

PRELIMINARY WATER AND SEWER MEMO

For

Meridian Art Lofts

3600 N. Bishop Lane
Scottsdale, Arizona 85251

Prepared For:

M3 Commercial Real Estate Development
Scottsdale, AZ 85251

PRELIMINARY Basis of Design Report <input checked="" type="checkbox"/> ACCEPTED <input type="checkbox"/> ACCEPTED AS NOTED <input type="checkbox"/> REVISE AND RESUBMIT	 9379 E San Salvador Dr. Scottsdale, AZ 85258
<small>Disclaimer: If accepted; the preliminary approval is granted under the condition that a final basis of design report will also be submitted for city review and approval (typically during the DR or PP case). The final report shall incorporate further water or sewer design and analysis requirements as defined in the city design standards and policy manual and address those items noted in the preliminary review comments (both separate and included herein). The final report shall be submitted and approved prior to the plan review submission. For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.</small>	
BY Idillon	DATE 11/8/2021

Prepared by:



Sustainability Engineering Group

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Project Number: 200416

Date: October 1, 2020

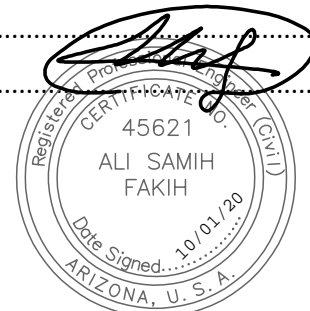
Case No.: TBD

Plan Check No.: TBD

Minor comments on utility plan.

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1. INTRODUCTION

1.1 SUMMARY OF PROPOSED DEVELOPMENT:

The proposed development consists of 16 new residential condominium units located on a 9,683 s.f. (0.22 ac) parcel of land located at the northwest corner of Bishop Lane and Goldwater Boulevard in Scottsdale, AZ. The purpose of this report is to quantify the water and sewer service requirements.

1.2 SITE and LEGAL DESCRIPTION:

The project property is in Section 27, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, with the following Assessor Parcel Numbers:

- Parcel 130-13-023C; PJE Investments LLC, Zoning C-3 DO

Refer to **FIGURE 1 - Vicinity Map** for the project's location with respect to major cross streets.

2. DESIGN DOCUMENTATION

2.1 DESIGN COMPLIANCE:

The water and sewer connections will be designed to meet criteria of the City of Scottsdale ("the City") Water Resources Department, the Arizona Department of Environmental Quality ("ADEQ"), and Maricopa County Environmental Services Department ("MCESD").

2.2 PROCEDURES, POLICIES AND METHODOLOGIES:

This building will only require service connections to the existing water and sewer systems. As such, water modeling and sewer flow monitoring are not proposed.

3. EXISTING CONDITIONS

3.1 ZONING & LAND USE:

The overall project parcel is zoned C-3. The site is presently cleared and void of vegetation. Refer to **FIGURE 2** for an aerial of the overall project existing conditions.

3.2 EXISTING CITY WATER AND SEWER:

Water: City of Scottsdale (QS 16-44)

- City mapping shows a 6" ACP water line in Bishop Lane.
- City mapping shows a 4" DIP water line in the alley adjacent to the west.
- The 4" and 6" water lines connect to an 8" ACP main running east-west in Goldwater Boulevard.
- A fire hydrant exists at the intersection of Goldwater Boulevard and Bishop Lane and another on the west side of Bishop Lane approximately 350 feet to the north.
- City maps indicate no existing water meters to the site.

Sewer: City of Scottsdale (QS 16-44)

- City mapping shows an existing 8" VCP sewer main approximately 6' east of the Bishop Lane centerline and an existing 8" sewer line (type unknown) in the alley to the west.
- City maps indicate one existing sewer service lines to the lot from the alley.

Refer to **FIGURE 3** for an excerpt of COS QS 16-44 showing water/sewer system locations.

3.4 CERTIFIED FLOW TEST RESULTS OF EXISTING WATER SYSTEM:

Certified fire hydrant flow testing was performed on September 28, 2020 by Arizona Flow Testing LLC at 7:00 a.m. The fire flow test recorded a static pressure of 81 psi and residual pressure of 68 psi at 1,682 gpm. The actual flow test documentation is included in the **APPENDIX II**.

4. PROPOSED CONDITIONS

✓ Correct, off of Bishop

4.1 WATER SYSTEM:

No new water mains are proposed. A metered service and fire line will be tapped off Bishop Lane.

The City's design standards govern the fire flow rates used for all buildings per Section 6-1.500 of the City of Scottsdale's Design Standards & Policies Manual ("DS&PM"), dated January 2018. The fire flow to be used is 1,500 gpm minimum for commercial properties, per Section 6-1.501 of the DS&PM (see Paragraph D below).

a. WATER DEMANDS:

The proposed development at the site consists of condominiums with common area and amenities. The associated DS+PM demands along with the peaking factors are shown in Table W1 below. A summary of the total water demands for the site are presented below in Table W2.

Table W1: COS DESIGN CRITERIA BY DEMAND TYPE

Land Use	Average Day Demand (gpm)	Max Day Peaking Factor	Peak Hour Factor
High-Density Condominium	0.27	2	3.5

Table W2: PROPOSED WATER DEMAND CALCULATIONS

Land Use	Units	ADD (gpm)	Avg. Day Demand (gpm)	Max. Day Demand (gpm)	Peak Hour (gpm)
High-Density Condominium	16	0.27	4.3	8.6	15.1

b. PRESSURE REQUIREMENTS:

The following system pressure requirements are in accordance with the City’s design standards:

- Average day, maximum day and peak hour flow demands:
 - Minimum pressure = 50 psig at the highest finished floor level to be served by the system pressure during normal daily operating conditions.
 - Maximum pressure = 120 psig
- Maximum day plus coincident fire flow demand:
 - Minimum pressure = 30 psig at the highest ceiling level to be served by the system during normal daily operating conditions.
 - Maximum pressure = 120 psig

c. FIRE FLOW DEMAND:

The proposed condominiums will be Type 5B construction type. The City of Scottsdale specifies a minimum fire flow of 1,500 gpm for multifamily and commercial buildings.

d. MAINTENANCE RESPONSIBILITIES:

The new water meter will be located within a water easement dedicated to the City of Scottsdale or existing R.O.W. Reduced pressure principle backflow devices will be installed adjacent to the meters and be maintained by the property owner.

4.2 SEWER SYSTEM:

No new sewer mains are proposed for this development. Existing sewer services will be either reused or removed per City requirements.

The City’s design standards govern the design flows used for all buildings per Section 7-1.403 of the City of Scottsdale’s Design Standards & Policies Manual (“DS&PM”), dated January 2018. The International Plumbing Code will govern service line hydraulics. New 6” sewer service lines will be designed to a minimum 0.01 ft/ft slope.

a. SEWER DEMANDS:

The proposed development at the site consists of residential apartment units including a retail and amenity facilities. The associated DS+PM demands along with the peaking factors are shown in Table S1 below. A summary of the total sewer demands for the site are presented below in Table S2.

Table S1: COS DESIGN CRITERIA BY DEMAND TYPE

Land Use	Average Day Demand (gpd)	Peaking Factor
High-Density Condominium	140.0	4.5

Table S2: PROPOSED SEWER WATER DEMAND CALCULATIONS				
Land Use	Units	ADD (gpd)	Avg. Day Demand (gpm)	Peak Demand (gpm)
High-Density Condominium	16	140.0	1.6	7.2

b. MAINTENANCE RESPONSIBILITIES:

The new sewer service lines required will be private, owned, operated and maintained by the property owner.

c. OFFSITE SEWER ANALYSIS:

Analysis for the existing 8" sewer lines along the alley and Goldwater Boulevard will be presented in the subsequent submittal. Surveyed invert information will be obtained, and sewer monitoring will be performed, if necessary, to verify capacity of the existing system in respect to additional flows calculated above.

5. SUMMARY

5.1 SUMMARY OF PROPOSED WATER IMPROVEMENTS:

- The existing offsite water lines are sufficient to provide water and fire service to the site.
- The existing offsite sewer lines will be analyzed in subsequent submittal to verify adequate conveyance of proposed sewer peak flow impact to the existing system.

5.2 PROJECT SCHEDULE:

The service connections, buildings and related site improvements are proposed to be constructed in a single phase.

6 SUPPORTING MAPS

6.1 PRELIMINARY UTILITY EXHIBIT

Refer to Preliminary Utility Exhibit in **APPENDIX I**.

7 REFERENCES

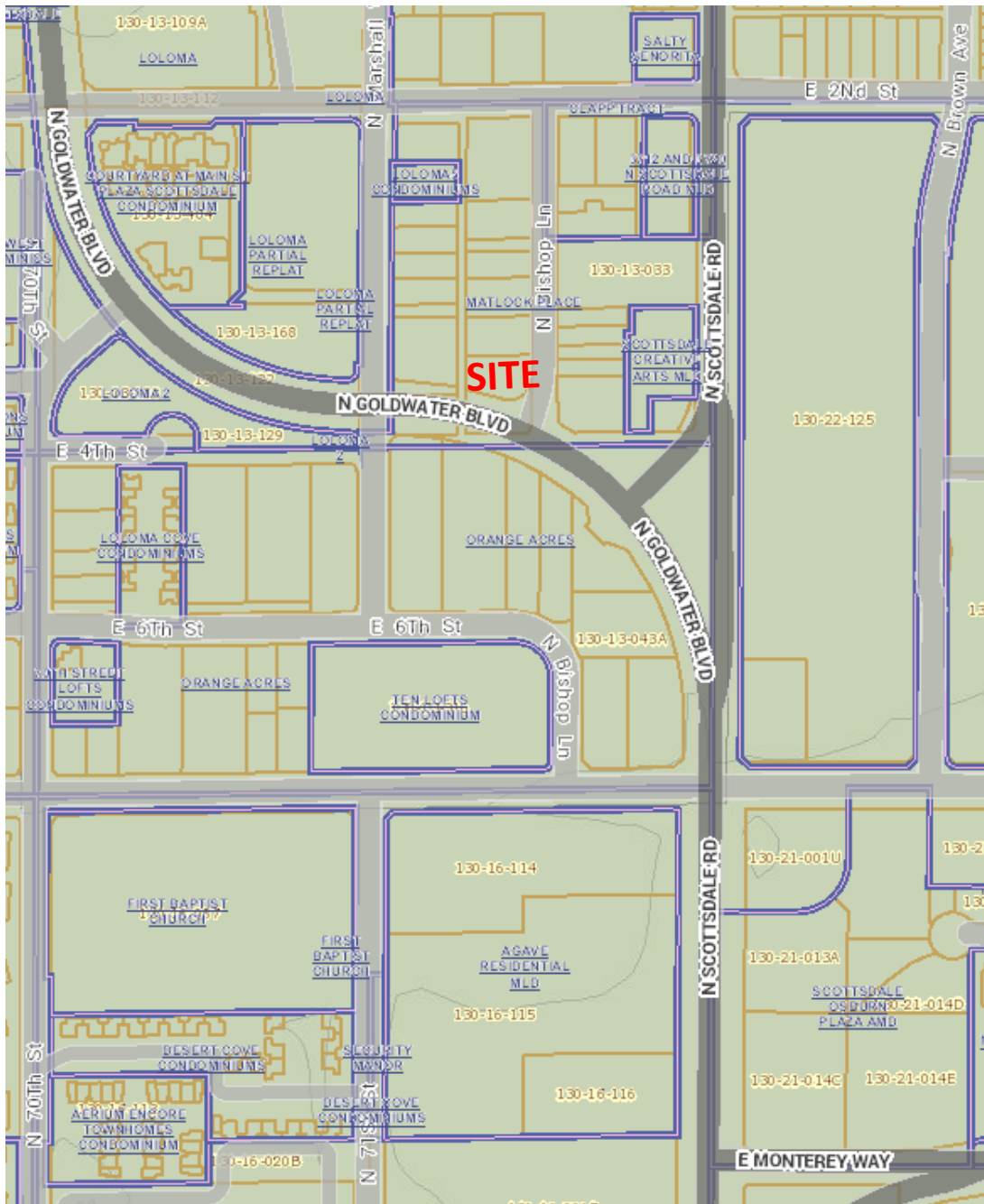
1. *COS QS Water Plan number 16-44*
2. *City of Scottsdale Design Standards & Policies Manual, 2018 (Chapter 6 – Water and Chapter 7- Wastewater)*

FIGURES

FIGURE 1 - Vicinity Map

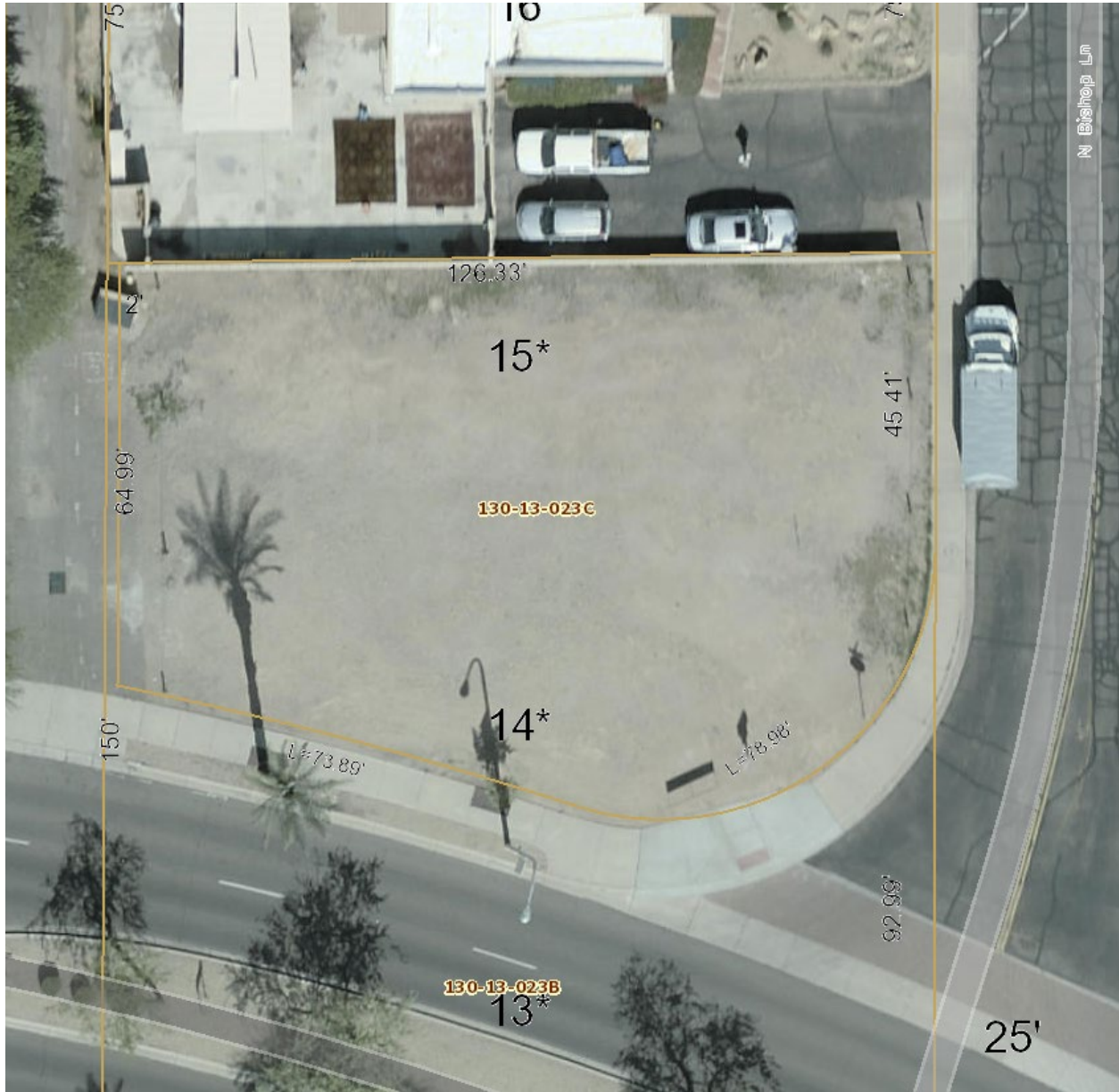
FIGURE 2 - Aerial

FIGURE 3 - Water Quarter Section Map

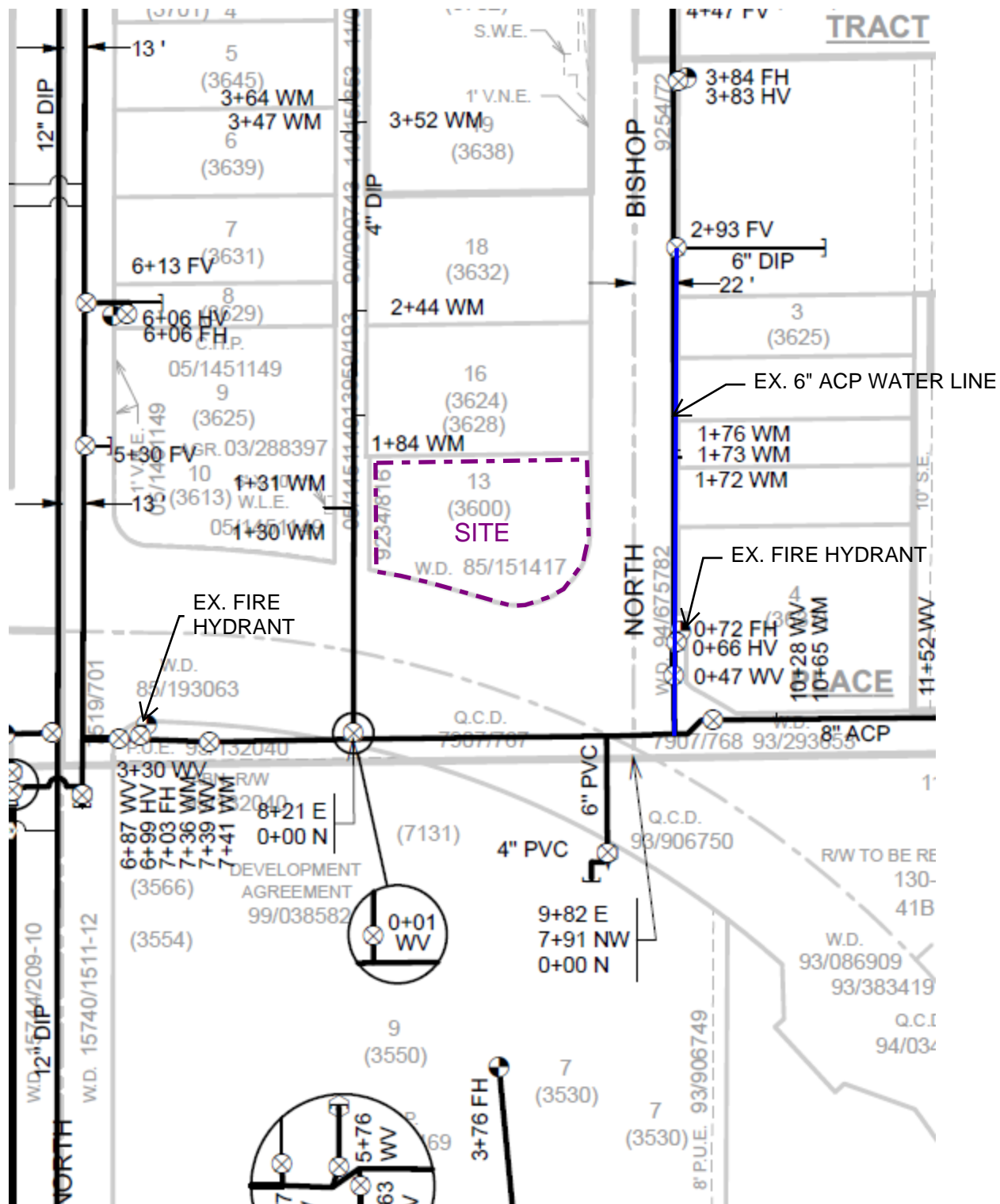


**FIGURE 1 –
Vicinity Map**

8280 E. Gelding Dr., Suite 101
Scottsdale, AZ 85260

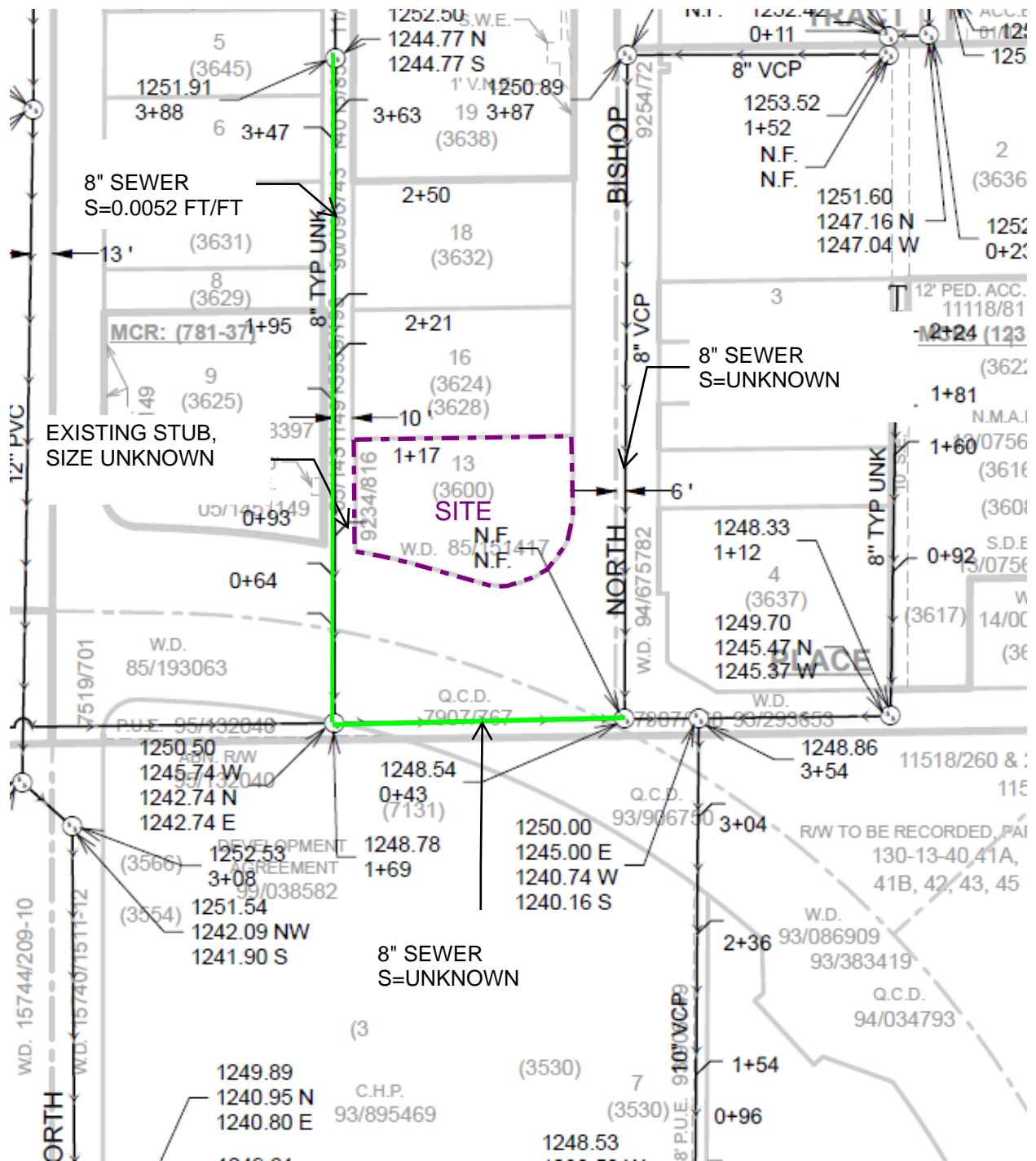


**FIGURE 2
SITE AERIAL**



**FIGURE 3 - COS Q-S
16-44 Excerpts
WATER**

8280 E. Gelding Dr., Suite 101
Scottsdale, AZ 85260



**FIGURE 3 - COS Q-S
16-44 Excerpts
SANITARY SEWER**

APPENDICIES

I. Preliminary Utility Exhibit

II. Fire Hydrant Flow Test

PROJECT DESCRIPTION

NEW 4-STORY RESIDENTIAL BUILDING WITH 16 UNITS, GROUND PARKING AND AMENITY AREAS.

LEGAL DESCRIPTION

A PORTION OF THE NORTHEAST QUARTER OF SECTION 27, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.

BENCHMARK:

BENCHMARK IS GDACS POINT NO. 24592-1: BRASS CAP IN HANDHOLE AT THE INTERSECTION OF OSBORN ROAD AND SCOTTSDALE ROAD
ELEVATION = 1246.674 (NAVD88)

PARCEL INFORMATION:

APN: 130-13-023C
ZONING: C-3 DO
LOT SIZE: 0.22 ACRES (9,683 SF) NET AREA
0.49 ACRES (21,303 SF) GROSS AREA
FLOOD ZONE: ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AND THEREFORE IS NOT IN A SPECIAL HAZARD ZONE)

MERIDIAN ART LOFTS

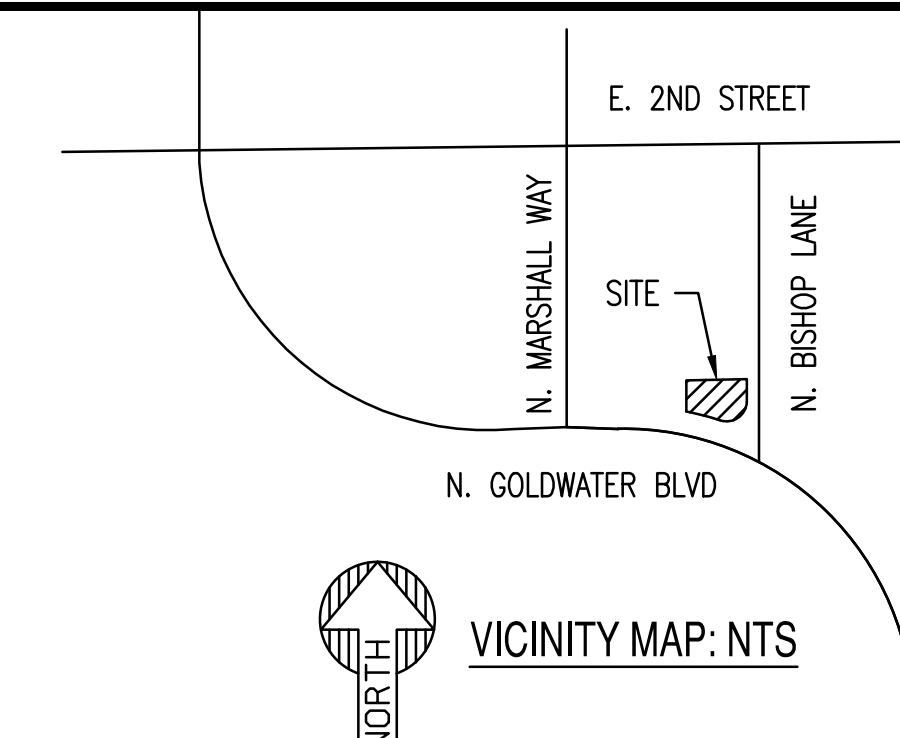
3600 N. BISHOP LANE
SCOTTSDALE, AZ 85251
PRELIMINARY UTILITY EXHIBIT

ARCHITECT:
CHEN+SUCHART STUDIO
7070 EAST 3RD AVENUE
SCOTTSDALE, AZ 85251
PHONE: 480-332-1704

CIVIL ENGINEER:
SUSTAINABILITY ENGINEERING GROUP
8280 E. GELDING DR., SUITE 101
SCOTTSDALE, AZ 85260
PHONE 480-237-2507
ATTN: ALI FAKIH
ALIAZSEG.COM

OWNER:
PUE INVESTMENTS LLC
PO BOX 2055
EUGENE, OR 97402

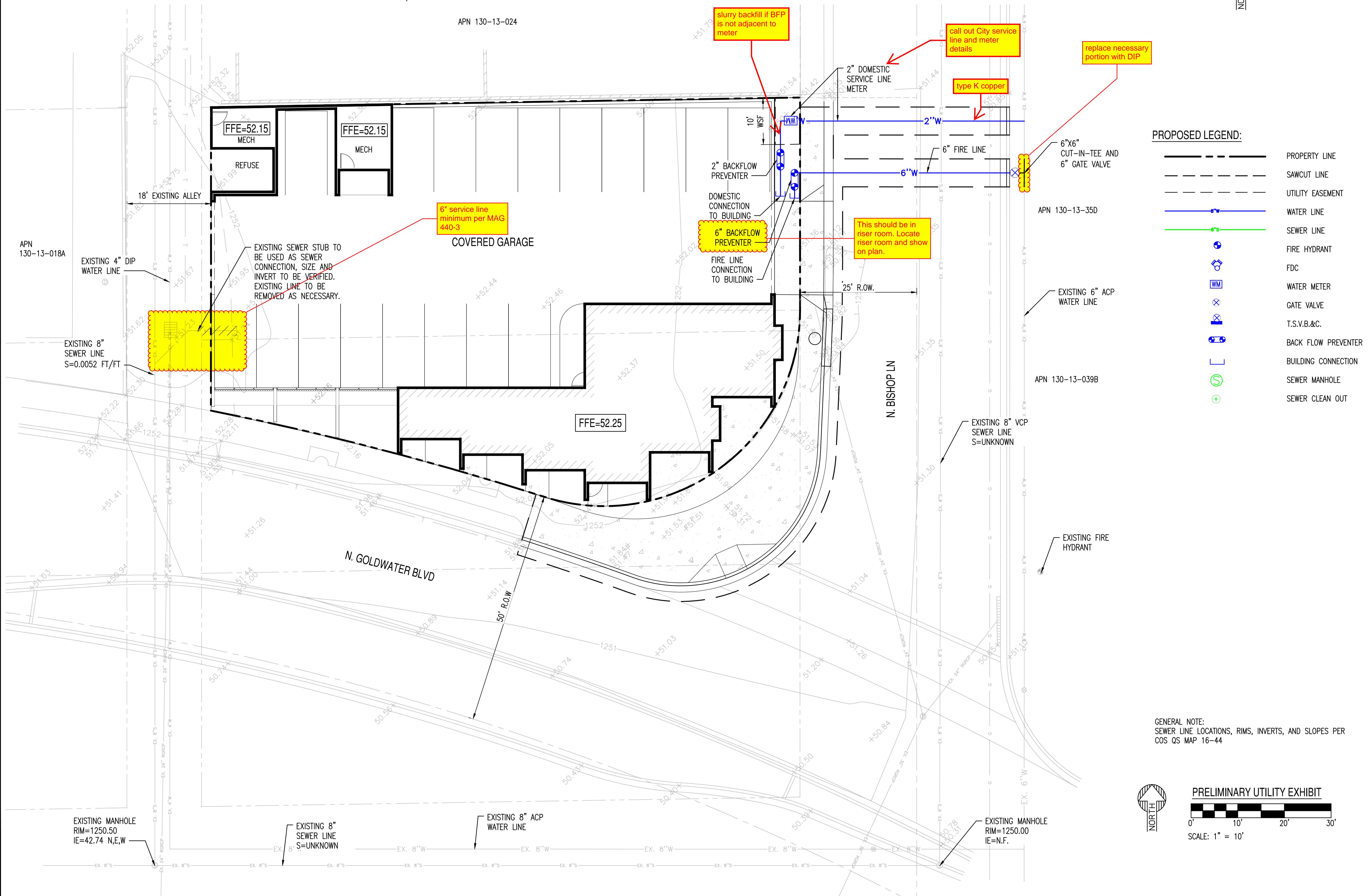
DEVELOPER:
M3 COMMERCIAL REAL ESTATE DEVELOPMENT
ATTN: PETER DANIEL
PETER@M3DEVELOPMENT.COM



PRELIMINARY
NOT FOR
CONSTRUCTION



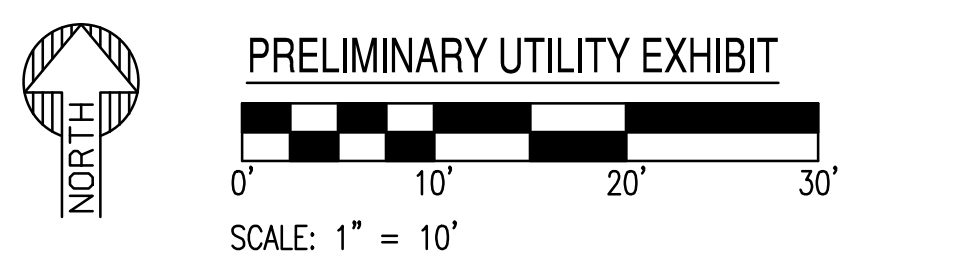
8280 E. GELDING DRIVE SUITE 101, SCOTTSDALE, ARIZONA 85260
WWW.AZSEG.COM TEL: 480.586.7226 FAX: 480.259.3534



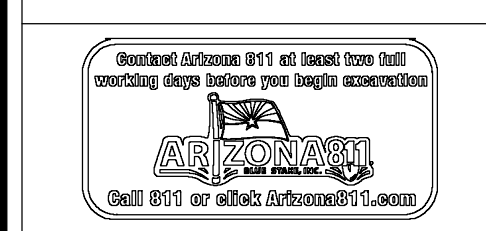
PROPOSED LEGEND:

	PROPERTY LINE
	SAWCUT LINE
	UTILITY EASEMENT
	WATER LINE
	SEWER LINE
	FIRE HYDRANT
	FDC
	WATER METER
	GATE VALVE
	T.S.V.B.&C.
	BACK FLOW PREVENTER
	BUILDING CONNECTION
	SEWER MANHOLE
	SEWER CLEAN OUT

GENERAL NOTE:
SEWER LINE LOCATIONS, RIMS, INVERTS, AND SLOPES PER COS QS MAP 16-44



LOCATION: Z:\PROJECTS\M3 COMMERCIAL REAL ESTATE DEVELOPMENT\BISHOP APARTMENTS-SCOTTSDALE-200416\11 CAD (SEG)\11.2 ENTITLEMENT-PLANNING\200416- PRELIMINARY UTILITY EXHIBIT.DWG SAVED BY: KENYA AVINA DATE: 10/1/2020



PROJECT	MERIDIAN ART LOFTS	LOCATION	3600 N. BISHOP LANE SCOTTSDALE, AZ 85251
DRAWN	KA	10/01/2020	
DESIGNED	KA	10/01/2020	
QC	SC	09/30/2020	
QA	AF	10/01/2020	
PROJ. MGR.	AF		
DATE:	9/23/2020		
ISSUED FOR:	REZONING		

REVISION NO.:	DATE:
JOB NO.:	200416
SHEET TITLE:	PRELIMINARY UTILITY EXHIBIT
PAGE NO.:	1 OF 1
SHEET NO.:	C4.00

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Arizona Flow Testing LLC

HYDRANT FLOW TEST REPORT

Project Name:	Bishop Apartments
Project Address:	3600 North Bishop Lane, Scottsdale, Arizona, 85251
Client Project No.:	Not Provided
Arizona Flow Testing Project No.:	20382
Flow Test Permit No.:	C63261
Date and time flow test conducted:	September 28, 2020 at 7:00 AM
Data is current and reliable until:	March 28, 2021
Conducted by:	Floyd Vaughan– Arizona Flow Testing, LLC (480-250-8154)
Coordinated by:	Ray Padilla –City of Scottsdale-Inspector (602-541-0586)

Raw Test Data

Static Pressure: **81.0 PSI**
(Measured in pounds per square inch)

Residual Pressure: **68.0 PSI**
(Measured in pounds per square inch)

Pitot Pressure: **20.0 PSI**
(Measured in pounds per square inch)

Diffuser Orifice Diameter: One 4-inch Hose Monster
(Measured in inches)

Coefficient of Diffuser 0.7875

Flowing GPM: **1,682 GPM**
(Measured in gallons per minute)

GPM @ 20 PSI: **3,875 GPM**

Data with 9 PSI Safety Factor

Static Pressure: **72.0 PSI**
(Measured in pounds per square inch)

Residual Pressure: **59.0 PSI**
(Measured in pounds per square inch)

Distance between hydrants: Approx.: 280-Feet

Main size: Not Provided

Flowing GPM: **1,682 GPM**

GPM @ 20 PSI: **3,555 GPM**

Scottsdale requires a maximum Static Pressure of 72 PSI for AFES Design.

Flow Test Location

