



**WATER DISTRIBUTION SYSTEM
PRELIMINARY BASIS OF DESIGN REPORT
FOR
FAIRMONT SCOTTSDALE PRINCESS
PRIVADO WELCOME BUILDING AND PARKING MODIFICATIONS**

July 29, 2022
WP# 215319



EXPIRES 06-30-25

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1.0 INTRODUCTION

Fairmont Scottsdale Princess Privado Welcome Building and Parking Modifications (Site) is a proposed hotel visitor center and parking lot development on an approximate 6.0-acre parcel of the Fairmont Scottsdale Princess in the City of Scottsdale (APN#215-08-003C). The proposed development will consist of one (1) visitor center building and new parking lot expansion. The project will include parking, hardscape, landscape, and utility improvements to support the development. The Site is located approximately 1,300 feet to the east of the Scottsdale Road and Princess Boulevard, on the south side of Princess Boulevard within Section 35, Township 4 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona. Refer to Exhibit 1 – *Vicinity Map* for the project location. The existing property, currently zoned C-2, is primarily developed with buildings, parking lots, pools, sidewalks, and a variety of landscaping (desert and grass).

The design criteria used to estimate water demands and evaluate system hydraulics are based on Wood, Patel & Associates, Inc.'s (WOODPATEL's) understanding of the requirements listed in the *City of Scottsdale Design Standards and Policies Manual, 2018*.

The following is a summary of the primary design criteria utilized:

Average Day Water Demand, Restroom: 0.8 gpd/ sf
Peak Flow Demand:3 x ADD

Abbreviations: gpd = gallons per day; sf = square feet; ADD = average day demand;

*Includes both inside and outside use, per Figure 6-1.2, City of Scottsdale *Design Standards and Policies Manual*

2.0 EXISTING WATER INFRASTRUCTURE

Existing water infrastructure adjacent to the Site includes an existing 12-inch public water line within Cottage Terrace. One (1) existing 6-inch water stub extends from the public water line within Cottage Terrace to serve the Site. One (1) existing fire hydrant extends from the public water line within Cottage Terrace and is located along the northern portion of the parking lot. A second fire hydrant is located on the west side of Cottage Terrace as a part of the Maravilla Senior Living Community. Please refer to Exhibit 2 – *Water Exhibit* for a depiction of existing infrastructure.

3.0 PROPOSED WATER INFRASTRUCTURE

3.1 Onsite Water Infrastructure

The proposed welcome building will be served by a proposed 2-inch domestic waterline and a proposed 4-inch fireline connecting to the existing 6-inch waterline throughout the Site. No fire hydrants are proposed for the Site. This water service will replace an existing service that will be removed as a part of this project. It is our assumption the water demand proposed will equal the current water demand and therefore the water system performance will not change.

3.2 Water Demand Calculations

The average day water demand for the proposed Site is projected to be approximately 0.2 gallons per minute (gpm). Peak hour demands are projected to be 0.7 gpm (Refer to Appendix A - *Water Demand Calculations*). No fire flow modelling was done as a part of this Report. There are no additional fire hydrants proposed and it is assumed that the proposed demand will equal the existing demand from the existing building. See Exhibit 2 – *Water Exhibit* for the layout of existing water infrastructure.

4.0 CONCLUSIONS

Based on our analysis of the Site, the following conclusions can be made:

1. The design criteria used to estimate potable water demands and evaluate system hydraulics are based on the design criteria listed in the *City of Scottsdale Design Standards and Policies Manual, 2018*.
2. The proposed water infrastructure described is adequate to serve the domestic and fire flow requirements for the Site since the calculated demand for the Site improvements is equal to the current water demand.

5.0 REFERENCES

1. City of Scottsdale Design Standards and Policies Manual, 2018

APPENDIX A – WATER DEMAND CALCULATIONS

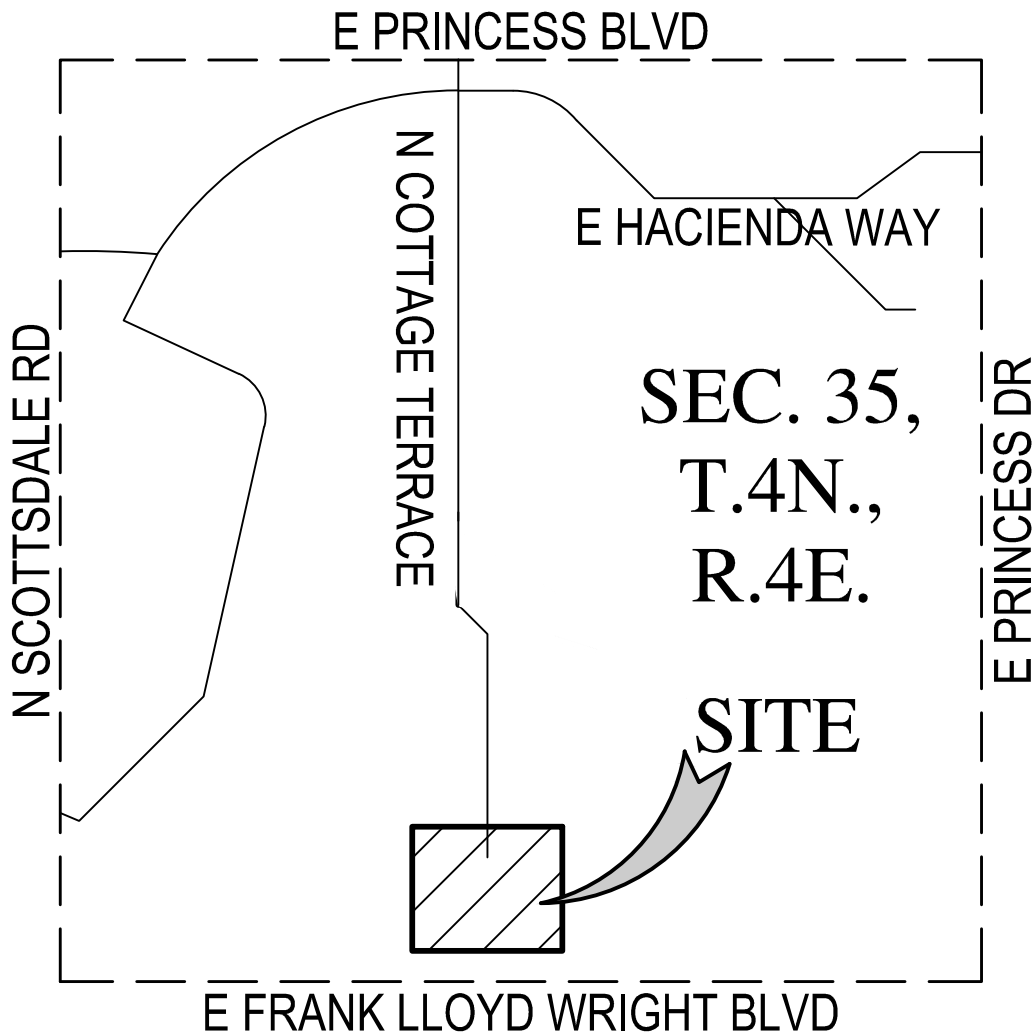


WATER DEMAND DESIGN FLOWS

Project Fairmont Scottsdale Princess Privado Welcome Center and Parking Expansion
Location Scottsdale AZ
Project Number 215319
Project Engineer Darin Moore, P.E.
References City of Scottsdale Design and Policies Manual (2018)

LAND USE AND DWELLING UNIT BREAKDOWN BY JUNCTION											
HYDRAULIC MODEL NODE	LAND USE	DWELLING UNITS	AREA (SF)	DEMAND VALUE	UNITS	AVERAGE DAILY DEMAND		MAX FLOW		PEAK FLOW	
						(gpm)	(gpd)	(gpm)	(gpd)	(gpm)	(gpd)
Welcome Center	Commercial/Retail	137	2,562	0.8	gpd/sf	.2	110	.4	220	.7	385
Total		137	2562			0.2	110	0.4	220	0.7	385

EXHIBIT 1 – VICINITY MAP



VICINITY MAP

N.T.S.

**NOT
FOR
CONSTRUCTION
OR RECORDING**

**WOOD
PATEL**

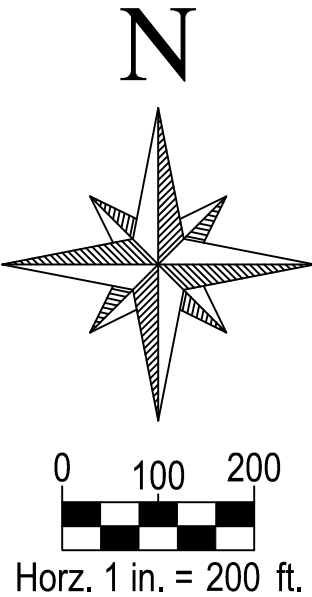
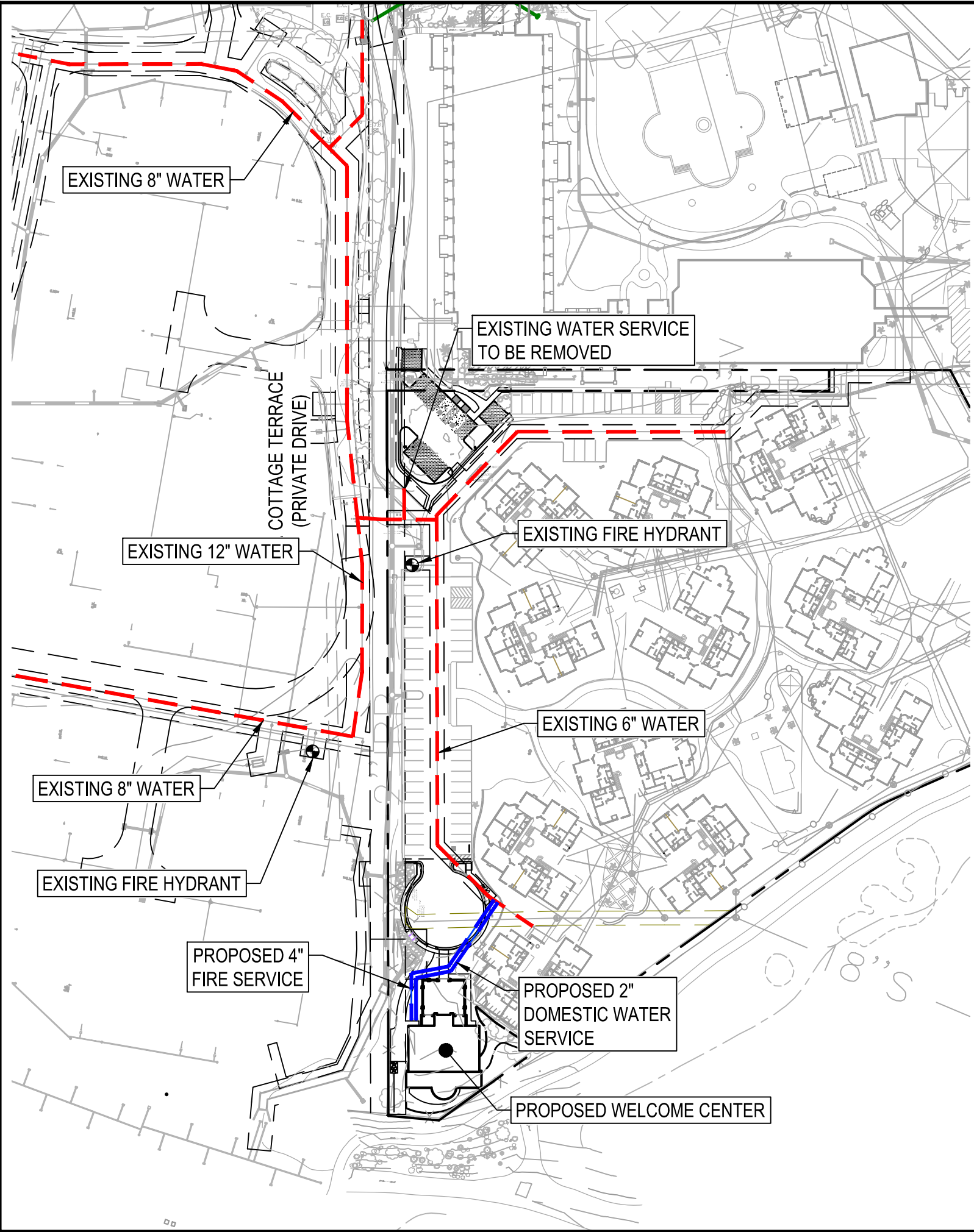
FAIRMONT SCOTTSDALE PRINCESS PRIVADO WELCOME CENTER AND PARKING MODIFICATIONS

VICINITY MAP EXHIBIT

DATE	7-29-2022	SCALE	N.T.S	SHEET	1 OF 1
JOB NO.	215319	DESIGN	RS	CHECK	
		DRAWN	LBD	RFI #	

Z:\2021\215319\Project Support\Reports\Drainage\Exhibits\5319-EXH1-VM.dwg

EXHIBIT 2 – WATER EXHIBIT



LEGEND

- EXISTING FIRE HYDRANT
- EXISTING WATER PIPE
- PROPOSED WATER PIPE
- PROPERTY BOUNDARY

NOT
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FAIRMONT SCOTTSDALE PRINCESS PRIVADO WELCOME CENTER AND PARKING MODIFICATIONS

WATER EXHIBIT

DATE	07-29-2022	SCALE	1" = 100'	SHEET	01 OF 01
JOB NO.	215220	DESIGN	RS	DRAWN	AM