

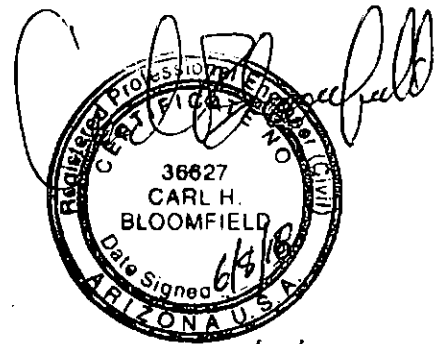
Siena Estates

WATER BASIS OF DESIGN REPORT

Northwest Corner of Palo Verde and Cattletrack Rd.
Scottsdale, Arizona
5805 N Sundown Dr
Scottsdale 85250

Prepared for:
Adams Craig Acquisitions
7904 E Chaparral Rd
Ste A110-113
Scottsdale 85250

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April 25, 2018

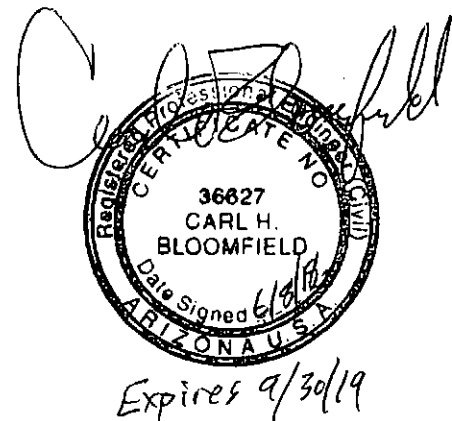
2-PP-2018
06/08/18

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I. INTRODUCTION

Location & Description

The project address is on the cover of this report. The property consists of three separate parcels and is located on the west side of Cattletrack Road north of Palo Verde Ln. They are further identified as APN 173-04-018, 173-04-017, and 173-04-016. The properties are vacant having had all of the existing structures demolished and removed. There are roads surrounding the properties on three sides (east, west and south). The three parcels have been up-zoned to a suburban general plan designation with R1-18 PRD zoning as of Dec 2017. This report will detail the conditions being proposed through a pre-plat of a seven lot community on the three acre property.

Existing System

The property is provided water by EPCOR. The current infrastructure in the area is varied. The existing lots were provided services off of waterlines in the streets around the properties. Sundown Drive and Sundown Circle have a single 4" ACP pipe connecting to a 4" line in Palo Verde to provide water to the western two properties. The northeast property is serviced from a line in Cattletrack. EPCOR has a water treatment facility on the east side of Cattletrack and therefore has several waterlines located in Palo Verde Dr. and Cattletrack Ln. Palo Verde has three waterlines; working south to north in the street, there is a 16" CIU line, an 8" AC line and a 4" AC line. Cattletrack has 5 waterlines; working west to east, there is a 6" CIU 24" DI, an 8" AC, a 24" DI, and a 16" CIU.

Design Requirements

The design requirements for the new subdivision will be according to the EPCOR Water 2015 Developer and Engineering Guide.

Single family residences will utilize 360 gallons per day per unit average with a Max Day peaking factor of 1.8 and a peak hour factor of 3.0. The open space will be included in the demand for the project at 1,800 gal/acre with no additional peaking factors.

The system pressures are to be between 55 and 80 psi static pressure. The pressure can reduce to 40 psi at peak hour and 20 psi at max day plus fire flow.

The required residential fire flow according to the 2012 International Fire Code, Appendix B is as follows:

- Up to 3,600 sf residences is 1,000 GPM for one hour.
- Up to 4,800 sf residences is 1,750 GPM for two hours.
- Up to 6,200 sf residences is 2,000 GPM for two hours.

A reduction of 50% for required fire flow is allowed for structures that provide an approved fire sprinkler system in the constructed residence.

The project is located in EPCOR's main zone. Given that the project is so near the water treatment and distribution facility, EPCOR expects average day pressures to be greater than 100 psi. This will necessitate an individual PRV for each residence.

Proposed System

EPCOR has requested that Adams Craig install an 8" line from the 16" line in Palo Verde up to the 4" line in Sundown Circle with an 8" stub into the planned cul-de-sac for Siena Estates. These proposed improvements will naturally connect all existing, and required to remain, services into the new line, add all new service lines for the 7 lots and required fire hydrants.

The existing 4" line in Sundown Drive will be abandoned in place. Two hydrants will be added; one to be used as an end of the line blow off for the property system in the proposed cul-de-sac and one along Sundown Drive to help provide better service for the existing residents in case of fire. The project plans will provide 7- 1" service lines and meters as shown on the subdivision plan. One 2" meter will be provided for the common area landscaping on the project.

II. DATA ANALYSIS METHODS

If a model of the system is required, the model will be completed using Water CAD by Haestad Methods to analyze the system data obtained from hydrant pressure and flow testing done for the project.

III. CONCLUSION

The project is small and will have little additional impact to the water system in the area. The waterline extension from the adjacent 16" line in Palo Verde and the upsizing of the 4" existing waterline to an 8" waterline in Sundown Drive will serve the needs of the future residents and better serve the needs of the existing residents in the area surrounding this community called Siena Estates.

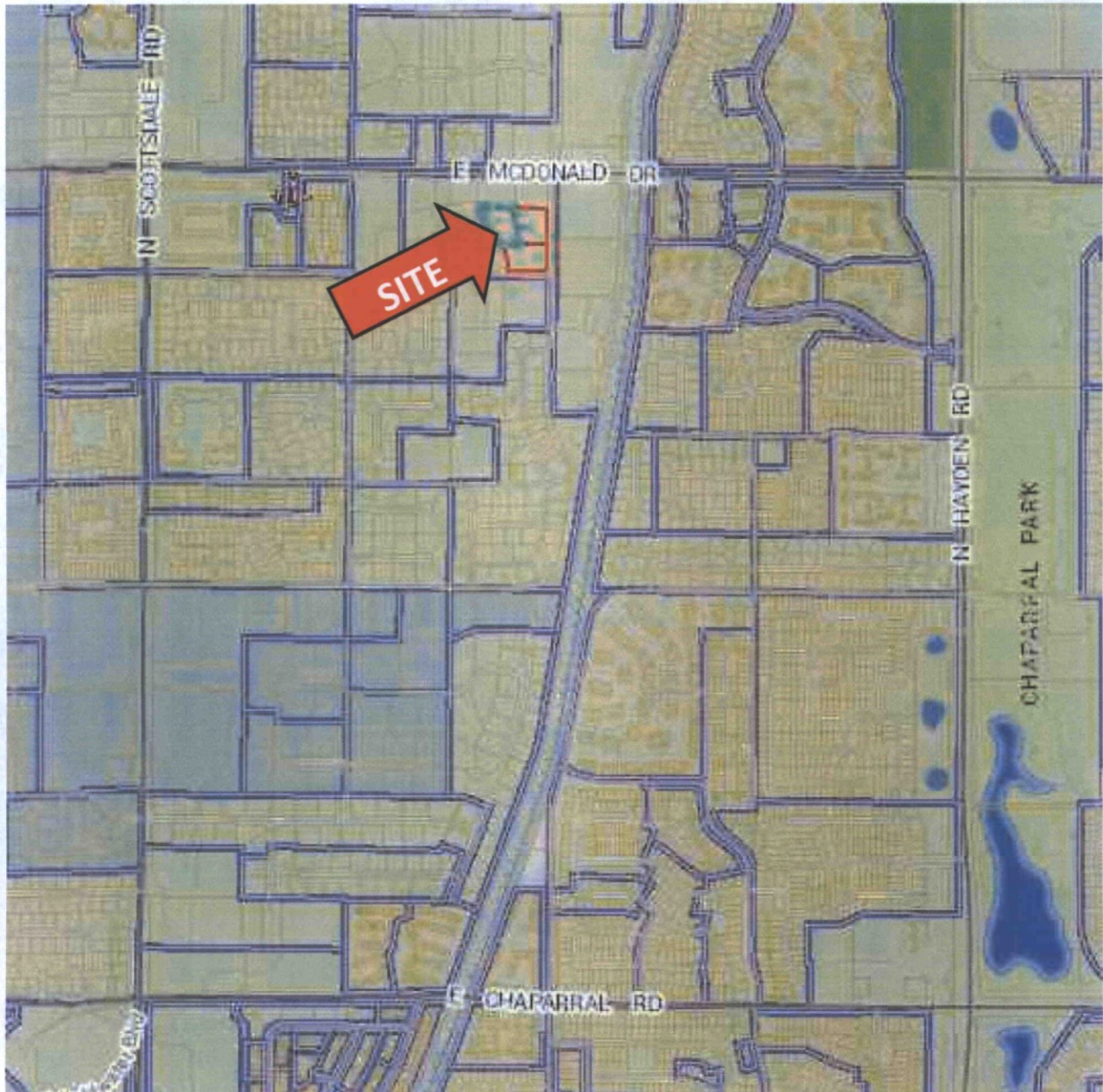
The provided design constraints will be met or exceeded by the improvements proposed in this report.

APPENDIX A

Vicinity Map Siena Estates Pre-Plat

VICINITY MAP

STREET MAP



Siena Estates

Siena Estates		
PROJ: #3639	Adams Craig Aquisitons	CITY: Scottsdale
DRAFTED: BJ		COUNTY: Maricopa
DATE: JUN 2017		STATE: AZ

SIENA ESTATES by ADAMS CRAIG ACQUISITIONS

REPLAT OF LOTS 3-5 OF SCHAFFNER ESTATES

PALO VERDE LANE AND CATTLETRACK ROAD SCOTTSDALE, AZ 85250

APN's 173-04-016, 173-04-017, 173-04-018

DRAINAGE NARRATIVE:

THE EXISTING PARCELS AND HOMES DRAIN GENERALLY TO THE SOUTHEAST. THE LOTS WILL DRAIN TO THE CUL-DE-SAC TO BE COLLECTED AND DIRECTED, BY STORM DRAIN, TO A PROPOSED SHALLOW BASIN WHICH WILL DRAIN INTO EXISTING CATCH BASINS IN CATTLE TRACK THAT DIRECT WATER TO THE EXISTING RETENTION BASIN LOCATED EAST OF CATTLETRACK AND SOUTH OF McDONALD DRIVE. PORTIONS OF LOTS 4-7 WILL DRAIN TO CATTLETRACK AND TO PALO VERDE TO BE RETAINED IN SMALL DETENTION BASINS DESIGNED TO ASSIST IN PROVIDING ADDITIONAL RUNOFF GENERATED BY THE DEVELOPMENT.

ENGINEER'S NOTES:

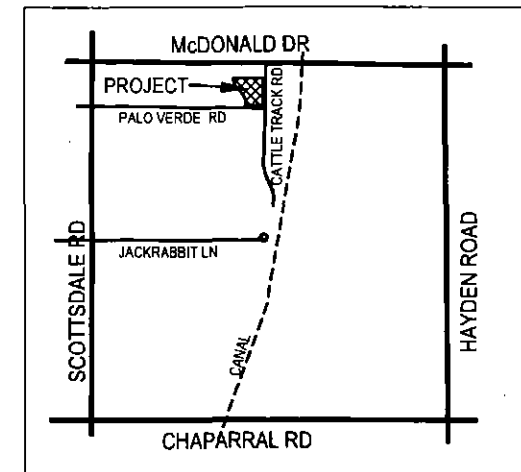
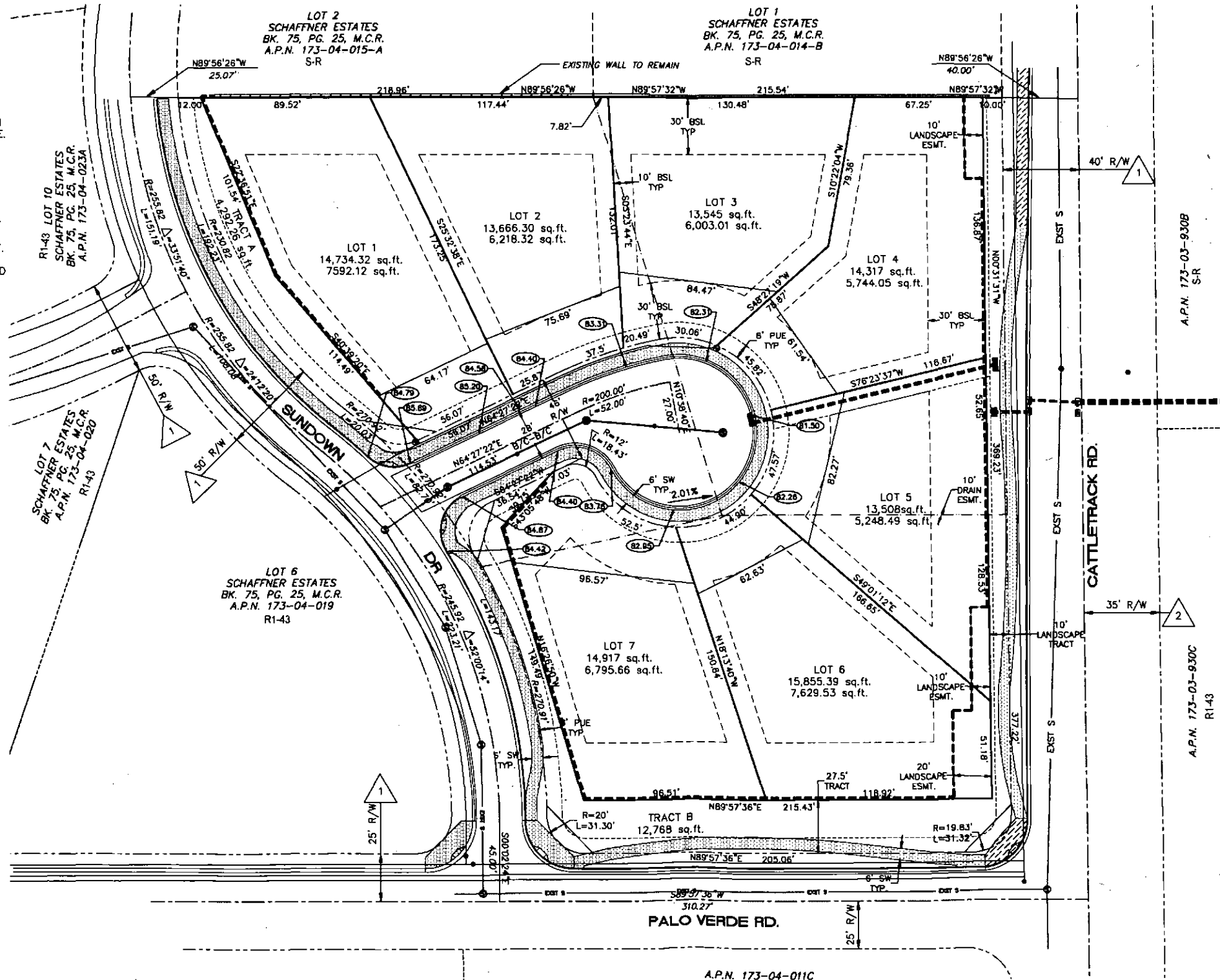
1. THE POWER, GAS AND WATER UTILITIES ARE ALREADY LOCATED IN THE EXISTING STREETS. THE EXISTING EASEMENTS AND UTILITIES LOCATED WITHIN THE LOTS WILL BE ABANDONED AND REMOVED. NEW FACILITY LINES WILL BE EXTENDED INTO THE PROPOSED CUL-DE-SAC AND SERVICES PROVIDED TO EACH LOT.
2. THE EXISTING SEPTIC SYSTEMS WILL BE ABANDONED AND REMOVED. THE PROPOSED LOTS WILL BE CONNECTED TO A CITY SEWER LINE THAT HAS BEEN ENGINEERED AND WILL BE CONSTRUCTED IN SUNDOWN DRIVE AND SUNDOWN CIRCLE FROM PALO VERDE LANE.
3. THERE ARE NO APPARENT NATURAL WATERCOURSES WITHIN CLOSE PROXIMITY TO THE PROPERTY.
4. THE SIDEWALK WILL BE EXTENDED ALONG PALO VERDE.
5. CURB, GUTTER AND SIDEWALK WILL BE ADDED ALONG THE EAST SIDE OF SUNDOWN DRIVE.
6. THE PAVEMENT IN SUNDOWN WILL BE REMOVED BY MILLING AND REPLACED WITH NEW ASPHALT PAVEMENT AND RIBBON CURB ALONG THE WEST SIDE OF THE STREET DURING THE CONSTRUCTION OF THIS PROJECT.
7. THE EXISTING DRIVEWAY LOCATIONS ALONG CATTLETRACK AND PALO VERDE WILL BE REMOVED AND REPLACED WITH CURB AND GUTTER TO MATCH THE EXISTING. THIS IS SHOWN IN THE PRE-PLAT.
8. THE NEW STREET IS TO BE CONSTRUCTED PER SUBURBAN LOCAL RESIDENTIAL SECTION.
9. EACH LOT WILL BE REQUIRED TO HAVE PARKING FOR AT LEAST FOUR (4) VEHICLES. TWO COVERED (GARAGE) AND TWO ON THE DRIVEWAY.
10. ALL STRUCTURES SHALL BE LIMITED TO 1-STORY. NO STRUCTURE SHALL BE ALLOWED TO PROVIDE A 2-STORY DESIGN.

LEGEND

- 85.38 TOP OF CURB
- 1284 GRADE BREAK
- 1284 EXISTING SPOT ELEVATION
- 1284 EXISTING CONTOUR
- 1284 BUILDING SETBACK LINE (BSL)
- EXISTING CONCRETE (TO REMAIN)
- PROPOSED CONCRETE
- 1280 PROPOSED CONTOUR
- EXISTING LOT LINE
- PROPOSED LOT LINE
- EXISTING WALL (TO REMOVE)
- EXISTING WALL (TO REMAIN)
- PROPOSED WALL
- STORM DRAIN
- 1 RIGHT-OF-WAY AS DEFINED BY SCHAFFNER ESTATES PLAT MCR BOOK 75, PAGE 25
- 2 RIGHT-OF-WAY AS DEFINED BY McDONALD PROFESSIONAL CENTER PLAT MCR BOOK 895, PAGE 34

LEGAL DESCRIPTION:

THAT PART OF SECTION 14, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:
PARCELS 3, 4 AND 5 OF SCHAFFNER ESTATES RECORDED IN MCR BOOK OF MAPS 75, PAGE 25.



VICINITY MAP

PROJECT DATA

EXISTING ZONING: R1-18 PRO
EXISTING GP: SUBURBAN
GROSS AREA: 3.80 AC
DENSITY: 1.84 DU/AC
EX. PARCEL AREA: 2.99 AC
PROP. ROW AREA: 0.29 AC
NET AREA: 2.70 AC
TRACT AREA: 0.39 AC
OPEN SPACE: 17,057 SF
NET OPEN SPACE %: 14.5%

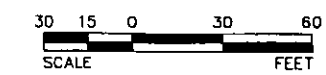
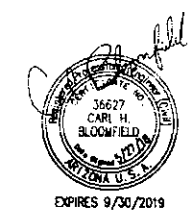
NOTE:
- GROSS AREA IS CALCULATED AS THE AREA TO THE CL OF THE ADJACENT STREETS (ZONING BOUNDARY).
- EX. PARCEL AREA IS THE AREA OF LOTS 3-5 OF SCHAFFNER ESTATES.

BUILDER:

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MESA, ARIZONA 85206
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SIENA ESTATES		
PALO VERDE LANE AND CATTLETRACK ROAD SCOTTSDALE, AZ 85250		
PRELIMINARY PLAT		
PROJ. No.: 3639	6K CONSULTING LLC.	APPROVED: CHB
DATE: MAY 2018		DRAWING NO. 1
SCALE: 1"=30'	DESIGNED: 6K	DRAWN: 6K
REV.	SHT. 1 OF 1	

APPENDIX B

EPCOR Requested Improvements Exhibit

EPCOR Water

