wells	0	92	1,633.2
J-440	1,415.0	Desert Wells	0	94	1,633.2
J-450	1,393.0	Desert Wells	0	104	1,633.2
J-470	1,440.0	Desert Wells	0	84	1,633.2
J-490	1,430.0	Desert Wells	0	88	1,633.2
J-500	1,435.0	Desert Wells	0	86	1,633.2
J-560	1,402.0	Desert Wells	0	100	1,633.2
J-590EX	1,410.0	Desert Wells	0	97	1,633.4
J-770	1,435.0	Desert Wells	38	86	1,633.2
J-840	1,390.0	Desert Wells	0	105	1,633.2
J-880	1,450.0	Desert Wells	17	79	1,633.2
J-930	1,410.0	Desert Wells	0	97	1,633.2
J-960EX	1,401.0	Desert Wells	0	101	1,633.3
J-970EX	1,397.0	Desert Wells	34	102	1,633.3
J-980	1,393.0	Desert Wells	11	104	1,633.3
J-1000EX	1,455.0	Desert Wells	0	77	1,634.0
J-1010EX	1,485.0	Desert Wells	0	64	1,634.0
J-1020EX	1,425.0	Desert Wells	0	90	1,634.0
J-1030EX	1,480.0	Desert Wells	0	67	1,634.0
J-1040EX	1,438.0	Desert Wells	0	85	1,633.5
J-1050EX	1,445.0	Desert Wells	0	81	1,633.2
J-1070	1,420.0	Desert Wells	63	92	1,633.2
J-1080	1,418.0	Desert Wells	108	93	1,633.2

**Active Scenario: DU3S Ave Day Demand - SCAP**

**FlexTable: Junction Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Elevation (ft)	Zone	Demand (gpm)	Pressure (psl)	Hydraulic Grade (ft)
J-1120EX	1,453.0	Desert Wells	0	78	1,633.3
J-1130EX	1,445.0	Desert Wells	0	82	1,633.5
J-1160EX	1,445.0	Desert Wells	0	82	1,634.0
J-1170EX	1,470.0	Desert Wells	0	71	1,634.0
J-1180EX	1,440.0	Desert Wells	0	84	1,634.0
J-1190EX	1,420.0	Desert Wells	0	93	1,634.0
J-1200EX	1,445.0	Desert Wells	0	82	1,634.0
J-1210EX	1,455.0	Desert Wells	0	77	1,634.0
J-1220EX	1,475.0	Desert Wells	0	69	1,634.0
J-1230EX	1,460.0	Desert Wells	0	75	1,633.2
J-1235EX	1,440.0	Desert Wells	0	84	1,633.2
J-1240EX	1,455.0	Desert Wells	0	77	1,633.2
J-1290EX	1,480.0	Desert Wells	0	67	1,634.0
J-1300EX	1,465.0	Desert Wells	0	73	1,634.0
J-1310EX	1,480.0	Desert Wells	0	67	1,634.0
J-1330EX	1,465.0	Desert Wells	0	73	1,634.0
J-1340EX	1,450.0	Desert Wells	0	80	1,634.0
J-1350EX	1,465.0	Desert Wells	0	73	1,634.0
J-1360EX	1,445.0	Desert Wells	0	82	1,634.0
J-1370EX	1,430.0	Desert Wells	0	88	1,634.0
J-1380EX	1,450.0	Desert Wells	0	80	1,634.0
J-1390EX	1,430.0	Desert Wells	0	88	1,634.0
J-1400EX	1,430.0	Desert Wells	0	88	1,634.0
J-1410	1,450.0	Desert Wells	0	80	1,634.0
J-1410EX	1,420.0	Desert Wells	0	93	1,634.0
J-1420EX	1,461.0	Desert Wells	0	75	1,633.5
J-1430	1,397.0	Desert Wells	0	102	1,633.2
J-1430EX	1,455.0	Desert Wells	0	77	1,633.5
J-1440EX	1,478.0	Desert Wells	0	67	1,633.6
J-1530	1,432.0	Desert Wells	0	87	1,633.1
J-1550	1,435.0	Desert Wells	0	86	1,633.2
J-1560	1,435.0	Desert Wells	141	86	1,633.1
J-1570	1,433.0	Desert Wells	0	87	1,633.2
J-1580	1,437.0	Desert Wells	90	85	1,633.2
J-1680EX	1,400.0	Desert Wells	0	101	1,633.3
J-1990EX	1,447.0	Desert Wells	0	81	1,633.2
J-2000EX	1,442.0	Desert Wells	0	83	1,633.2
J-2120EX	1,453.0	Desert Wells	0	78	1,633.6
J-2140EX	1,446.0	Desert Wells	0	81	1,633.5
J-2150	1,448.0	Desert Wells	482	80	1,633.1
J-2250	1,458.0	Desert Wells	0	76	1,633.4
J-2260	1,459.0	Desert Wells	0	75	1,633.5
J-2280	1,453.0	Desert Wells	241	78	1,633.5
J-2291	1,432.0	Desert Wells	150	87	1,633.1
J-2295	1,415.0	Desert Wells	0	94	1,633.2



**Active Scenario: DU3S Ave Day Demand - SCAP**  
**FlexTable: Junction Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

*ONSITE*

Label	Elevation (ft)	Zone	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-DU3S-010	1,412.0	Desert Wells	13	96	1,633.2
J-DU3S-020	1,407.0	Desert Wells	10	98	1,633.1
J-DU3S-030	1,401.0	Desert Wells	16	100	1,633.1
J-DU3S-040	1,399.0	Desert Wells	15	101	1,633.1
J-DU3S-050	1,404.0	Desert Wells	12	99	1,633.1
J-DU3S-060	1,410.0	Desert Wells	11	97	1,633.1
J-DU3S-070	1,417.0	Desert Wells	9	94	1,633.1

**Active Scenario: DU3S Ave Day Demand - SCAP**

**FlexTable: Pipe Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Diameter (in)	Length (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-160EX	16.0	2,722.00	120.0	17	0.03	0.0000
P-170EX	16.0	5,366.00	120.0	17	0.03	0.0000
P-180EX	16.0	5,396.00	120.0	17	0.03	0.0000
P-190EX	16.0	5,728.00	120.0	17	0.03	0.0000
P-200EX	16.0	231.00	120.0	-147	0.23	0.0000
P-210EX	16.0	1,388.00	120.0	-147	0.23	0.0000
P-220EX	16.0	2,909.00	120.0	338	0.54	0.0001
P-240EX	16.0	1,387.00	120.0	-617	0.98	0.0003
P-250EX	16.0	2,611.00	120.0	285	0.45	0.0001
P-340EX	16.0	5,775.00	120.0	17	0.03	0.0000
P-410EX	16.0	5,368.00	120.0	17	0.03	0.0000
P-710	16.0	778.00	130.0	-33	0.05	0.0000
P-720	12.0	1,169.00	120.0	0	0.00	0.0000
P-880	16.0	1,742.00	120.0	-63	0.10	0.0000
P-1060EX	16.0	1,328.00	120.0	-147	0.23	0.0000
P-1070EX	16.0	1,243.00	120.0	-147	0.23	0.0000
P-1430	24.0	1,075.00	120.0	-178	0.13	0.0000
P-1440	24.0	1,254.00	120.0	-216	0.15	0.0000
P-1630EX	16.0	560.00	120.0	-102	0.16	0.0000
P-1640EX	16.0	2,569.00	120.0	-102	0.16	0.0000
P-1710	24.0	992.00	120.0	-331	0.23	0.0000
P-1720	24.0	2,552.00	120.0	-348	0.25	0.0000
P-1850	16.0	1,560.00	120.0	77	0.12	0.0000
P-1860	16.0	1,385.00	120.0	77	0.12	0.0000
P-1940EX	16.0	1,976.00	120.0	-113	0.18	0.0000
P-1950EX	16.0	680.00	120.0	-147	0.23	0.0000
P-1970EX	16.0	927.00	120.0	-102	0.16	0.0000
P-1980EX	16.0	1,106.00	120.0	-113	0.18	0.0000
P-2000EX	16.0	2,710.00	120.0	-147	0.23	0.0000
P-2040EX	16.0	10,635.00	120.0	-40	0.06	0.0000
P-2055EX	16.0	10,453.00	120.0	18	0.03	0.0000
P-2070EX	24.0	5,329.00	120.0	-113	0.08	0.0000
P-2120	16.0	1,816.00	120.0	37	0.06	0.0000
P-2140	20.0	1,207.00	120.0	-33	0.03	0.0000
P-2150	20.0	317.00	120.0	-96	0.10	0.0000
P-2170	20.0	619.00	120.0	178	0.18	0.0000
P-2180	20.0	1,514.00	120.0	70	0.07	0.0000
P-2340EX	16.0	2,281.00	120.0	-147	0.23	0.0000
P-2500EX	24.0	2,750.00	120.0	118	0.08	0.0000
P-2510EX	24.0	2,726.00	120.0	113	0.08	0.0000
P-2540EX	12.0	2,624.00	120.0	-14	0.04	0.0000
P-2570EX	16.0	2,640.00	120.0	0	0.00	0.0000
P-2655EX	16.0	2,870.00	120.0	17	0.03	0.0000
P-2660EX	24.0	2,797.00	120.0	170	0.12	0.0000
P-2665EX	16.0	2,716.00	120.0	17	0.03	0.0000

**Active Scenario: DU3S Ave Day Demand - SCAP**

**FlexTable: Pipe Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Diameter (in)	Length (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-2690EX	16.0	2,914.00	120.0	-147	0.23	0.0000
P-2700EX	16.0	3,115.00	120.0	138	0.22	0.0000
P-2710EX	16.0	1,823.00	120.0	92	0.15	0.0000
P-2720EX	12.0	3,042.00	120.0	-46	0.13	0.0000
P-2830	16.0	2,890.00	120.0	74	0.12	0.0000
P-2860EX	24.0	761.00	120.0	170	0.12	0.0000
P-2880EX	12.0	383.00	120.0	0	0.00	0.0000
P-2890EX	8.0	3,148.00	120.0	-9	0.06	0.0000
P-2900	24.0	1,423.00	120.0	153	0.11	0.0000
P-2910EX	24.0	497.00	120.0	162	0.11	0.0000
P-2950	12.0	1,089.00	120.0	5	0.01	0.0000
P-2970EX	12.0	1,119.00	120.0	8	0.02	0.0000
P-2990EX	8.0	2,811.00	120.0	-6	0.04	0.0000
P-3010EX	12.0	471.00	120.0	9	0.02	0.0000
P-3020EX	12.0	1,167.00	120.0	2	0.01	0.0000
P-3030EX	12.0	378.00	120.0	0	0.00	0.0000
P-3040EX	8.0	3,081.00	120.0	-6	0.04	0.0000
P-3060	12.0	595.00	120.0	0	0.00	0.0000
P-3070EX	8.0	2,922.00	120.0	-4	0.03	0.0000
P-3080EX	12.0	1,397.00	120.0	-14	0.04	0.0000
P-3090EX	12.0	1,109.00	120.0	-11	0.03	0.0000
P-3100EX	12.0	695.00	120.0	3	0.01	0.0000
P-3110EX	12.0	664.00	120.0	0	0.00	0.0000
P-3120EX	8.0	1,851.00	120.0	-3	0.02	0.0000
P-3130	12.0	1,155.00	120.0	4	0.01	0.0000
P-3140EX	16.0	1,783.00	120.0	4	0.01	0.0000
P-3150EX	16.0	958.00	120.0	0	0.00	0.0000
P-3160EX	8.0	3,801.00	120.0	-4	0.03	0.0000
P-3170EX	8.0	2,838.00	120.0	-9	0.06	0.0000
P-3180EX	8.0	736.00	120.0	3	0.02	0.0000
P-3190EX	30.0	4,441.00	120.0	0	0.00	0.0000
P-3240EX	16.0	1,954.00	120.0	307	0.49	0.0001
P-3250EX	12.0	844.00	120.0	-54	0.15	0.0000
P-3260EX	16.0	1,108.00	120.0	338	0.54	0.0001
P-3270EX	16.0	1,509.00	120.0	258	0.41	0.0001
P-3280EX	12.0	2,890.00	120.0	-80	0.23	0.0000
P-3290EX	12.0	2,432.00	120.0	-27	0.08	0.0000
P-3340	16.0	1,114.00	130.0	-119	0.19	0.0000
P-3450	16.0	1,525.00	130.0	77	0.12	0.0000
P-3640	12.0	1,014.00	120.0	103	0.29	0.0000
P-3660	16.0	1,562.00	120.0	-111	0.18	0.0000
P-3670	16.0	941.00	120.0	-111	0.18	0.0000
P-3690	12.0	1,073.00	130.0	-115	0.33	0.0000
P-3700	12.0	828.00	120.0	-26	0.07	0.0000
P-3720	12.0	399.00	120.0	-73	0.21	0.0000

**Active Scenario: DU3S Ave Day Demand - SCAP**

**FlexTable: Pipe Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

Current Time: 0.000 hours

Label	Diameter (in)	Length (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-3730	12.0	2,378.00	120.0	-48	0.14	0.0000
P-3760	12.0	1,054.00	120.0	-25	0.07	0.0000
P-3930EX	16.0	751.00	120.0	-147	0.23	0.0000
P-3940EX	16.0	509.00	120.0	-147	0.23	0.0000
P-3970EX	16.0	1,445.00	120.0	147	0.23	0.0000
P-4720EX	16.0	1,216.00	120.0	106	0.17	0.0000
P-4730EX	16.0	456.00	120.0	106	0.17	0.0000
P-4750EX	16.0	715.00	120.0	106	0.17	0.0000
P-4760EX	16.0	774.00	120.0	-9	0.01	0.0000
P-4770	12.0	1,049.00	120.0	-115	0.33	0.0001
P-5700EX	16.0	1,176.00	120.0	506	0.81	0.0002
P-5710EX	16.0	1,171.00	120.0	506	0.81	0.0002
P-5770	16.0	353.00	120.0	307	0.49	0.0001
P-5780	16.0	684.00	120.0	307	0.49	0.0001
P-5950	12.0	142.00	120.0	253	0.72	0.0002
P-5960	12.0	1,130.00	120.0	281	0.80	0.0003
P-5980	12.0	2,209.00	120.0	-29	0.08	0.0000
P-5990	12.0	124.00	120.0	470	1.33	0.0007
P-6000	12.0	2,203.00	120.0	201	0.57	0.0002
P-6010	12.0	1,163.00	120.0	-29	0.08	0.0000
P-6059	12.0	1,714.00	120.0	-47	0.13	0.0000
P-7000	16.0	742.00	120.0	44	0.07	0.0000
P-COMWTREX	36.0	10.00	120.0	170	0.05	0.0000
P-DU3S-010	8.0	261.00	120.0	44	0.28	0.0001
P-DU3S-020	8.0	1,374.00	120.0	13	0.08	0.0000
P-DU3S-030	8.0	1,542.00	120.0	3	0.02	0.0000
P-DU3S-040	8.0	1,242.00	120.0	-13	0.08	0.0000
P-DU3S-050	8.0	801.00	120.0	42	0.27	0.0001
P-DU3S-060	8.0	974.00	120.0	15	0.09	0.0000
P-DU3S-070	8.0	1,384.00	120.0	3	0.02	0.0000
P-DU3S-080	8.0	1,241.00	120.0	-8	0.05	0.0000
P-DU3S-090	8.0	621.00	120.0	-18	0.11	0.0000
P-SCAP	36.0	1,752.00	120.0	-1,291	0.41	0.0000

INSITE

**Active Scenario: DU3S Peak Day Demand - SCAP**  
**FlexTable: Reservoir Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Elevation (ft)	Flow (Out net) (gpm)	Zone	Hydraulic Grade (ft)
C.O.M. DW SUPPLY FROM NORTH	1,634.0	341	Desert Wells	1,634.0
SCAP DWPS	1,634.0	2,581	Desert Wells	1,634.0
DWGWF - DWPS	1,634.0	(N/A)	Desert Wells	(N/A)

**Active Scenario: DU3S Peak Day Demand - SCAP**  
**FlexTable: Junction Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Elevation (ft)	Zone	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-100EX	1,406.0	Desert Wells	0	98	1,631.7
J-110EX	1,440.0	Desert Wells	0	83	1,631.9
J-120EX	1,462.0	Desert Wells	0	74	1,633.9
J-135EX	1,460.0	Desert Wells	0	75	1,633.0
J-150EX	1,472.0	Desert Wells	0	69	1,631.5
J-160EX	1,435.0	Desert Wells	0	85	1,631.2
J-170EX	1,430.0	Desert Wells	0	87	1,631.2
J-180EX	1,405.0	Desert Wells	0	98	1,631.2
J-190EX	1,395.0	Desert Wells	0	102	1,631.2
J-200EX	1,385.0	Desert Wells	0	106	1,631.2
J-210EX	1,393.0	Desert Wells	0	103	1,631.4
J-220EX	1,480.0	Desert Wells	0	66	1,632.8
J-230EX	1,475.0	Desert Wells	0	68	1,632.1
J-250EX	1,452.0	Desert Wells	0	78	1,631.2
J-260	1,437.0	Desert Wells	0	84	1,631.1
J-260EX	1,453.0	Desert Wells	0	77	1,631.4
J-280EX	1,460.0	Desert Wells	0	74	1,631.2
J-300EX	1,392.0	Desert Wells	0	103	1,631.1
J-310	1,420.0	Desert Wells	0	91	1,631.0
J-330EX	1,455.0	Desert Wells	0	76	1,631.2
J-350	1,420.0	Desert Wells	0	91	1,631.0
J-360EX	1,405.0	Desert Wells	0	98	1,631.5
J-430	1,420.0	Desert Wells	0	91	1,631.0
J-440	1,415.0	Desert Wells	0	93	1,631.0
J-450	1,393.0	Desert Wells	0	103	1,631.3
J-470	1,440.0	Desert Wells	0	83	1,631.1
J-490	1,430.0	Desert Wells	0	87	1,631.0
J-500	1,435.0	Desert Wells	0	85	1,631.0
J-560	1,402.0	Desert Wells	0	99	1,631.1
J-590EX	1,410.0	Desert Wells	0	96	1,631.8
J-770	1,435.0	Desert Wells	76	85	1,631.0
J-840	1,390.0	Desert Wells	0	104	1,631.2
J-880	1,450.0	Desert Wells	34	78	1,631.1
J-930	1,410.0	Desert Wells	0	96	1,631.0
J-960EX	1,401.0	Desert Wells	0	100	1,631.6
J-970EX	1,397.0	Desert Wells	68	101	1,631.4
J-980	1,393.0	Desert Wells	22	103	1,631.3
J-1000EX	1,455.0	Desert Wells	0	77	1,634.0
J-1010EX	1,485.0	Desert Wells	0	64	1,633.9
J-1020EX	1,425.0	Desert Wells	0	90	1,634.0
J-1030EX	1,480.0	Desert Wells	0	67	1,634.0
J-1040EX	1,438.0	Desert Wells	0	84	1,632.1
J-1050EX	1,445.0	Desert Wells	0	81	1,631.2
J-1070	1,420.0	Desert Wells	126	91	1,631.0
J-1080	1,418.0	Desert Wells	216	92	1,631.0

**Active Scenario: DU3S Peak Day Demand - SCAP**  
**FlexTable: Junction Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Elevation (ft)	Zone	Demand (gpm)	Pressure (psl)	Hydraulic Grade (ft)
J-1120EX	1,453.0	Desert Wells	0	77	1,631.5
J-1130EX	1,445.0	Desert Wells	0	81	1,632.3
J-1160EX	1,445.0	Desert Wells	0	82	1,634.0
J-1170EX	1,470.0	Desert Wells	0	71	1,633.9
J-1180EX	1,440.0	Desert Wells	0	84	1,634.0
J-1190EX	1,420.0	Desert Wells	0	93	1,634.0
J-1200EX	1,445.0	Desert Wells	0	82	1,634.0
J-1210EX	1,455.0	Desert Wells	0	77	1,633.9
J-1220EX	1,475.0	Desert Wells	0	69	1,633.9
J-1230EX	1,460.0	Desert Wells	0	74	1,631.2
J-1235EX	1,440.0	Desert Wells	0	83	1,631.1
J-1240EX	1,455.0	Desert Wells	0	76	1,631.3
J-1290EX	1,480.0	Desert Wells	0	67	1,633.9
J-1300EX	1,465.0	Desert Wells	0	73	1,633.9
J-1310EX	1,480.0	Desert Wells	0	67	1,633.9
J-1330EX	1,465.0	Desert Wells	0	73	1,633.9
J-1340EX	1,450.0	Desert Wells	0	80	1,634.0
J-1350EX	1,465.0	Desert Wells	0	73	1,633.9
J-1360EX	1,445.0	Desert Wells	0	82	1,634.0
J-1370EX	1,430.0	Desert Wells	0	88	1,634.0
J-1380EX	1,450.0	Desert Wells	0	80	1,634.0
J-1390EX	1,430.0	Desert Wells	0	88	1,634.0
J-1400EX	1,430.0	Desert Wells	0	88	1,634.0
J-1410	1,450.0	Desert Wells	0	80	1,633.9
J-1410EX	1,420.0	Desert Wells	0	93	1,634.0
J-1420EX	1,461.0	Desert Wells	0	74	1,632.1
J-1430	1,397.0	Desert Wells	0	101	1,631.1
J-1430EX	1,455.0	Desert Wells	0	77	1,632.2
J-1440EX	1,478.0	Desert Wells	0	67	1,632.4
J-1530	1,432.0	Desert Wells	0	86	1,630.9
J-1550	1,435.0	Desert Wells	0	85	1,631.1
J-1560	1,435.0	Desert Wells	282	85	1,630.9
J-1570	1,433.0	Desert Wells	0	86	1,630.9
J-1580	1,437.0	Desert Wells	180	84	1,630.9
J-1680EX	1,400.0	Desert Wells	0	100	1,631.5
J-1990EX	1,447.0	Desert Wells	0	80	1,631.2
J-2000EX	1,442.0	Desert Wells	0	82	1,631.1
J-2120EX	1,453.0	Desert Wells	0	78	1,632.4
J-2140EX	1,446.0	Desert Wells	0	81	1,632.3
J-2150	1,448.0	Desert Wells	964	79	1,630.9
J-2250	1,458.0	Desert Wells	0	75	1,632.0
J-2260	1,459.0	Desert Wells	0	75	1,632.0
J-2280	1,453.0	Desert Wells	482	77	1,632.1
J-2291	1,432.0	Desert Wells	300	86	1,630.8
J-2295	1,415.0	Desert Wells	0	93	1,631.0

**Active Scenario: DU3S Peak Day Demand - SCAP**  
**FlexTable: Junction Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

**ONSITE**

Label	Elevation (ft)	Zone	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-DU3S-010	1,412.0	Desert Wells	27	95	1,630.9
J-DU3S-020	1,407.0	Desert Wells	20	97	1,630.9
J-DU3S-030	1,401.0	Desert Wells	32	99	1,630.9
J-DU3S-040	1,399.0	Desert Wells	29	100	1,630.9
J-DU3S-050	1,404.0	Desert Wells	24	98	1,630.9
J-DU3S-060	1,410.0	Desert Wells	22	96	1,630.9
J-DU3S-070	1,417.0	Desert Wells	18	93	1,630.9



**Active Scenario: DU3S Peak Day Demand - SCAP**

**FlexTable: Pipe Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Diameter (in)	Length (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-160EX	16.0	2,722.00	120.0	35	0.06	0.0000
P-170EX	16.0	5,366.00	120.0	35	0.06	0.0000
P-180EX	16.0	5,396.00	120.0	35	0.06	0.0000
P-190EX	16.0	5,728.00	120.0	35	0.06	0.0000
P-200EX	16.0	231.00	120.0	-293	0.47	0.0001
P-210EX	16.0	1,388.00	120.0	-293	0.47	0.0001
P-220EX	16.0	2,909.00	120.0	676	1.08	0.0004
P-240EX	16.0	1,387.00	120.0	-1,233	1.97	0.0011
P-250EX	16.0	2,611.00	120.0	569	0.91	0.0003
P-340EX	16.0	5,775.00	120.0	35	0.06	0.0000
P-410EX	16.0	5,368.00	120.0	35	0.06	0.0000
P-710	16.0	778.00	130.0	-66	0.11	0.0000
P-720	12.0	1,169.00	120.0	0	0.00	0.0000
P-880	16.0	1,742.00	120.0	-125	0.20	0.0000
P-1060EX	16.0	1,328.00	120.0	-293	0.47	0.0001
P-1070EX	16.0	1,243.00	120.0	-293	0.47	0.0001
P-1430	24.0	1,075.00	120.0	-356	0.25	0.0000
P-1440	24.0	1,254.00	120.0	-432	0.31	0.0000
P-1630EX	16.0	560.00	120.0	-203	0.32	0.0000
P-1640EX	16.0	2,569.00	120.0	-203	0.32	0.0000
P-1710	24.0	992.00	120.0	-662	0.47	0.0000
P-1720	24.0	2,552.00	120.0	-696	0.49	0.0001
P-1850	16.0	1,560.00	120.0	154	0.25	0.0000
P-1860	16.0	1,385.00	120.0	154	0.25	0.0000
P-1940EX	16.0	1,976.00	120.0	-225	0.36	0.0000
P-1950EX	16.0	680.00	120.0	-293	0.47	0.0001
P-1970EX	16.0	927.00	120.0	-203	0.32	0.0000
P-1980EX	16.0	1,106.00	120.0	-225	0.36	0.0000
P-2000EX	16.0	2,710.00	120.0	-293	0.47	0.0001
P-2040EX	16.0	10,635.00	120.0	-79	0.13	0.0000
P-2055EX	16.0	10,453.00	120.0	36	0.06	0.0000
P-2070EX	24.0	5,329.00	120.0	-226	0.16	0.0000
P-2120	16.0	1,816.00	120.0	74	0.12	0.0000
P-2140	20.0	1,207.00	120.0	-65	0.07	0.0000
P-2150	20.0	317.00	120.0	-191	0.20	0.0000
P-2170	20.0	619.00	120.0	356	0.36	0.0000
P-2180	20.0	1,514.00	120.0	140	0.14	0.0000
P-2340EX	16.0	2,281.00	120.0	-293	0.47	0.0001
P-2500EX	24.0	2,750.00	120.0	236	0.17	0.0000
P-2510EX	24.0	2,726.00	120.0	227	0.16	0.0000
P-2540EX	12.0	2,624.00	120.0	-28	0.08	0.0000
P-2570EX	16.0	2,640.00	120.0	0	0.00	0.0000
P-2655EX	16.0	2,870.00	120.0	35	0.06	0.0000
P-2660EX	24.0	2,797.00	120.0	341	0.24	0.0000
P-2665EX	16.0	2,716.00	120.0	35	0.06	0.0000

**Active Scenario: DU3S Peak Day Demand - SCAP**

**FlexTable: Pipe Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Diameter (in)	Length (ft)	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-2690EX	16.0	2,914.00	120.0	-294	0.47	0.0001
P-2700EX	16.0	3,115.00	120.0	276	0.44	0.0001
P-2710EX	16.0	1,823.00	120.0	183	0.29	0.0000
P-2720EX	12.0	3,042.00	120.0	-92	0.26	0.0000
P-2830	16.0	2,890.00	120.0	149	0.24	0.0000
P-2860EX	24.0	761.00	120.0	341	0.24	0.0000
P-2880EX	12.0	383.00	120.0	0	0.00	0.0000
P-2890EX	8.0	3,148.00	120.0	-18	0.11	0.0000
P-2900	24.0	1,423.00	120.0	306	0.22	0.0000
P-2910EX	24.0	497.00	120.0	323	0.23	0.0000
P-2950	12.0	1,089.00	120.0	10	0.03	0.0000
P-2970EX	12.0	1,119.00	120.0	16	0.05	0.0000
P-2990EX	8.0	2,811.00	120.0	-13	0.08	0.0000
P-3010EX	12.0	471.00	120.0	18	0.05	0.0000
P-3020EX	12.0	1,167.00	120.0	4	0.01	0.0000
P-3030EX	12.0	378.00	120.0	0	0.00	0.0000
P-3040EX	8.0	3,081.00	120.0	-12	0.08	0.0000
P-3060	12.0	595.00	120.0	0	0.00	0.0000
P-3070EX	8.0	2,922.00	120.0	-8	0.05	0.0000
P-3080EX	12.0	1,397.00	120.0	-27	0.08	0.0000
P-3090EX	12.0	1,109.00	120.0	-22	0.06	0.0000
P-3100EX	12.0	695.00	120.0	6	0.02	0.0000
P-3110EX	12.0	664.00	120.0	1	0.00	0.0000
P-3120EX	8.0	1,851.00	120.0	-6	0.04	0.0000
P-3130	12.0	1,155.00	120.0	8	0.02	0.0000
P-3140EX	16.0	1,783.00	120.0	8	0.01	0.0000
P-3150EX	16.0	958.00	120.0	0	0.00	0.0000
P-3160EX	8.0	3,801.00	120.0	-8	0.05	0.0000
P-3170EX	8.0	2,838.00	120.0	-17	0.11	0.0000
P-3180EX	8.0	736.00	120.0	5	0.03	0.0000
P-3190EX	30.0	4,441.00	120.0	0	0.00	0.0000
P-3240EX	16.0	1,954.00	120.0	614	0.98	0.0003
P-3250EX	12.0	844.00	120.0	-107	0.30	0.0000
P-3260EX	16.0	1,108.00	120.0	676	1.08	0.0004
P-3270EX	16.0	1,509.00	120.0	515	0.82	0.0002
P-3280EX	12.0	2,890.00	120.0	-161	0.46	0.0001
P-3290EX	12.0	2,432.00	120.0	-54	0.15	0.0000
P-3340	16.0	1,114.00	130.0	-238	0.38	0.0000
P-3450	16.0	1,525.00	130.0	154	0.25	0.0000
P-3640	12.0	1,014.00	120.0	205	0.58	0.0002
P-3660	16.0	1,562.00	120.0	-222	0.35	0.0000
P-3670	16.0	941.00	120.0	-222	0.35	0.0000
P-3690	12.0	1,073.00	130.0	-230	0.65	0.0002
P-3700	12.0	828.00	120.0	-52	0.15	0.0000
P-3720	12.0	399.00	120.0	-147	0.42	0.0001

**Active Scenario: DU3S Peak Day Demand - SCAP**

**FlexTable: Pipe Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Diameter (in)	Length (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-3730	12.0	2,378.00	120.0	-97	0.28	0.0000
P-3760	12.0	1,054.00	120.0	-50	0.14	0.0000
P-3930EX	16.0	751.00	120.0	-293	0.47	0.0001
P-3940EX	16.0	509.00	120.0	-293	0.47	0.0001
P-3970EX	16.0	1,445.00	120.0	293	0.47	0.0001
P-4720EX	16.0	1,216.00	120.0	212	0.34	0.0000
P-4730EX	16.0	456.00	120.0	212	0.34	0.0000
P-4750EX	16.0	715.00	120.0	212	0.34	0.0000
P-4760EX	16.0	774.00	120.0	-18	0.03	0.0000
P-4770	12.0	1,049.00	120.0	-230	0.65	0.0002
P-5700EX	16.0	1,176.00	120.0	1,012	1.62	0.0007
P-5710EX	16.0	1,171.00	120.0	1,012	1.62	0.0007
P-5770	16.0	353.00	120.0	614	0.98	0.0003
P-5780	16.0	684.00	120.0	614	0.98	0.0003
P-5950	12.0	142.00	120.0	506	1.43	0.0008
P-5960	12.0	1,130.00	120.0	563	1.60	0.0010
P-5980	12.0	2,209.00	120.0	-57	0.16	0.0000
P-5990	12.0	124.00	120.0	940	2.67	0.0026
P-6000	12.0	2,203.00	120.0	401	1.14	0.0005
P-6010	12.0	1,163.00	120.0	-57	0.16	0.0000
P-6059	12.0	1,714.00	120.0	-95	0.27	0.0000
P-7000	16.0	742.00	120.0	88	0.14	0.0000
P-COMWTREX	36.0	10.00	120.0	341	0.11	0.0000
P-DU3S-010	8.0	261.00	120.0	88	0.56	0.0002
P-DU3S-020	8.0	1,374.00	120.0	26	0.17	0.0000
P-DU3S-030	8.0	1,542.00	120.0	7	0.04	0.0000
P-DU3S-040	8.0	1,242.00	120.0	-25	0.16	0.0000
P-DU3S-050	8.0	801.00	120.0	84	0.54	0.0002
P-DU3S-060	8.0	974.00	120.0	30	0.19	0.0000
P-DU3S-070	8.0	1,384.00	120.0	5	0.03	0.0000
P-DU3S-080	8.0	1,241.00	120.0	-17	0.11	0.0000
P-DU3S-090	8.0	621.00	120.0	-35	0.22	0.0000
P-SCAP	36.0	1,752.00	120.0	-2,581	0.81	0.0001

**ONSITE**

**Active Scenario: DU3S Peak Hour Demand - SCAP**  
**FlexTable: Reservoir Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Elevation (ft)	Flow (Out net) (gpm)	Zone	Hydraulic Grade (ft)
C.O.M. DW SUPPLY FROM NORTH	1,634.0	511	Desert Wells	1,634.0
SCAP DWPS	1,634.0	3,872	Desert Wells	1,634.0
DWGWF - DWPS	1,634.0	(N/A)	Desert Wells	(N/A)

**Active Scenario: DU3S Peak Hour Demand - SCAP**

**FlexTable: Junction Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Elevation (ft)	Zone	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-100EX	1,406.0	Desert Wells	0	97	1,629.1
J-110EX	1,440.0	Desert Wells	0	82	1,629.5
J-120EX	1,462.0	Desert Wells	0	74	1,633.7
J-135EX	1,460.0	Desert Wells	0	74	1,631.9
J-150EX	1,472.0	Desert Wells	0	68	1,628.6
J-160EX	1,435.0	Desert Wells	0	84	1,628.0
J-170EX	1,430.0	Desert Wells	0	86	1,628.0
J-180EX	1,405.0	Desert Wells	0	96	1,628.0
J-190EX	1,395.0	Desert Wells	0	101	1,628.0
J-200EX	1,385.0	Desert Wells	0	105	1,628.0
J-210EX	1,393.0	Desert Wells	0	102	1,628.4
J-220EX	1,480.0	Desert Wells	0	66	1,631.5
J-230EX	1,475.0	Desert Wells	0	67	1,630.0
J-250EX	1,452.0	Desert Wells	0	76	1,628.2
J-260	1,437.0	Desert Wells	0	83	1,627.9
J-260EX	1,453.0	Desert Wells	0	76	1,628.6
J-280EX	1,460.0	Desert Wells	0	73	1,628.0
J-300EX	1,392.0	Desert Wells	0	102	1,628.0
J-310	1,420.0	Desert Wells	0	90	1,627.6
J-330EX	1,455.0	Desert Wells	0	75	1,628.1
J-350	1,420.0	Desert Wells	0	90	1,627.7
J-360EX	1,405.0	Desert Wells	0	97	1,628.7
J-430	1,420.0	Desert Wells	0	90	1,627.6
J-440	1,415.0	Desert Wells	0	92	1,627.6
J-450	1,393.0	Desert Wells	0	102	1,628.2
J-470	1,440.0	Desert Wells	0	81	1,627.8
J-490	1,430.0	Desert Wells	0	86	1,627.6
J-500	1,435.0	Desert Wells	0	83	1,627.7
J-560	1,402.0	Desert Wells	0	98	1,627.8
J-590EX	1,410.0	Desert Wells	0	95	1,629.3
J-770	1,435.0	Desert Wells	114	83	1,627.7
J-840	1,390.0	Desert Wells	0	103	1,628.0
J-880	1,450.0	Desert Wells	51	77	1,627.9
J-930	1,410.0	Desert Wells	0	94	1,627.7
J-960EX	1,401.0	Desert Wells	0	99	1,628.9
J-970EX	1,397.0	Desert Wells	102	100	1,628.6
J-980	1,393.0	Desert Wells	33	102	1,628.3
J-1000EX	1,455.0	Desert Wells	0	77	1,633.9
J-1010EX	1,485.0	Desert Wells	0	64	1,633.9
J-1020EX	1,425.0	Desert Wells	0	90	1,634.0
J-1030EX	1,480.0	Desert Wells	0	67	1,634.0
J-1040EX	1,438.0	Desert Wells	0	83	1,629.9
J-1050EX	1,445.0	Desert Wells	0	79	1,628.0
J-1070	1,420.0	Desert Wells	189	90	1,627.6
J-1080	1,418.0	Desert Wells	324	91	1,627.6

**Active Scenario: DU3S Peak Hour Demand - SCAP**

**FlexTable: Junction Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Elevation (ft)	Zone	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-1120EX	1,453.0	Desert Wells	0	76	1,628.8
J-1130EX	1,445.0	Desert Wells	0	80	1,630.3
J-1160EX	1,445.0	Desert Wells	0	82	1,633.9
J-1170EX	1,470.0	Desert Wells	0	71	1,633.9
J-1180EX	1,440.0	Desert Wells	0	84	1,633.9
J-1190EX	1,420.0	Desert Wells	0	93	1,634.0
J-1200EX	1,445.0	Desert Wells	0	82	1,633.9
J-1210EX	1,455.0	Desert Wells	0	77	1,633.9
J-1220EX	1,475.0	Desert Wells	0	69	1,633.8
J-1230EX	1,460.0	Desert Wells	0	73	1,628.1
J-1235EX	1,440.0	Desert Wells	0	81	1,628.0
J-1240EX	1,455.0	Desert Wells	0	75	1,628.2
J-1290EX	1,480.0	Desert Wells	0	67	1,633.8
J-1300EX	1,465.0	Desert Wells	0	73	1,633.9
J-1310EX	1,480.0	Desert Wells	0	67	1,633.8
J-1330EX	1,465.0	Desert Wells	0	73	1,633.9
J-1340EX	1,450.0	Desert Wells	0	80	1,633.9
J-1350EX	1,465.0	Desert Wells	0	73	1,633.9
J-1360EX	1,445.0	Desert Wells	0	82	1,633.9
J-1370EX	1,430.0	Desert Wells	0	88	1,633.9
J-1380EX	1,450.0	Desert Wells	0	80	1,633.9
J-1390EX	1,430.0	Desert Wells	0	88	1,633.9
J-1400EX	1,430.0	Desert Wells	0	88	1,633.9
J-1410	1,450.0	Desert Wells	0	79	1,633.7
J-1410EX	1,420.0	Desert Wells	0	93	1,634.0
J-1420EX	1,461.0	Desert Wells	0	73	1,630.0
J-1430	1,397.0	Desert Wells	0	100	1,627.9
J-1430EX	1,455.0	Desert Wells	0	76	1,630.1
J-1440EX	1,478.0	Desert Wells	0	66	1,630.7
J-1530	1,432.0	Desert Wells	0	85	1,627.4
J-1550	1,435.0	Desert Wells	0	83	1,627.8
J-1560	1,435.0	Desert Wells	423	83	1,627.4
J-1570	1,433.0	Desert Wells	0	84	1,627.5
J-1580	1,437.0	Desert Wells	270	82	1,627.5
J-1680EX	1,400.0	Desert Wells	0	99	1,628.8
J-1990EX	1,447.0	Desert Wells	0	78	1,628.1
J-2000EX	1,442.0	Desert Wells	0	80	1,628.0
J-2120EX	1,453.0	Desert Wells	0	77	1,630.6
J-2140EX	1,446.0	Desert Wells	0	80	1,630.3
J-2150	1,448.0	Desert Wells	1,446	78	1,627.3
J-2250	1,458.0	Desert Wells	0	74	1,629.8
J-2260	1,459.0	Desert Wells	0	74	1,629.8
J-2280	1,453.0	Desert Wells	723	77	1,629.9
J-2291	1,432.0	Desert Wells	450	84	1,627.3
J-2295	1,415.0	Desert Wells	0	92	1,627.6

**Active Scenario: DU3S Peak Hour Demand - SCAP**  
**FlexTable: Junction Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

**DU3S**

Label	Elevation (ft)	Zone	Demand (gpm)	Pressure (psi)	Hydraulic Grade (ft)
J-DU3S-010	1,412.0	Desert Wells	40	93	1,627.5
J-DU3S-020	1,407.0	Desert Wells	29	95	1,627.4
J-DU3S-030	1,401.0	Desert Wells	48	98	1,627.4
J-DU3S-040	1,399.0	Desert Wells	44	99	1,627.5
J-DU3S-050	1,404.0	Desert Wells	36	97	1,627.4
J-DU3S-060	1,410.0	Desert Wells	33	94	1,627.4
J-DU3S-070	1,417.0	Desert Wells	28	91	1,627.4

**Active Scenario: DU3S Peak Hour Demand - SCAP**

**FlexTable: Pipe Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Diameter (in)	Length (ft)	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-160EX	16.0	2,722.00	120.0	52	0.08	0.0000
P-170EX	16.0	5,366.00	120.0	52	0.08	0.0000
P-180EX	16.0	5,396.00	120.0	52	0.08	0.0000
P-190EX	16.0	5,728.00	120.0	52	0.08	0.0000
P-200EX	16.0	231.00	120.0	-440	0.70	0.0002
P-210EX	16.0	1,388.00	120.0	-440	0.70	0.0002
P-220EX	16.0	2,909.00	120.0	1,015	1.62	0.0007
P-240EX	16.0	1,387.00	120.0	-1,850	2.95	0.0023
P-250EX	16.0	2,611.00	120.0	854	1.36	0.0005
P-340EX	16.0	5,775.00	120.0	52	0.08	0.0000
P-410EX	16.0	5,368.00	120.0	52	0.08	0.0000
P-710	16.0	778.00	130.0	-99	0.16	0.0000
P-720	12.0	1,169.00	120.0	0	0.00	0.0000
P-880	16.0	1,742.00	120.0	-188	0.30	0.0000
P-1060EX	16.0	1,328.00	120.0	-440	0.70	0.0002
P-1070EX	16.0	1,243.00	120.0	-440	0.70	0.0002
P-1430	24.0	1,075.00	120.0	-534	0.38	0.0000
P-1440	24.0	1,254.00	120.0	-648	0.46	0.0000
P-1630EX	16.0	560.00	120.0	-305	0.49	0.0001
P-1640EX	16.0	2,569.00	120.0	-305	0.49	0.0001
P-1710	24.0	992.00	120.0	-993	0.70	0.0001
P-1720	24.0	2,552.00	120.0	-1,044	0.74	0.0001
P-1850	16.0	1,560.00	120.0	231	0.37	0.0000
P-1860	16.0	1,385.00	120.0	231	0.37	0.0000
P-1940EX	16.0	1,976.00	120.0	-338	0.54	0.0001
P-1950EX	16.0	680.00	120.0	-440	0.70	0.0002
P-1970EX	16.0	927.00	120.0	-305	0.49	0.0001
P-1980EX	16.0	1,106.00	120.0	-338	0.54	0.0001
P-2000EX	16.0	2,710.00	120.0	-440	0.70	0.0002
P-2040EX	16.0	10,635.00	120.0	-119	0.19	0.0000
P-2055EX	16.0	10,453.00	120.0	54	0.09	0.0000
P-2070EX	24.0	5,329.00	120.0	-338	0.24	0.0000
P-2120	16.0	1,816.00	120.0	110	0.18	0.0000
P-2140	20.0	1,207.00	120.0	-98	0.10	0.0000
P-2150	20.0	317.00	120.0	-287	0.29	0.0000
P-2170	20.0	619.00	120.0	534	0.55	0.0001
P-2180	20.0	1,514.00	120.0	210	0.21	0.0000
P-2340EX	16.0	2,281.00	120.0	-440	0.70	0.0002
P-2500EX	24.0	2,750.00	120.0	355	0.25	0.0000
P-2510EX	24.0	2,726.00	120.0	340	0.24	0.0000
P-2540EX	12.0	2,624.00	120.0	-42	0.12	0.0000
P-2570EX	16.0	2,640.00	120.0	0	0.00	0.0000
P-2655EX	16.0	2,870.00	120.0	52	0.08	0.0000
P-2660EX	24.0	2,797.00	120.0	511	0.36	0.0000
P-2665EX	16.0	2,716.00	120.0	52	0.08	0.0000



**Active Scenario: DU3S Peak Hour Demand - SCAP**

**FlexTable: Pipe Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Diameter (in)	Length (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-2690EX	16.0	2,914.00	120.0	-441	0.70	0.0002
P-2700EX	16.0	3,115.00	120.0	413	0.66	0.0001
P-2710EX	16.0	1,823.00	120.0	275	0.44	0.0001
P-2720EX	12.0	3,042.00	120.0	-138	0.39	0.0001
P-2830	16.0	2,890.00	120.0	223	0.36	0.0000
P-2860EX	24.0	761.00	120.0	511	0.36	0.0000
P-2880EX	12.0	383.00	120.0	0	0.00	0.0000
P-2890EX	8.0	3,148.00	120.0	-26	0.17	0.0000
P-2900	24.0	1,423.00	120.0	459	0.33	0.0000
P-2910EX	24.0	497.00	120.0	485	0.34	0.0000
P-2950	12.0	1,089.00	120.0	15	0.04	0.0000
P-2970EX	12.0	1,119.00	120.0	25	0.07	0.0000
P-2990EX	8.0	2,811.00	120.0	-19	0.12	0.0000
P-3010EX	12.0	471.00	120.0	26	0.07	0.0000
P-3020EX	12.0	1,167.00	120.0	6	0.02	0.0000
P-3030EX	12.0	378.00	120.0	0	0.00	0.0000
P-3040EX	8.0	3,081.00	120.0	-18	0.12	0.0000
P-3060	12.0	595.00	120.0	0	0.00	0.0000
P-3070EX	8.0	2,922.00	120.0	-13	0.08	0.0000
P-3080EX	12.0	1,397.00	120.0	-41	0.12	0.0000
P-3090EX	12.0	1,109.00	120.0	-33	0.09	0.0000
P-3100EX	12.0	695.00	120.0	9	0.03	0.0000
P-3110EX	12.0	664.00	120.0	1	0.00	0.0000
P-3120EX	8.0	1,851.00	120.0	-8	0.05	0.0000
P-3130	12.0	1,155.00	120.0	13	0.04	0.0000
P-3140EX	16.0	1,783.00	120.0	12	0.02	0.0000
P-3150EX	16.0	958.00	120.0	0	0.00	0.0000
P-3160EX	8.0	3,801.00	120.0	-12	0.08	0.0000
P-3170EX	8.0	2,838.00	120.0	-26	0.17	0.0000
P-3180EX	8.0	736.00	120.0	8	0.05	0.0000
P-3190EX	30.0	4,441.00	120.0	0	0.00	0.0000
P-3240EX	16.0	1,954.00	120.0	920	1.47	0.0006
P-3250EX	12.0	844.00	120.0	-161	0.46	0.0001
P-3260EX	16.0	1,108.00	120.0	1,015	1.62	0.0007
P-3270EX	16.0	1,509.00	120.0	773	1.23	0.0004
P-3280EX	12.0	2,890.00	120.0	-241	0.68	0.0002
P-3290EX	12.0	2,432.00	120.0	-81	0.23	0.0000
P-3340	16.0	1,114.00	130.0	-357	0.57	0.0001
P-3450	16.0	1,525.00	130.0	231	0.37	0.0000
P-3640	12.0	1,014.00	120.0	308	0.87	0.0003
P-3660	16.0	1,562.00	120.0	-333	0.53	0.0001
P-3670	16.0	941.00	120.0	-333	0.53	0.0001
P-3690	12.0	1,073.00	130.0	-345	0.98	0.0004
P-3700	12.0	828.00	120.0	-78	0.22	0.0000
P-3720	12.0	399.00	120.0	-220	0.63	0.0002

**Active Scenario: DU3S Peak Hour Demand - SCAP**

**FlexTable: Pipe Table (113697\_08 EM DU3S Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Diameter (in)	Length (ft)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-3730	12.0	2,378.00	120.0	-145	0.41	0.0001
P-3760	12.0	1,054.00	120.0	-75	0.21	0.0000
P-3930EX	16.0	751.00	120.0	-440	0.70	0.0002
P-3940EX	16.0	509.00	120.0	-440	0.70	0.0002
P-3970EX	16.0	1,445.00	120.0	440	0.70	0.0002
P-4720EX	16.0	1,216.00	120.0	317	0.51	0.0001
P-4730EX	16.0	456.00	120.0	317	0.51	0.0001
P-4750EX	16.0	715.00	120.0	317	0.51	0.0001
P-4760EX	16.0	774.00	120.0	-28	0.04	0.0000
P-4770	12.0	1,049.00	120.0	-345	0.98	0.0004
P-5700EX	16.0	1,176.00	120.0	1,518	2.42	0.0016
P-5710EX	16.0	1,171.00	120.0	1,518	2.42	0.0016
P-5770	16.0	353.00	120.0	920	1.47	0.0006
P-5780	16.0	684.00	120.0	920	1.47	0.0006
P-5950	12.0	142.00	120.0	758	2.15	0.0018
P-5960	12.0	1,130.00	120.0	844	2.39	0.0021
P-5980	12.0	2,209.00	120.0	-86	0.24	0.0000
P-5990	12.0	124.00	120.0	1,411	4.00	0.0056
P-6000	12.0	2,203.00	120.0	602	1.71	0.0011
P-6010	12.0	1,163.00	120.0	-86	0.24	0.0000
P-6059	12.0	1,714.00	120.0	-142	0.40	0.0001
P-7000	16.0	742.00	120.0	132	0.21	0.0000
P-COMWTREX	36.0	10.00	120.0	511	0.16	0.0000
P-DU3S-010	8.0	261.00	120.0	132	0.84	0.0005
P-DU3S-020	8.0	1,374.00	120.0	39	0.25	0.0001
P-DU3S-030	8.0	1,542.00	120.0	10	0.06	0.0000
P-DU3S-040	8.0	1,242.00	120.0	-38	0.24	0.0000
P-DU3S-050	8.0	801.00	120.0	126	0.80	0.0005
P-DU3S-060	8.0	974.00	120.0	44	0.28	0.0001
P-DU3S-070	8.0	1,384.00	120.0	8	0.05	0.0000
P-DU3S-080	8.0	1,241.00	120.0	-25	0.16	0.0000
P-DU3S-090	8.0	621.00	120.0	-53	0.34	0.0001
P-SCAP	36.0	1,752.00	120.0	-3,872	1.22	0.0002

ONSITE

**Active Scenario: DU3S Peak Day + FF - SCAP**  
**Fire Flow Node FlexTable: Fire Flow Report (113697\_08 EM DU3S**  
**Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Elevation (ft)	Zone	Flow (Total Needed) (gpm)	Fire Flow (Avalb.) (gpm)	Press. (Calc. Rsd) (psi)	Pres. (Calc. Zn Lwr Lmt) (psi)	Junction w/ Minimum Pressure (Zone)	Satisfies FF?
J-100EX	1,406.0	Desert Wells	3,000	5,000	73	63	J-150EX	True
J-110EX	1,440.0	Desert Wells	3,000	5,000	61	64	J-150EX	True
J-120EX	1,462.0	Desert Wells	3,000	5,000	74	64	J-1010EX	True
J-135EX	1,460.0	Desert Wells	3,000	5,000	70	64	J-220EX	True
J-150EX	1,472.0	Desert Wells	3,000	5,000	57	61	J-230EX	True
J-160EX	1,435.0	Desert Wells	3,000	5,000	44	47	J-280EX	True
J-170EX	1,430.0	Desert Wells	3,000	5,000	44	48	J-160EX	True
J-180EX	1,405.0	Desert Wells	3,000	5,000	54	52	J-170EX	True
J-190EX	1,395.0	Desert Wells	3,000	5,000	61	56	J-280EX	True
J-200EX	1,385.0	Desert Wells	3,000	5,000	73	59	J-280EX	True
J-210EX	1,393.0	Desert Wells	3,000	5,000	78	62	J-150EX	True
J-220EX	1,480.0	Desert Wells	3,000	5,000	58	60	J-1440EX	True
J-230EX	1,475.0	Desert Wells	3,000	5,000	59	60	J-1440EX	True
J-250EX	1,452.0	Desert Wells	3,000	5,000	66	59	J-150EX	True
J-260	1,437.0	Desert Wells	3,000	5,000	69	59	J-150EX	True
J-260EX	1,453.0	Desert Wells	3,000	5,000	66	60	J-150EX	True
J-280EX	1,460.0	Desert Wells	3,000	5,000	42	51	J-1230EX	True
J-300EX	1,392.0	Desert Wells	3,000	5,000	84	60	J-150EX	True
J-310	1,420.0	Desert Wells	3,000	5,000	77	59	J-150EX	True
J-330EX	1,455.0	Desert Wells	3,000	5,000	60	58	J-1230EX	True
J-350	1,420.0	Desert Wells	3,000	5,000	78	59	J-150EX	True
J-360EX	1,405.0	Desert Wells	3,000	5,000	72	62	J-150EX	True
J-430	1,420.0	Desert Wells	3,000	5,000	46	60	J-150EX	True
J-440	1,415.0	Desert Wells	3,000	5,000	78	60	J-150EX	True
J-450	1,393.0	Desert Wells	3,000	5,000	79	61	J-150EX	True
J-470	1,440.0	Desert Wells	3,000	5,000	70	59	J-150EX	True
J-490	1,430.0	Desert Wells	3,000	5,000	73	59	J-150EX	True
J-500	1,435.0	Desert Wells	3,000	5,000	70	59	J-150EX	True
J-560	1,402.0	Desert Wells	3,000	5,000	80	60	J-150EX	True
J-590EX	1,410.0	Desert Wells	3,000	5,000	72	62	J-110EX	True
J-770	1,435.0	Desert Wells	3,076	5,000	72	59	J-150EX	True
J-840	1,390.0	Desert Wells	3,000	5,000	84	61	J-150EX	True
J-880	1,450.0	Desert Wells	3,034	5,000	66	59	J-150EX	True
J-930	1,410.0	Desert Wells	3,000	5,000	77	60	J-150EX	True
J-960EX	1,401.0	Desert Wells	3,000	5,000	74	63	J-150EX	True
J-970EX	1,397.0	Desert Wells	3,068	5,000	75	62	J-150EX	True
J-980	1,393.0	Desert Wells	3,022	5,000	78	62	J-150EX	True
J-1000EX	1,455.0	Desert Wells	3,000	5,000	76	64	J-1010EX	True
J-1010EX	1,485.0	Desert Wells	3,000	5,000	63	66	J-1310EX	True
J-1020EX	1,425.0	Desert Wells	3,000	5,000	71	64	J-1010EX	True
J-1030EX	1,480.0	Desert Wells	3,000	5,000	67	64	J-1010EX	True
J-1040EX	1,438.0	Desert Wells	3,000	5,000	66	64	J-1440EX	True
J-1050EX	1,445.0	Desert Wells	3,000	5,000	66	59	J-150EX	True

**Active Scenario: DU3S Peak Day + FF - SCAP**  
**Fire Flow Node FlexTable: Fire Flow Report (113697\_08 EM DU3S**  
**Water Model-11-26-13.wtg)**

**Current Time: 0.000 hours**

Label	Elevation (ft)	Zone	Flow (Total Needed) (gpm)	Fire Flow (Avalb.) (gpm)	Press. (Calc. Rsd) (psi)	Pres. (Calc. Zn Lwr Lmt) (psi)	Junction w/ Minimum Pressure (Zone)	Satisfies FF?
J-1070	1,420.0	Desert Wells	3,126	5,000	77	59	J-150EX	True
J-1080	1,418.0	Desert Wells	3,216	5,000	78	59	J-150EX	True
J-1120EX	1,453.0	Desert Wells	3,000	5,000	67	61	J-150EX	True
J-1130EX	1,445.0	Desert Wells	3,000	5,000	69	64	J-220EX	True
J-1160EX	1,445.0	Desert Wells	3,000	5,000	48	58	J-1360EX	True
J-1170EX	1,470.0	Desert Wells	3,000	5,000	69	63	J-1010EX	True
J-1180EX	1,440.0	Desert Wells	3,000	5,000	67	64	J-1010EX	True
J-1190EX	1,420.0	Desert Wells	3,000	5,000	60	64	J-1010EX	True
J-1200EX	1,445.0	Desert Wells	3,000	5,000	26	48	J-1370EX	True
J-1210EX	1,455.0	Desert Wells	3,000	4,952	20	25	J-1300EX	True
J-1220EX	1,475.0	Desert Wells	3,000	5,000	68	64	J-1010EX	True
J-1230EX	1,460.0	Desert Wells	3,000	5,000	48	50	J-280EX	True
J-1235EX	1,440.0	Desert Wells	3,000	5,000	68	59	J-150EX	True
J-1240EX	1,455.0	Desert Wells	3,000	5,000	61	59	J-150EX	True
J-1290EX	1,480.0	Desert Wells	3,000	5,000	65	63	J-1010EX	True
J-1300EX	1,465.0	Desert Wells	3,000	5,000	24	29	J-1210EX	True
J-1310EX	1,480.0	Desert Wells	3,000	5,000	65	63	J-1010EX	True
J-1330EX	1,465.0	Desert Wells	3,000	5,000	62	64	J-1010EX	True
J-1340EX	1,450.0	Desert Wells	3,000	5,000	66	64	J-1010EX	True
J-1350EX	1,465.0	Desert Wells	3,000	5,000	29	30	J-1300EX	True
J-1360EX	1,445.0	Desert Wells	3,000	5,000	58	58	J-1160EX	True
J-1370EX	1,430.0	Desert Wells	3,000	5,000	48	41	J-1200EX	True
J-1380EX	1,450.0	Desert Wells	3,000	5,000	65	64	J-1010EX	True
J-1390EX	1,430.0	Desert Wells	3,000	5,000	68	63	J-1200EX	True
J-1400EX	1,430.0	Desert Wells	3,000	5,000	62	57	J-1200EX	True
J-1410	1,450.0	Desert Wells	3,000	5,000	78	64	J-1010EX	True
J-1410EX	1,420.0	Desert Wells	3,000	5,000	66	64	J-1010EX	True
J-1420EX	1,461.0	Desert Wells	3,000	5,000	68	63	J-1440EX	True
J-1430	1,397.0	Desert Wells	3,000	5,000	82	60	J-150EX	True
J-1430EX	1,455.0	Desert Wells	3,000	5,000	66	61	J-1440EX	True
J-1440EX	1,478.0	Desert Wells	3,000	5,000	59	60	J-220EX	True
J-1530	1,432.0	Desert Wells	3,000	5,000	68	59	J-150EX	True
J-1550	1,435.0	Desert Wells	3,000	5,000	69	59	J-150EX	True
J-1560	1,435.0	Desert Wells	3,282	5,000	64	59	J-150EX	True
J-1570	1,433.0	Desert Wells	3,000	5,000	68	59	J-150EX	True
J-1580	1,437.0	Desert Wells	3,180	5,000	62	59	J-150EX	True
J-1680EX	1,400.0	Desert Wells	3,000	5,000	74	63	J-150EX	True
J-1990EX	1,447.0	Desert Wells	3,000	5,000	66	59	J-150EX	True
J-2000EX	1,442.0	Desert Wells	3,000	5,000	68	59	J-150EX	True
J-2120EX	1,453.0	Desert Wells	3,000	5,000	72	64	J-1010EX	True
J-2140EX	1,446.0	Desert Wells	3,000	5,000	69	64	J-220EX	True
J-2150	1,448.0	Desert Wells	3,964	5,000	59	64	J-1440EX	True
J-2250	1,458.0	Desert Wells	3,000	5,000	68	63	J-1440EX	True

**Active Scenario: DU3S Peak Day + FF - SCAP**  
**Fire Flow Node FlexTable: Fire Flow Report (113697\_08 EM DU3S**  
**Water Model-11-26-13.wtg)**

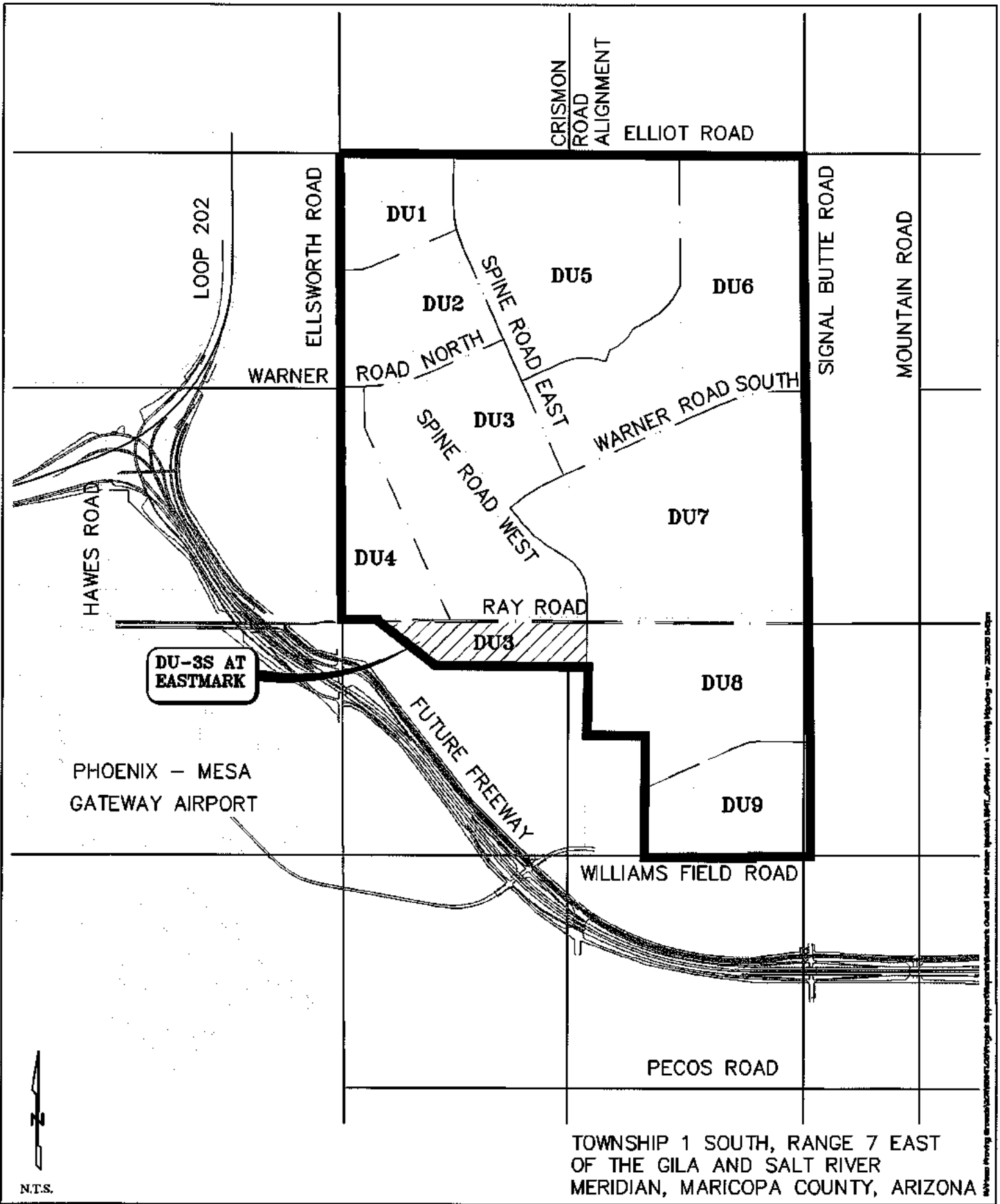
**Current Time: 0.000 hours**

**ONSITE**

Label	Elevation (ft)	Zone	Flow (Total Needed) (gpm)	Fire Flow (Avalb.) (gpm)	Press. (Calc. Rsd) (psi)	Pres. (Calc. Zn Lwr Lmt) (psi)	Junction w/ Minimum Pressure (Zone)	Satisfies FF?
J-2260	1,459.0	Desert Wells	3,000	5,000	58	64	J-220EX	True
J-2280	1,453.0	Desert Wells	3,482	5,000	70	64	J-220EX	True
J-2291	1,432.0	Desert Wells	3,300	5,000	62	59	J-150EX	True
J-2295	1,415.0	Desert Wells	3,000	5,000	74	60	J-150EX	True
J-DU3S-010	1,412.0	Desert Wells	3,027	5,000	49	49	J-DU3S-070	True
J-DU3S-020	1,407.0	Desert Wells	3,020	3,657	20	52	J-DU3S-030	True
J-DU3S-030	1,401.0	Desert Wells	3,032	3,700	20	49	J-DU3S-020	True
J-DU3S-040	1,399.0	Desert Wells	3,029	5,000	30	38	J-DU3S-050	True
J-DU3S-050	1,404.0	Desert Wells	3,024	3,785	20	42	J-DU3S-060	True
J-DU3S-060	1,410.0	Desert Wells	3,022	3,471	20	53	J-DU3S-050	True
J-DU3S-070	1,417.0	Desert Wells	3,018	4,149	20	38	J-DU3S-060	True

**PLATE 1**

**Vicinity Map**



N.T.S.

TOWNSHIP 1 SOUTH, RANGE 7 EAST  
OF THE GILA AND SALT RIVER  
MERIDIAN, MARICOPA COUNTY, ARIZONA

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**PLATE 1: VICINITY MAP**

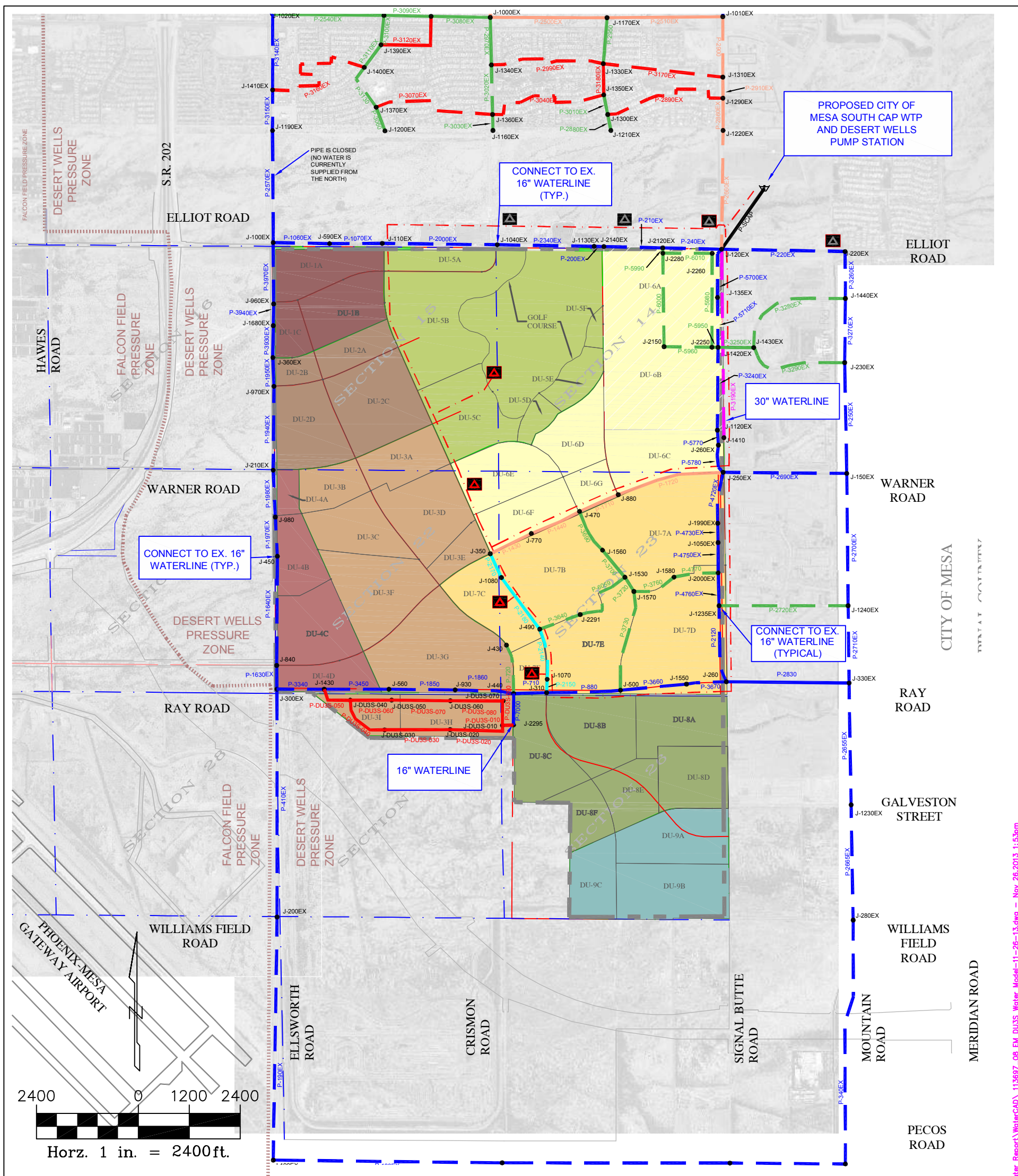
EASTMARK  
MESA, ARIZONA

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**PLATE 2**

**DU 3 South Master Water Exhibit**





**LEGEND**

NOTES:  
1. INFRASTRUCTURE SIZES AND LOCATIONS ARE CONCEPTUAL AND SUBJECT TO CHANGE.

PIPE DIAMETER	EXISTING	PLANNED		JUNCTION NODE	ON-SITE DEVELOPMENT UNITS
8-INCHES				JUNCTION NODE	DU-1
12-INCHES				WATER SOURCE	DU-6
16-INCHES			P-XXX	PROPOSED PIPE	DU-7
20-INCHES			P-XXXEX	EXISTING PIPE	DU-8
24-INCHES			J-XXX	JUNCTION NODE (PROPOSED)	DU-9
30-INCHES			J-XXXEX	JUNCTION NODE (EXIST.)	DU-4A
WELL SITE					DEVELOPMENT UNIT SUB-AREA
WELL COLLECTION LINE					SITE BOUNDARY
PRESSURE ZONE BOUNDARY					FIRST SOLAR SITE

**PLATE 2 - DU 3 SOUTH MASTER WATER EXHIBIT**

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