

WATER AND SEWER MEMO
FOR

Shoeman Lane Scottsdale

SEC of E. Shoeman Ln. and N. Wells Fargo Ave.

Prepared For:

Stockdale Partners

6824 E. Indian School Road,
Scottsdale, AZ 85251
and



Prepared by:



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Project Number: 200922

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Case No.: TBD

Plan Check No.: TBD



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1. INTRODUCTION

1.1 SUMMARY OF PROPOSED DEVELOPMENT:

The proposed development consists a new two-story commercial/retail building located within Scottsdale's Entertainment District at 7333 E. Shoeman Lane in Scottsdale, Arizona. The proposed building area is 9,491 square feet. The maximum height is anticipated to remain at 35 feet. The purpose of this report is to analyze water and sewer service requirements.

1.2 SITE and LEGAL DESCRIPTION:

The project property consists of three parcels of land totaling 6,517 square feet bounded by Shoeman Lane to the north and Wells Fargo Avenue to the west, an existing commercial building to the east and an alley to the south. It is a portion of Section 23, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, with the following Assessor Parcel Numbers:

- Parcel 173-41-136; Equity Partners Group LLC, Zoning C-2
- Parcel 173-41-137; Equity Partners Group LLC, Zoning C-2
- Parcel 173-41-138; Equity Partners Group LLC, Zoning C-2

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 proposed water connections are 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-2 DO (Downtown Overlay). The site is presently occupied by three single-story structures including Gus's New York Pizza, Buntz G's Tacos and Salon Nichole Mendenhall.

3.2 EXISTING TOPOGRAPHY, VEGETATION AND LANDFORM FEATURES:

The site is void of vegetation except for a tree at the Wells Fargo alley entrance south of the lots. The topography is relatively flat with a slight grade to the southeast. Refer to **FIGURE 2** for an aerial of the overall project existing conditions.

3.3 EXISTING CITY WATER AND SEWER:

Water: City of Scottsdale (QS 17-45)

- City mapping shows existing water mains fronting the site along E. Shoeman Lane and Wells Fargo Avenue. No pipe sizes or materials are indicated but it is likely they are 6".
- Fire hydrants exist at the SWC of E. Shoeman Lane with Wells Fargo Avenue and the SEC of N. Saddlebag Trail and E. Shoemann Lane.
- City maps indicate two existing water meters to the site along E. Shoeman Lane.

Sewer: City of Scottsdale (QS 17-45)

- City mapping shows existing sewer mains fronting the site along E. Shoeman Lane, Wells Fargo Avenue and the alley south of the lots. No pipe sizes or materials are shown but it is likely they are 8".
- City maps do not indicate the location of existing sewer service lines to the lots.

Refer to **FIGURE 3** for an excerpt of COS QS 17-45 showing water/sewer system locations.

3.4 CERTIFIED FLOW TEST RESULTS OF EXISTING WATER SYSTEM:

Certified fire hydrant flow testing was performed on April 13, 2020 by Arizona Flow Testing LLC at 7:05 a.m. The fire flow test recorded a static pressure of 102.0 psi and residual pressure of 84.0 psi at 2,614 gpm. The actual flow test documentation is included in the **APPENDIX I**.

4. PROPOSED CONDITIONS

4.1 SITE PLAN:

The property is proposed to be re-developed with a new two-story 9,491 s.f. commercial office building. Development will include six on-site parking spaces and 4.6 off-site parking spaces per a remote parking agreement and related site improvements.

4.2 WATER SYSTEM:

No new water mains are proposed. Any new metered services and/or fire lines will be tapped off E. Shoeman Lane. Existing meters will be either removed per City requirements or reused for the project. Any requested development fee credit will be initiated with the improvement plans submittal.

a. WATER REQUIREMENTS:

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).

b. WATER DEMANDS:

Table W1: COS DESIGN CRITERIA BY DEMAND TYPE

Land Use	Average Day Demand (gpm per sq. ft.)	Max Day Peaking Factor	Peak Hour Factor
Commercial / Retail	1.11E-03	2	3.5
Restaurant	1.81E-03	2	3.5

Table W2: EXISTING WATER DEMAND CALCULATIONS

	Units or Area (sq. ft.)	ADD (gpm per sq. ft.)	Avg. Day Demand (gpm)	Max. Day Demand (gpm)	Peak Hour (gpm)
Commercial/Retail	2,044	1.11E-03	2.3	4.5	7.9
Restaurant	1,224	1.81E-03	2.2	4.4	7.8
TOTAL DEMANDS (gpm):			4.5	8.9	15.7

Table W3: PROPOSED WATER DEMAND CALCULATIONS

	Units or Area (sq. ft.)	ADD (gpm per sq. ft.)	Avg. Day Demand (gpm)	Max. Day Demand (gpm)	Peak Hour (gpm)
Commercial/Retail	9,491	1.11E-03	10.5	21.1	36.9
TOTAL DEMANDS (gpm):			10.5	21.1	36.9

c. 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

d. FIRE FLOW DEMAND:

The proposed 9,491 s.f. building proposed a 5B construction type. Per Appendix B in the 2018 *International Fire Code* the required fire flow is 2,750 gpm. Using the allowable 75% reduction for

automated fire sprinkler system result in a fire flow demand of 687.5 gpm. The City of Scottsdale specifies a minimum fire flow of 1,500 gpm for commercial buildings.

e. WATER SYSTEM ANALYSIS:

The proposed development will increase the existing system demand by 6.0 gpm during average day and 21.2 gpm during peak hour. The fire demand will remain at 1,500 gpm. The existing water system can provide domestic and fire service to this proposed development.

f. MAINTENANCE RESPONSIBILITIES:

Any new water meters will be located within water easements 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.

4.3 SEWER SYSTEM:

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

a. SEWER 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. Any new 6" sewer service lines will be designed to a minimum 0.01 ft/ft slope.

b. SEWER DEMANDS:

Table S1: COS DESIGN CRITERIA BY DEMAND TYPE

Land Use	Average Day Demand (gpd per sq. ft.)	Peaking Factor
Commercial/Retail	0.5	3
Restaurant	1.2	6

Table S2: EXISTING SEWER WATER DEMAND CALCULATIONS

	Units or Area (sq. ft.)	ADD (gpd per sq. ft.)	Avg. Day Demand (gpm)	Peak Demand (gpm)
Restaurant				
Commercial/Retail	2044	0.5	0.7	2.1
Restaurant	1,224	1.2	1.0	6.1
TOTAL DEMANDS (gpm):			1.7	6.1

Table S3: PROPOSED SEWER WATER DEMAND CALCULATIONS

	Units or Area (sq. ft.)	ADD (gpd per sq. ft.)	Avg. Day Demand (gpm)	Peak Demand (gpm)
Commercial/Retail	9,491	0.5	3.3	9.9
TOTAL DEMANDS (gpm):			3.3	9.9

c. SEWER SYSTEM ANALYSIS:

The proposed development will increase the existing system demand by 1.6 gpm during average day and 3.8 gpm during peak demand. The existing sewer system can provide sewer service to this proposed development.

d. MAINTENANCE RESPONSIBILITIES:

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

5. SUMMARY

5.1 SUMMARY OF PROPOSED WATER IMPROVEMENTS:

- The existing offsite water lines are to remain in place.
- Any needed water or sewer service lines will be provided and detailed with the improvement plans submittal.

5.2 PROJECT SCHEDULE:

As a commercial development, the service connections, buildings and related site improvements are proposed to be constructed in a single phase.

6 SUPPORTING MAPS

6.1 SITE UTILITY PLAN

Refer to Site Plan in **APPENDIX II**.

7 REFERENCES

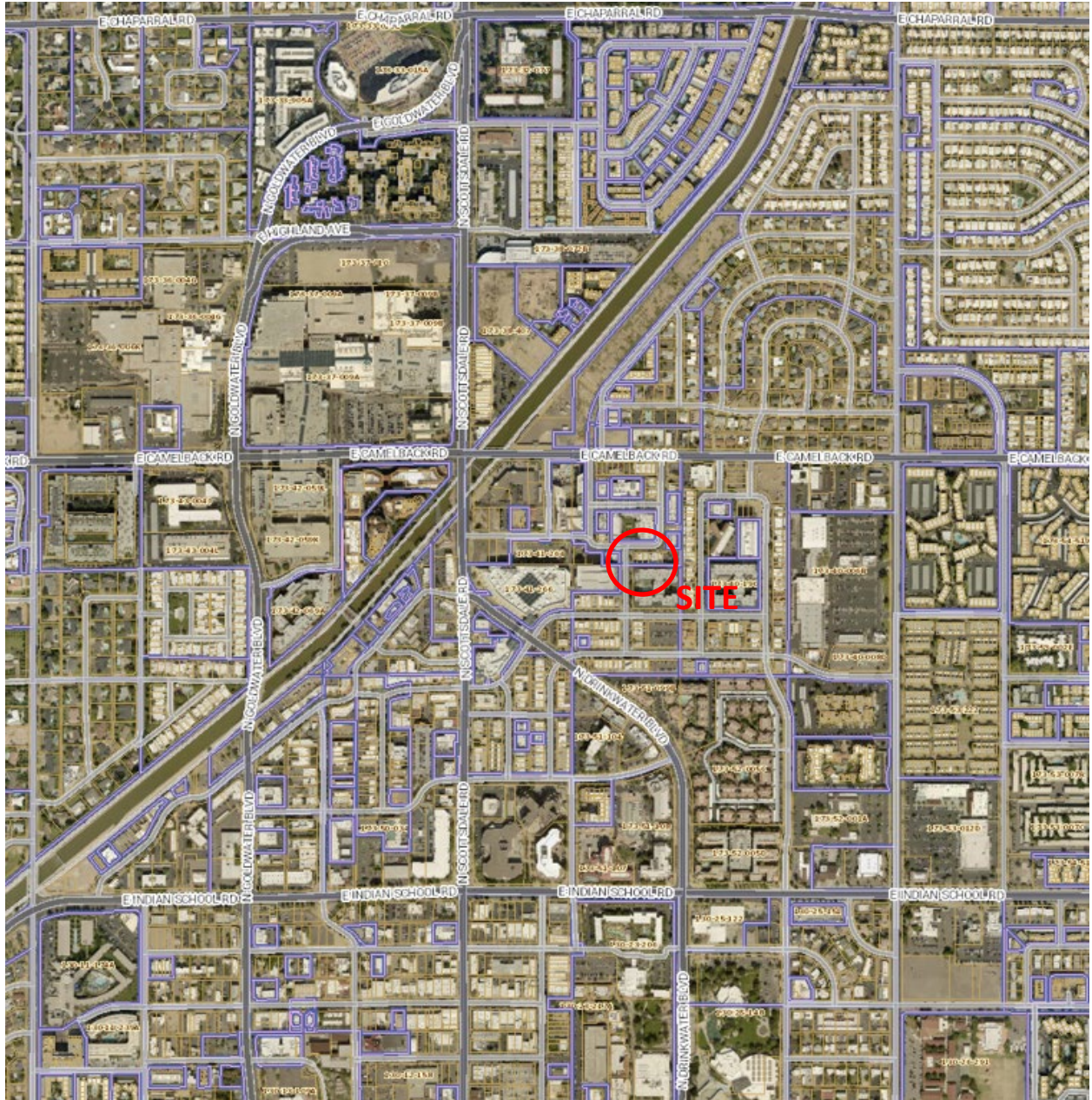
1. COS QS Water Plan number 17-45
2. City of Scottsdale Design Standards & Policies Manual, 2018 (Chapter 6 – Water and Chapter 7- Wastewater)

FIGURES

FIGURE 1 - *Vicinity Map*

FIGURE 2 - *Aerial*

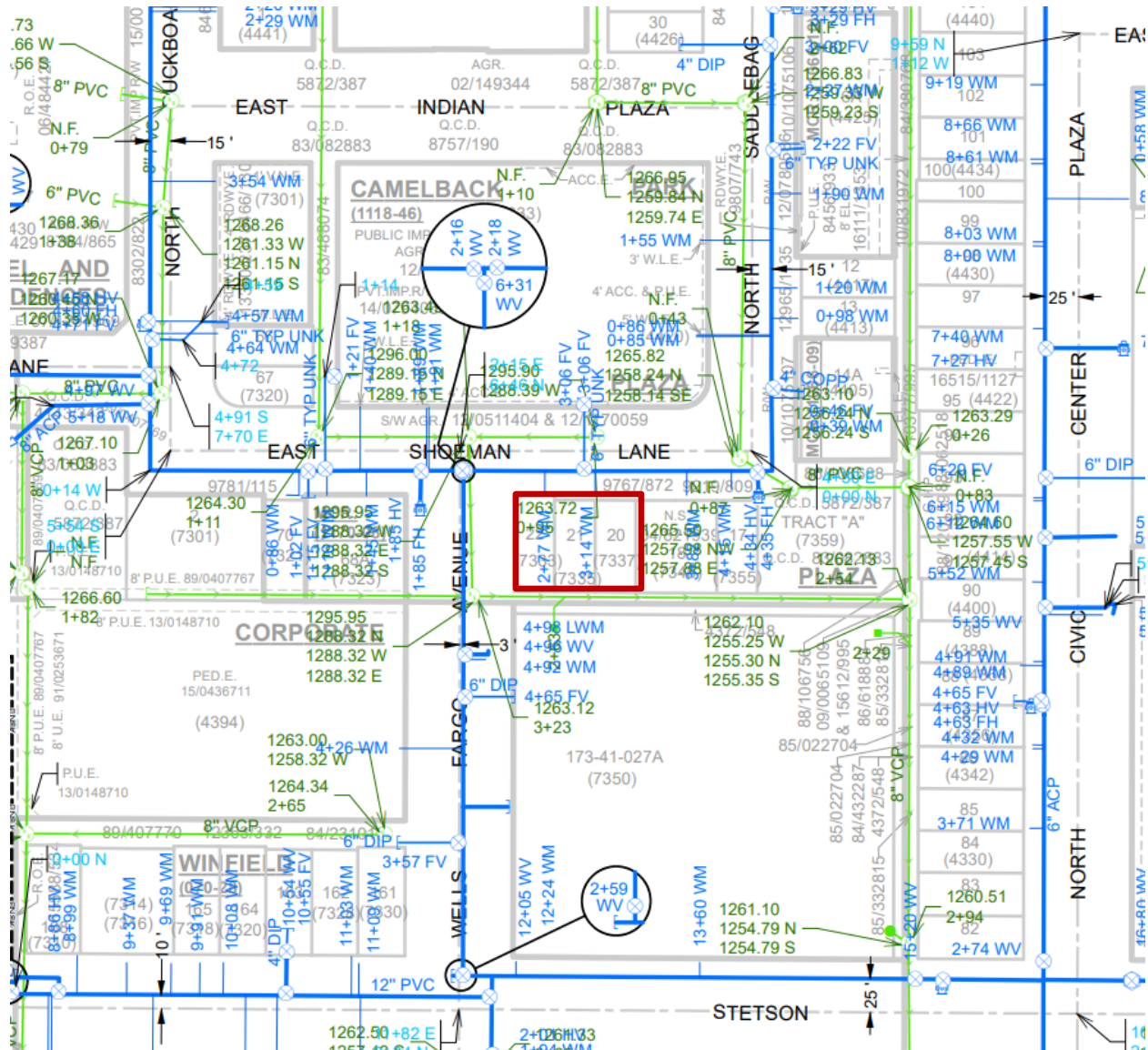
FIGURE 3 - *Water Quarter Section Map*



**FIGURE 1 –
Vicinity Map**



FIGURE 2 – SITE AERIAL



**FIGURE 3 - EXISTING
WATER-SEWER**

APPENDICIES

I. Fire Hydrant Flow Test

II. Site Plan

Arizona Flow Testing LLC

HYDRANT FLOW TEST REPORT

Project Name:	Scottsdale Collective-Maya
Project Address:	Buckboard Ave. & Shoeman (NEC), Scottsdale, Arizona, 85251
Client Project No.:	Not Provided
Arizona Flow Testing Project No.:	20137B
Flow Test Permit No.:	C61869
Date and time flow test conducted:	April 13, 2020 at 7:05 AM
Data is current and reliable until:	October 13, 2020
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: **102.0 PSI**
(Measured in pounds per square inch)

Residual Pressure: **84.0 PSI**
(Measured in pounds per square inch)

Pitot Pressure: **37.0 PSI**
(Measured in pounds per square inch)

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

Coefficient of Diffuser: 0.9

Flowing GPM: **2,614 GPM**
(Measured in gallons per minute)

GPM @ 20 PSI: **5,928 GPM**

Data with 30 PSI Safety Factor

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

Residual Pressure: **54.0 PSI**
(Measured in pounds per square inch)

Distance between hydrants: Approx.: 340 feet

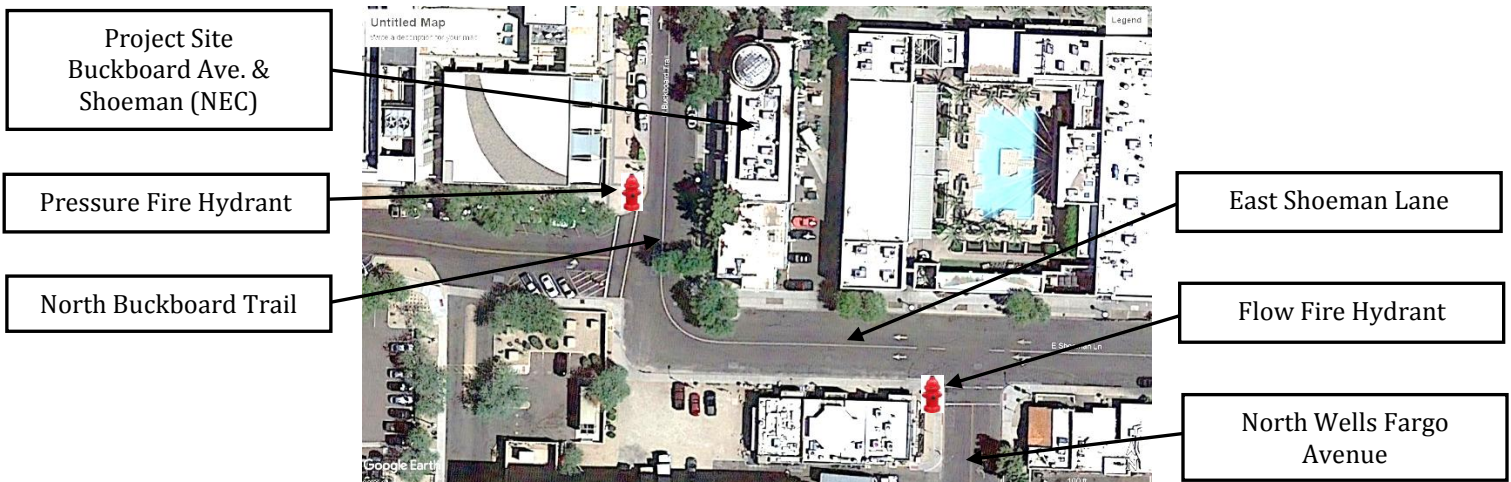
Main size: Not Provided

Flowing GPM: **2,614 GPM**

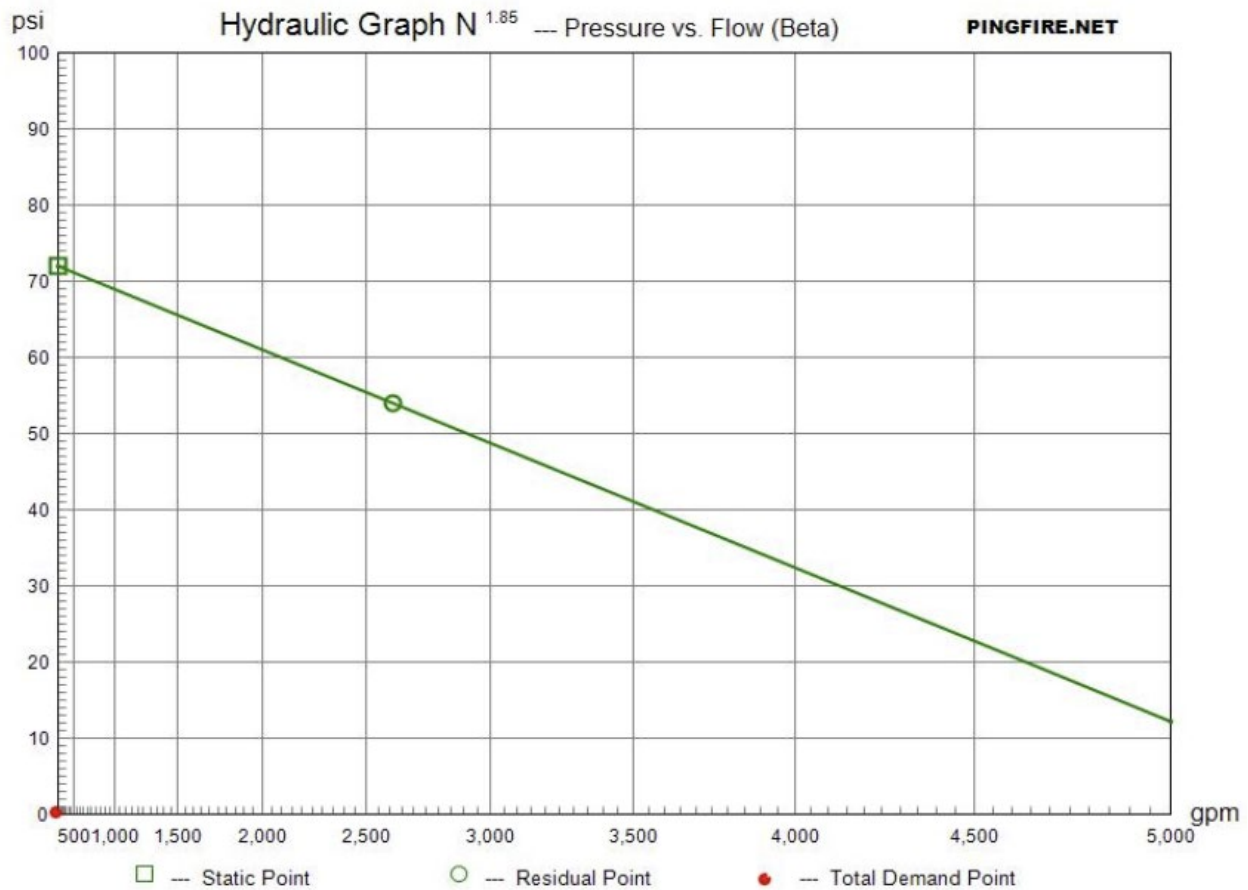
GPM @ 20 PSI: **4,635 GPM**

Flow Test Location

North ↑



Fire Flow Test at Buckboard Avenue and Shoeman Lane – Adjusted for 30 psi Safety Factor



PROJECT SUMMARY AND CODE DATA			
PROJECT NAME			
GreenLifeAZ			
7333 E. Shoeman Ln.			
Scottsdale, AZ 85251			
B&W PROJ. NO.		7911	
PROJECT DESCRIPTION			
New two-story mixed-use building 9,491 SF with associated site improvements including six parking spaces.			
DEVELOPMENT SUMMARY (BUILDING ADDITION/RENOVATION)			
PROJECT ADDRESS:		7333 E. Shoeman Ln.	
APN:		173-41-136 / 173-41-137 / 173-41-138	
EXISTING ZONING:		C-2	
SITE AREA:		0.14681 Acres	
		6,517 SF	
BUILDING AREA:		9,491 SF	
COVERED AREA:		5,769 SF	
TOTAL DEVELOPMENT:		9,491 SF	
TOTAL LOT COVERAGE:		88.52%	
NUMBER OF STORIES:		2	
BUILDING HEIGHT:		2 Stories	
		35 Feet (No Change)	
OCCUPANCY:		M / A-2	
CONSTRUCTION TYPE:		5B	
PARKING SUMMARY			
PER ARTICLE IX			
Table 9.103.B Required Parking (Mixed-Use)			
Use	Area	Ratio	Required
Medical Marijuana	2,115	300	7.05
Retail	1,325	350	3.78571
Office (Type 1 Area)	5,489	300	18.33
Total Parking Spaces Required		29,1657	
Historic Parking Credits (P-3) 5,573 SF/200 =		18.57	
Total Parking Spaces Required with applied credits		10,5957	
On-Site Parking Spaces Provided		6	
Parking Spaces Provided via Remote Parking Agreement		4.6	
Total Project Parking Spaces Provided		10.6	

DESIGN

BRICK & WEST

CONSULTANTS:

CERTIFICATION:

Shoeman Lane Scottsdale
Scottsdale, Arizona

Contact: Boyce O'Brien
booben@stockdalecapital.com
602-757-9324

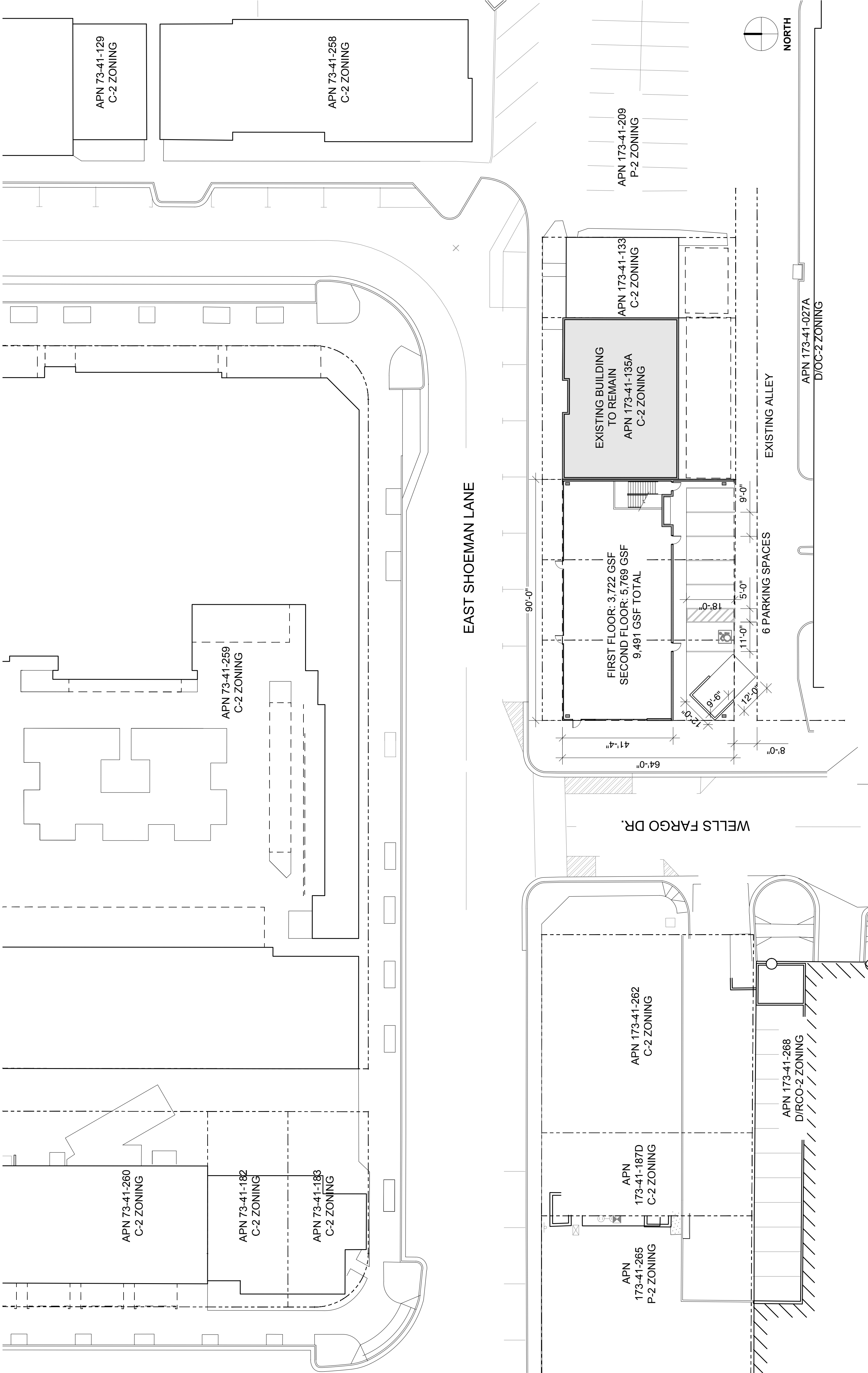
Date	2020-09-08
Project No.	7911
Drawn By	MXR
Checked By	JED
Revision	
Date	

G100

SITE PLAN



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1 SITE PLAN
1" = 20'-0"