

January 28, 2020

SCOTTSDALE ENTRADA

Scottsdale, Arizona

Final Water

Basis of Design Report

Prepared for:

**Qualified Opportunity
Zone Business I, LLC**

2411 3rd St, Unit E

Santa Monica, CA 80405

Contact: Bridge Banyan

Prepared by:

Coe & Van Loo Consultants, Inc.

4550 N. 12th Street

Phoenix, AZ 85014

Contact: Cassandra Alejandro, PE

602.264.6831

Job # 1.14.0254309

FINAL WATER BASIS OF DESIGN REPORT

**FINAL Basis of Design
Report**

- APPROVED
- APPROVED AS NOTED
- REVISE AND RESUBMIT



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

BY Idillon DATE 1/30/2020

Address comments below and herein on plans:

- 1) equal size connections to existing mains must be done with full size tees not tapping saddles. Section of ACP pipe main must be replaced with DIP at these connections.
- 2) Plans herein are not approved in detail
- 3) Easements for meters must extend out from water main easement and include service line
- 4) confirm hydrant placement and spacing with fire department. same for riser rooms.
- 5) final meter size to be per IPC 2015 fixture count with 1.5 factor applied, then use DS&PM table to size meter. All meters 3" and greater require a vault per COS detail 2345



Cassandra Alejandro



January 28, 2020

Mr. Levi Dillon, PE
Sr. Water Resources Engineer
City of Scottsdale
9379 E Salvador Dr
Scottsdale, AZ 85258

Re: Scottsdale Entrada Basis of Design Reports - Comment Response Letter

Dear Mr. Dillon,

The following is a summary and response to the comments provided as a part of the review for the above referenced project:

Water Basis of Design Report

1. Modeling needs to be updated based on the adjusted flow test results where static pressure is 68 psi and test flow and pressure are 54.5 psi and 2,049 gpm respectively.

Response: Model has been revised to use the adjusted results. ✓

2. System should be modeled as a single reservoir and pump (refer to utility plan) or a reservoir of varying HGL corresponding to flow test. As-is 2 pumps would need to total to all points on the single supply curve and I cannot tell this is the case with the information being provided.

Response: Model has been revised to include a single reservoir and pump. ✓

3. On Utility Plan:
 - Provide clearances between water and sewer
 - Call out all meters (domestic and landscape) and initial sizes proposed (and any vaults required). Meters will ultimately be sized used both IPC and DS&PM.
 - Call out all easements and widths (14ft min for onsite public water up to 12”).
 - Clarify why backflows are shown separate from meters
 - Call out sprinkler fire lines and riser room locations
 - All public main branches must have isolation valve on the number of branches minus 1 with the open branch coming from the primary source direction.
 - Call out replacement of ACP with City standard DIP segment and installation of full diameter tee and iso valves for the McDowell and 64th Street main connections.

Response: The above comments are being addressed as part of the final design. A draft of the final water plan is attached for reference. ✓

4. Technically, per DS&PM 6-1.407 all services must have a PRV.

Response: Noted. The report was revised to note this requirement. ✓

Wastewater Basis of Design Report

1. All (public) manholes on 15" or greater line or with rim to invert greater than 10 feet shall be 5ft diameter manholes per City Standards.

Response: The report and plans were revised to note this requirement. Additionally, all of the manholes on the on-site public sewer are noted as 5 feet in diameter as requested. Private manholes with 10 feet or greater of cover are also noted to be 5 feet in diameter as requested.

2. Polymer manhole shall follow specifications approved by Water Resources. Submit specification, submittal and drawing to Water Resources.

Response: The proposed manhole at the intersection of Scottsdale and McDowell Roads is specified as ARMOROCK or equal. An ARMOROCK spec is attached.

3. All service lines shall be min. 6" and per MAG 440-3 with cleanout.

Response: The report and plans were revised to note this requirement.

4. Address minor calc errors in hydraulic analysis table herein

Response: The calculations have been corrected as requested.

5. Clarify why 120gpm was used for 12-inch line and not measured peak of 165 gpm. I believe it is 200 gpm actual peak minus 80 measured on McDowell. If so, ok.

Response: The rational for the 120 gpm is clarified in the report.

6. Special protection needed for SD crossing less than 2ft above new 15" sewer. Refer to utility plan comment herein.

Response: Special protection for the crossing is noted in the report and the plans.

7. Pools do not pump straight to sewer line. Indicate backwash equalization basin and pump on plans.

Response: The pool buildings are noted on the plans as requested.

8. Indicate required clear separation between water and sewer of 6ft on utility plan.

ADEQ

Re: SR 238 16" Waterline Extension - Comment Response Letter

August 30, 2019

Page 3 of 3

Response: This requirement is noted on the plans as requested.

9. Indicate on utility plan that sewer shall be private up until confluence with public line/flows

Response: This requirement is noted on the plans as requested.

Should you have questions or concerns, please contact me directly at (602) 264-6831 or at frenn@cvlci.com

Respectfully,

COE & VAN LOO
Consultants, Inc.

Fred Renn, P.E.
Project Manager



Fred Renn, P.E.
Project Manager

FR:

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Cassandra Alejandro

1.0 INTRODUCTION

1.1 General Description

The Scottsdale Entrada property is located on 28 acres of land formerly known as the Scottsdale Auto Park in Scottsdale, Arizona. The property will be redeveloped for mixed use. The water system will connect to the City of Scottsdale water system and will be owned and operated by the City of Scottsdale. The system’s design will adhere to the *City of Scottsdale Design Standards and Policies Manual, 2018*.

1.2 Project Location

The Scottsdale Entrada property is located in the City of Scottsdale, Maricopa County, Arizona (see Figure 1) in the northeast quarter of Section 10, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian. The property is bounded by residential property to the north, the Crosscut Canal to the east, McDowell Road to the south and 64th Street to the west.

1.3 Land Use

The proposed Scottsdale Entrada development will consist of a multi-family residential, office and restaurant land uses (see Figure 2). The existing improvements and infrastructure for the Scottsdale Auto Park will be demolished and removed. A breakdown of the proposed land uses and areas are presented in Table 1.

Table 1 – Land Use and Population

Building	Land Use	Area (sf)	# of DU's
Residential 1	High Density Condos	273,298	221
Residential 2	High Density Condos	251,212	176
Residential 3	High Density Condos	227,355	175
Residential 4	High Density Condos	110,276	90
Residential 5	High Density Condos	103,639	73
Office	Office	243,503	--
Retail 1	Restaurant	6,516	--
Retail 2	Restaurant	2,414	--
Total		1,218,213	735

1.4 Topographic Conditions

The property slopes from the northwest to the southeast and ranges in elevation from approximately 1,280 to 1,270 feet above mean sea level (MSL).

2.0 WATER SYSTEM DESIGN CRITERIA

The following criteria will be used in developing the water report.

2.1 Design Criteria

This water report is based on criteria from the City of Scottsdale's *Design Standards & Policies Manual*, dated January, 2018. The following criteria were used in developing this plan:

- Demand factors
 - High Density Condo = 185.3 gpd/DU
 - Office = 0.6 gpd/sf
 - Restaurant = 1.3 gpd/sf
 - Maximum day factor = 2 x ADD
 - Peak hour factor = 3.5 x ADD
 - Fire flow requirements:
 - 2,000 gpm per the 2015 International Fire Code (based on 273,298 SF Type V-A building with sprinklers)
 - Minimum
 - 50 psi during average day, maximum day and peak hour demand
 - 30 psi during maximum day plus fire flow
 - Maximum = 120 psi
 - Velocity
 - Maximum velocity for any water line shall be 7.5 fps
 - Unit friction headloss
 - Maximum = 10ft/1,000 ft of distribution lines
 - Hazen-Williams Coefficient = 130
- condo and restaurant
used gpm values
from DS&PM for
average daily flow,
exception given for
office ✓

3.0 EXISTING INFRASTRUCTURE

3.1 Existing Waterlines

Existing waterline locations in the vicinity of the property are shown on Figure 2. Information for these waterlines was obtained from City of Scottsdale quarter section maps. The physical condition of the existing waterlines was not investigated, and as-built drawings were not obtained for this evaluation. These waterlines are described below.

As shown on Figure 2, existing 12-inch water mains are located in 64th Street and McDowell Road. Additionally, 6-inch and 8-inch water mains serve the former dealerships within the site. Both the existing on-site and off-site lines are noted as being asbestos cement (ACP) waterlines. On-site waterlines will require removal and disposal in accordance with Maricopa County and OSHA requirements prior to construction of the proposed development. Lines will be removed and replaced with a new tee and portion of ductile iron pipe.



at the connection to
the existing main

4.0 PROPOSED INFRASTRUCTURE

4.1 Water Demands

Demands are based on the design criteria presented in Section 2.1. A summary of the demands may be seen in Table 3.

Office not using gpm value per DS&PM table. Exception granted as office demand tends to be very conservative. Remaining demands used gpm values, ok.

Table 2 – Scottsdale Entrada Water Demands

Building	Land Use	Area (sf)	# of DU's	Average Day Demand (gpm)	Maximum Day Demand (gpm)	Peak Hour demand (gpm)
Residential 1	High Density Condos	273,298	221	59.67	119.34	208.85
Residential 2	High Density Condos	251,212	176	47.52	95.04	166.32
Residential 3	High Density Condos	227,355	175	47.25	94.50	165.38
Residential 4	High Density Condos	110,276	90	24.30	48.60	85.05
Residential 5	High Density Condos	103,639	73	19.71	39.42	68.99
Office	Office	243,503	--	101.46	202.92	355.11
Retail 1	Restaurant	6,516	--	11.79	23.59	41.28
Retail 2	Restaurant	2,414	--	4.37	8.74	15.29
Total		1,218,213	735	316	632	1,106

4.3 Proposed Infrastructure

The proposed development would be served with water by providing a 12-inch loop through the property that would connect to the existing 12-inch water main in 64th Street and to the existing 12-inch water main in McDowell Road as shown on Figure 3.

5.0 WATER SYSTEM MODEL

5.1 Network Analysis

The network analysis for the distribution system was completed using WaterCAD Version V8i. A model was created and modified as necessary to demonstrate that the water infrastructure meets the water system design criteria. The network distribution system is shown in Appendix C. The network was analyzed for average day, maximum day, peak hour, and maximum day plus fire flow for the largest fire flow demand. Demands were allocated to the nodes based on the proposed site plan. Fire flow (2,000 gpm) was assigned to each appropriate node independently to verify available pressure and flow for the system during a fire flow event. Existing conditions were determined by a fire flow test that was completed on November 1, 2019 by EJ Flow Tests. The results from this test were modeled using a reservoir and a pump. See Appendix B for fire flow test results

The pipes were sized based on pressure requirements for average day, maximum day, peak hour, and maximum day plus fire flow.

Input parameters of the water distribution system modeling include:

- Pipe Diameters (inches)
- Elevations of Nodes/Junctions (feet)
- System Water Demands (gpm)
- Residential Fire Flow = 2,000 gpm
- Hazen-Williams, based on pipe material

Output parameters include but are not limited to:

- Velocities (fps)
- Pressure (psi)
- Headloss (feet)
- Flow Rates (gpm)

5.2 Model Results

The detailed results of the WaterCAD analysis for Scottsdale Entrada is presented in Appendix C. Table 2 summarizes the parameters considered for the project site to achieve compliance with the design criteria and the results for each demand scenario.

Table 3 – Summarized WaterCAD Results

Scenario	Flow (gpm)	Pressure (psi)*				Maximum Velocity (fps)	Pipe ID
		Minimum	Node	Maximum	Node		
Average Day Demand	316	62	J-7	74	J-17	0.66	P-14
Maximum Day Demand	632	61	J-7	73	J-17	1.33	P-14
Peak Hour Demand	1,106	58	J-7	70	J-17	2.30	P-14
Maximum Day Demand + Residential Fire Flow	2,632	35	J-13	46	J-4	--	--

*Individual pressure reducing valves are required at all services experiencing pressures greater than 80 psi.

min pressures met



6.0 SUMMARY

This Water System Analysis presents the water system design criteria, proposed water system design, and an overview of existing infrastructure surrounding the project site. The following summarizes CVL's findings of the proposed water system to serve Scottsdale Entrada.

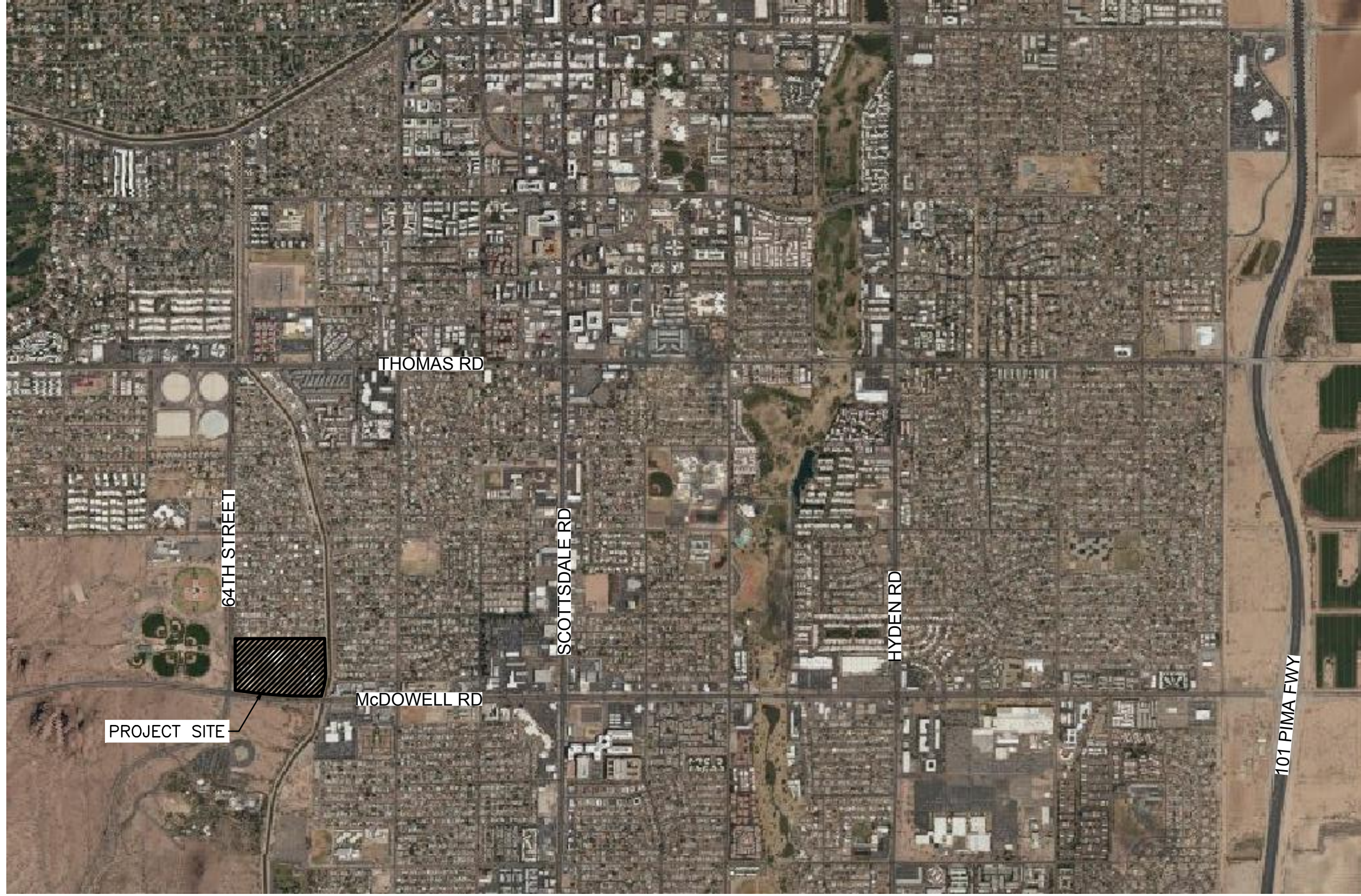
1. The property is served via existing off-site 12-inch ACP water mains in 64th Street and McDowell Road, and on-site via a network of 6-inch and 8-inch ACP waterlines.
2. The existing on-site water lines will require removal and disposal in accordance with Maricopa County and OSHA requirements.
3. The fire flow required is 2,000 gpm for 4 hours based on a 273,298 SF Type V-A building with sprinklers (largest demand required). This demand can be met by the use of multiple hydrants and the sprinkler demand per fire code.
4. The average day demand for Scottsdale Entrada is 316 gpd, the maximum day demand is 632 gpm and the peak hour demand is 1,106 gpm (assuming a 12 hour demand period). ← except for office
5. A 12-inch water line will need to be constructed onsite to provide a loop through the proposed development.
6. Water pressure within the system ranges from 70 psi to 82 psi. Individual PRVs are required on all services per the Design Standards and Policy Manual.

7.0 REFERENCES

- The City of Scottsdale *Design Standards & Policy Manual 2018*
- *2015 International Plumbing Code*

APPENDIX A

FIGURES



SCALE=N.T.S.

FIGURE 1

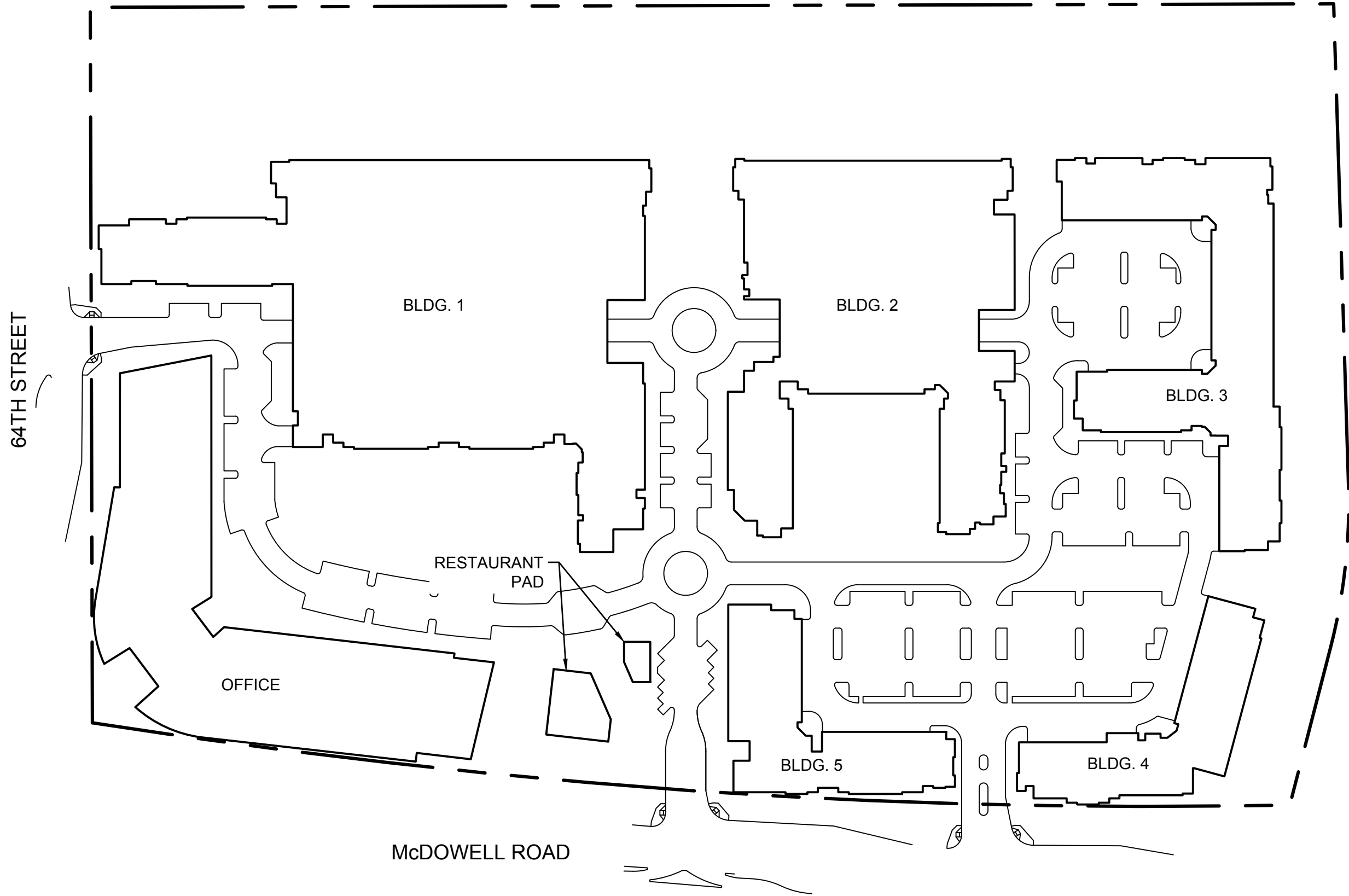
4550 North 12th Street
Phoenix, Arizona 85014
Phone 602-264-6831
<http://www.cvlci.com>

SCOTTSDALE ENTRADA

VICINITY MAP



01-0254301



SCALE 1" = 120'

FIGURE 2

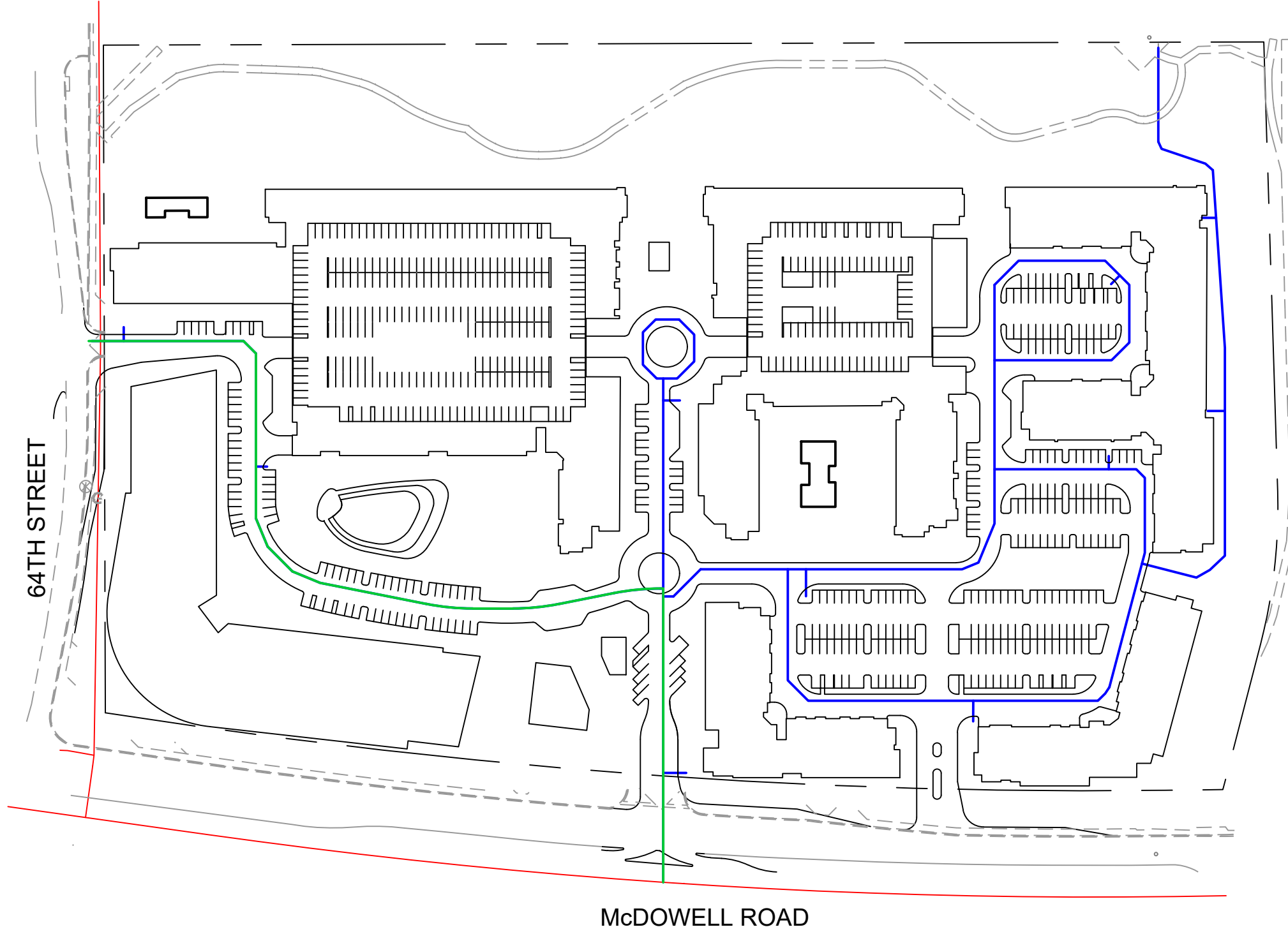
4550 North 12th Street
 Phoenix, Arizona 85014
 Phone 602-264-6831
<http://www.cvlci.com>

SCOTTSDALE ENTRADA

SITE PLAN



01-0254301



LEGEND

- PROPOSED 8" WATER —
- PROPOSED 12" WATER —
- EXISTING 12" WATER —



SCALE 1" = 150'

FIGURE 3

4550 North 12th Street
 Phoenix, Arizona 85014
 Phone 602-264-6831
<http://www.cvlci.com>

SCOTTSDALE ENTRADA

ON-SITE WATER



01-0254301

APPENDIX B

Fire Flow Test Results



Flow Test Summary

Project Name: EJFT 19256
Project Address: E McDowell Rd & N 64th St, Scottsdale, AZ 85257
Date of Flow Test: 2019-11-01
Time of Flow Test: 7:30 AM
Data Reliable Until: 2020-05-01
Conducted By: Austin Gourley & Eder Cueva (EJ Flow Tests) 602.999.7637
Witnessed By: Ray Padilla (City of Scottsdale) 602.541.0586
City Forces Contacted: City of Scottsdale (602.541.0586)
Permit Number: C60159

Raw Flow Test Data

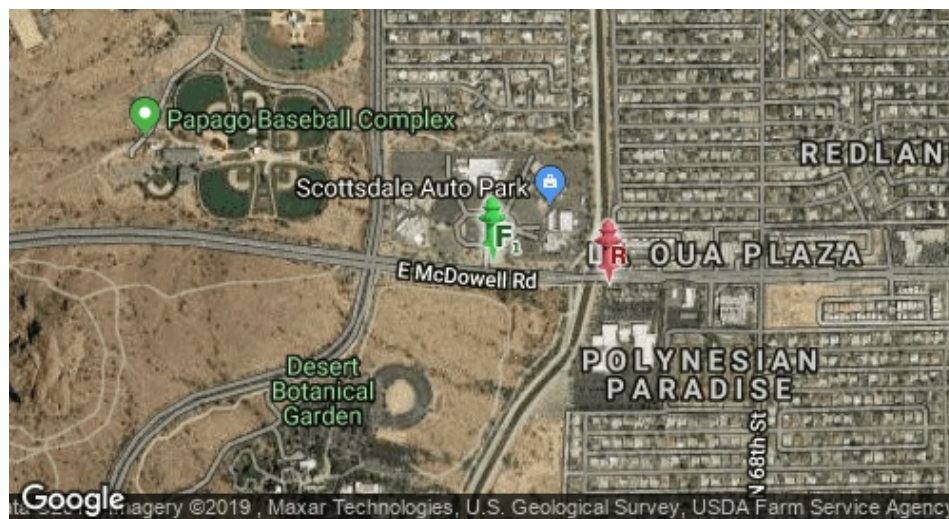
Static Pressure: 75.0 PSI
Residual Pressure: 62.0 PSI
Flowing GPM: 2,049
GPM @ 20 PSI: 4,464


Data with a 10 % Safety Factor

Static Pressure: 67.5 PSI
Residual Pressure: 54.5 PSI
Flowing GPM: 2,049
GPM @ 20 PSI: 4,125

Hydrant F₁

Pitot Pressure (1): 33 PSI
Coefficient of Discharge (1): 0.9
Hydrant Orifice Diameter (1): 4 inches
Additional Coefficient 0.83 on orifice #1



 Static-Residual Hydrant

 Flow Hydrant

Distance Between F₁ and R
804 ft (measured linearly)

Static-Residual Elevation
1272 ft (above sea level)

Flow Hydrant (F₁) Elevation
1280 ft (above sea level)

Elevation & distance values are approximate

EJ Flow Tests, LLC

21505 North 78th Ave. | Suite 130 | Peoria, Arizona 85382 | (602) 999-7637 | www.ejengineering.com
John L. Echeverri | NICET Level IV 078493 SME | C-16 FP Contractor ROC 271705 AZ | NFPA CFPS 1915

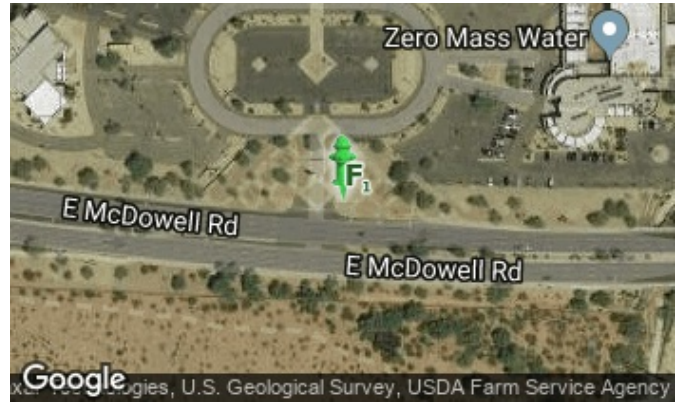
www.flowtestsummary.com

Page 1

Static-Residual Hydrant



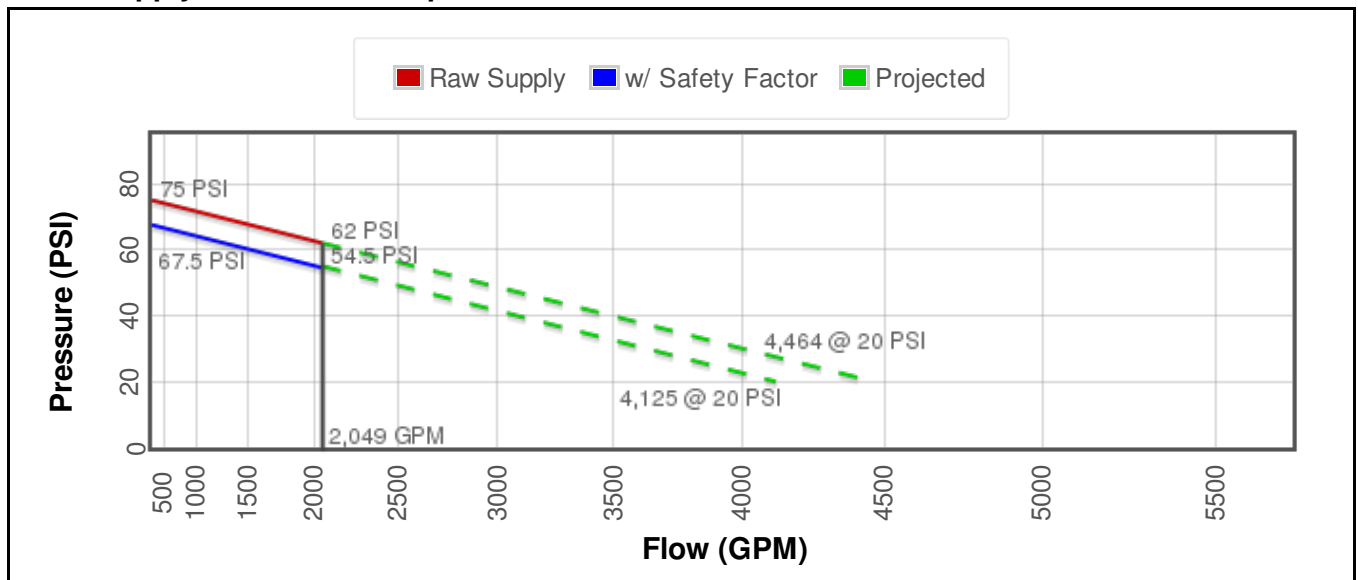
Flow Hydrant (only hydrant F1 shown for clarity)



Approximate Project Site



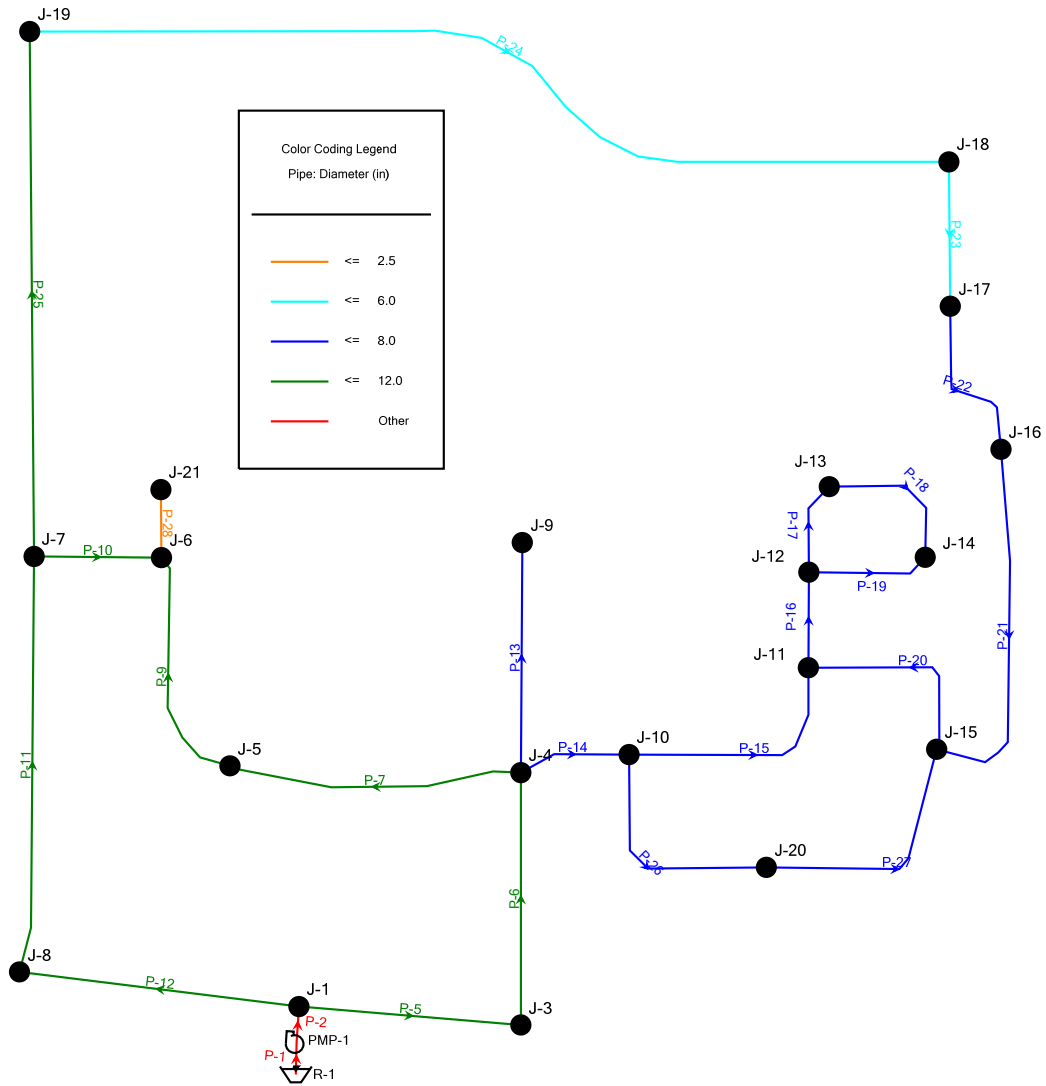
Water Supply Curve N^{1.85} Graph



APPENDIX C

Water Model Results

Scottsdale Entrada Water Model.wtg



Scottsdale Entrada Water Model.wtg
Active Scenario: Average Day Demand

ID	Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
30	R-1	1,280.00	316	1,280.00

Scottsdale Entrada Water Model.wtg
Active Scenario: Average Day Demand

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	1,278.00	0	1,434.59	68
J-3	1,280.00	0	1,434.55	67
J-4	1,279.00	31	1,434.51	67
J-5	1,285.00	116	1,434.51	65
J-6	1,287.00	15	1,434.52	64
J-7	1,291.30	0	1,434.53	62
J-8	1,289.00	0	1,434.56	63
J-9	1,280.00	31	1,434.50	67
J-10	1,277.00	10	1,434.47	68
J-11	1,274.50	28	1,434.44	69
J-12	1,274.00	16	1,434.44	69
J-13	1,272.00	12	1,434.43	70
J-14	1,272.30	12	1,434.43	70
J-15	1,272.00	24	1,434.44	70
J-16	1,273.00	0	1,434.45	70
J-17	1,263.00	0	1,434.45	74
J-18	1,273.00	0	1,434.46	70
J-19	1,290.00	0	1,434.53	63
J-20	1,275.00	22	1,434.45	69
J-21	1,323.00	0	1,434.52	48

Scottsdale Entrada Water Model.wtg
Active Scenario: Average Day Demand

Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-1	45	R-1	PMP-1	99.0	Ductile Iron	130.0	316	0.01	0.000
P-2	51	PMP-1	J-1	99.0	Ductile Iron	130.0	316	0.01	0.000
P-5	315	J-1	J-3	12.0	Ductile Iron	130.0	186	0.53	0.000
P-6	357	J-3	J-4	12.0	Ductile Iron	130.0	186	0.53	0.000
P-7	417	J-4	J-5	12.0	Ductile Iron	130.0	21	0.06	0.000
P-9	345	J-5	J-6	12.0	Ductile Iron	130.0	-95	0.27	0.000
P-10	180	J-6	J-7	12.0	Ductile Iron	130.0	-110	0.31	0.000
P-11	589	J-7	J-8	12.0	Ductile Iron	130.0	-130	0.37	0.000
P-12	398	J-8	J-1	12.0	Ductile Iron	130.0	-130	0.37	0.000
P-13	325	J-4	J-9	8.0	Ductile Iron	130.0	31	0.20	0.000
P-14	160	J-4	J-10	8.0	Ductile Iron	130.0	103	0.66	0.000
P-15	354	J-10	J-11	8.0	Ductile Iron	130.0	50	0.32	0.000
P-16	135	J-11	J-12	8.0	Ductile Iron	130.0	39	0.25	0.000
P-17	133	J-12	J-13	8.0	Ductile Iron	130.0	13	0.08	0.000
P-18	220	J-13	J-14	8.0	Ductile Iron	130.0	1	0.01	0.000
P-19	175	J-14	J-12	8.0	Ductile Iron	130.0	-11	0.07	0.000
P-20	295	J-11	J-15	8.0	Ductile Iron	130.0	-17	0.11	0.000
P-21	528	J-15	J-16	8.0	Ductile Iron	130.0	-20	0.13	0.000
P-22	247	J-16	J-17	8.0	Ductile Iron	130.0	-20	0.13	0.000
P-23	204	J-17	J-18	6.0	Asbestos Cement	140.0	-20	0.23	0.000
P-24	1,361	J-18	J-19	6.0	Asbestos Cement	140.0	-20	0.23	0.000
P-25	742	J-19	J-7	12.0	Ductile Iron	130.0	-20	0.06	0.000
P-26	339	J-10	J-20	8.0	Ductile Iron	130.0	43	0.27	0.000
P-27	367	J-20	J-15	8.0	Ductile Iron	130.0	21	0.13	0.000
P-28	96	J-6	J-21	2.5	Ductile Iron	130.0	0	0.00	0.000

Scottsdale Entrada Water Model.wtg
Active Scenario: Average Day Demand

Label	Elevation (ft)	Pump Definition	Status (Initial)	Hydraulic Grade (Suction) (ft)	Hydraulic Grade (Discharge) (ft)	Flow (Total) (gpm)	Pump Head (ft)
PMP-1	1,279.00	FF Test 11.01.19	On	1,280.00	1,434.59	316	154.59

Scottsdale Entrada Water Model.wtg

Active Scenario: Max Day Demand

ID	Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
30	R-1	1,280.00	632	1,280.00

Scottsdale Entrada Water Model.wtg

Active Scenario: Max Day Demand

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	1,278.00	0	1,431.68	66
J-3	1,280.00	0	1,431.56	66
J-4	1,279.00	30	1,431.43	66
J-5	1,285.00	62	1,431.42	63
J-6	1,287.00	233	1,431.42	62
J-7	1,291.30	0	1,431.45	61
J-8	1,289.00	0	1,431.59	62
J-9	1,280.00	62	1,431.39	66
J-10	1,277.00	20	1,431.27	67
J-11	1,274.50	55	1,431.17	68
J-12	1,274.00	32	1,431.15	68
J-13	1,272.00	24	1,431.15	69
J-14	1,272.30	24	1,431.15	69
J-15	1,272.00	48	1,431.18	69
J-16	1,273.00	0	1,431.21	68
J-17	1,263.00	0	1,431.22	73
J-18	1,273.00	0	1,431.25	68
J-19	1,290.00	0	1,431.45	61
J-20	1,275.00	44	1,431.20	68
J-21	1,323.00	0	1,431.42	47

Scottsdale Entrada Water Model.wtg

Active Scenario: Max Day Demand

Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-1	45	R-1	PMP-1	99.0	Ductile Iron	130.0	632	0.03	0.000
P-2	51	PMP-1	J-1	99.0	Ductile Iron	130.0	632	0.03	0.000
P-5	315	J-1	J-3	12.0	Ductile Iron	130.0	358	1.02	0.000
P-6	357	J-3	J-4	12.0	Ductile Iron	130.0	358	1.02	0.000
P-7	417	J-4	J-5	12.0	Ductile Iron	130.0	58	0.17	0.000
P-9	345	J-5	J-6	12.0	Ductile Iron	130.0	-4	0.01	0.000
P-10	180	J-6	J-7	12.0	Ductile Iron	130.0	-236	0.67	0.000
P-11	589	J-7	J-8	12.0	Ductile Iron	130.0	-274	0.78	0.000
P-12	398	J-8	J-1	12.0	Ductile Iron	130.0	-274	0.78	0.000
P-13	325	J-4	J-9	8.0	Ductile Iron	130.0	62	0.39	0.000
P-14	160	J-4	J-10	8.0	Ductile Iron	130.0	208	1.33	0.001
P-15	354	J-10	J-11	8.0	Ductile Iron	130.0	102	0.65	0.000
P-16	135	J-11	J-12	8.0	Ductile Iron	130.0	79	0.50	0.000
P-17	133	J-12	J-13	8.0	Ductile Iron	130.0	25	0.16	0.000
P-18	220	J-13	J-14	8.0	Ductile Iron	130.0	2	0.01	0.000
P-19	175	J-14	J-12	8.0	Ductile Iron	130.0	-22	0.14	0.000
P-20	295	J-11	J-15	8.0	Ductile Iron	130.0	-32	0.20	0.000
P-21	528	J-15	J-16	8.0	Ductile Iron	130.0	-38	0.24	0.000
P-22	247	J-16	J-17	8.0	Ductile Iron	130.0	-38	0.24	0.000
P-23	204	J-17	J-18	6.0	Asbestos Cement	140.0	-38	0.43	0.000
P-24	1,361	J-18	J-19	6.0	Asbestos Cement	140.0	-38	0.43	0.000
P-25	742	J-19	J-7	12.0	Ductile Iron	130.0	-38	0.11	0.000
P-26	339	J-10	J-20	8.0	Ductile Iron	130.0	86	0.55	0.000
P-27	367	J-20	J-15	8.0	Ductile Iron	130.0	42	0.27	0.000
P-28	96	J-6	J-21	2.5	Ductile Iron	130.0	0	0.00	0.000

Scottsdale Entrada Water Model.wtg

Active Scenario: Max Day Demand

Label	Elevation (ft)	Pump Definition	Status (Initial)	Hydraulic Grade (Suction) (ft)	Hydraulic Grade (Discharge) (ft)	Flow (Total) (gpm)	Pump Head (ft)
PMP-1	1,279.00	FF Test 11.01.19	On	1,280.00	1,431.68	632	151.68

Scottsdale Entrada Water Model.wtg

Active Scenario: Peak Hour Demand

ID	Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
30	R-1	1,280.00	1,106	1,280.00

Scottsdale Entrada Water Model.wtg
Active Scenario: Peak Hour Demand

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	1,278.00	0	1,425.16	64
J-3	1,280.00	0	1,424.80	63
J-4	1,279.00	109	1,424.39	63
J-5	1,285.00	407	1,424.38	60
J-6	1,287.00	52	1,424.50	59
J-7	1,291.30	0	1,424.57	58
J-8	1,289.00	0	1,424.92	59
J-9	1,280.00	108	1,424.29	62
J-10	1,277.00	34	1,423.95	64
J-11	1,274.50	97	1,423.67	65
J-12	1,274.00	55	1,423.58	65
J-13	1,272.00	77	1,423.56	66
J-14	1,272.30	41	1,423.56	65
J-15	1,272.00	41	1,423.74	66
J-16	1,273.00	0	1,423.81	65
J-17	1,263.00	0	1,423.84	70
J-18	1,273.00	0	1,423.93	65
J-19	1,290.00	0	1,424.56	58
J-20	1,275.00	84	1,423.77	64
J-21	1,323.00	0	1,424.50	44

1105gpm



Scottsdale Entrada Water Model.wtg

Active Scenario: Peak Hour Demand

Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-1	45	R-1	PMP-1	99.0	Ductile Iron	130.0	1,106	0.05	0.000
P-2	51	PMP-1	J-1	99.0	Ductile Iron	130.0	1,106	0.05	0.000
P-5	315	J-1	J-3	12.0	Ductile Iron	130.0	651	1.85	0.001
P-6	357	J-3	J-4	12.0	Ductile Iron	130.0	651	1.85	0.001
P-7	417	J-4	J-5	12.0	Ductile Iron	130.0	73	0.21	0.000
P-9	345	J-5	J-6	12.0	Ductile Iron	130.0	-334	0.95	0.000
P-10	180	J-6	J-7	12.0	Ductile Iron	130.0	-386	1.10	0.000
P-11	589	J-7	J-8	12.0	Ductile Iron	130.0	-456	1.29	0.001
P-12	398	J-8	J-1	12.0	Ductile Iron	130.0	-456	1.29	0.001
P-13	325	J-4	J-9	8.0	Ductile Iron	130.0	108	0.69	0.000
P-14	160	J-4	J-10	8.0	Ductile Iron	130.0	361	2.30	0.003
P-15	354	J-10	J-11	8.0	Ductile Iron	130.0	181	1.16	0.001
P-16	135	J-11	J-12	8.0	Ductile Iron	130.0	174	1.11	0.001
P-17	133	J-12	J-13	8.0	Ductile Iron	130.0	65	0.41	0.000
P-18	220	J-13	J-14	8.0	Ductile Iron	130.0	-12	0.08	0.000
P-19	175	J-14	J-12	8.0	Ductile Iron	130.0	-54	0.34	0.000
P-20	295	J-11	J-15	8.0	Ductile Iron	130.0	-89	0.57	0.000
P-21	528	J-15	J-16	8.0	Ductile Iron	130.0	-69	0.44	0.000
P-22	247	J-16	J-17	8.0	Ductile Iron	130.0	-69	0.44	0.000
P-23	204	J-17	J-18	6.0	Asbestos Cement	140.0	-69	0.79	0.000
P-24	1,361	J-18	J-19	6.0	Asbestos Cement	140.0	-69	0.79	0.000
P-25	742	J-19	J-7	12.0	Ductile Iron	130.0	-69	0.20	0.000
P-26	339	J-10	J-20	8.0	Ductile Iron	130.0	145	0.93	0.001
P-27	367	J-20	J-15	8.0	Ductile Iron	130.0	61	0.39	0.000
P-28	96	J-6	J-21	2.5	Ductile Iron	130.0	0	0.00	0.000

Scottsdale Entrada Water Model.wtg

Active Scenario: Peak Hour Demand

Label	Elevation (ft)	Pump Definition	Status (Initial)	Hydraulic Grade (Suction) (ft)	Hydraulic Grade (Discharge) (ft)	Flow (Total) (gpm)	Pump Head (ft)
PMP-1	1,279.00	FF Test 11.01.19	On	1,280.00	1,425.16	1,106	145.16

Scottsdale Entrada Water Model.wtg
Active Scenario: Average Day Scenario 4

ID	Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
30	R-1	1,280.00	316	1,280.00

Scottsdale Entrada Water Model.wtg
Active Scenario: Average Day Scenario 4

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	1,278.00	0	1,434.59	68
J-3	1,280.00	0	1,434.55	67
J-4	1,279.00	31	1,434.51	67
J-5	1,285.00	116	1,434.51	65
J-6	1,287.00	0	1,434.52	64
J-7	1,291.30	0	1,434.53	62
J-8	1,289.00	0	1,434.56	63
J-9	1,280.00	31	1,434.50	67
J-10	1,277.00	10	1,434.47	68
J-11	1,274.50	28	1,434.44	69
J-12	1,274.00	16	1,434.44	69
J-13	1,272.00	12	1,434.43	70
J-14	1,272.30	12	1,434.43	70
J-15	1,272.00	24	1,434.44	70
J-16	1,273.00	0	1,434.45	70
J-17	1,263.00	0	1,434.45	74
J-18	1,273.00	0	1,434.46	70
J-19	1,290.00	0	1,434.53	63
J-20	1,275.00	22	1,434.45	69
J-21	1,323.00	15	1,434.31	48

Scottsdale Entrada Water Model.wtg

Active Scenario: Average Day Scenario 4

Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-1	45	R-1	PMP-1	99.0	Ductile Iron	130.0	316	0.01	0.000
P-2	51	PMP-1	J-1	99.0	Ductile Iron	130.0	316	0.01	0.000
P-5	315	J-1	J-3	12.0	Ductile Iron	130.0	186	0.53	0.000
P-6	357	J-3	J-4	12.0	Ductile Iron	130.0	186	0.53	0.000
P-7	417	J-4	J-5	12.0	Ductile Iron	130.0	21	0.06	0.000
P-9	345	J-5	J-6	12.0	Ductile Iron	130.0	-95	0.27	0.000
P-10	180	J-6	J-7	12.0	Ductile Iron	130.0	-110	0.31	0.000
P-11	589	J-7	J-8	12.0	Ductile Iron	130.0	-130	0.37	0.000
P-12	398	J-8	J-1	12.0	Ductile Iron	130.0	-130	0.37	0.000
P-13	325	J-4	J-9	8.0	Ductile Iron	130.0	31	0.20	0.000
P-14	160	J-4	J-10	8.0	Ductile Iron	130.0	103	0.66	0.000
P-15	354	J-10	J-11	8.0	Ductile Iron	130.0	50	0.32	0.000
P-16	135	J-11	J-12	8.0	Ductile Iron	130.0	39	0.25	0.000
P-17	133	J-12	J-13	8.0	Ductile Iron	130.0	13	0.08	0.000
P-18	220	J-13	J-14	8.0	Ductile Iron	130.0	1	0.01	0.000
P-19	175	J-14	J-12	8.0	Ductile Iron	130.0	-11	0.07	0.000
P-20	295	J-11	J-15	8.0	Ductile Iron	130.0	-17	0.11	0.000
P-21	528	J-15	J-16	8.0	Ductile Iron	130.0	-20	0.13	0.000
P-22	247	J-16	J-17	8.0	Ductile Iron	130.0	-20	0.13	0.000
P-23	204	J-17	J-18	6.0	Asbestos Cement	140.0	-20	0.23	0.000
P-24	1,361	J-18	J-19	6.0	Asbestos Cement	140.0	-20	0.23	0.000
P-25	742	J-19	J-7	12.0	Ductile Iron	130.0	-20	0.06	0.000
P-26	339	J-10	J-20	8.0	Ductile Iron	130.0	43	0.27	0.000
P-27	367	J-20	J-15	8.0	Ductile Iron	130.0	21	0.13	0.000
P-28	96	J-6	J-21	2.5	Ductile Iron	130.0	15	0.98	0.002

Scottsdale Entrada Water Model.wtg

Active Scenario: Average Day Scenario 4

Label	Elevation (ft)	Pump Definition	Status (Initial)	Hydraulic Grade (Suction) (ft)	Hydraulic Grade (Discharge) (ft)	Flow (Total) (gpm)	Pump Head (ft)
PMP-1	1,279.00	FF Test 11.01.19	On	1,280.00	1,434.59	316	154.59

Scottsdale Entrada Water Model.wtg

Active Scenario: Max Day + FF

Label	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Pressure (Calculated Zone Lower Limit) (psi)	Junction w/ Minimum Pressure (Zone)	Junction w/ Minimum Pressure (System)	Velocity of Maximum Pipe (ft/s)	Pipe w/ Maximum Velocity
J-1	2,000	(N/A)	30	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-3	2,000	(N/A)	30	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-4	2,000	2,001	30	46	42	J-7	J-7	4.52	P-6
J-5	2,000	2,001	30	44	41	J-7	J-7	4.11	P-6
J-6	2,000	2,001	30	43	41	J-7	J-7	3.84	P-6
J-7	2,000	(N/A)	30	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-8	2,000	(N/A)	30	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-9	2,000	2,001	30	36	42	J-7	J-7	13.16	P-13
J-10	2,000	2,001	30	43	42	J-7	J-7	12.56	P-14
J-11	2,000	2,001	30	40	40	J-12	J-12	12.18	P-14
J-12	2,000	2,001	30	36	37	J-14	J-14	13.28	P-16
J-13	2,000	2,001	30	35	36	J-14	J-14	13.28	P-16
J-14	2,000	2,001	30	35	36	J-12	J-12	13.28	P-16
J-15	2,000	2,001	30	41	42	J-7	J-7	11.90	P-14
J-16	2,000	(N/A)	30	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-17	2,000	(N/A)	30	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-18	2,000	(N/A)	30	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-19	2,000	(N/A)	30	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
J-20	2,000	2,001	30	40	42	J-7	J-7	12.23	P-14

All greater than 30psi

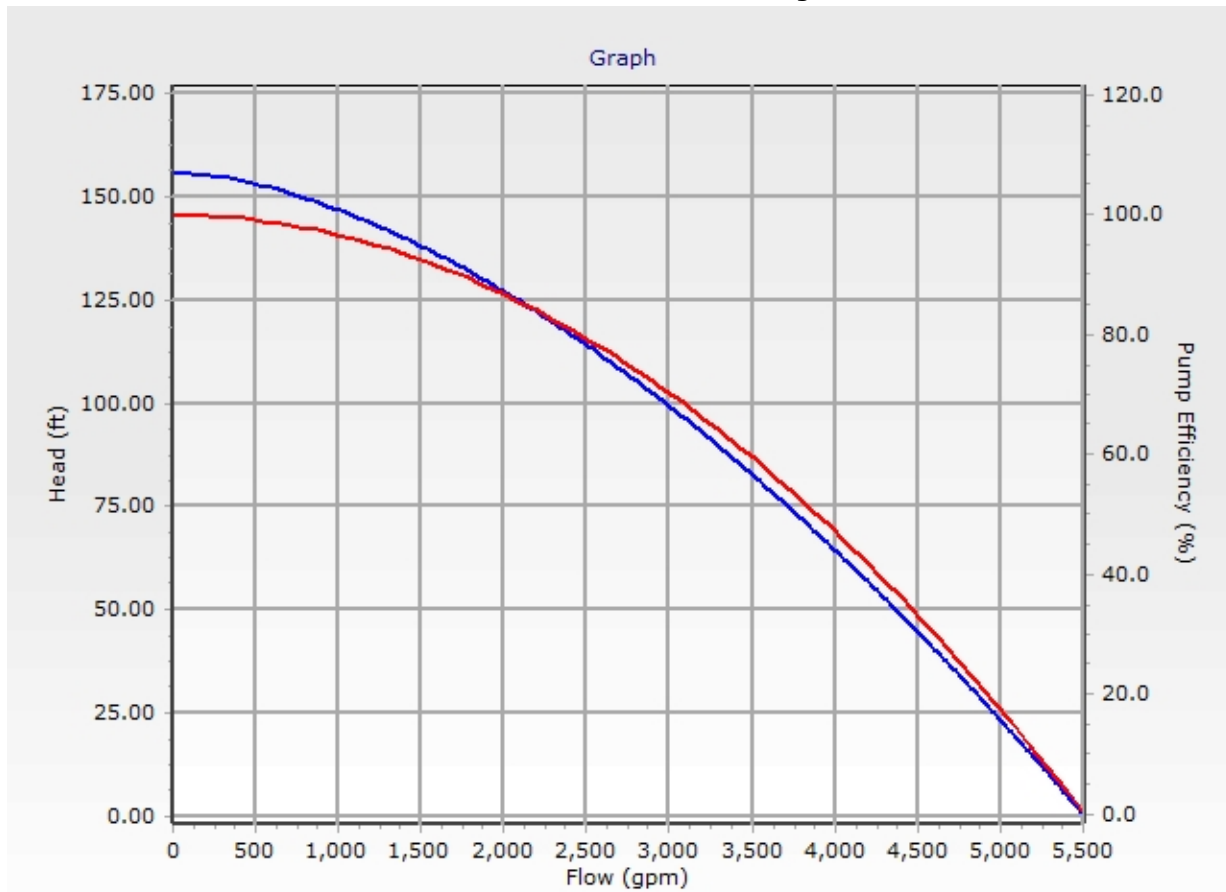


Scottsdale Entrada Water Model.wtg
Active Scenario: Max Day + FF

Element Details			
ID	86	Notes	
Label	FF Test 11.01.19		
Pump Definition Type			
Pump Definition Type	Standard (3 Point)	Design Head	125.90 ft
Shutoff Flow	0 gpm	Maximum Operating Flow	4,464 gpm
Shutoff Head	155.93 ft	Maximum Operating Head	46.20 ft
Design Flow	2,049 gpm		
Pump Efficiency Type			
Pump Efficiency Type	Best Efficiency Point	Motor Efficiency	100.0 %
BEP Efficiency	100.0 %	Is Variable Speed Drive?	False
BEP Flow	0 gpm		
Transient (Physical)			
Inertia (Pump and Motor)	0.000 lb·ft ²	Specific Speed	SI=25, US=1280
Speed (Full)	0 rpm	Reverse Spin Allowed?	True

Scottsdale Entrada Water Model.wtg

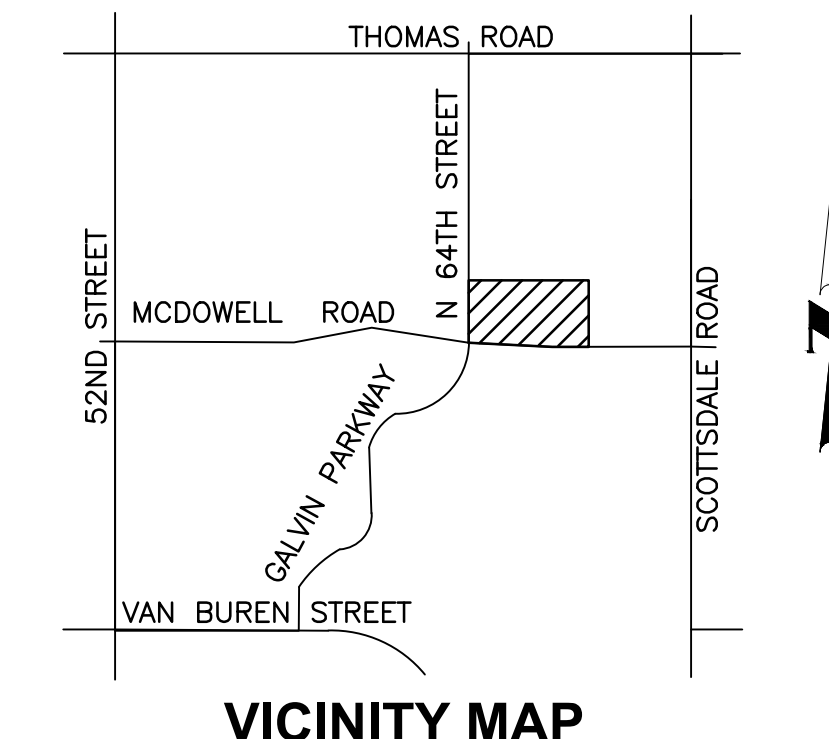
Active Scenario: Max Day + FF



WATER PLANS FOR SCOTTSDALE ENTRADA

SCOTTSDALE, ARIZONA

A PORTION OF SECTION 34,
TOWNSHIP 2 NORTH, RANGE 4 EAST, GILA AND SALT RIVER BASE AND MERIDIAN,
MARICOPA COUNTY, ARIZONA



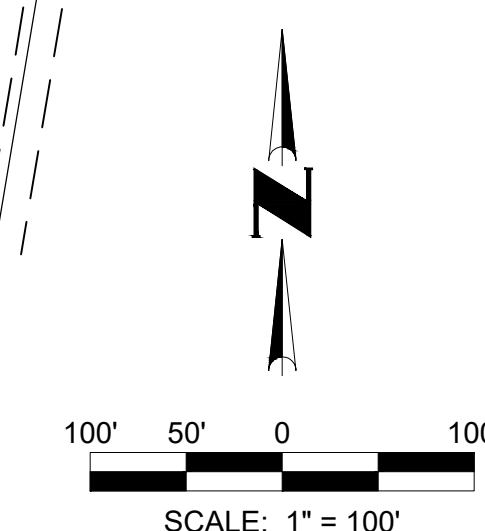
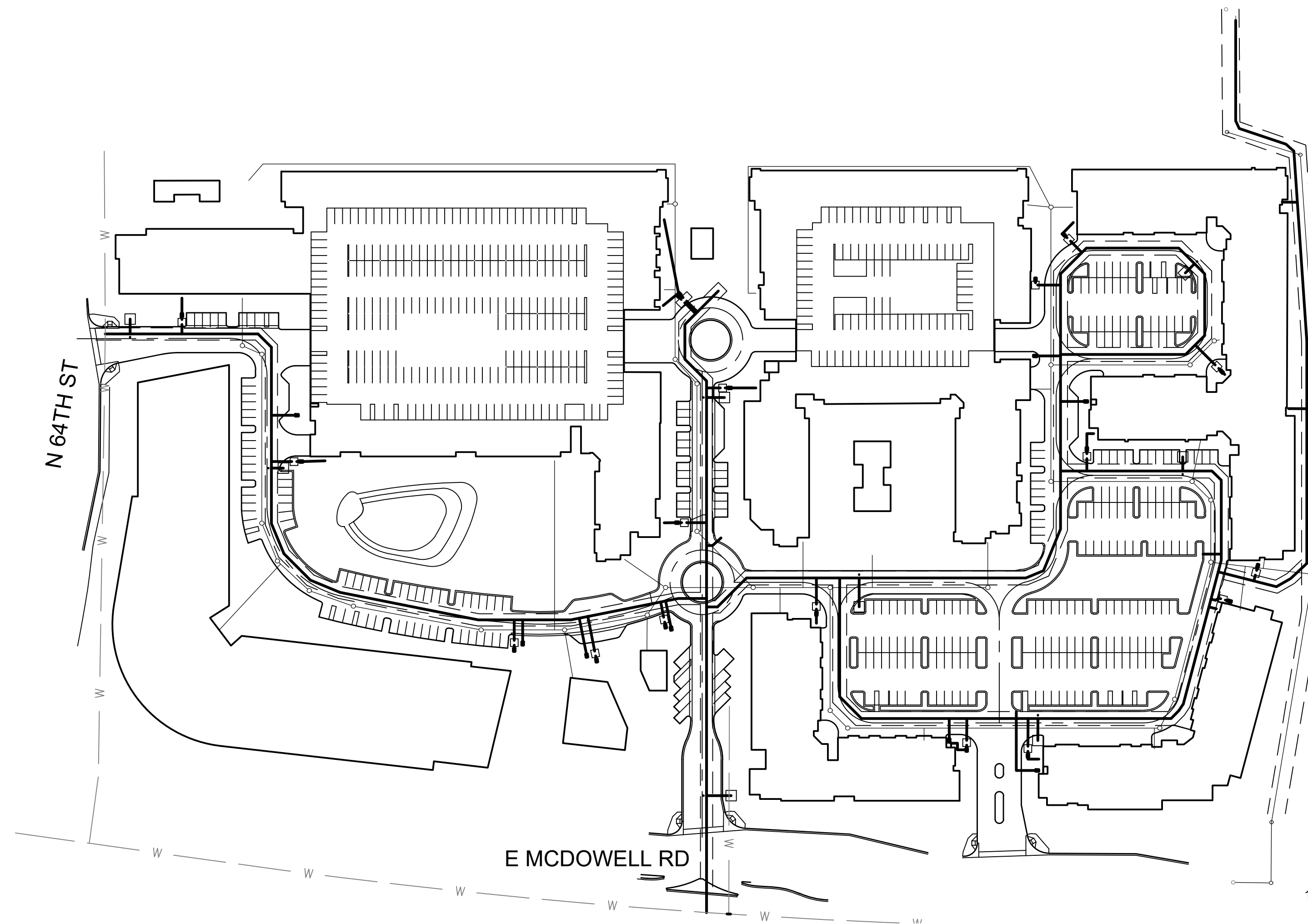
LEGEND:

⊕	CENTER LINE	○	PROP. SEWERLINE AND MANHOLE
⊖	BOUNDARY LINE	○	EX. SEWERLINE AND MANHOLE
⊔	PROPERTY LINE	⊕	PROP. CATCH BASIN
P.C.	POINT OF CURVE	⊕	PROP. STORM DRAIN AN MANHOLE
P.T.	POINT OF TANGENCY	8" S	SEWER LINE
P.R.C.	POINT OF REVERSE CURVE	8" W	WATER LINE
P.C.C.	POINT OF COMPOUND CURVE	---	BOUNDARY LINE
WTR	WATER	---	CENTER LINE
STRM	STORM	---	EASEMENT LINE
INV	INVERT	12	KEY MAP MANHOLE NUMBERS
▲	GRADE BREAK	3	KEY MAP SHEET NUMBER
●	SURVEY MONUMENT	○	EXISTING SIGN
⊕	PROP. FIRE HYDRANT	⊕	EXISTING LIGHT
⊕	PROP. WATERLINE AND VALVE	---	EXISTING GAS LINE
⊕	EX. FIRE HYDRANT	---	EXISTING TELEPHONE LINE
⊕	EX. WATERLINE AND VALVE	---	EXISTING WATER LINE
▲	EX. AIR RELEASE VALVE	---	EXISTING FIBER OPTIC LINE

THE QUANTITIES SHOWN ARE AN ESTIMATE ONLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES BEFORE BIDDING.

ESTIMATED QUANTITIES - WATER-ON-SITE		
DESCRIPTION	UNITS	QUANTITY
8" DIP CL 350 PIPE	LF	3345
12" DIP CL 350 PIPE	LF	1291
12" TAPPING SLEEVE	EA	2
8" 45° BEND	EA	21
8" 22.5° BEND	EA	5
8" 11.25° BEND	EA	2
12" 45° BEND	EA	2
12" 22.5° BEND	EA	3
12" 11.25° BEND	EA	3
8" TEE	EA	1
8" VALVES	EA	11
12" TEE	EA	2
12" VALVES	EA	6
FIRE HYDRANT ASSEMBLIES	EA	8
1-1/2" DOMESTIC WATER SERVICE TAP	EA	7
2" DOMESTIC WATER SERVICE TAP	EA	11
8"x12" REDUCER	EA	2
REMOVE PLUG AND CONNECT TO EXISTING	EA	1

SEE PLUMBING PLANS FOR SERVICE CONNECTIONS



OWNERS

BRIDGE BANYAN QUALIFIED OPPORTUNITY ZONE BUSINESS I, LLC BEN BROUSSEAU 111. E. SEGO LILY DRIVE, SUITE 400 SALT LAKE CITY, UT 84070 BEN'S PHONE # 858-220-2975	BRIDGE BANYAN QUALIFIED OPPORTUNITY ZONE BUSINESS II, LLC BEN BROUSSEAU 111. E. SEGO LILY DRIVE, SUITE 400 SALT LAKE CITY, UT 84070 BEN'S PHONE # 858-220-2975
--	---

BRIDGE BANYAN QUALIFIED
OPPORTUNITY ZONE BUSINESS III, LLC
BEN BROUSSEAU
111. E. SEGO LILY DRIVE, SUITE 400
SALT LAKE CITY, UT 84070
BEN'S PHONE # 858-220-2975

ENGINEER

COE & VAN LOO CONSULTANTS, INC. 4550 NORTH 12TH STREET PHOENIX, ARIZONA 85014 PHONE: (602) 264-6831 FAX: (602) 264-0928 CONTACT: HEIDI TILSON EMAIL: HTILSON@CVL.CI.COM	BRIDGE BANYAN QUALIFIED OPPORTUNITY ZONE BUSINESS I BEN BROUSSEAU 111. E. SEGO LILY DRIVE, SUITE 400 SALT LAKE CITY, UT 84070 BEN'S PHONE # 858-220-2975
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BASIS OF BEARING

THE BASIS OF BEARINGS IS GRID NORTH, ACCORDING TO DIRECT OBSERVATION ON THE ARIZONA STATE PLANE COORDINATE SYSTEM, PROJECTION OF THE CENTRAL ZONE, NAD-83.

BENCHMARK

THE SOUTH WEST 1/4 CORNER SECTION 34,
TOWNSHIP 2 NORTH, RANGE 4 EAST
ELEVATION 1284.45

NO CONFLICT SIGNATURE BLOCK				
Utility	Utility Company	Name of Company Representative	Telephone Number	Date Signed
Electric				
Telephone				
Natural Gas				
Cable TV				
Other				
Other				
Engineer's Certification _____, as the Engineer of Record for this development, hereby certify that all utility companies listed above have been provided final improvement plans for review, and that all conflicts identified by the utilities have been resolved. In addition, "No Conflict" forms have been obtained from each utility company and are included in this submittal.				
Signature		Date		

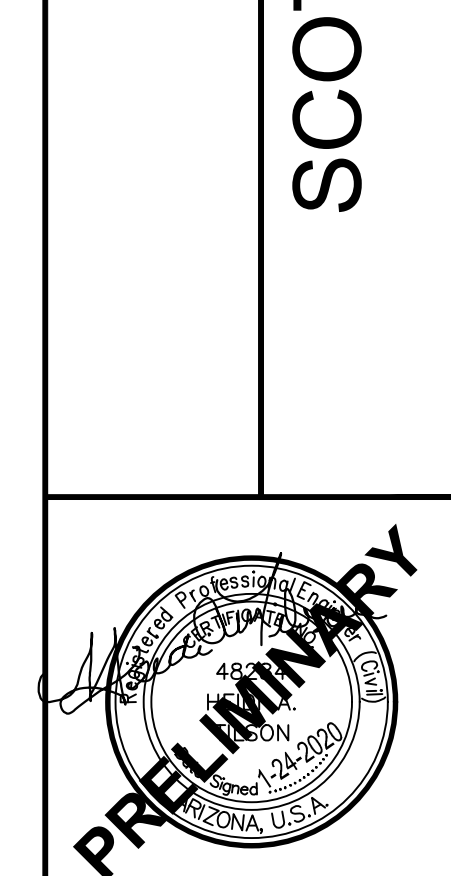
Community Number	Panel # Panel Date	Suffix	Date of FIRM (Index Date)	FIRM Zone	Base Flood Elevation (in AO zone use Depth)
045012					

CIVIL APPROVAL			
Review & Recommended Approval by:			
Paving	Traffic		
G & D	Planning		
W & S	Fire		
Ret. Walls			
Engineering Coordination Mgr.		Date	



DATE
 REVISION
 NO.
Coe and Van Loo II L.L.C.

WATER PLANS
SCOTTSDALE ENTRADA
 SCOTTSDALE, ARIZONA



PRELIMINARY
 01 SHEET OF 05
 CVL Contact: HEIDI TILSON
 CVL Project #: 1140254309
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ENGINEER'S GENERAL NOTES (3/9/2018)

1. THESE PLANS ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS THE APPROVAL BLOCK HAS BEEN SIGNED BY THE APPROPRIATE AGENCIES. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE CURRENT MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) SPECIFICATIONS AND STANDARD DETAILS TOGETHER WITH ANY SUPPLEMENTS OF THE REVIEWING AGENCY AND WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES.
2. PRIOR TO CONSTRUCTION, THE ENGINEER AND APPLICABLE AGENCY MUST APPROVE ANY ALTERATION OR VARIANCE FROM THESE PLANS. ANY VARIATIONS FROM THESE PLANS SHALL BE PROPOSED ON CONSTRUCTION FIELD PRINTS AND TRANSMITTED TO THE ENGINEER.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL REQUIRED PERMITS AT HIS OWN EXPENSE.
4. ANY INSPECTION BY THE CITY, COUNTY, ENGINEER, OR OTHER JURISDICTIONAL AGENCY SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH APPLICABLE CODES AND AGENCY REQUIREMENTS.
5. THE CONTRACTOR SHALL MAKE NO CLAIM AGAINST THE OWNER OR THE SURVEYOR REGARDING ALLEGED INACCURACY OF CONSTRUCTION STAKES SET BY THE SURVEYOR UNLESS ALL SURVEY STAKES SET BY THE SURVEYOR ARE MAINTAINED INTACT AND CAN BE VERIFIED AS TO THEIR ORIGIN. IF, IN THE OPINION OF THE SURVEYOR, THE STAKES ARE NOT MAINTAINED INTACT AND CANNOT BE VERIFIED AS TO THEIR ORIGIN, ANY REMEDIAL WORK REQUIRED SHALL BE PERFORMED AT THE SOLE EXPENSE OF THE RESPONSIBLE CONTRACTOR OR SUBCONTRACTOR.
6. THE CONTRACTOR SHALL NOTIFY THE DEVELOPER AT LEAST 48 HOURS IN ADVANCE FOR ANY STAKING OR RESTAKING REQUIRED.
7. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE FOR ANY INSPECTIONS AND/OR TESTING FOR ENGINEER OF RECORD SERVICES.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING ALL STAKES AND CONTROL SET BY THE DEVELOPERS SURVEYOR, AND SHALL TAKE STEPS NECESSARY TO INSURE THAT THE STAKES AND CONTROL ARE NOT DISTURBED OR TAMPERED WITH. IF STAKES SET BY THE DEVELOPERS SURVEYOR ARE DISTURBED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST INCURRED TO RESTAKE.
9. NOTHING CONTAINED IN THE CONTRACT DOCUMENTS SHALL CREATE, NOR SHALL BE CONSTRUED TO CREATE, ANY CONTRACTUAL RELATIONSHIP BETWEEN THE ENGINEER AND THE CONTRACTOR OR ANY SUBCONTRACTOR.
10. CONTRACTOR MUST CONTACT THE DESIGN ENGINEER FOR ANY NOTED DISCREPANCIES IN THE DESIGN PRIOR TO THE ITEM BEING CONSTRUCTED. FAILURE OF CONTRACTOR TO NOTIFY THE ENGINEER AND APPROVING AGENCY IN ADVANCE FOR ALTERNATIVE DESIGN SHALL RESULT IN CONTRACTOR ACCEPTANCE OF ALL COSTS RELATED TO POTENTIAL REMOVAL AND REWORK OF SAID ITEMS.
11. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR COORDINATING THE RELOCATION OF UTILITIES, POWER POLES, ETC.
12. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS OR PROGRAMS UTILIZED IN CONNECTION WITH THE WORK. THE ENGINEER IS NOT RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS NOR ANY COSTS INCURRED, WHETHER INITIAL OR ADDITIONAL TO CORRECT, MODIFY, OR ALTER ANY CONSTRUCTION COMPLETED CONTRARY TO THE CONTRACT DOCUMENTS.
13. A THOROUGH ATTEMPT HAS BEEN MADE TO SHOW THE LOCATIONS OF ALL OVERHEAD AND UNDERGROUND UTILITY LINES IN THE WORK AREA ACCORDING TO INFORMATION PROVIDED BY THE AGENCY OPERATING EACH FACILITY. LOCATIONS SHOWN ARE APPROXIMATE ONLY, AND ARE NOT RELIABLE FOR CONSTRUCTION PURPOSES. CALL AZ811 AT 811 OR 602-263-1100 TO HAVE LOCATIONS MARKED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING UTILITIES ON THE SITE. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING SURFACE FEATURES AND FENCING NOT SCHEDULED FOR DEMOLITION OR REMOVAL SHALL BE REPLACED IN KIND.
14. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY THE PRESENCE AND LOCATION OF ANY AND ALL EXISTING OVERHEAD AND/OR UNDERGROUND UTILITIES THAT MAY INTERFERE WITH THIS CONSTRUCTION, WHETHER OR NOT SAID UTILITIES ARE SHOWN ON THE CONSTRUCTION PLANS FOR THIS PROJECT. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS (POTHOLING) AND LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION TO PERMIT THE OWNER TO DIRECT THE ENGINEER TO MAKE REVISIONS OF THESE PLANS, IF NECESSARY, DUE TO CONFLICT BETWEEN PROPOSED FACILITIES AND EXISTING FACILITIES.
15. OWNER/CONTRACTOR IS RESPONSIBLE FOR SURVEY VERIFICATION OF EXISTING HORIZONTAL AND VERTICAL CONDITIONS PRIOR TO START OF CONSTRUCTION. A DEVIATION IN EXISTING CONDITIONS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE CONSTRUCTION STARTS. THE ENGINEER WILL NOT BE RESPONSIBLE FOR REMOVAL, REPLACEMENT, OR OTHER MODIFICATIONS THAT MAY BE REQUIRED AS A RESULT OF EXISTING CONDITIONS NOT PROPERLY VERIFIED AND CONFIRMED. SHOULD AN ERROR BE FOUND IN THE HORIZONTAL AND VERTICAL CONDITIONS, THE ENGINEER SHALL BE NOTIFIED AND CONSTRUCTION WILL NOT PROCEED UNTIL REVISIONS/MODIFICATIONS HAVE BEEN PREPARED AND SUBMITTED BY THE ENGINEER.
16. THE CONTRACTOR SHALL VERIFY THE LOCATION, ELEVATION, CONDITION, AND PAVEMENT CROSS-SLOPE OF ALL EXISTING SURFACES AT POINTS OF TIE-IN AND MATCHING, PRIOR TO COMMENCEMENT OF GRADING, PAVING, CURB AND GUTTER, OR OTHER SURFACE CONSTRUCTION. SHOULD EXISTING LOCATIONS, ELEVATIONS, CONDITIONS, OR PAVEMENT CROSS-SLOPES DIFFER FROM THAT WHICH IS SHOWN ON THESE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER ACCORDINGLY. THE CONTRACTOR ACCEPTS RESPONSIBILITY FOR ALL COSTS ASSOCIATED WITH CORRECTIVE ACTION IF THESE PROCEDURES ARE NOT FOLLOWED.
17. APPROVAL OF THESE PLANS SHALL NOT PREVENT THE REVIEWING AGENCY FROM REQUIRING THE CORRECTION OF ERRORS IN THE PLANS WHERE SUCH ERRORS ARE SUBSEQUENTLY FOUND TO BE IN VIOLATION OF ANY LAW, ORDINANCE, OR OTHER HEALTH/SAFETY ISSUE.
18. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL STORM DRAIN PIPES, STORM WATER RETENTION PIPES AND DRAINAGE FACILITIES DURING ALL STAGES OF CONSTRUCTION. THE DEPTH OF COVER ON THE STORM DRAIN PIPE IS DESIGNED FOR FINAL GRADE. THEREFORE, EXTRA CARE SUCH AS BERMING OVER PIPES, FLAGGING, OR SIGNAGE SHOULD BE USED DURING CONSTRUCTION IN ORDER TO MAINTAIN COVER OR PROTECT THE PIPES.

ENGINEER'S GENERAL NOTES (CONT.)

19. ALL CONDUITS (BOX CULVERT, REINFORCED CONCRETE PIPE, CAST-IN-PLACE PIPE, AND/OR CORRUGATED METAL PIPE) SHOWN ON THESE PLANS ARE DESIGNED FOR STANDARD HIGHWAY LOADINGS. THE STANDARD SATISFACTORY MINIMUM COVER REQUIREMENTS AS ESTABLISHED BY THE CONDUIT MANUFACTURER MAY NOT ALWAYS BE ADEQUATE DURING CONSTRUCTION. WHEN CONSTRUCTION EQUIPMENT, FREQUENTLY HEAVIER THAN TRAFFIC LOADS FOR WHICH THE CONDUIT HAS BEEN DESIGNED, IS TO BE DRIVEN OVER OR CLOSE TO THE BURIED CONDUIT, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE CONDUIT. THE ADEQUACY OF THE COVER REQUIREMENTS FOR CONDUITS SHALL BE ANALYZED AND CHECKED BY THE CONTRACTOR TO ADDRESS LOADING CONDITIONS IMPOSED BY THE CONSTRUCTION ACTIVITY. ANY CONDUIT DAMAGED BY CONSTRUCTION ACTIVITY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
20. THE ESTIMATED QUANTITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETENESS AND ACCURACY OF A DETAILED ESTIMATE BASE ON THESE PLANS, CURRENT CODES, AND SITE VISITATION.
21. ALL EARTHWORK CONSTRUCTION SHALL CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) STANDARD DETAILS AND SPECIFICATIONS, INCLUDING ANY SUPPLEMENTS THERETO AND THE SOILS REPORT PREPARED BY:

COMPANY: WESTERN TECHNOLOGIES INC.
PROJECT NO.: 2125J062
DATED: 9-30-2019

DATA FOR EARTHWORK CALCULATIONS IS PROVIDED IN THE SOILS REPORT AND (IF APPLICABLE) ANY SUPPLEMENTS THERETO.

22. THIS PLAN IS APPROVED SUBJECT TO COMPLETION OF THOSE LINES LABELED "EXISTING" WHICH HAVE BEEN PROPOSED AS A PART OF ANOTHER DEVELOPMENT. THE DEVELOPER OF THIS PROJECT MAY BE REQUIRED TO CONSTRUCT THOSE LINES PER THE REVIEWING AGENCY'S REQUIREMENTS PRIOR TO RECEIVING SERVICE FOR THIS PROJECT.

ENGINEER'S UTILITY NOTES (3/9/2018)

1. THE CONTRACTOR SHALL IN ALL CASES BEGIN SEWER LINE CONSTRUCTION FROM THE DOWNSTREAM MANHOLE OR SEWER STUB, WHETHER EXISTING OR PROPOSED. PRIOR TO INSTALLATION OF ANY SEWER LINE, THE CONTRACTOR SHALL EXCAVATE AND EXPOSE THE POINT OF CONNECTION OF THE NEW SEWER LINE TO THE EXISTING STUB OR MANHOLE AND VERIFY THE ELEVATION AND LOCATION. SHOULD THE EXISTING CONDITIONS VARY FROM THE DESIGN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
2. THE SURVEYOR SHALL MAKE FIELD RECORD DRAWING MEASUREMENTS OF THE WORK UPON NOTIFICATION BY THE WATER/SEWER CONTRACTOR THAT THE PIPE WORK IS COMPLETE AND READY FOR RECORD DRAWING SURVEY. IF THE CONTRACTOR DOES NOT LEAVE THE TRENCHES OPEN SO THE ACTUAL PIPELINE AND SERVICES CAN BE OBSERVED, THE RECORD DRAWING MEASUREMENTS WILL REFLECT THE TRENCH LOCATION ONLY. IF THE MEASUREMENTS CANNOT BE PERFORMED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ACCURATE RECORD DRAWING MEASUREMENTS AND SECURING THE ACCEPTANCE OF THE RECORD DRAWING BY THE APPROVING AGENCY.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE THE FITTINGS ARE COVERED SO RECORD DRAWING MEASUREMENTS MAY BE TAKEN. FITTINGS SHALL NOT BE COVERED UNTIL SURVEY HAS BEEN COMPLETED.
4. A WATER PRESSURE TEST IS REQUIRED OF ALL WATER LINES AND A HYDROSTATIC OR AIR TEST IS REQUIRED OF ALL SEWER LINES AND MANHOLES. TESTING SHALL BE IN ACCORDANCE WITH M.A.G. SECTIONS 610, 611, AND 615. CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE TO ARRANGE CONSTRUCTION OBSERVATION SERVICES OF TESTING.

CITY OF SCOTTSDALE GENERAL NOTES FOR PUBLIC WORKS CONSTRUCTION

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF SCOTTSDALE STANDARD SPECIFICATIONS AND SUPPLEMENTAL STANDARD DETAILS. IF THERE IS A CONFLICT, THE CITY'S SUPPLEMENTAL STANDARD DETAILS WILL GOVERN.
2. THE CITY ONLY APPROVES THE SCOPE, NOT THE DETAIL OF ENGINEERING DESIGNS; THEREFORE, IF CONSTRUCTION QUANTITIES ARE SHOWN ON THESE PLANS, THEY ARE NOT VERIFIED BY THE CITY.
3. THE APPROVAL OF PLANS IS VALID FOR SIX (6) MONTHS. IF ASSOCIATED PERMIT HAS NOT BEEN ISSUED WITHIN THIS TIME FRAME, THE PLANS MUST BE RESUBMITTED TO THE CITY FOR RE-APPROVAL.
4. A CITY INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF SCOTTSDALE. NOTIFY INSPECTION SERVICES 72 HOURS BEFORE BEGINNING WORK.
5. WHENEVER EXCAVATION IS NECESSARY, CALL THE BLUE STAKE CENTER, 811, TWO WORKING DAYS BEFORE EXCAVATION BEGINS.
6. PERMISSION TO WORK IN THE RIGHT-OF-WAY (PWR) PERMITS ARE REQUIRED FOR ALL WORKS WITHIN THE RIGHTS-OF-WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. COPIES OF ALL PERMITS MUST BE RETAINED ON-SITE AND BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS WILL RESULT IN IMMEDIATE SUSPENSION OF ALL WORK UNTIL THE PROPER PERMIT DOCUMENTATION IS OBTAINED.

CITY OF SCOTTSDALE GENERAL NOTES

1. MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION INCLUDING LATEST REVISION AND CURRENT SUPPLEMENTALS THEREOF PER THE LOCAL TOWN OR CITY) ARE INCORPORATED INTO THIS PLAN IN THEIR ENTIRETY.
2. ALL WORK REQUIRED TO COMPLETE THE CONSTRUCTION COVERED BY THIS PLAN SHALL BE IN ACCORDANCE WITH THE M.A.G. STANDARD SPECIFICATIONS AND DETAILS AND CURRENT SUPPLEMENTS THEREOF PER THE LOCAL CITY OR TOWN UNLESS SPECIFIED OTHERWISE IN THESE PLANS OR ELSEWHERE IN THE CONTRACT DOCUMENTS. CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH ALL REQUIRED STANDARD SPECIFICATIONS, DETAILS AND SUPPLEMENTS PRIOR TO BIDDING THE WORK FOR THE CONSTRUCTION COVERED BY THIS PLAN.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL METHODS, SEQUENCING, AND SAFETY CONCERNS ASSOCIATED WITH THIS PROJECT DURING CONSTRUCTION, UNLESS SPECIFICALLY ADDRESSED OTHERWISE IN THIS PLAN OR ELSEWHERE IN THE CONTRACT.
4. THE CONTRACTOR IS TO COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS APPLICABLE TO THE CONSTRUCTION COVERED BY THIS PLAN.
5. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ALL PERMITS REQUIRED TO COMPLETE ALL WORK COVERED BY THIS PLAN.
6. THE QUANTITIES AND SITE CONDITIONS DEPICTED IN THESE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE SUBJECT TO ERROR AND OMISSION. CONTRACTORS SHALL SATISFY THEMSELVES AS TO ACTUAL QUANTITIES AND SITE CONDITIONS PRIOR TO BIDDING THE WORK FOR THE CONSTRUCTION COVERED BY THIS PLAN.
7. A REASONABLE EFFORT HAS BEEN MADE TO SHOW THE LOCATIONS OF EXISTING UNDERGROUND FACILITIES AND UTILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND/OR FACILITIES CAUSED DURING THEIR CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL CALL 48 HOURS IN ADVANCE FOR BLUE STAKE (1-800-STAKE-IT) PRIOR TO ANY EXCAVATION.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION OF CONSTRUCTION AFFECTING UTILITIES AND THE COORDINATION OF ANY NECESSARY UTILITY RELOCATION WORK.
9. ALL PAVING, GRADING, EXCAVATION, TRENCHING, PIPE BEDDING, CUT FILL AND BACKFILL SHALL COMPLY WITH THE RECOMMENDATIONS SET FORTH IN THE SOILS (GEOTECHNICAL) REPORT FOR THIS PROJECT IN ADDITION TO THE REFERENCED REQUIRED SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL BE AWARE THAT CERTAIN UTILITIES REQUIRE PROPER ATTENTION AND CAREFUL PLANNING DURING SITE CONSTRUCTION. PLEASE NOTE THAT UTILITIES ON THESE PLANS MAY NOT EXHIBIT THE FULL PROTECTIVE COVER REQUIRED DURING THE SUBGRADE PREPARATION PHASE OF THE CONSTRUCTION. IN SUCH INSTANCES, THE CONTRACTOR SHALL PROVIDE ADDITIONAL PROTECTION (SUCH AS RAMPING) OR INCREASED PIPE STRENGTH TO PROVIDE THE NECESSARY PROTECTION REQUIRED TO PREVENT DAMAGE DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL HOLD THE ENGINEER HARMLESS IN ALL CASES FOR DAMAGES TO UTILITIES WHERE INADEQUATE PROTECTIVE MEASURES OCCUR.
10. THE CONTRACTOR IS TO VERIFY THE LOCATION AND THE ELEVATIONS OF ALL EXISTING UTILITIES AT POINTS OF TIE-IN PRIOR TO COMMENCING ANY NEW CONSTRUCTION. SHOULD ANY LOCATION OR ELEVATION DIFFER FROM THAT SHOWN ON THESE PLANS, THE CONTRACTOR SHALL CONTACT THE OWNER'S AGENT.
11. CONTRACTOR TO VERIFY AND COORDINATE ALL DIMENSIONS AND SITE LAYOUT WITH ARCHITECT'S FINAL SITE PLAN AND FINAL BUILDING DIMENSIONS BEFORE STARTING WORK. REPORT DISCREPANCIES TO OWNER'S AGENT.
12. COORDINATION BETWEEN ALL PARTIES IS ESSENTIAL PART OF CONTRACT.
13. CONTRACTOR IS RESPONSIBLE FOR PROJECT AND SITE CONDITIONS, AND TO WORK WITH WEATHER CONDITIONS AS THE PROJECT SITE MAY BE LOCATED IN A FLOOD PRONE AREA AND SUBJECT TO FLOODING AND ITS HAZARDS.
14. PAVEMENT CROSS-SLOPE OF ALL EXISTING SURFACES AT POINTS OF TIE-IN AND MATCHING, PRIOR TO COMMENCEMENT OF GRADING, PAVING, CURB AND GUTTER, OR OTHER SURFACE CONSTRUCTION. SHOULD EXISTING LOCATIONS, ELEVATIONS, CONDITION, OR PAVEMENT CROSS-SLOPE DIFFER FROM THAT SHOWN ON THESE PLANS, RESULTING IN THE DESIGN INTENT REFLECTED ON THESE PLANS NOT ABLE TO BE CONSTRUCTED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S AGENT IMMEDIATELY FOR DIRECTION ON HOW TO PROCEED PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR ACCEPTS RESPONSIBILITY FOR ALL COSTS ASSOCIATED WITH CORRECTIVE ACTION IF THESE PROCEDURES ARE NOT FOLLOWED.
15. CONTRACTOR IS RESPONSIBLE TO COORDINATE UTILITY CROSSINGS AT CULVERT CROSSINGS BEFORE STARTING WORK ON CULVERT. COORDINATE WITH OWNER REPRESENTATIVE. VERIFY UTILITY LINES AND/OR CONDUITS ARE IN PLACE BEFORE STARTING CULVERT WORK.
16. CONSTRUCT RETENTION BASIN AS SHOWN. CONTRACTOR TO SCARIFY BOTTOM OF BASIN TWO FEET DEEP AND NOT ALLOW COMPACTION OVER 80%.
17. THIS PROJECT REQUIRES A REGULAR ONGOING MAINTENANCE PROGRAM FOR THE DESIGNED DRAINAGE SYSTEM(S) TO PRESERVE THE DESIGN INTEGRITY AND THE ABILITY TO PERFORM ITS OPERATIONAL INTENT. FAILURE TO PROVIDE MAINTENANCE WILL JEOPARDIZE THE DRAINAGE SYSTEM(S)' PERFORMANCE AND MAY LEAD TO IT'S INABILITY TO PERFORM PROPERLY AND/OR CAUSE DAMAGE ELSEWHERE IN THE PROJECT.
18. SEWER LINES DESIGNED IN PROFILE AND PUBLIC WATER LINES ARE REQUIRED TO BE ASBUILT AND THE INSTALLATION AND TESTING WITNESSED BY A PROFESSIONAL ENGINEER IN ACCORDANCE WITH ARIZONA ADMINISTRATIVE CODES R18-9-E301 "4.01 GENERAL PERMIT: SEWAGE COLLECTIONS SYSTEMS" AND R18-5-507 AND 508 "APPROVAL OF CONSTRUCTION" AND "RECORD DRAWINGS", RESPECTIVELY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY OWNER 72 HOURS IN ADVANCE WHEN THOSE SYSTEMS ARE READY TO BE WITNESSED.
19. THE WORK PRODUCT PRESENTED IS BELIEVED TO BE COMPLIANT WITH THE INTENT OF THE CURRENT AMERICANS DISABILITIES ACT (ADA) REQUIREMENTS AS INTERPRETED BY THE REVIEWING AGENCY(S). IF CONSTRUCTION OF THE PROJECT IS DELAYED, THIS WORK PRODUCT SHOULD BE UPDATED TO ACCOUNT FOR ANY RELEVANT ADA UPDATES BEFORE CONSTRUCTION BEGINS.

CITY OF SCOTTSDALE GENERAL NOTES (CONT.)

20. LOWEST FLOOR (LF) REFERS TO EITHER FLOOR/SLAB ELEVATION OR TOP OF BASEMENT SLAB. LF ELEVATIONS ON THE GRADING AND DRAINAGE PLANS FOR RESIDENTIAL UNITS REFLECT SLAB ON GRADE CONDITIONS AND CANNOT BE LOWERED WITHOUT AGENCY APPROVAL IN LOCATIONS WHERE 'SPECIAL FLOOD HAZARD AREAS' EXIST. IN NON-FLOOD HAZARD LOCATIONS, TO ENSURE THAT ADEQUATE RESIDENTIAL LOT DRAINAGE CAN BE ACHIEVED, A PROFESSIONAL ENGINEER SHOULD BE CONSULTED IF THE LF FOR THE SLAB IS PROPOSED TO BE LOWERED, OR IF A BASEMENT IS TO BE CONSTRUCTED.

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NO.	REVISION	DATE

WATER PLANS

SCOTTSDALE ENTRADA
SCOTTSDALE, ARIZONA

Coe and Van Loo II L.L.C.

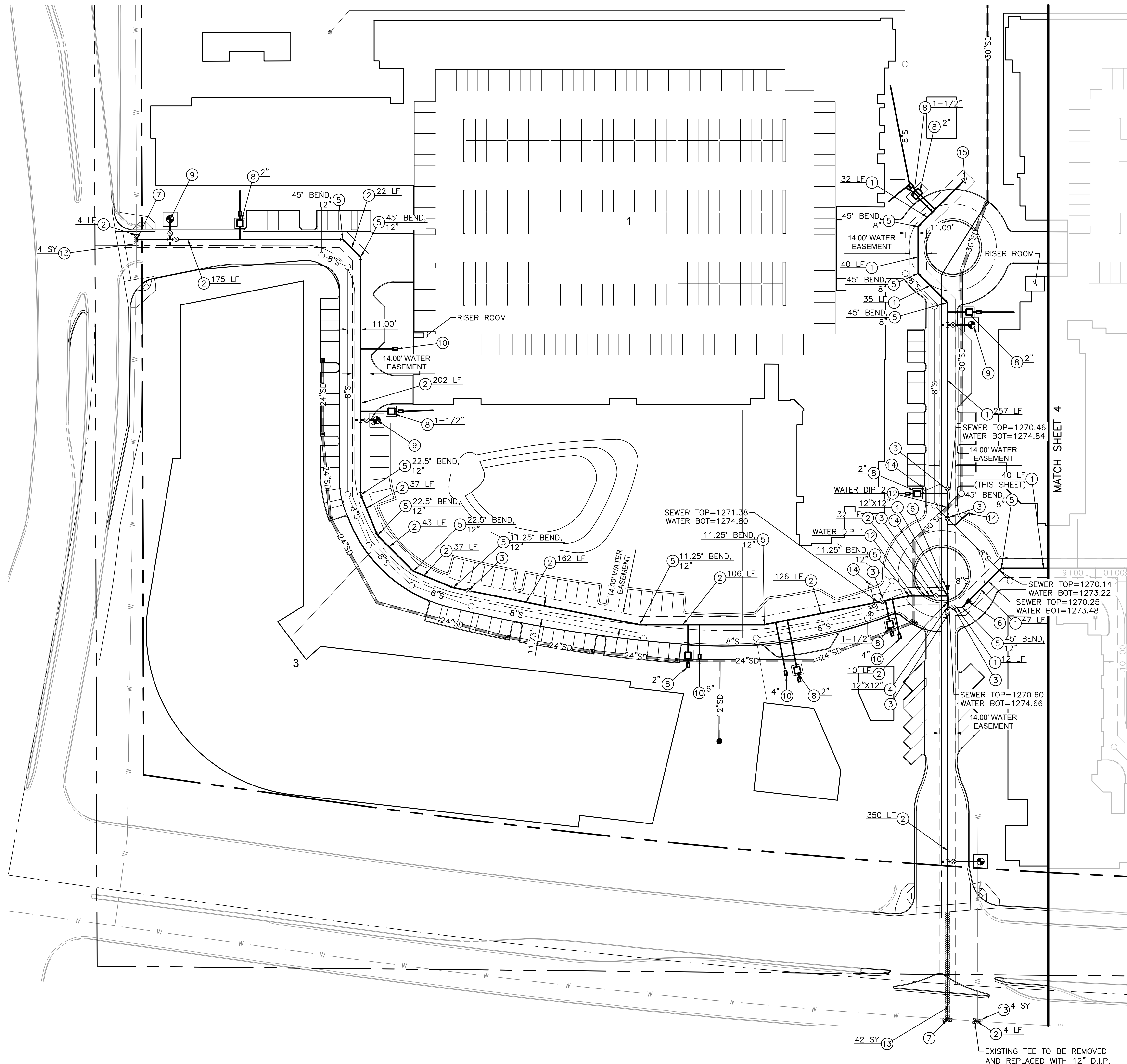
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PRELIMINARY

CVL Contact: HEIDI TILSON
CVL Project #: 1140254309



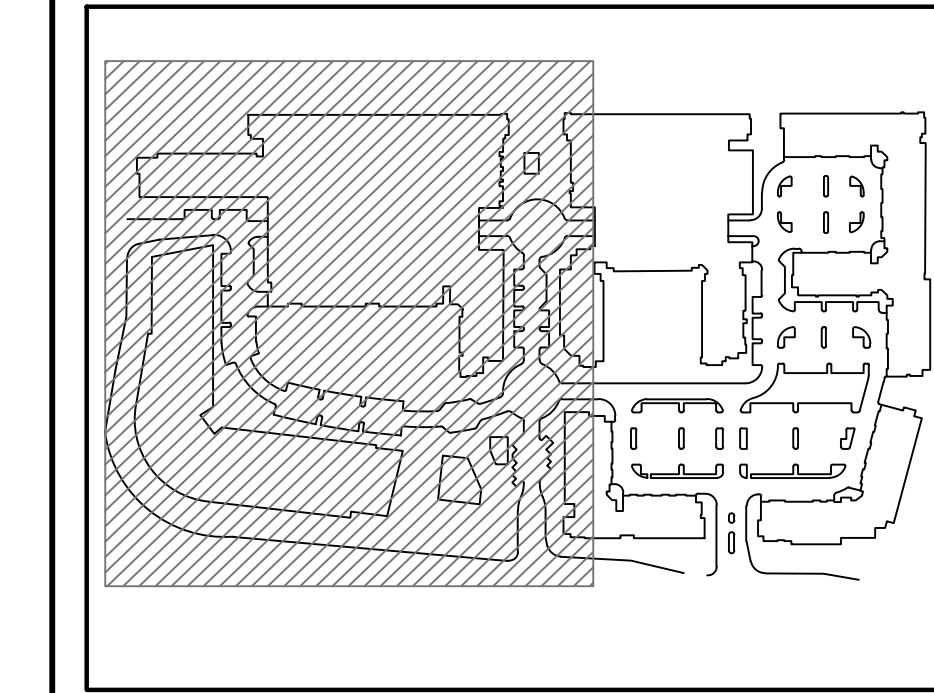
PROJECT NO. XXXXXX



WATER CONSTRUCTION NOTES:

- NOTE: ALL WATERLINE MATERIALS AND CONSTRUCTION SHALL CONFORM TO CITY OF SCOTTSDALE DESIGN STANDARDS & POLICIES MANUAL.
- 1 INSTALL 8" D.I.P. WATER MAIN, CLASS 350 WITH 36" MIN. COVER UNLESS OTHERWISE NOTED.
 - 2 INSTALL 12" D.I.P. WATER MAIN, CLASS 350 WITH 48" MIN. COVER UNLESS OTHERWISE NOTED.
 - 3 INSTALL GATE VALVE WITH BOX AND COVER PER M.A.G. STD. DET. 391-1, TYPE "A" SIZE OF VALVE PER PLAN.
 - 4 INSTALL TEE WITH RESTRAINED JOINTS PER M.A.G. STD. DET. 303-1 AND 303-2.
 - 5 INSTALL BEND WITH RESTRAINED JOINTS PER M.A.G. STD. DET. 303-1 AND 303-2 SIZE AND ANGLE OF BEND PER PLAN.
 - 6 INSTALL 12"x8" REDUCER.
 - 7 INSTALL 12"x12" TAPPING SLEEVE WITH 8" VALVE PER M.A.G. STD. DET. 340.
 - 8 ~~INSTALL DOMESTIC SERVICE CONNECTION & METER BOX PER C.O.S. STD. DET. 2330. WITH DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY PER STD. DET. 2352. WITH PRV. SIZE PER PLAN.~~
 - 9 INSTALL FIRE HYDRANT COMPLETE W/TEE AND GATE VALVE PER M.A.G. STD. DET. 360.
 - 10 INSTALL FIRE LINE WITH CONNECTION PER C.O.S. STD. DET. 2362-2 WITH DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY PER STD. DET. 2352. SIZE PER PLAN.
 - 11 REMOVE EXISTING CAP AND CONNECT TO EXISTING WATERLINE.
 - 12 VERTICAL DEFLECTION, SEE SHEET 5 FOR PROFILE.
 - 13 SAWCUT, REMOVE AND REPLACE EXISTING PAVEMENT.
 - 14 INSTALL AIR RELEASE VALVE PER C.O.S. STD. DET. 2348.
 - 15 INSTALL CURE STOP WITH FLUSHING PIPE PER MAG STD. DET. 390 TYPE 'B'.

must be tee and valve, replace segment of existing ACP pipe with mortar line and PE bagged DIP



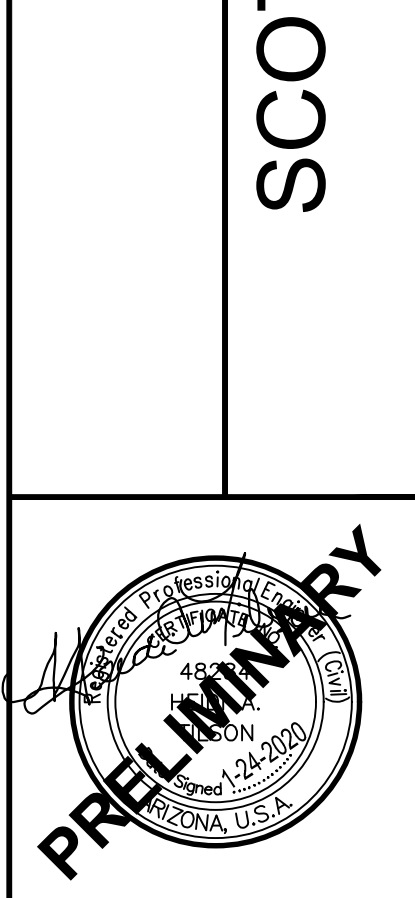
KEY MAP
N.T.S.

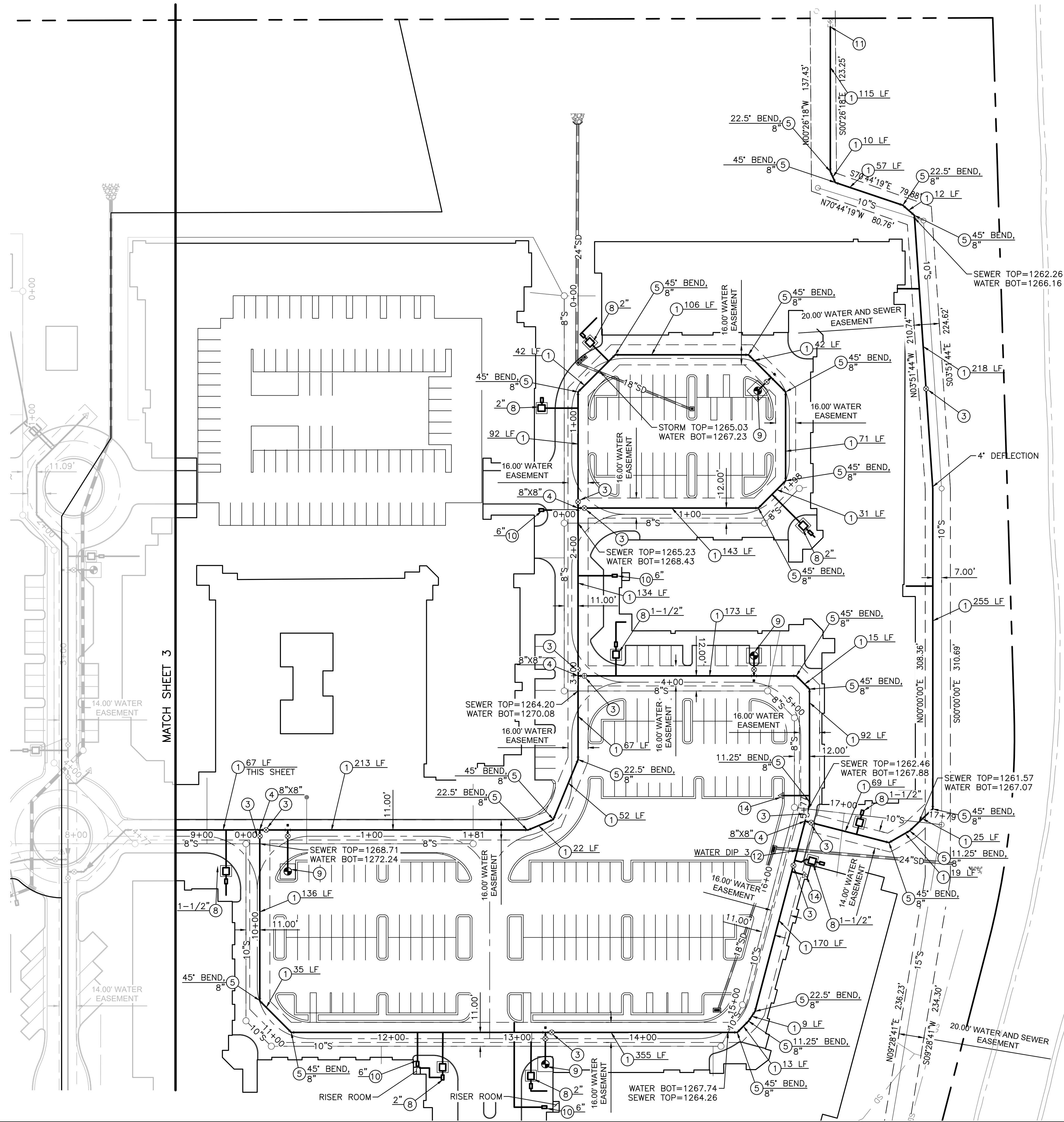
EXISTING TEE TO BE REMOVED AND REPLACED WITH 12" D.I.P.



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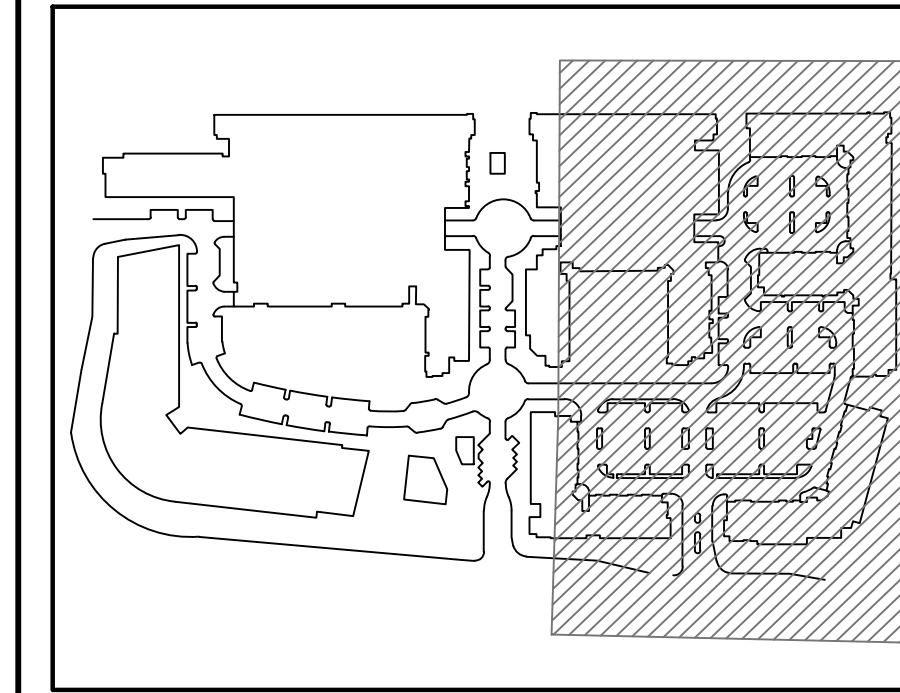
WATER PLANS
SCOTTSDALE ENTRADA
SCOTTSDALE, ARIZONA





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 - 6 INSTALL 12"x8" REDUCER.
 - 7 INSTALL 12"x12" TAPPING SLEEVE WITH 8" VALVE PER M.A.G. STD. DET. 340.
 - 8 INSTALL DOMESTIC SERVICE CONNECTION & METER BOX PER C.O.S. STD. DET. 2330. WITH DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY PER STD. DET. 2352. WITH PRV. SIZE PER PLAN.
 - 9 INSTALL FIRE HYDRANT COMPLETE W/TEE AND GATE VALVE PER M.A.G. STD. DET. 360.
 - 10 INSTALL FIRE LINE WITH CONNECTION PER C.O.S. STD. DET. 2362-2 WITH DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY PER STD. DET. 2352. SIZE PER PLAN.
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 - 12 VERTICAL DEFLECTION, SEE SHEET 5 FOR PROFILE.
 - 13 SAWCUT, REMOVE AND REPLACE EXISTING PAVEMENT.
 - 14 INSTALL AIR RELEASE VALVE PER C.O.S. STD. DET. 2348.
 - 15 INSTALL CURB STOP WITH FLUSHING PIPE PER MAG STD. DET. 390 TYPE 'B'.

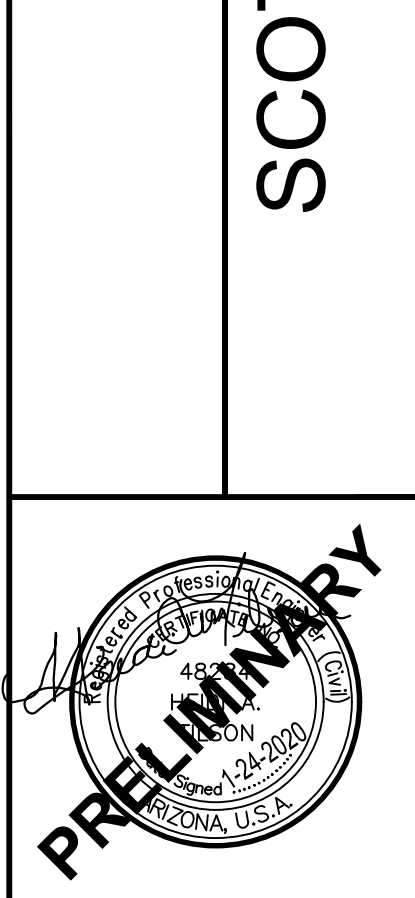


KEY MAP
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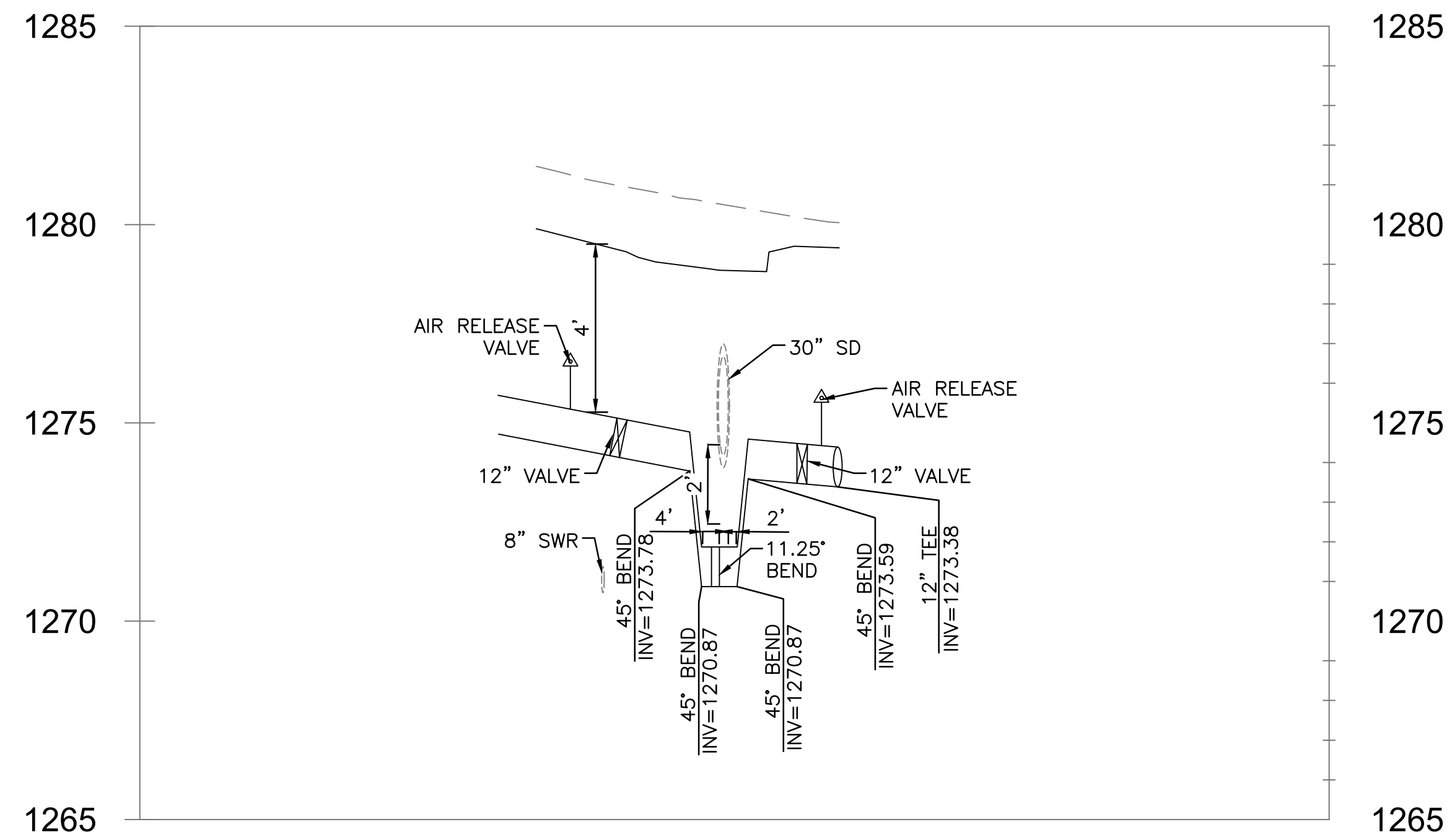


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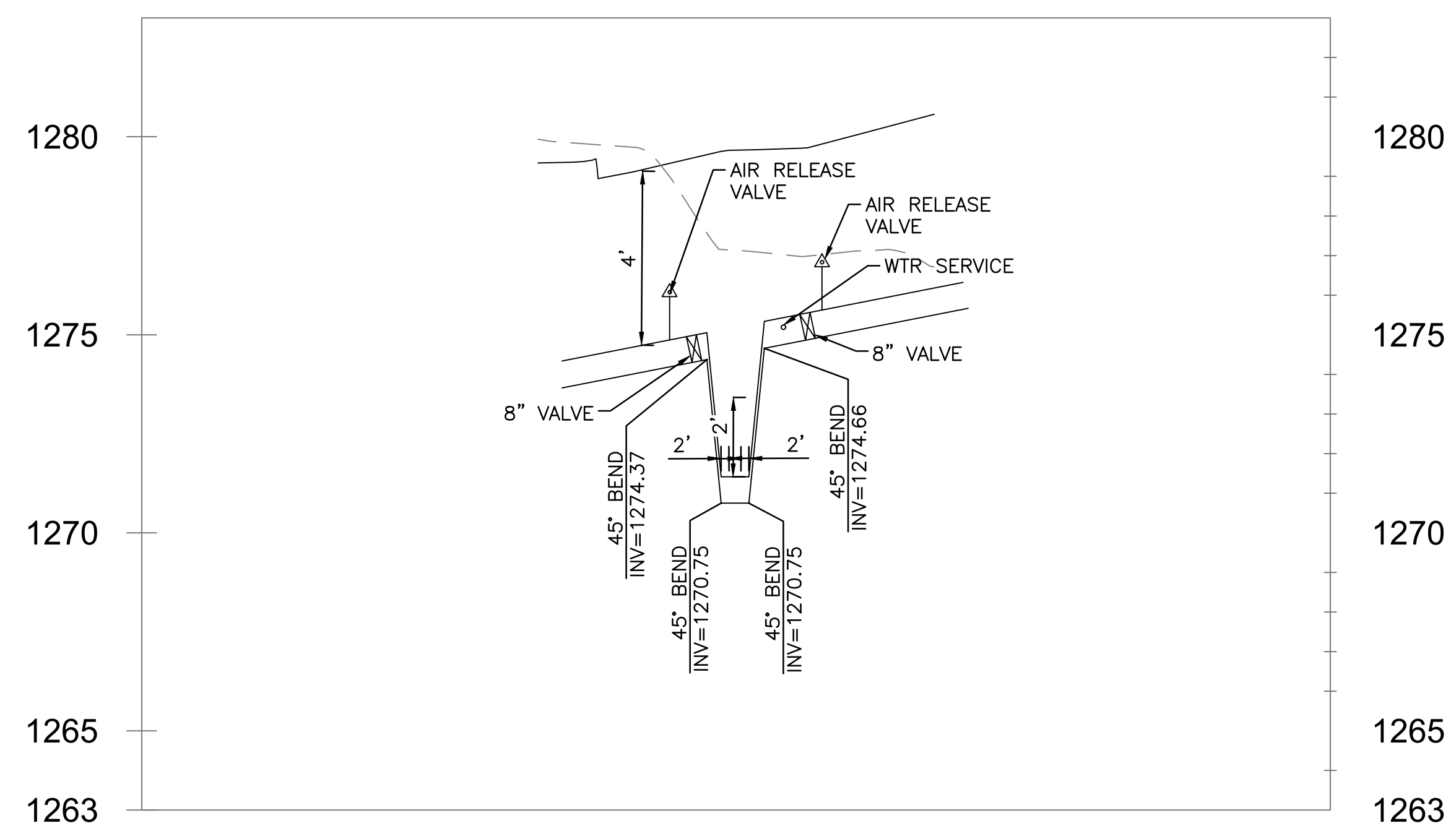
WATER PLANS
SCOTTSDALE ENTRADA
SCOTTSDALE, ARIZONA



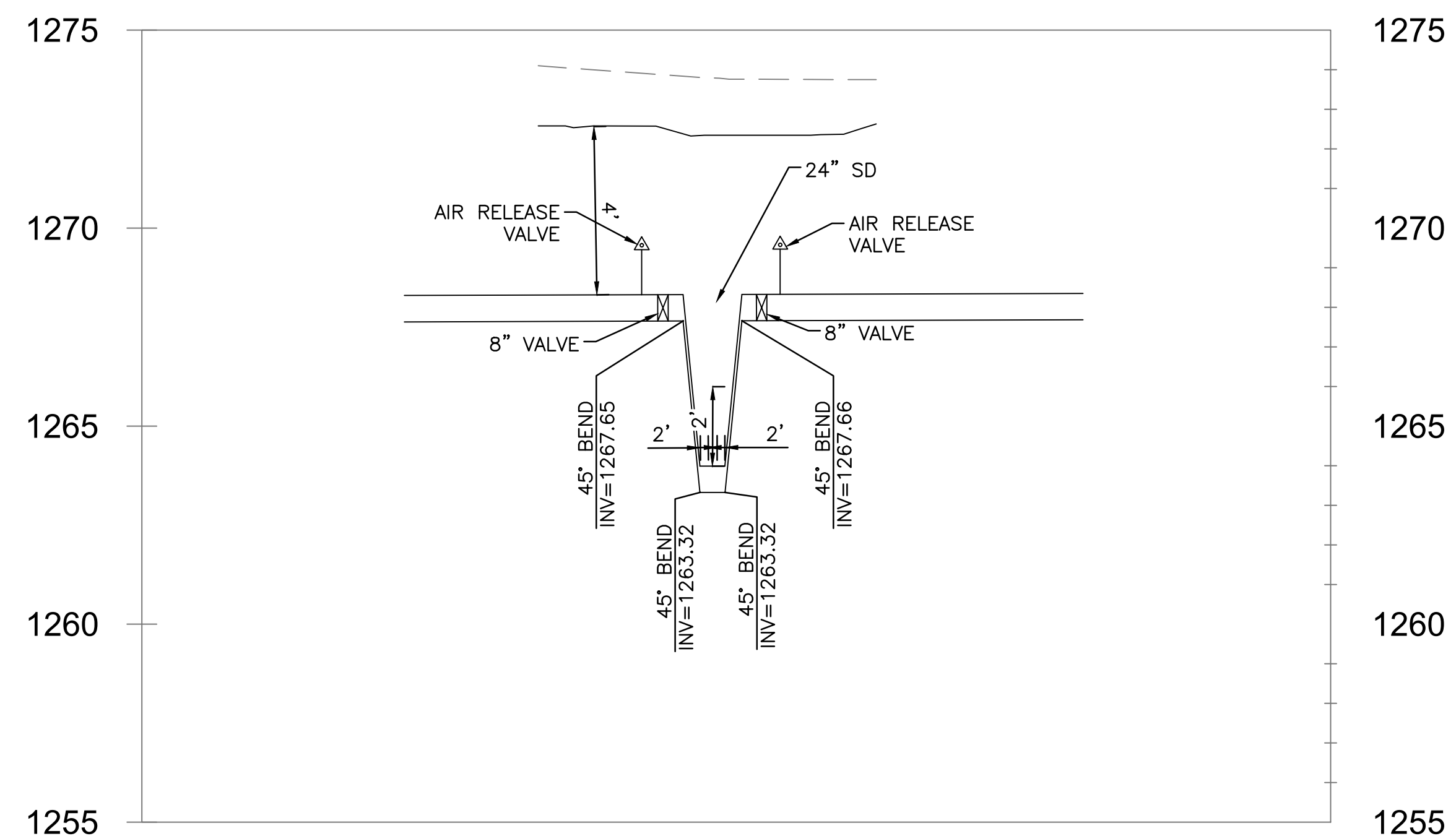
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CVL Contact: HEIDI TILSON
CVL Project #: 1140254309
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SHEET 03
 WATER DIP 1



SHEET 03
 WATER DIP 2

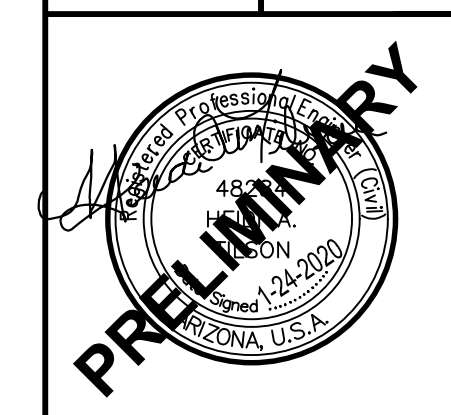


SHEET 04
 WATER DIP 3

NO.	REVISION	DATE

WATER PLANS

SCOTTSDALE ENTRADA
 SCOTTSDALE, ARIZONA



05 SHEET OF 05

CVL Contact: HEIDI TILSON
 CVL Project #: 1140254309

