



Wastewater Study

File Copy

PRELIMINARY SEWER CAPACITY REPORT

Braun Property – 20 acres
Scottsdale, AZ

Prepared For:



7525 E. Camelback Rd., Suite #104
Scottsdale, AZ 85251
P: 480.946.5020

ACCEPTED AS PRELIMINARY Prepared by:
REPORT W/COMMENTS

City of Scottsdale
Water Resources Administration
9379 E. San Salvador
Scottsdale, AZ 85258

H. Rahman
09/20/2017



EXPIRES 9/30/2017

Sustainability Engineering Group

8280 E. Gelding Drive, Suite 101
Scottsdale, AZ 85260
480.588.7226 www.azSEG.com

Project Number: 170601

Original Submittal Date: August 3, 2017

Case No.: TBD

Plan Check No.: TBD

14-ZN-2017
9/1/2017



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1. INTRODUCTION

1.1 SUMMARY OF PROPOSED DEVELOPMENT:

The property is a proposed residential development of +/- 20.0 net acres (+/-19.3 gross acres) of undeveloped land located within the City of Scottsdale. The property is to be developed with a lot configuration for thirteen (13) residential units with lot sizes ranging from 52,500 sf to 80,800 sf. The overall development will include two 24' wide cul-de-sac roadways entering from 132nd Street. The site is located on the NWC 132nd Street and East Pinnacle Vista Rd.

1.2 LEGAL DESCRIPTION:

The project property consists of one (1) parcel of land located on the NWC 132nd Street and East Pinnacle Vista Rd. It is further defined as being in the E ½ of the SE ¼ of the NW ¼ of Section 36, Township 5 North, Range 5 East of the Gila and Salt River Base and Meridian, Maricopa County, Scottsdale, Arizona; Parcel ID number is APN: 216-77-024C. Refer to **FIGURE 1 - Vicinity Map** for the project's location with respect to major cross streets

1.3 EXISTING AND PROPOSED SITE ZONING AND LAND USES:

The parcels are currently zoned R1-70 ESL and will remain. The purpose of this report is to support an application for a ESL Density Incentive in accordance with the City of Scottsdale zoning ordinance and the environmentally sensitive land ordinance. The property is currently undeveloped and is proposed as a single family residential development consisting of thirteen (13) lots.

1.4 REFERENCES:

The project site is shown in the City's General Plan to be in the Dynamite Foothills area. Conceptual Land Use Maps identify the land use as Rural Neighborhoods.

2. DESIGN DOCUMENTATION

2.1 DESIGN COMPLIANCE:

With the overall acreage of the site equivalent to +/-19.3 gross acres containing a proposed 13 residential units, the overall proposed gross density for the site will be 0.67 DU/acre. The property is in a location of Scottsdale that is not reasonably accessible to an existing sanitary sewer system. Refer to FIGURES 3 & 4 for the City quarter section map (QS 50-59 and QS 50-55). It is unknown if, and when a reasonably accessible public sewer system will be constructed near the project. Consequently, the site developer is proposing individual onsite disposal systems (Septic) for the 13 residential units. The subject parcel is located within an area of the City of Scottsdale identified as an "existing septic area". Refer to FIGURE 5 showing the site location identified as a City of Scottsdale Septic System area. In addition, the density of the

subdivision is within the A.A.C Title 18, Article 9 requirements of "One lot per acre" meeting the minimum septic system requirements. The proposed onsite disposal systems will be designed in accordance with the City of Scottsdale design standards and the Arizona Administrative Code Title 18-9. The follow setbacks for onsite Wastewater disposal facilities (including reserve areas) are applicable to this development;

*The Septic System shall be per
COS DSPM, chapters 7-1.300 & 7-1.301*

- 10 feet from Buildings
- The Arizona Department of Water Resources Well Registry shows that the closest domestic water well is located approximately 330 feet from the site. This exceeds the requirement of A.A.C 18-9-A312-C which requires a 100-foot setback.
- 5 feet from property lines
- An existing drainage easement with a drainage area of more than 20 acres traverses through the middle of the site. This wash will affect the placement of onsite disposal areas on lots 4 through 9. The setback shall be 50 foot from the drainage easement, and reduced to 25 foot in areas that have erosion protection.
- 5 feet from a domestic water service line.
- Downslopes or cut banks greater than 15%. (measured from the bottom of the lowest point of disposal pipe or drip lines, to the closest point of daylighting on the surface)
 - 10 feet for Treatment Works
 - 20 feet for Trench, Bed, chamber technology, or gravel-less trench
 - 3 feet for subsurface drip lines.
- 5 feet from driveways
- 5 feet from swimming pool excavations
- 5 feet from easements (other than drainage) easements.

*Per COS DSPM, chapter 7-1.301,
The Owner is responsible for
the design, construction, &*

*operation & Maintenance of Septic
System. Design & Construction shall be
per MCESD Requirements.*

3. EXISTING CONDITIONS

3.1 EXISTING ZONING & LAND USE:

Land ownership includes 20.05 +/- net acres (19.26+/- gross acres) of undeveloped land designated as R1-70 Low Density Residential.

3.2 EXISTING TOPOGRAPHY, VEGETATION AND LANDFORM FEATURES:

The site slopes from west to east and contains average cross-slopes generally ranging from 2% to 15%. Predominantly, the buildable areas of the site contain slopes ranging from 2% to 10%. The Rio Verde Wash 10 Tributary 3 splits the center of the property. FIRM Map Number 04013C1331M dated November 4, 2015 indicates this site is designated as Zone "X" with a portion of the property zone AE where the Rio Verde Wash 10 Tributary 3 crosses the site. A CLOMR has been approved by FEMA for improvements along this tributary, but the improvements have yet to be completed. A recorded drainage easement along this tributary exists for installing these drainage improvements. Two thirds of the AE zone have base flood elevations determined while the western one third was not part of the detailed study. The layout of the residential lots is such that the developable envelopes are outside of the



determined flood plain and the dedicated drainage easement. Finished floor elevations for the home sites will be set a minimum one (1) foot above the high-water elevations of this tributary. Refer to **FIGURE 2** for an aerial of the overall project existing conditions.

3.3 EXISTING UTILITIES:

The property is in a location of Scottsdale that is not reasonably accessible to an existing sanitary sewer system. Refer to **FIGURES 3 & 4** for the City quarter section map (**QS 50-59 and QS 50-55**) ✓

4. PROPOSED CONDITIONS

4.1 SITE PLAN:

The property is proposed to be developed with a lot configuration for thirteen (13) residential units. The development will include two 24' wide road cul-de-sac roadways entering from N 132nd Street. Refer to the Preliminary Utility Plan in **Appendix I** for proposed site layout. ✓

4.2 PROPOSED SEWER SYSTEM:

Since onsite disposal systems are being proposed an onsite proposed sewer system will not be constructed. ✓

4.3 MAINTENANCE RESPONSIBILITIES:

The proposed onsite disposal systems (Septic Systems) will be private, and will be the responsibility of the home owner to maintain, and operate. The City will not accept Onsite Septic System for Operation and Maintenance per DSPM, chapter 7-1.301.

5. SANITARY SYSTEM COMPUTATIONS

5.1. SEWER FLOW DEMANDS:

DS&PM, Chapter 7 Section 7-1.403 – Wastewater specifies that for residential uses, average day sanitary sewer loadings will be designed using 100 gallons per person per day and a peaking factor of 4. Residential densities are to assume 2.5 persons per dwelling unit. ✓

Therefore, the average design flow is:

$$13 \text{ du} \times 100 \text{ gpcpd} \times 2.5 \text{ people/du} = 3,250 \text{ gpd (Average)} \quad \checkmark$$

5.2. VARIANCE FROM STATED DESIGN FLOWS:

Stated design flows for the on-site system will be used as recommended.

5.3. SEWER SYSTEM ANALYSIS (Off-Site):

Since onsite disposal systems are being proposed an offsite sewer system analysis is not applicable. ✓

5.4. DEMAND FACTORS:

DS&PM requires a peak factor of 4. Therefore, from Section 5.1: $3,250 \text{ gpd} \times 4 = 13,000 \text{ gpd}$ (Peak)

5.5. SEWER CAPACITY CALCULATIONS

Since onsite disposal systems are being proposed an offsite sewer system analysis is not applicable. ✓

6. SUMMARY

6.1 SUMMARY OF PROPOSED IMPROVEMENTS:

- The proposed site constraints meet the criteria allowing the use of onsite disposal systems specified in the Arizona Administrative Code Title 18-9-A312 and the City of Scottsdale DS&PM. ✓
- According to ADWR Well Registrations there are no registered wells within 100 feet of the proposed site. ✓
- Percolation Tests will be conducted by a qualified geotechnical engineer for the design and sizing of the proposed onsite disposal leach fields in accordance with R-18-9-A310. ✓

6.2 PROJECT SCHEDULE:

As a residential development, the infrastructure is proposed to be constructed in a single phase to accommodate dwelling unit growth. The dwelling units may be phased based on consumer demand. The onsite disposal systems will be permitted and constructed by each home owner at the time each home is constructed. ✓

7 SUPPORTING MAPS

7.1 SANITARY SEWER PLAN

Refer to Preliminary Utility Plan located in Appendix I. This Preliminary Utility Plan summarizes important information regarding the location of the proposed private onsite disposal system with regards to Register Water Wells and Flood Plains adjacent or within the site.

8 REFERENCES

1. *COS QS Sewer Plan number 28-54 and 29-54*
2. *City of Scottsdale Design Standards & Policies Manual, 2010 (Chapter 7 – Wastewater)*
3. *Arizona Administrative Code Title 18, Section 9.*

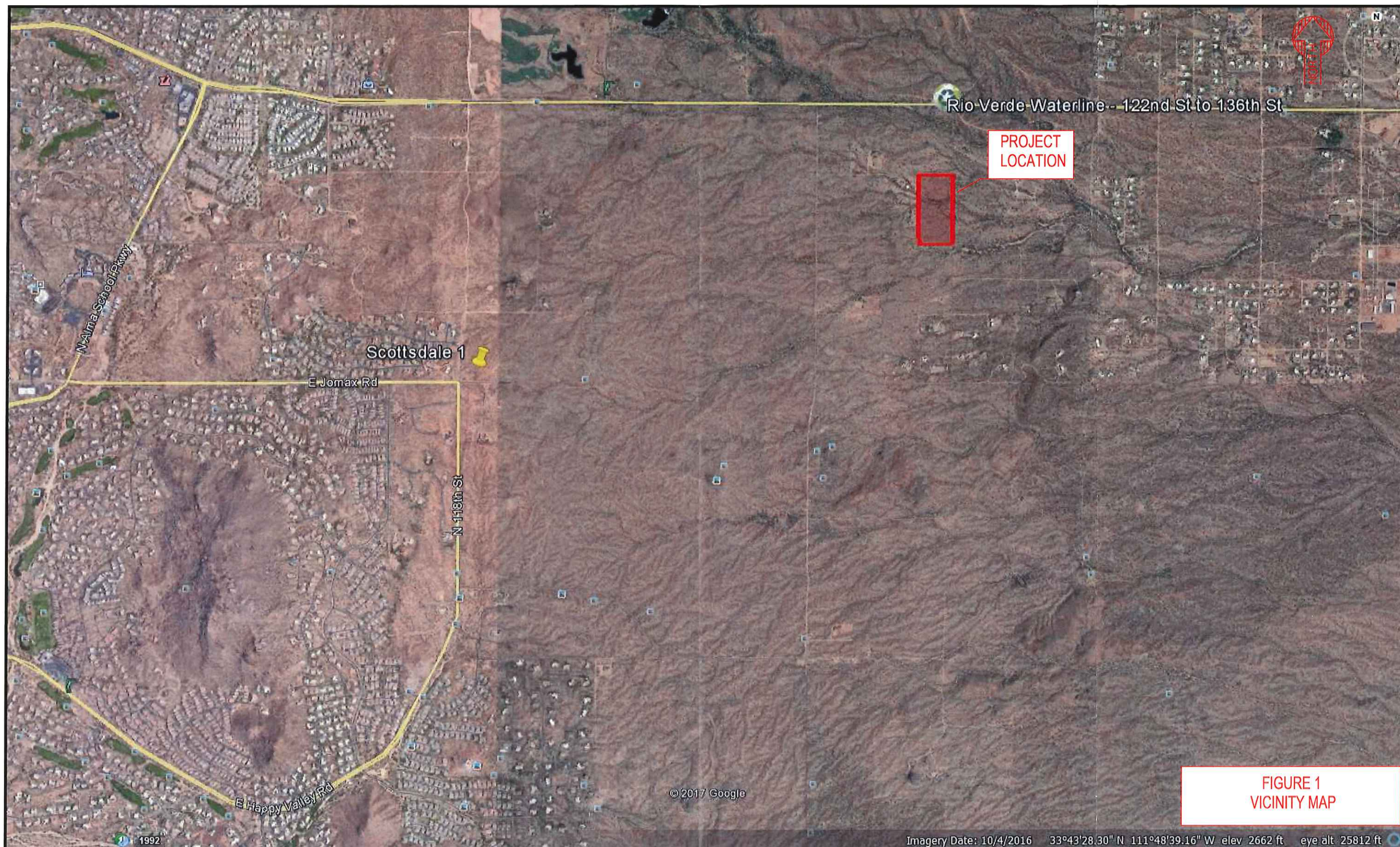


FIGURE 1
VICINITY MAP

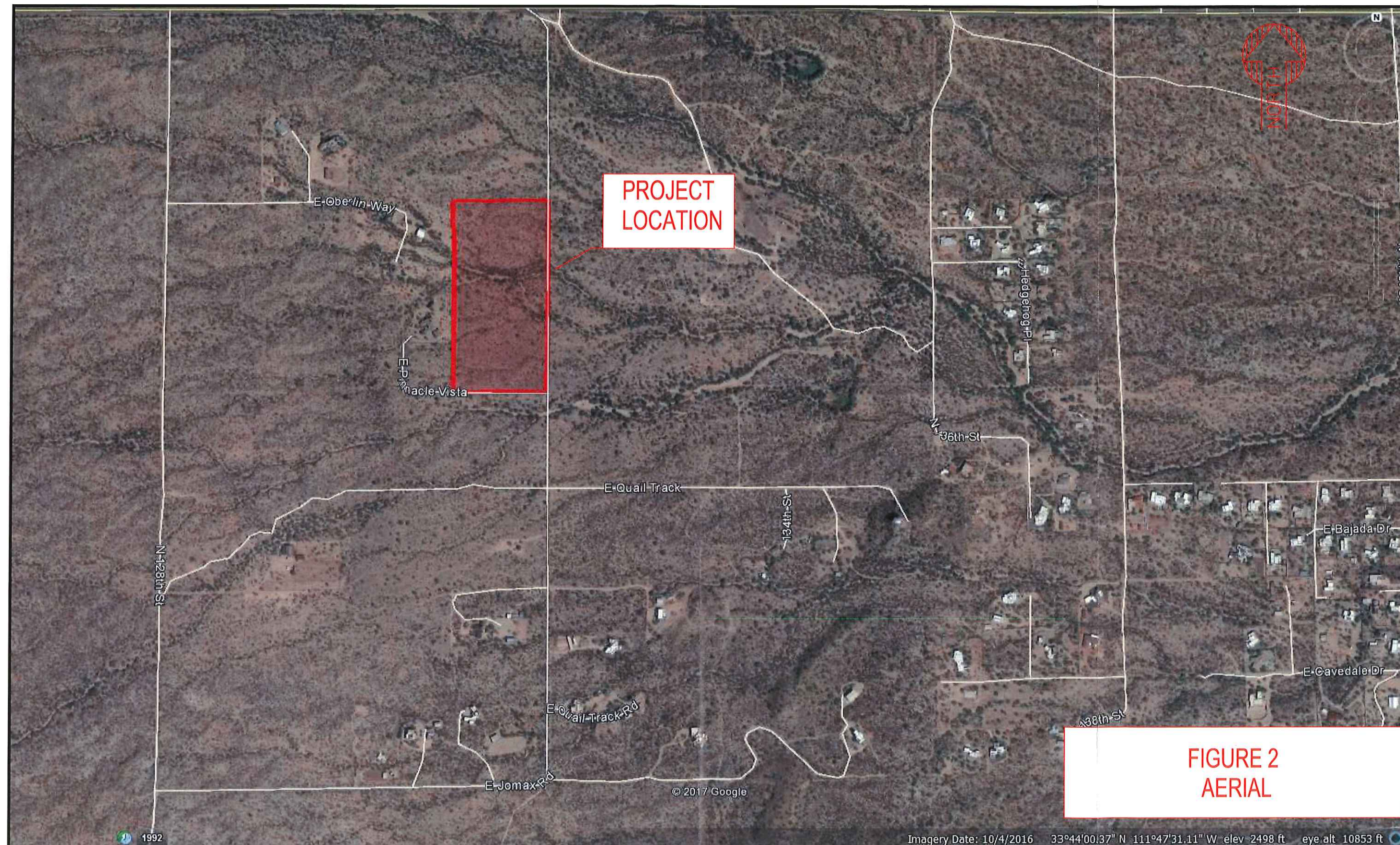


FIGURE 2
AERIAL

Imagery Date: 10/4/2016 33°44'00.37" N 111°47'31.11" W elev 2498 ft eye alt 10853 ft

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THE CITY OF SCOTTSDALE

30-JUL-17

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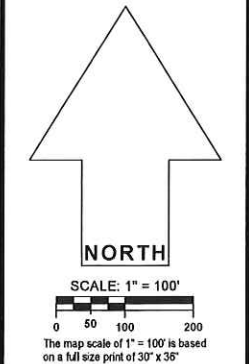
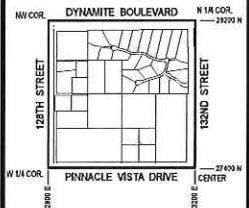


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• THE SECTION LINE BEARING AND DISTANCES ARE BASED ON THE CITY OF SCOTTSDALE GPS SURVEY OF SEPTEMBER 1991. BEARINGS ARE HAD 83 GRID AND DISTANCES ARE PLATTED TO GROUND. WHERE NO CORNER WAS FOUND THE DIMENSIONS ARE GIVEN TO CALCULATED SECTION CORNERS AND ARE NOTED AS CALCULATED ON THE MAP.

LEGEND:

- Cleanout
- Lift Station
- Manhole
- Non-GPS Point
- Plug
- Sewer Service Point
- Sewer Tap Point
- Sewer Valve
- Treatment Plant
- Sewer Main - Gravity
- Sewer Main - Force
- Sewer Main - Private

VICINITY MAP



SEWER
QUARTER SECTION MAP

50-59
NW 1/4 SEC. 36 T5N R5E

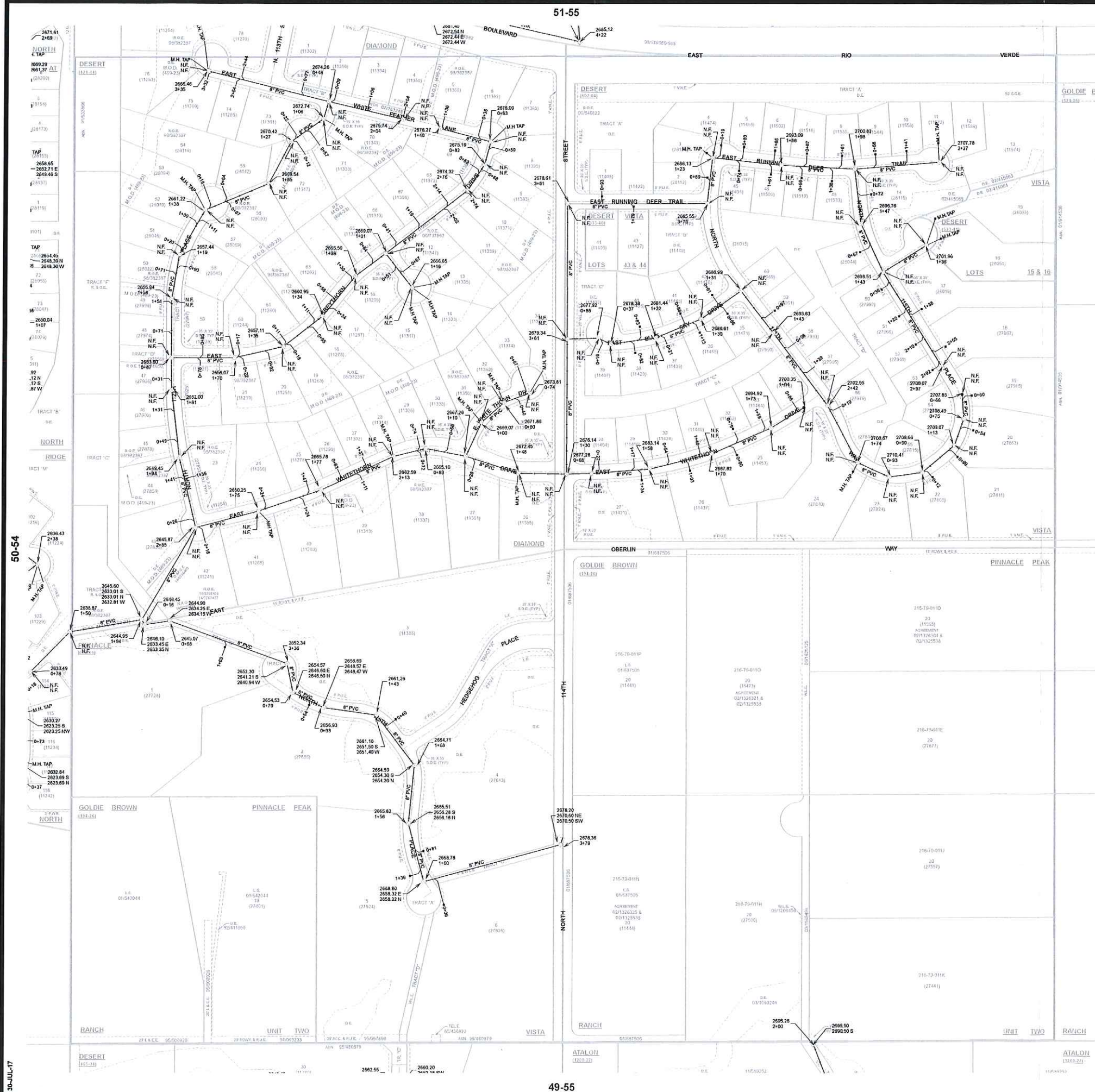
FIGURE 3

SCOTTSDALE GEOGRAPHIC
INFORMATION SYSTEMS
3029 North Drinkwater Boulevard
Scottsdale, Arizona 85251

49-59

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LEGEND:

- Cleanout
- Lift Station
- Manhole
- Non-GPS Point
- Plug
- Sewer Service Point
- Sewer Tap Point
- Sewer Valve
- Treatment Plant
- Sewer Main - Gravity
- Sewer Main - Force
- Sewer Main - Private

VICINITY MAP

MAP COR. DYNAMITE BOULEVARD N 1/4 COR. 28220 N
12TH STREET W 1/4 COR. PINNACLE VISTA DRIVE 27400 N
11TH STREET 11000 E CENTER

NORTH

SCALE: 1" = 100'

0 50 100 200
The map scale of 1" = 100' is based on a full size print of 30" x 36"

**SEWER
QUARTER SECTION MAP
50-55
NW 1/4 SEC. 34 T5N R5E**

FIGURE 4

CITY OF SCOTTSDALE
SCOTTSDALE GEOGRAPHIC INFORMATION SYSTEMS
3629 North Dinwiddie Boulevard
Scottsdale, Arizona 85251

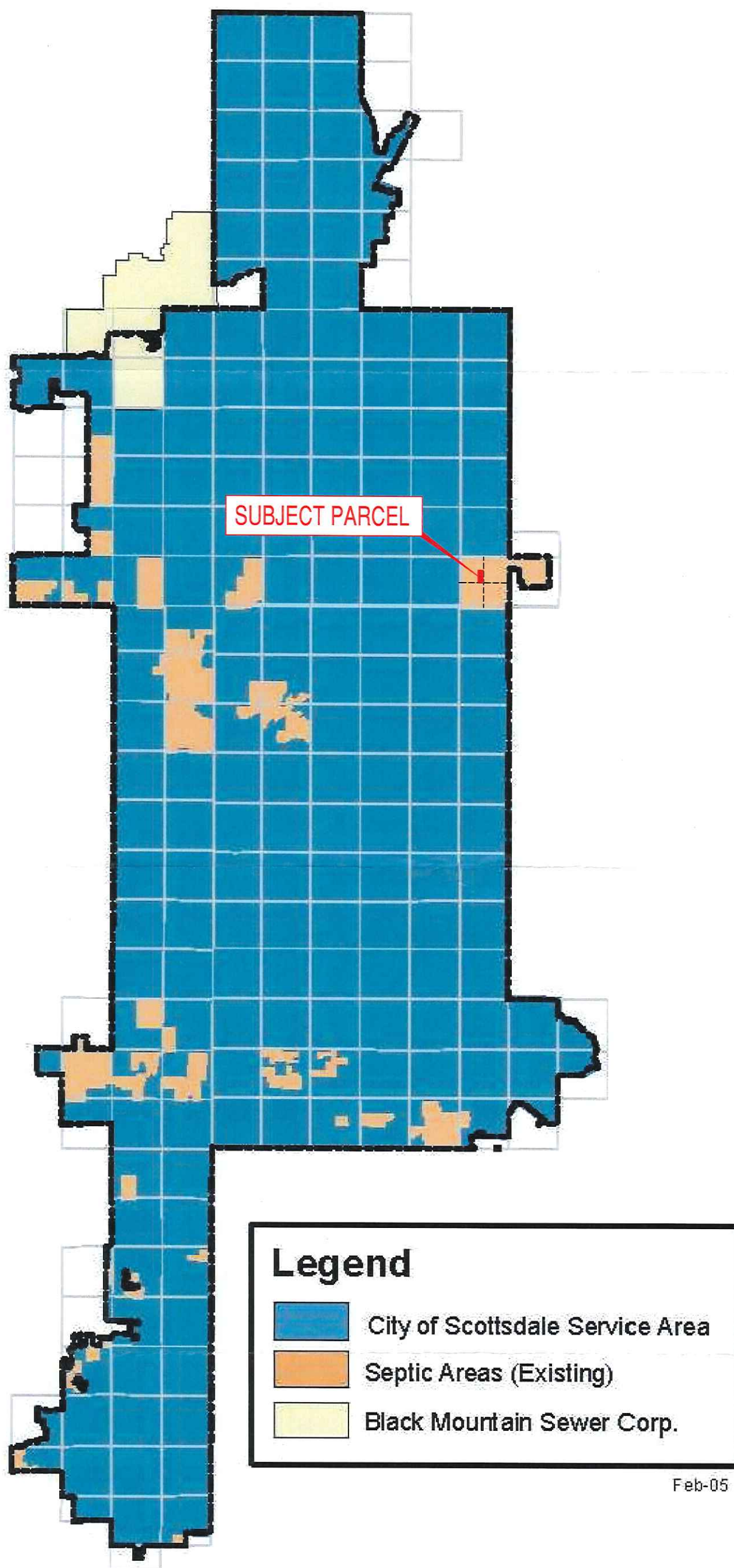


FIGURE 7.1-1 WASTEWATER SERVICE AREAS

FIGURE 5

ADWR - WELL REGISTRY INFORMATION

Legend

Well Registry



County

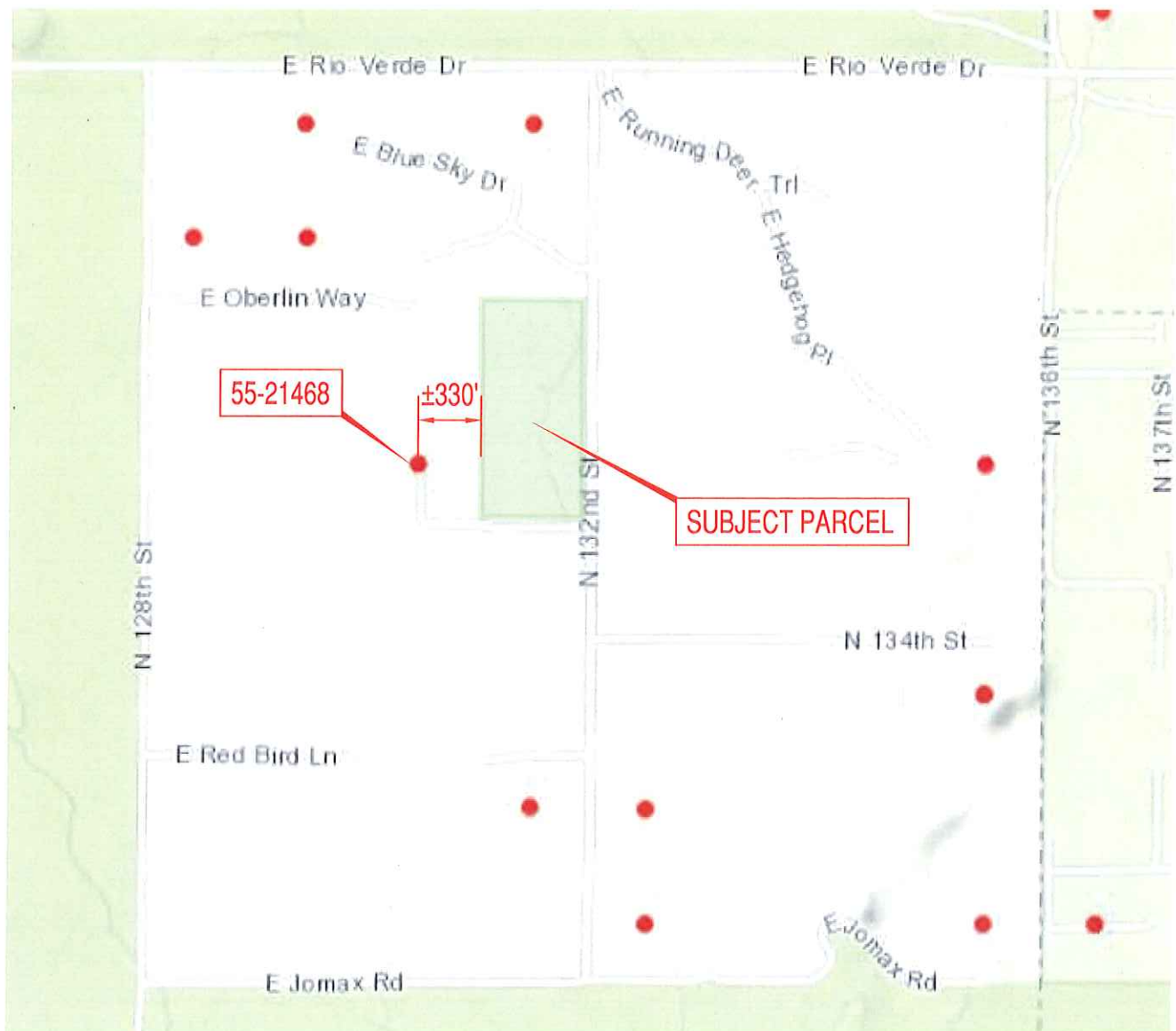


FIGURE 6



"LEED®ing and Developing Smart Projects"

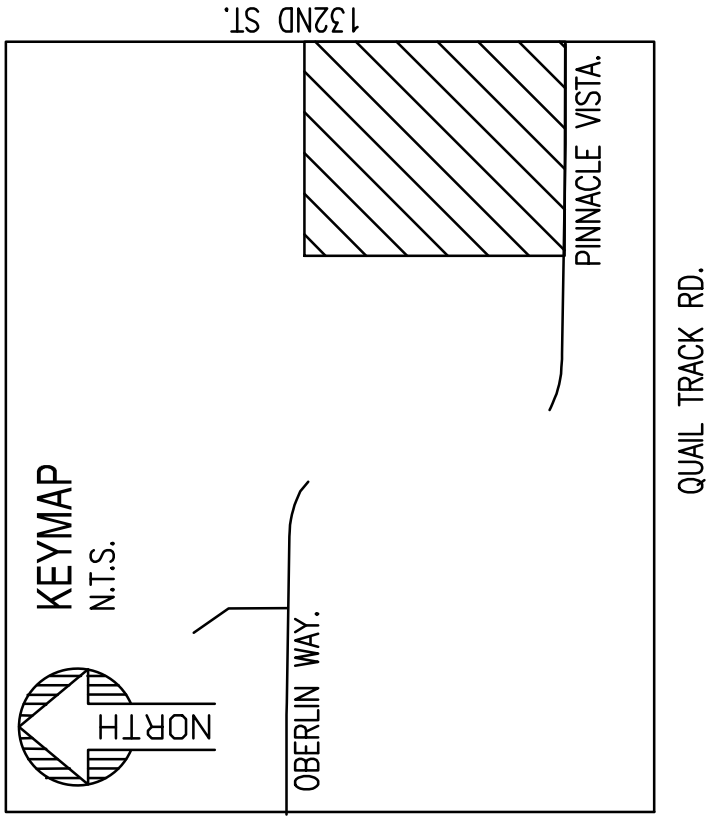
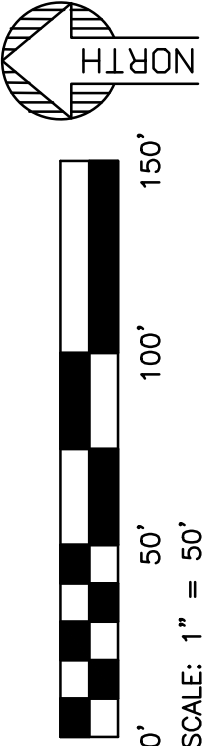
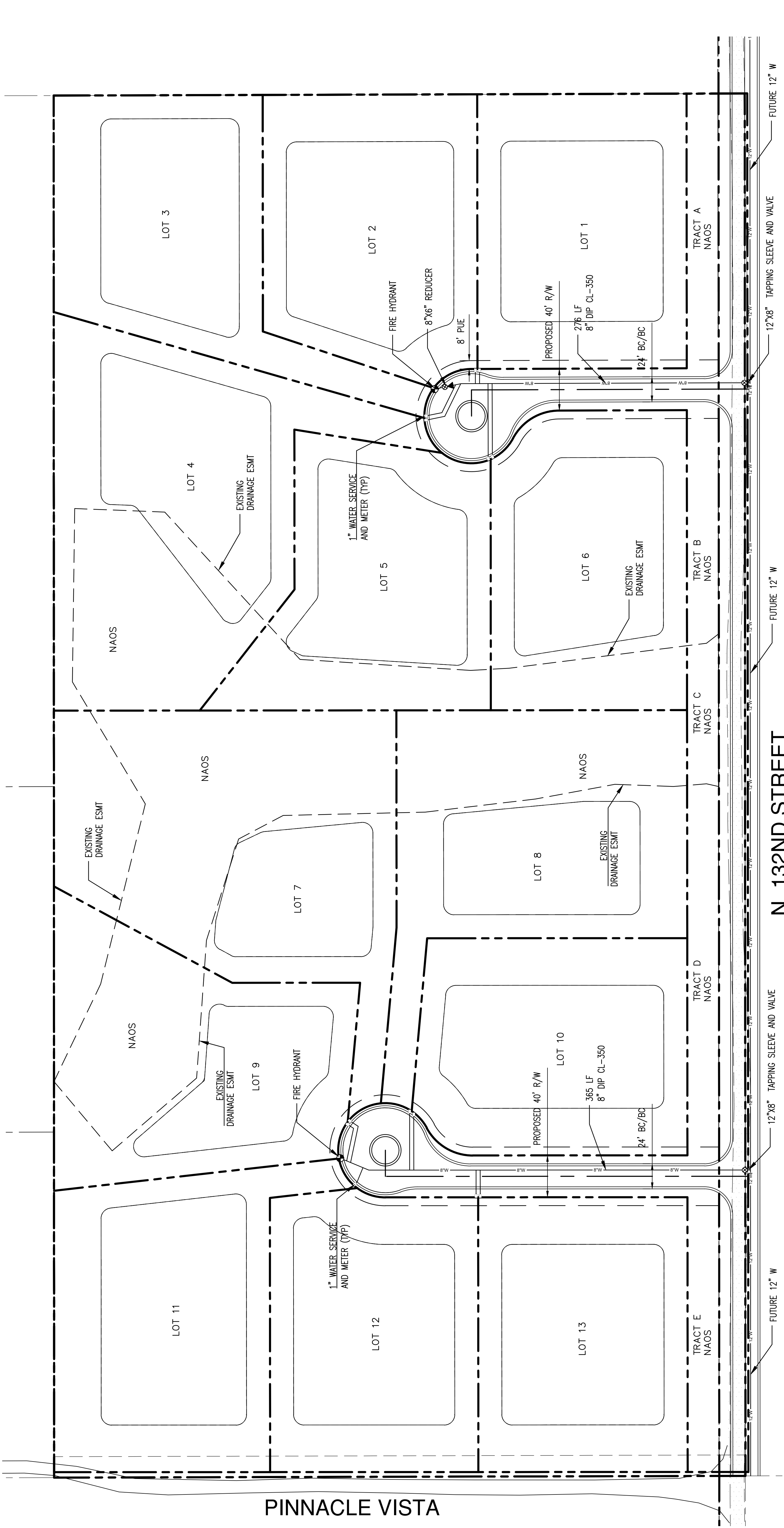
APPENDIX I

Preliminary Utility Plan

OWNER:
BRAUN ROBERT W TR
3625 E. MEADOW BROOK AVE.
SCOTTSDALE, AZ 85260
PHONE: 480-588-7226
ATTN: ALI FAKH

PRELIMINARY UTILITY PLAN
BRAUN 20 ACRES
NWC 132ND ST. & PINNACLE VISTA RD., SCOTTSDALE, AZ 85259

- LEGEND
- PROPOSED HYDRANT
 - PROPOSED VALVE
 - PROPOSED REDUCER
 - PROPOSED WATER SERVICE



PROJECT
BRAUN 131ST SCOTTSDALE
RESIDENTIAL DEVELOPMENT

LOCATION
NWC 132ND STREET AND PINNACLE
VISTA RD.,
SCOTTSDALE, AZ 85259

DRAWN
DESIGNED
CHECKED
PROJ. MGR.

TAPIA
TAPIA
COUNSELL
MALONEY

DATE: 07-27-17
ISSUED FOR: ZONING

PERSON NO.:
DATE:

JOB NO.: 170601

SHEET TITLE:

PRELIMINARY
UTILITY PLAN

SHEET NO.: C4-00

8280 E GELDING DR #101, SCOTTSDALE, ARIZONA 85260
WWW.AZSEG.COM TEL. 480.588.7226

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