Special Exception Land Use Permit Application Including Preliminary Development Plan Package and Environmental Resource Report

Sonoran Substation

10201 South Swan Road, Tucson AZ
Tucson, Arizona
Pima County Tax Assessor Parcel No. 303-70-005A

September 14, 2018

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Submitted to:
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September 14, 2018

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DEFINITIONS

Project	The construction, operation and maintenance of the Sonoran 138/46/13.8 kV substation, located within an approximated 11.47-acre walled area.
Project Area	The area surrounding the Project Site, inclusive of the parcel and areas adjacent to and in close proximity to the parcel.
Project Site	The area to be leased from Tucson Airport Authority and the subject of this Special Exception Land Use Permit, totaling 52.14 acres.
Sonoran Substation Study Area (SSSA)	The 515-acre area of Tucson Airport Authority owned land within portions of parcels 303-70-0040, 303-70-0030, 303-70-005A, and 303-09-0230 that was considered for the substation and the subject of the cultural resources, Waters of the U.S., and biological studies.
Subject Parcel	The Pima County Tax Assessor Parcel 303-70-005A, totaling 317 acres.

ACRONYMS

ADOT	Arizona Department of Transportation
AEZ	Airport Environs Zone
AGFD	Arizona Game and Fish Department
AHD	Airport Hazard District
BE	Biological Evaluation
cfs	cubic feet per second
C.I.P.	COT Capital Improvement Program
COT or City	City of Tucson
ERR	Environmental Resources Report
ERZ	Environmental Resource Zone
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Federal Insurance Rate Map
FWS	U.S. Fish and Wildlife Service
GIS	Geographic Information System
HDMS	Heritage Data Management System
IGA	Intergovernmental Agreement
IPAC	Information, Planning, and Conservation System
kV	kilovolt
Ldn	Day-Night Average Sound Level
LT	Plan Tucson's Land Use, Transportation, & Urban Design Policy
NCD	Noise Control District
PDP	Preliminary Development Plan
PI	Plan Tucson's Public Infrastructure, Facilities, & Cost of Development
PJD	Preliminary Jurisdictional Determination
PPC	Pima Pineapple Cactus
PVS	Priority Vulnerable Species
REC	Recognized Environmental Conditions
RH	Rural Homestead
RSSP	Rincon/Southeast Subregional Plan
SDCP	Sonoran Desert Conservation Plan
SELUP	Special Exception Land Use Permit
SSSA	Sonoran Substation Study Area
TAA	Tucson Airport Authority
TEP	Tucson Electric Power Company
TIA	Tucson International Airport
TROW	Tierra Right of Way Services
UDC	Unified Development Code
WAPA	Western Area Power Administration
WASH	Watercourse, Amenities, Safety, and Habitat
WEC	Wilmot Energy Center
WUS	Waters of the United States

EXECUTIVE SUMMARY

This is a request by Tucson Electric Power Company (TEP) for approval of an electric substation as a special exception land use in the Rural Homestead (RH) zone within the City of Tucson. TEP has proposed building a new 138/46/13.8 kilovolt (kV) substation (the Project), switchyard, and transmission and distribution power lines south of Tucson to support the construction of the Wilmot Energy Center (WEC), TEP's largest local community-scale solar array and battery storage system. The substation also will strengthen electric reliability for customers, meet future energy needs, and expand power capacity in the area to help drive economic development around Aerospace Parkway and the Arizona Department of Transportation's (ADOT) proposed Sonoran Corridor.

TEP plans to build the Sonoran Substation on approximately 16.4 acres within a greater 52.14-acre lease area that will include a relatively undisturbed 200-foot setbacks. The 52.14-acre Project Site would be leased from Tucson Airport Authority (TAA). The Project Site is located south and east of the corner of East Old Vail Connection Road and South Swan Road in Township 16 South, Range 14 East, Section 2, Gila and Salt River Baseline and Meridian, Pima County, Arizona. The Project Site was identified through TEP transmission, distribution and land-use planning analysis and in consultation with TAA, as well as with Pima County and ADOT, in consideration of Pima County's preferred location for the Sonoran Corridor along East Old Vail Connection Road. The proposed Sonoran Corridor is intended to encourage new industrial and manufacturing jobs and provide ongoing expansion opportunities for existing companies including Raytheon Missile Systems, the University of Arizona Tech Park, Tucson International Airport, and Davis-Monthan Air Force Base.

Selection of this area for the substation was based on the need to interconnect with WEC and proximity to several existing TEP 46 kV and 138 kV transmission lines. Additionally, TEP has conducted hydrologic, biological, and cultural resource studies to identify a Project Site that meets the needs of the Project and minimizes impacts to special resources.

The Project will consist of two (2) phases. Phase 1 of the Project would include all civil work described herein and construction of the 138 kV substation. Phase 2 would include construction of the 46 kV and 13.8 kV distribution substations.

The Project would house transformers and other equipment to convert transmission level voltages to distribution level voltages as well as interconnect a number of existing 138 kV transmission lines. The conversion to lower voltages will allow TEP to serve industrial, commercial and residential customer growth in the area. The Project would also interconnect with the new solar-and-storage facility while helping to alleviate overload conditions at a nearby 46 kV substation.

The Project Site is located entirely on land within City of Tucson (COT) limits.

Site Selection

TEP land use planners, engineers, and their consultants conducted a detailed study to identify and evaluate suitable sites within the electrical load center[1] near the intersection of East Old Vail Connection Road and South Swan Road. As outlined below, each site was screened for technical and logistical constraints that are typically applied during the site selection process for new substations. The new substation site must:

- Meet Substation and Distribution Planning's technical system requirements;
- Accommodate a substation footprint of approximately 12 acres, as well as associated jurisdictional setback requirements;
- Avoid or minimize impacts to natural or cultural resources (i.e., washes, riparian areas, historic properties, threatened or endangered species, etc.);
- Be available for purchase from a willing seller;
- Be compatible with surrounding land uses, particularly existing adjacent residential land uses; and
- Be the most cost-effective siting option (e.g., property cost close to market value, least cost for associated improvements necessary to distribute power from the location).

The TEP site selection process initially involved the evaluation of five (5) discrete study areas (No. 1-5 on Exhibit 1). These areas were evaluated to determine the most suitable location for the new substation. Once the preferred study area was identified, TEP worked with TAA (the landowner) and other stakeholders to select the best site (Letter A-C on Exhibit 1). The results of the selection process are presented in Exhibit 1 and Table 1. Table 1 shows that study area 1 was the most suitable and that Site B or C would be equally acceptable for the substation, based on the criteria assessed. TAA and Pima County preferred Site C, which is the location proposed in this application for the Sonoran Substation.

[1] Load Center – The center point of an electrical service planning area based on projected electrical load growth.

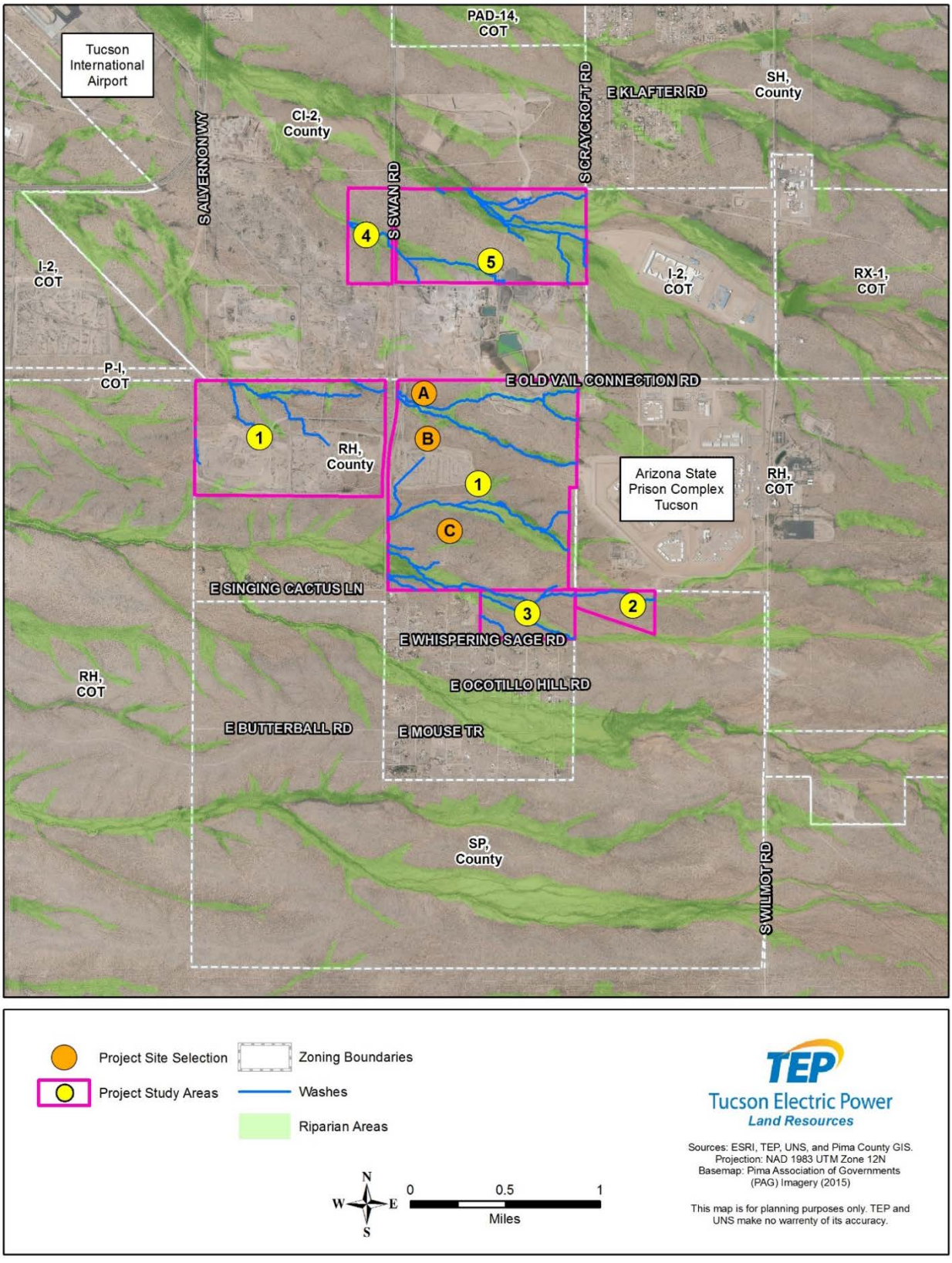


Exhibit 1. Sonoran Substation Site Selection Map

Table 1. Sonoran Substation Site Selection Matrix

Site Selection Criteria	Study Areas					Sites within Study Area 1		
	1	2	3	4	5	A	B	C
Proximity to Load Center	X	–	–	X	X	X	X	X
Reasonable Infrastructure Cost for Transmission/Distribution	X	X	X	X	X	X	X	X
Vacant Land	X	X	X	X	X	X	X	X
Property Size Suitable	X	X	X		X	X	X	X
Minimal Environmental Impacts	X	–	–	–	–	X	X	X
Minimal Land Use Impacts	X	X	–	X	X	X	X	X
Willing landowner (site selection only)	n/a	n/a	n/a	n/a	n/a	–	X	X
TOTAL	6	4	3	4	**5**	**6**	**7**	**7**

1. INTRODUCTION AND POLICY

This report is intended to demonstrate compliance with the general procedures and application submittal requirements necessary to process a Special Exception Land Use Permit (SELUP) pursuant to the COT Unified Development Code (UDC) Article 3 and Administrative Manual Section 2. This report is generally organized to follow the provisions outlined in Section 2-03.4 for Preliminary Development Package (PDP) Content Requirements.

The Project complies with the COT's General Plan and zoning regulations, and will comply with all relevant land use standards and regulations. The following sections are intended to demonstrate that the Project meets the intent of plan policies.

A. Subregional, Area, and/or Neighborhood Plans

Plan Tucson, the Rincon/Southeast Subregional Plan provided land use and development guidance for the Project. Exhibit 2. Applicable Plans depicts the Subject Parcel in relation to these plans. Furthermore, the Project is subject to the Airport Environs Zone (AEZ), the TAA Master Plan, and the COT zoning code. Project compliance with each of these plans is described in the following paragraphs.

B. Adopted Plan Policies

1. Plan Tucson

Plan Tucson, the COT General & Sustainability Plan was ratified in 2013 (Resolution #22160) (COT 2013). Plan Tucson identifies the Project Site as a "Potential Annexation Area" on the City's "Future Growth Scenario Map". In 2014, the Project Site was part of Annexation #239 – Tucson Airport Authority 1 - Annexation District Property (Ordinance No. 11211; Sequence No. 20143230545; Book 65, Page 83). In 2015, Rezoning Case #C15-14-05 changed the County Zoning for ten parcels including the parcel that the Project Site is located on from Pima County RH and CI-2 zoning to the new "Original" City Zoning of RH and I-2. This action also "translated" the Major Streets and Route - Arterial Street Route designation for Swan Road and Old Vail Connection Road, and extended the Environmental Resource Zone (ERZ) and the AEZ to include those parcels, effectively mirroring the prior Pima County designations.

The proposed Sonoran Substation is considered a utility (land use group), which is allowed in all COT zones, subject to conditions, through the SELUP process.

Plan Tucson's "Land Use, Transportation, & Urban Design Policy" (LT) 28.1.3 provides guidelines for development review specific to utilities. It states that above-ground utilities and structures be designed with improved appearances. In addition to locating the Project Site within the center of the parcel to offset visual impacts of the substation from the public roads and adjacent neighbors, the Project design includes a dedicated 200-foot setback in all directions surrounding the substation, and a 10-foot tall block wall with wrought iron openings to prevent stormflow impediment.

LT28.1.12 urges conservation and efficient water use to minimize the need for new water sources. The proposed land use will not require water service and the landscaping approach (proposed 200-

foot setback) is tailored to preserve existing native desert and avoid the need for watering new vegetation.

Plan Tucson's "Public Infrastructure, Facilities, & Cost of Development" (PI) 7 and LT28.1.15 encourages coordination with utility companies for the planning of infrastructure, facilities, and services to ensure infrastructure and facility construction is sensitive in design and location to environmental and historic and archaeological resources. The Project Site was selected with special attention to minimizing impacts to these resources. TEP commissioned cultural and biological surveys within the Sonoran Substation Study Area (SSSA). Site selection within the SSSA was based largely on avoiding impacts to these resources (see Section 4: Environmental Resource Report) while meeting the technical and logistical needs of the Project. Impacts to one cultural site were unavoidable but are being mitigated though implementation of an Archaeological Treatment Plan approved by the COT Historic Preservation Officer.

The Project complies with the adopted plan policies.

2. Rincon/Southeast Subregional Plan

The Rincon/Southeast Subregional Plan (RSSP), as part of the COT's General Plan, is intended to establish land use and development direction for areas with potential to be annexed by the COT and was based largely on the Pima County Comprehensive Plan. The RSSP area is comprised of predominately rural and sparsely populated land. The RSSP provides guidelines for future growth, while protecting existing development in the plan area.

The Subject Parcel is outside any RSSP Map Detail Areas; thus does not provide for any specific land use policy guidance.

The Project complies with the RSSP.

3. Airport Environs (Overlay Zone)

In addition to the underlying RH zone, the Project Site is located within the AEZ in connection with Tucson International Airport (TIA). Specifically, the Subject Parcel occurs within the Airport Hazard District (AHD) for TIA. Essentially, no building, use of land, or tree may exceed the height limitations described by the AHD. Heights are based on the distances away and extending outward and upward from the established ends of the runways. Land uses which obstruct aircraft navigation and pilots' visibility, or present hazards to aircraft taking off or landing are prohibited within the AHD. TEP is coordinating with TIA personnel directly and will file a Federal Aviation Administration (FAA) Notice of Proposed Construction for an Obstruction Evaluation/Airport Airspace Analysis.

The Subject Parcel occurs within the Noise Control District-65 (NCD-65). Essentially this is a noise level zone which recognizes that noise levels from aircraft overflights potentially affect noise sensitive land uses. Noise levels from aircraft are measured in Ldn (Day-Night Average Sound Level) values. Ldn values are expressed in decibels and represent the average noise level over a twenty-four-hour period of an average day of the year. City development regulations for properties within the NCD-65 require acoustical treatment of all new or redeveloped structures in residential, public accommodation, and office uses. Due to the nature of the proposed land use, the Project

will not require special noise provisions. Exhibit 3. AEZ Map depicts the Subject Parcel in relation to the COT's AEZ, which includes the AHD and NCD-65 noise level contours.

The Project will be in compliance with the AEZ.

4. Tucson Airport Authority Master Plan

TAA's mission is to "promote aviation and foster economic development by strategically planning, developing and operating the most effective, efficient and safest airport system for southern Arizona." The Project will serve TAA's future development plans and is important to TAA's strategies and long-range planning. The Project is consistent with TAA's Master Plan.

The Project will be in compliance with TAA's Master Plan.

5. Zoning Code

The COT UDC, Administrative Manual, and the Technical Standards Manual was adopted on January 2, 2013, replacing the Land Use Code, Development Standards, and the development review procedures in Chapter 23A of the Tucson Code.

The Subject Parcel is zoned RH. This zone is intended to preserve the character and encourage the orderly growth of rural areas. It is intended to encourage rural development in areas lacking facilities for urban development and to provide for agriculture, commercial and industrial development only where appropriate and necessary to serve the needs of the rural area. This zone is solely to provide comparable zoning for annexed areas and is not intended for rezoning.

Permitted uses for this zone include animal production, nature reserve, veterinary hospital, adult and child care, manufactured housing, and single-family residential. Other uses are allowed under the Special Exception Procedure, including the Project.

The applicable land use class/type for the Project is the Distribution System: Limited to Power Substation (Input Voltage of 115 Kilovolts or Greater) class within the Utilities Land Use Group. Section 4.9.11.A of the UDC outlines the use-specific standards applicable to the Project Site.

The Project will be in compliance with COT's zoning code.

C. Conflicts with Adopted COT Ordinance or Policy

As described above, construction and operation of a substation on the selected site would not conflict with any adopted COT ordinance or policy.

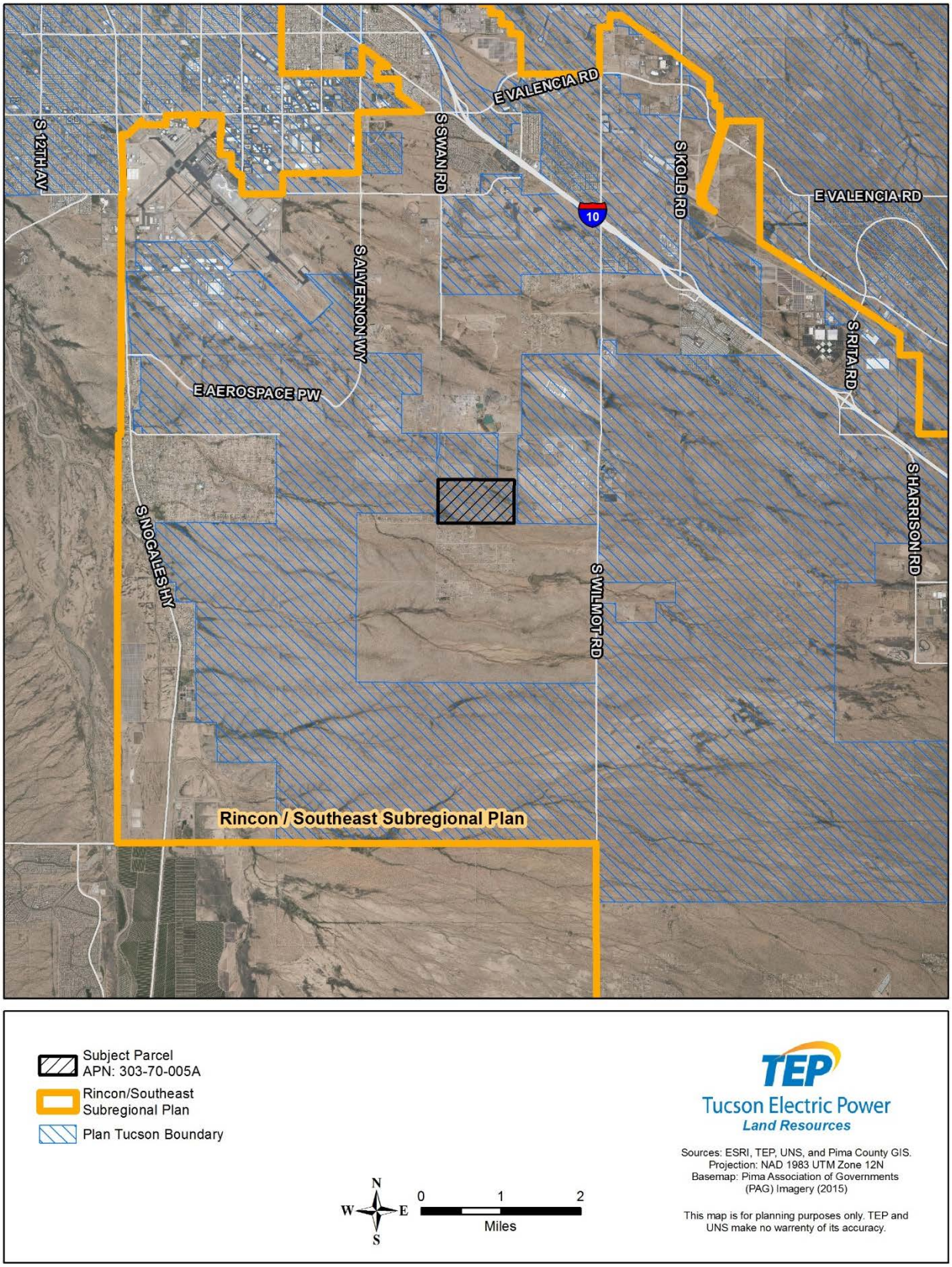


Exhibit 2. Applicable Plans

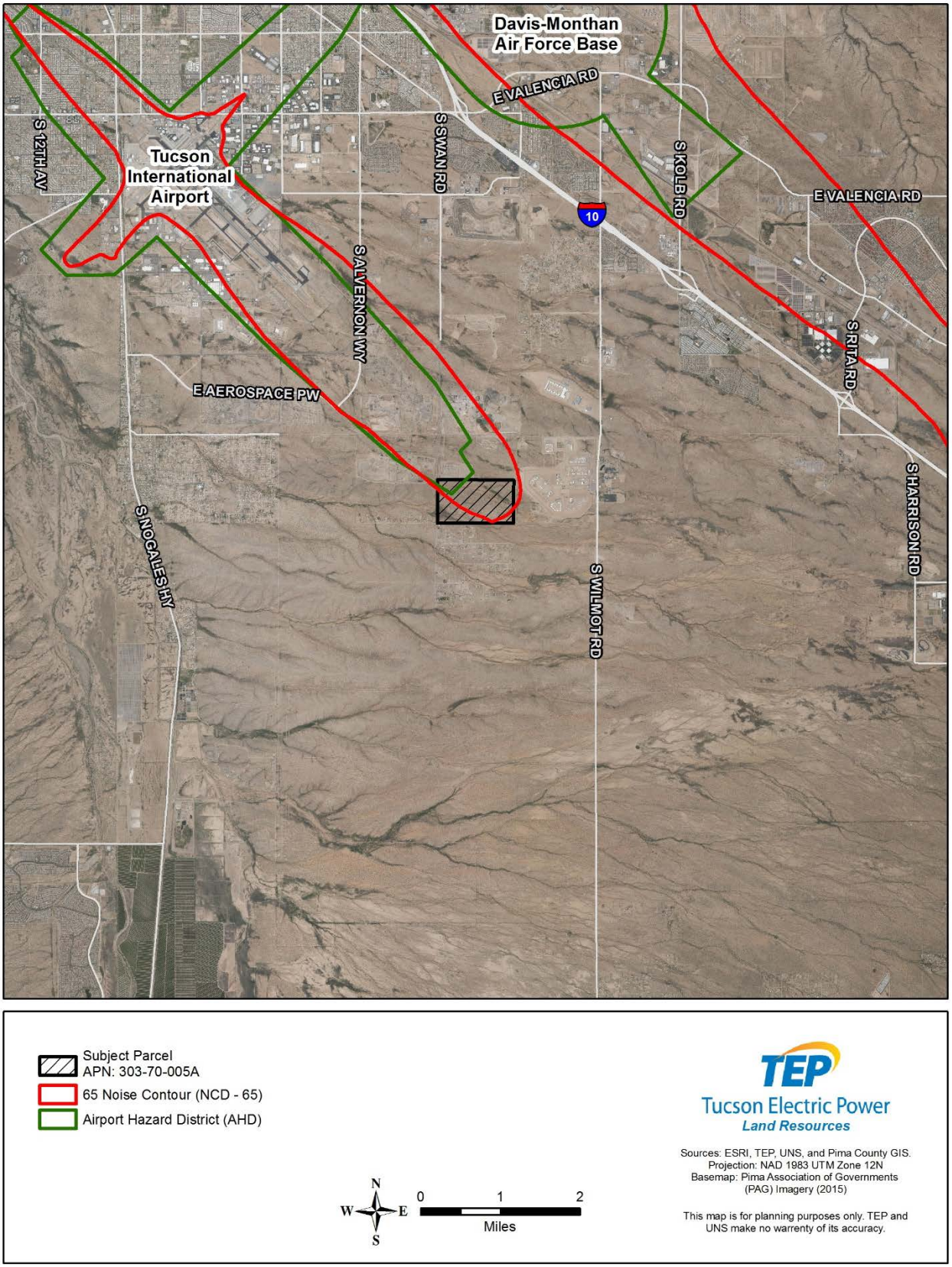


Exhibit 3. AEZ Map

2. SITE ANALYSIS

A. General

1. Table of Contents

A table of contents is included at the beginning of this document.

2. Project Location Map

Please see Exhibit 4. Project Location Map showing the location of the Subject Parcel, Project Site, and Project.

3. Generalized Land Use Map

Please see Exhibit 5. Generalized Land Use Map for a map showing the generalized land uses surrounding the Subject Parcel.

4. Property Boundary Dimensions

The Property boundary dimensions are shown on Exhibit 6. Preliminary Development Plan (graphic version) A and B.

5. Existing Zoning

Existing zoning of the parcel and adjacent land is depicted on Exhibit 7. Existing Zoning. The Subject Parcel is zoned RH. Adjoining zoning in all directions is RH.

6. Location, Size, and Height of Adjacent Existing Buildings

There are no buildings within 100 feet of the Subject Parcel.

7. Location, Size, and Height of Existing and Proposed Buildings On-site

There are no existing buildings on the Subject Parcel. No new buildings will be located on site. The location of all substation equipment is depicted in Exhibit 6. Preliminary Development Plan (graphic version) A and B, and Exhibit 8. Preliminary Development Plan (design version) A through C. See Section 3.A below for a description of the substation equipment.

8. Billboards

There are no existing billboards on the site, and none are proposed.

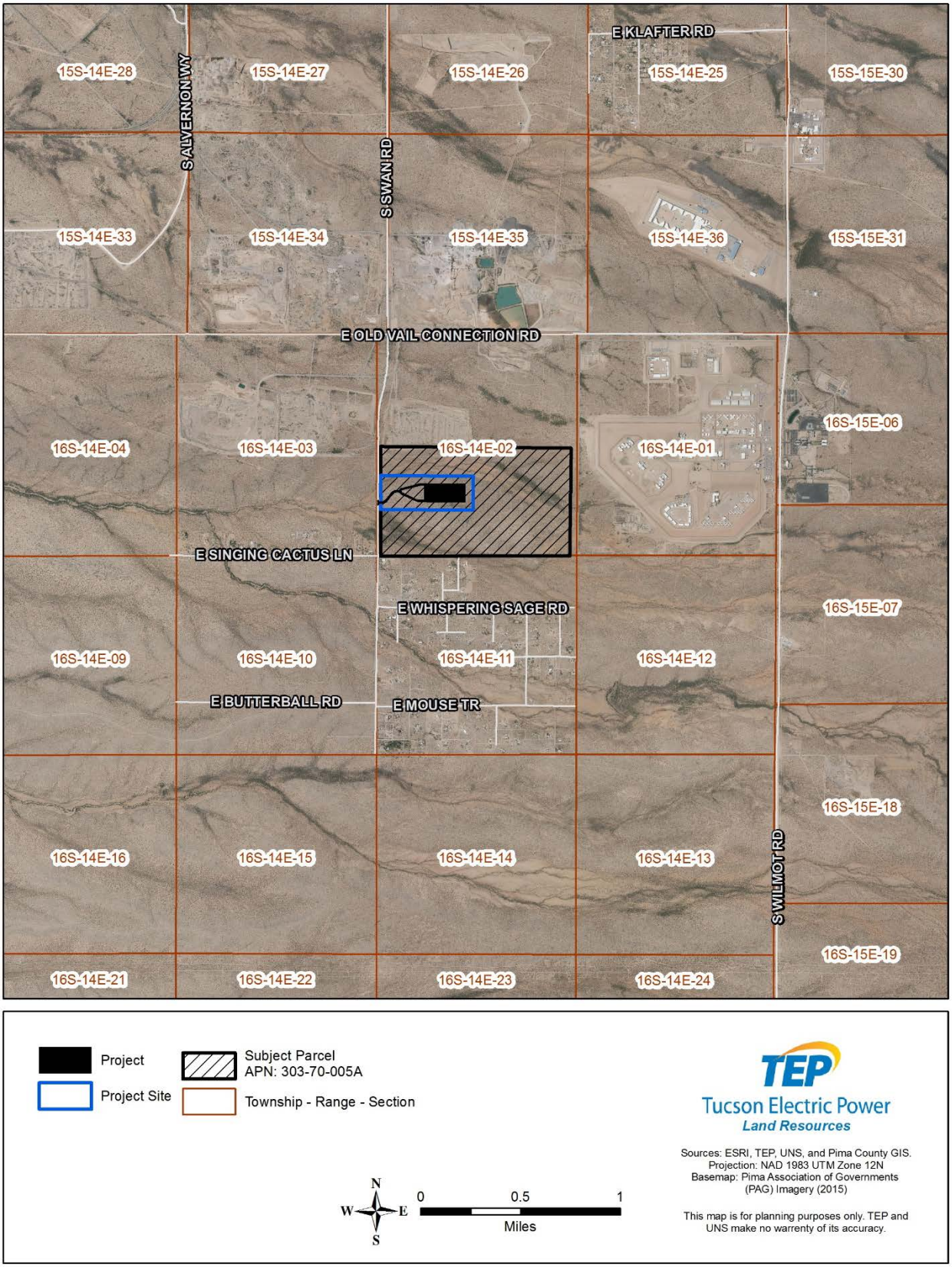


Exhibit 4. Project Location Map

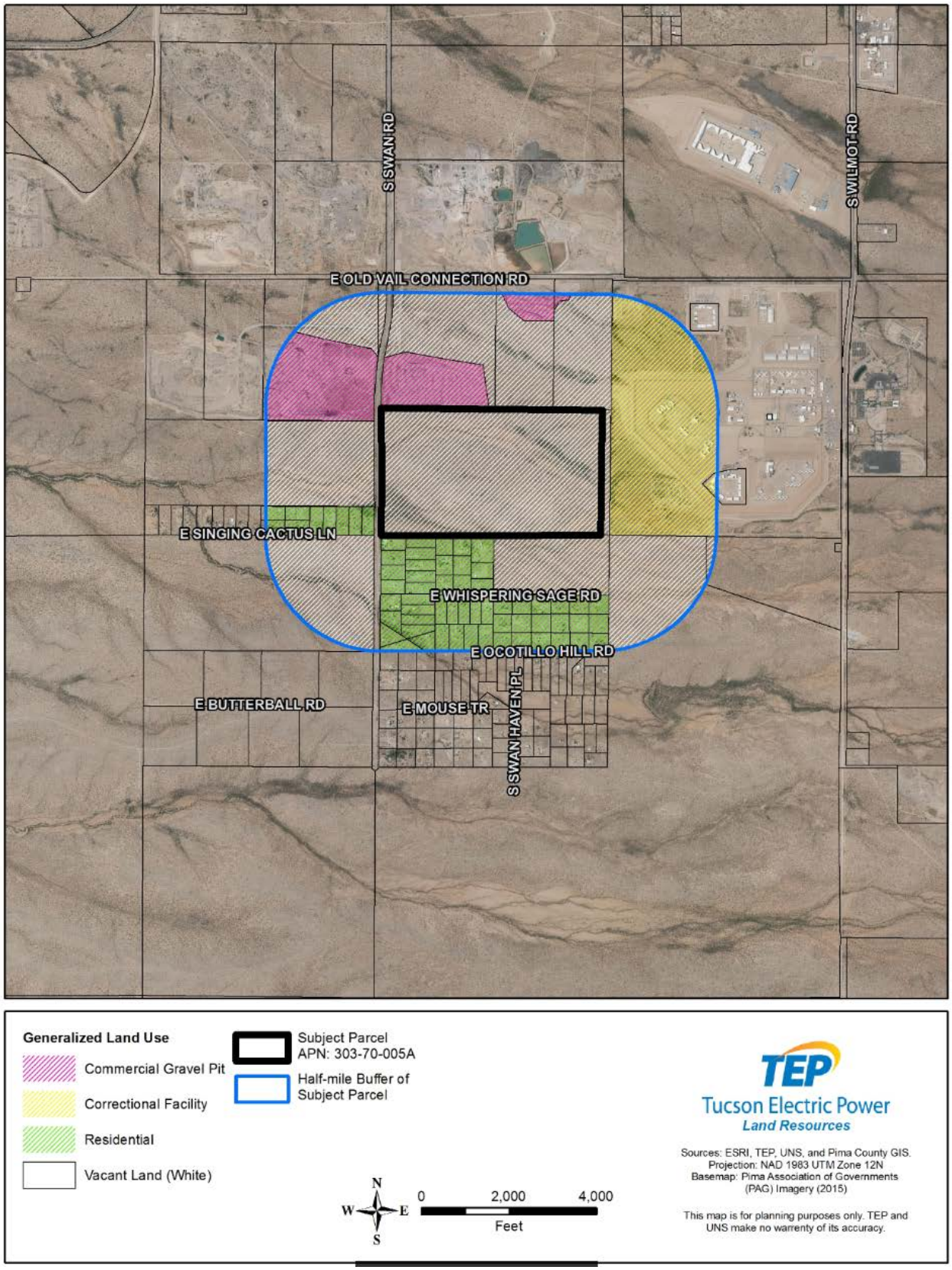
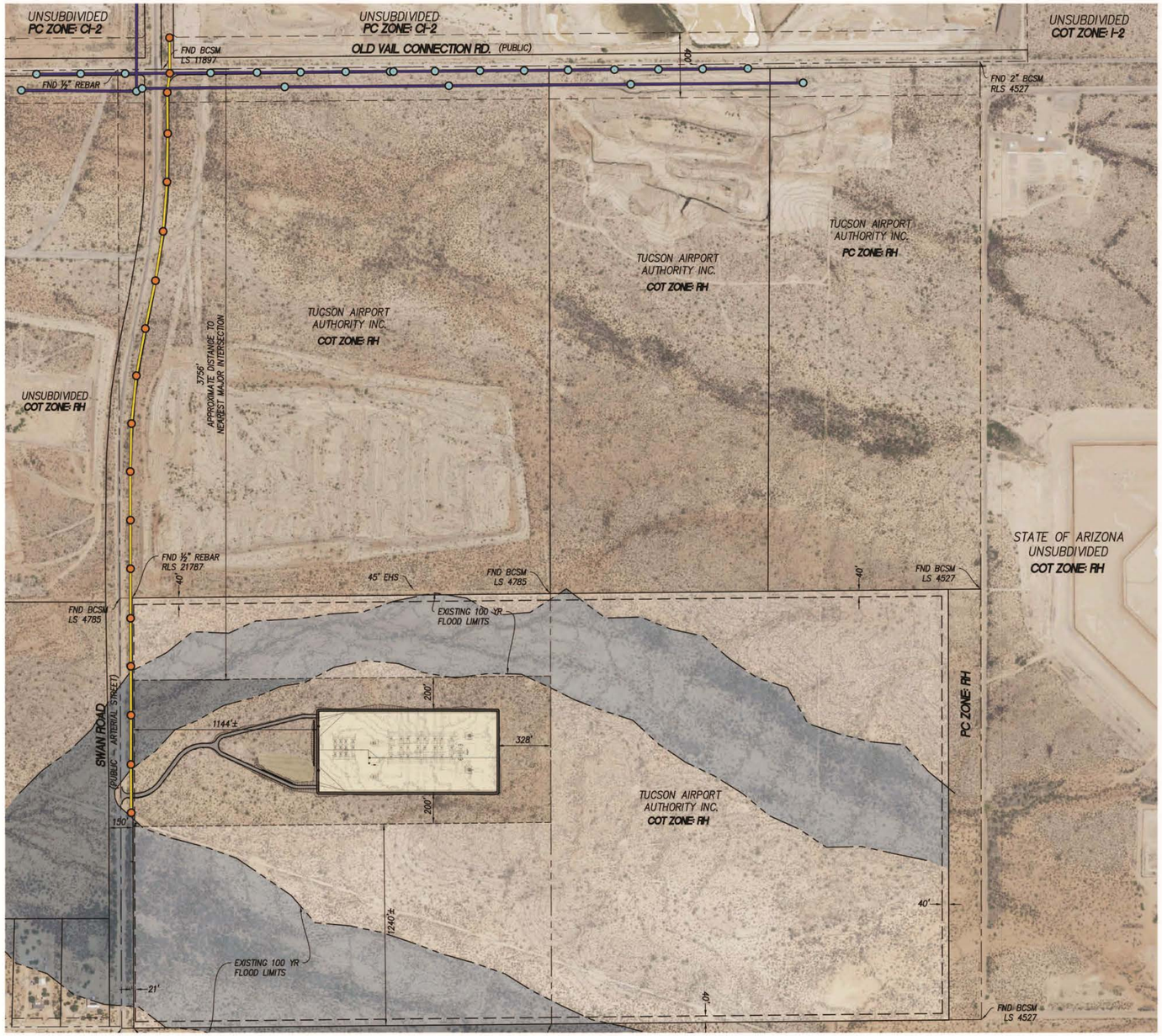


Exhibit 5. Generalized Land Use Map



EXISTING 138 kV LINE

EXISTING 138 kV TRANSMISSION STRUCTURE

EXISTING 13.8 kV LINE

EXISTING 13.8 kV TRANSMISSION STRUCTURE

EXISTING DRAINAGE TO BE PRESERVED

N
W E
S

0' 300' 600'

TEP
Tucson Electric Power
Land Resources

This map is for planning purposes only.
TEP and UNS make no warranty of its accuracy.

Exhibit 6. Preliminary Development Plan – (graphic version) A

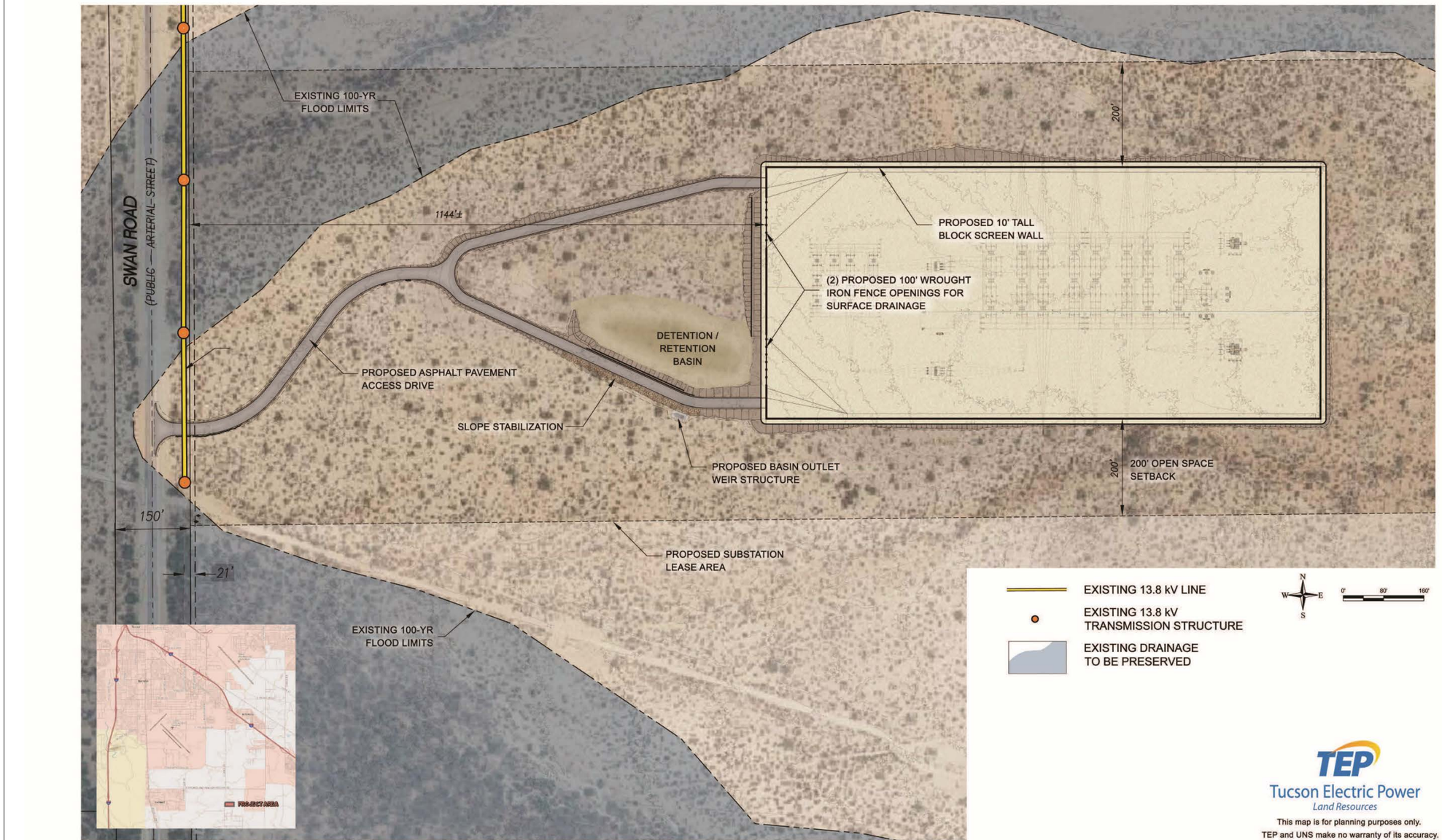


Exhibit 6. Preliminary Development Plan – Zoomed In (graphic version) B

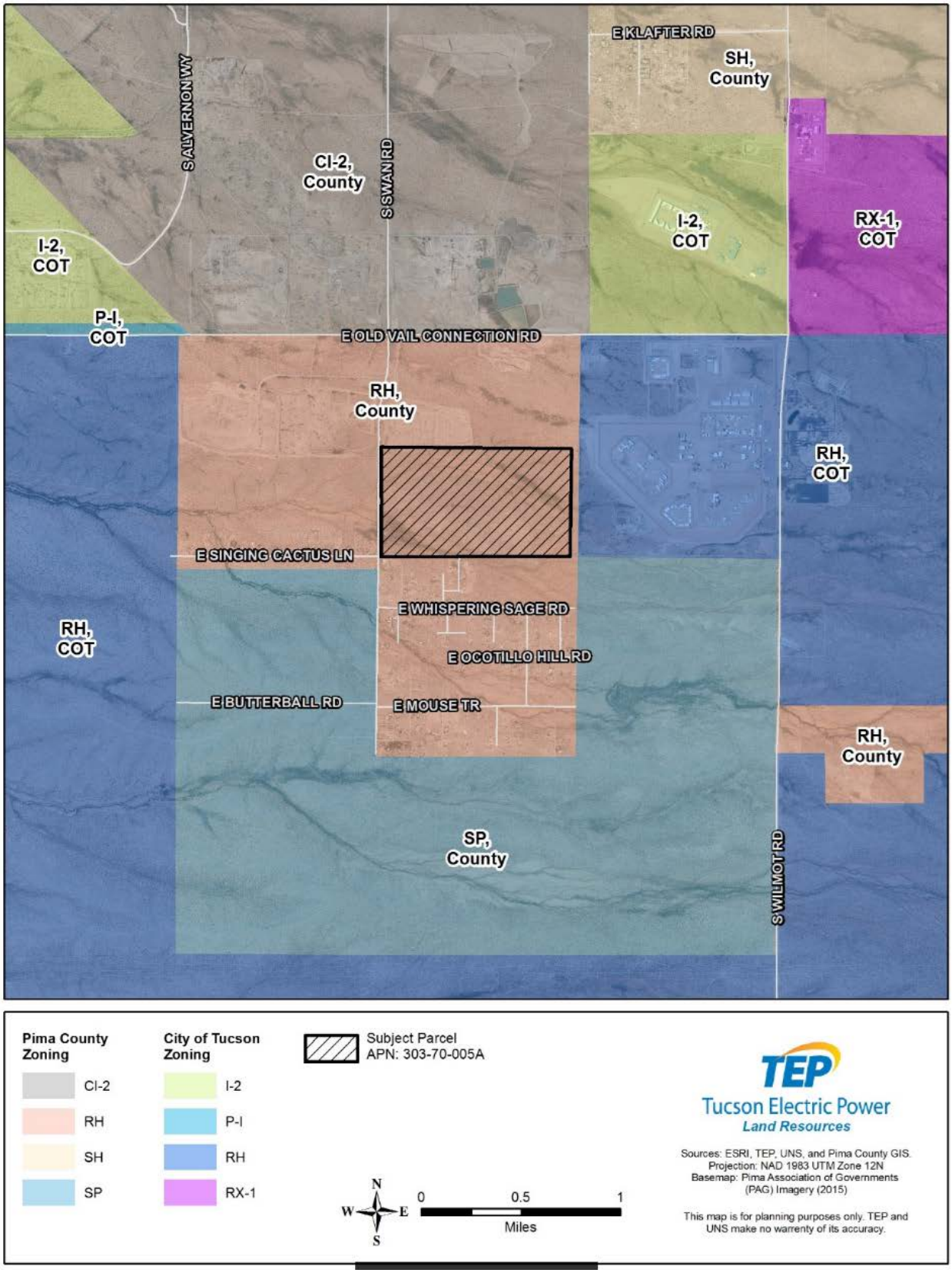


Exhibit 7. Existing Zoning

Exhibit 8. Preliminary Development Plan (design version) A

POCKET MAP

Preliminary Development Plan (design version) B

POCKET MAP

Preliminary Development Plan (design version) C

POCKET MAP

B. Circulation and Trips

1. Major and Local Streets

South Swan Road, which is paved and maintained under Intergovernmental Agreement (IGA) 3, is identified as an "arterial street" by the COT "Major Streets and Routes Plan" and map. It is located 1,170 feet west of the Project Site. Project associated transmission and distribution infrastructure will be located along this arterial. The nearest "major streets" are South Wilmot Road and South Alvernon Way. There are no scenic or gateway routes abutting the Subject Parcel.

Pima County's preferred alternative for ADOT's proposed Sonoran Corridor is located in the vicinity of the Project. It is depicted by Pima County as a 2,000-foot-wide corridor centered on South Country Club Road and East Old Vail Connection Road and is located approximately 4,200 feet north of the Project Site and 2.3 miles west of the Project Site. This proposed transportation facility would connect Interstate 10 and 19, south of TIA. Local stakeholder agencies associated with the Sonoran Corridor (TAA, ADOT, and Pima County) were consulted as part of the site selection for the Project.

Major and local streets abutting the Project Site, street widths, and Major Streets and Routes are depicted on Exhibit 8 Preliminary Development Plan (design version) A through C.

2. Existing and Proposed Curb Cuts and Access Drives

There are no existing curb cuts or access drives. The proposed access drive will be from South Swan Road and is depicted on Exhibit 8. Preliminary Development Plan (design version) B.

3. Deceleration and Turn Lanes

There are no existing deceleration or turn lanes in the area of the Subject Parcel and based on current conditions along South Swan Road and anticipated traffic to the Project Site, none is planned.

4. Existing and Proposed Curbs, Driveways, Sidewalks, and Bike Paths

There are no existing curbs, driveways, sidewalks, or bike paths in the area of the Subject Parcel. A driveway is proposed, as mapped on Exhibit 8. Preliminary Development Plan (design version) B and C.

5. Traffic Signals within One Mile

There are no traffic signals within one mile of the Subject Parcel.

6. Nearest Existing and Proposed Public Transit Stops and Park-and-Rides

The nearest public transit stops are located at South Swan Road and East Valencia Road and at South Alvernon Way and Corona Road. The nearest Park-and-Ride is located at Rita Ranch. No public transit stops or Park-and-Rides are proposed as part of the Project.

7. Projected Date of Any Roadway or Other Improvements in the COT Capital Improvement Program (C.I.P.)

No C.I.P projects are currently planned that are expected to affect the Project. TEP cannot make a statement regarding the landowner's willingness to participate in an improvement district.

8. Existing Traffic Counts on Major Streets within One Mile

The nearest traffic count data point to the Project Site is Swan Road between Los Reales Road and Old Vail Connection Road. 2012 traffic counts are as follows:

- Average Daily northbound: 834
- Average Daily southbound: 842
- AM Peak: 159
- PM Peak: 137

Pima County has indicated that the current average daily traffic for Swan Road at this data point is 1457.

9. Trip Generation Calculations

The substation is unmanned and will generate on average only two trips per month, except in the case of an emergency.

C. Cultural Resources

Tierra Right of Way Services (TROW 2018; Appendix A) performed a Class III Cultural Resources Survey of the SSSA, which is inclusive of the Project Site. The purpose of the survey was to identify, record, and assess the significance of any prehistoric or historic cultural resources within the surveyed parcel that might be adversely affected by the Project undertaking. The Class III survey was done under authority of the Arizona Antiquities Act Blanket Permit No. 2018-018b1, issued by the Arizona State Museum.

Eight archaeological sites, including one previously recorded site (AZ BB:13:558[ASM]), six new prehistoric Ceramic period sites with firecracked rock features and associated artifacts (AZ BB:13:980, 982–986[ASM])), and one late Historic trash dump (AZ BB:13:981[ASM]), and 59 isolated occurrences were documented during the survey.

Avoidance for the Project of AZ BB:13:983[ASM] is not possible. This cultural site consists of five fire-affected rock features and associated ceramics and flaked stone artifacts. The cultural site required a program of archaeological phased data recovery to identify the nature and extent of cultural features at the site prior to any ground-disturbing construction activities. An Archaeological Treatment Plan (Appendix B) was prepared by TROW and approved by the COT. The data recovery fieldwork was conducted on August 23-24, 2018. A report with the results from the phased data recovery will be submitted to the COT for final site clearance, prior to start of construction. TROW's Field Director (J. Jones) reports that the results of the field work have resolved adverse effects development of the Project Site might have on the cultural site. TROW has recommended that TEP be allowed to proceed with the Project development without any further requirements for additional archaeological work.

D. Hydrology & Drainage

Additional Hydrology and Drainage information is provided in Appendix C: Drainage Report (EEC 2018).

1. On-site and Off-site Drainageways

There are no well-defined drainages at the Project Site that will be impacted by the Project. There are three relatively minor on-site drainage areas occurring at the Project Site. The onsite discharges for these drainage areas are provided cubic feet/second (cfs) in Table 2. Impacted onsite stormwater flow will be managed using retention/detention, culverts, swales, and erosion protection.

Table 2. On-Site Discharges

Drainage Area	Area (ac)	Existing 100-Year Discharge (cfs)	Proposed 100-Year Discharge (cfs)
A	7.3	51	60
B	5.8	41	48
C	2.1	15	15
Totals	15.2	107	123

Source: EEC 2018

Ephemeral tributaries of the Franco Wash convey stormwater offsite, from east to west around the Project Site. One tributary of the Franco Wash is north of the Project Site, and the other is south of the Project Site. These drainageways confluence west of the Project Site and west of South Swan Road. These offsite drainageways are in an undeveloped state, and natural.

See Figures 3 and 4 of Appendix C: Drainage Report, Exhibit 6. Preliminary Development Plan – (graphic version) A and B, and Exhibit 8. Preliminary Development Plan (design version) A through C.

2. 100-Year Floodplains

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Map Panel No. 04019C2900L dated June 16, 2011 indicates that the Project Site and adjacent area is in Zone X, or an area outside the 0.2% annual chance floodplain. The Project Site is also not within the COT regulatory 100-year flood limit (COT 2018).

The existing 100-year floodplain limits are delineated on Figure 2 of Appendix C: Drainage Report, Exhibit 6. Preliminary Development Plan – (graphic version) A and B, and Exhibit 8. Preliminary Development Plan (design version) A through C.

3. Environmental Resource Zone and Watercourse, Amenities, Safety, and Habitat Drainageways

The offsite drainageways located north and south of the Project Site are mapped as ERZ ordinance watercourses (COT 2018). Development for the Project Site will completely avoid the "Regulated Area" composed of the 100-year floodplain associated with the ERZ watercourses. See Exhibit 9. Hydrology and Drainage.

There are no designated WASH ordinance watercourses or proposed ERZ or proposed WASH watercourses in the vicinity of the Project Site.

4. Erosion Hazard Setback Areas

The developed erosion hazard setback area is depicted in Exhibit 8. Preliminary Development Plan (design version) A through C.

5. Peak 100-Year Event Flow

Peak flows enter and leave the Subject Parcel at two locations. The current estimated 100-year flows entering the Subject Parcel are 1,942 cfs and 2,102 cfs. These flows are not impacted by development of the Project and the flows leaving the site are the same as the flows entering the site. Peak 100-year flow values and locations are depicted in Exhibit 8. Preliminary Development Plan (design version) A through C.

6. Existing Condition and Locations of Proposed Retention/Detention Areas

The existing condition at the Subject Parcel is sheet flow with a natural channel occurring at the northwest corner of the Project Site. Conveying flow westward. The location of proposed retention/detention areas is provided in Exhibit 8. Preliminary Development Plan (design version) A through C.

7. Applicable Floodplain and Wash Ordinances and Codes

The Project Site is not subject to the City Floodplain Ordinance. An ERZ designated wash is present on the Project Site but the wash and its 100-year floodplain (Regulated Area) will not be impacted by development of the Project. The site is not subject to Article VIII, Section 29-12.

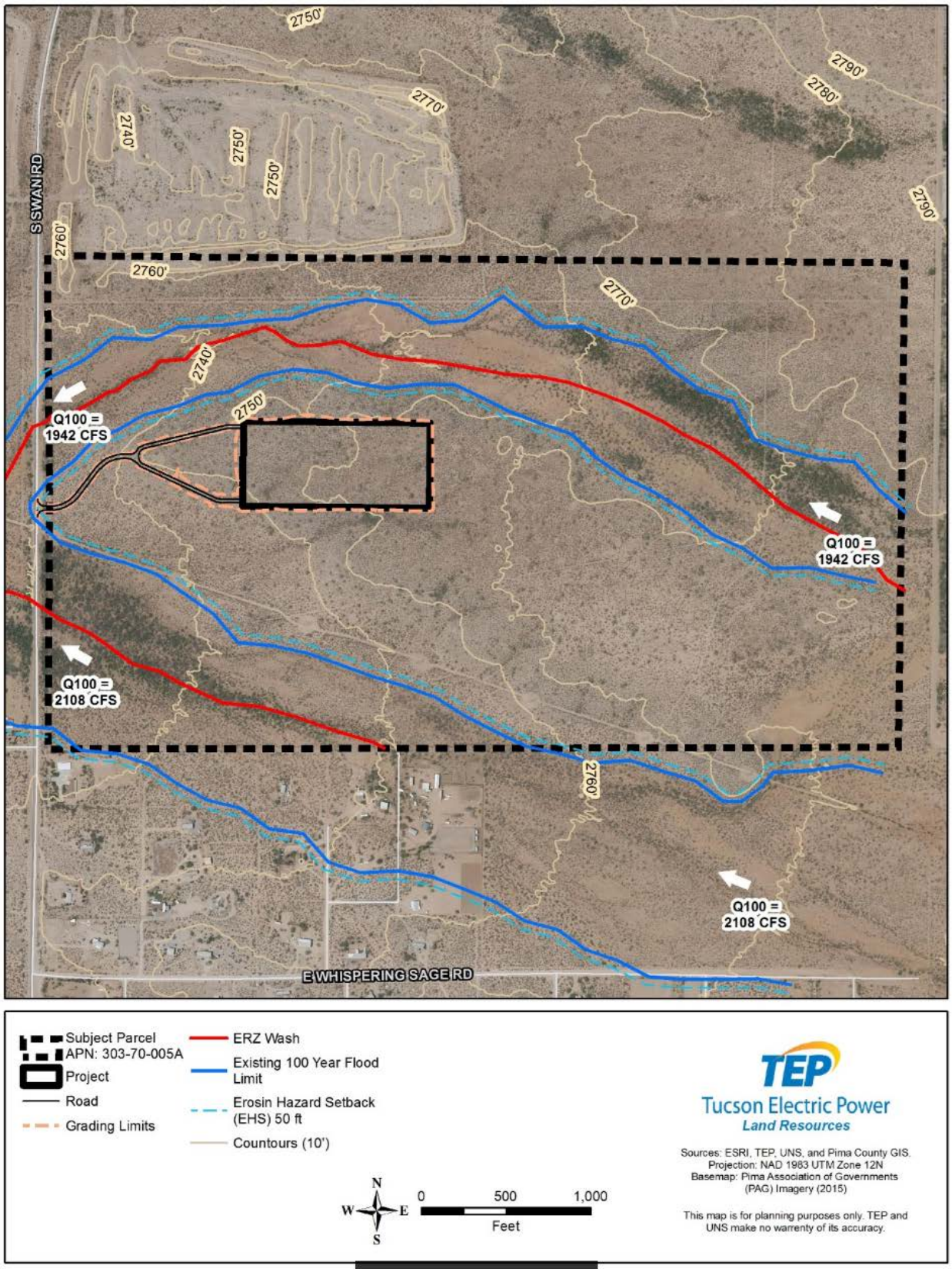


Exhibit 9. Hydrology and Drainage

E. Schools, Recreational, and Cultural Facilities

1. Locations of Schools, Parks, Libraries, and Public Land

There are no schools, parks, libraries, cultural facilities, or public land abutting the Subject Parcel.

2. Pedestrian and Bike Routes

There are no bicycle routes on or adjacent to the Subject Parcel. There are no known pedestrian routes used by children going to public facilities.

3. Trail and Trail Access Points

There are no public trails or trail access points on or adjacent to the Subject Parcel.

F. Soils

1. Heavily Disturbed Area

There are no heavily disturbed areas (by prior grading or excavation) or unstable soils on the Subject Parcel. Gravel pits are located north and northwest of the Subject Parcel, see Exhibit 6. Preliminary Development Plan – (graphic version) A and B.

2. Hazardous Materials On-site

A Phase I Environmental Site Assessment (ESA) was completed for the Project Site (Appendix D). There are no hazardous materials on the Project Site (placed on the property or naturally occurring), such as landfills, "wildcat" dumps, dross, or radon gas. The Phase I ESA concluded there were no recognized environmental conditions (REC) associated with the Project Site. RECs are defined as: "the presence or likely presence of any hazardous substances or petroleum products on, in, or at the Property: (1) due to a release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment."

3. Landfill Sites or Hazardous Materials within 1 Mile

Based on MapTucson (COT 2018) there are no landfill sites or hazardous materials storage within one mile of the Subject Parcel. Additionally, the Phase I ESA researched federal, state and local governmental environmental records for potential sources of environmental impact located between 0.125-mile and 1-mile from the Project Site (distance searched depending on the nature of the record). There were no records identified in any of the searched government databases for the Project Site or surrounding properties.

4. Other Existing Facilities/Operations within 1 Mile

Land use at and to the west, north, and east the Subject Parcel consists primarily of open space. An approximately 65-acre inactive borrow pit occurs north of the Subject Parcel and an approximately 160-acre inactive borrow pit occurs northwest of the Subject Parcel (with portions being within one mile of the Project Site). An Arizona State Department of Corrections facility is located to the east of the Subject Parcel. There are no other existing facilities/operations, such as power plants, airports, sewage treatment plants, etc., within one mile that may impact the Project.

G. Topography

1. Topographic Contours or Spot Elevations

Topography at the Project Site ranges from 2,747 to 2,766 feet above mean sea level. Surface gradient slopes west. Existing topographic contours and developed spot elevations are shown on Exhibit 8. Preliminary Development Plan (design version) A through C.

2. Hillside Development Zone

The Subject Parcel is not located within the Hillside Development Zone.

H. Utilities

There is an existing 13.8 kV distribution line located within the South Swan Road right-of-way, west of the Subject Parcel (see Exhibit 8. Preliminary Development Plan (design version) A through C).

There are no other utilities located at or adjacent to the Project Site.

I. Vegetation

1. Existing On-site Vegetation

Vegetation observed in the Project Area during Tierra's biological surveys is consistent with the description of the Arizona Uplands biotic community. Dominant plant species observed include creosote *(Larrea tridentata)*, velvet mesquite *(Prosopis velutina)*, yellow palo verde *(Parkinsonia microphylla)*, jumping cholla *(Cylindropuntia fulgida)*, Christmas cactus *(C. leptocaulis)*, walkingstick cactus *(C. spinosior)*, and whitethorn acacia *(Vachellia constricta)*. Other common plant species observed include triangle-bur ragweed *(Ambrosia deltoidea)*, brittlebush *(Encelia farinosa)*, burroweed *(Isocoma tenuisecta)*, ocotillo *(Fouquieria splendens)*, desert Indian weed *(Plantago ornata)*, and desert zinnia *(Zinnia acerosa)*. Other cacti species observed include cactus apple *(Opuntia engelmannii)*, candy barrel cactus *(Ferocactus wislizenii)*, Arizona pencil cholla *(Cylindropuntia arbuscula)*, saguaro (*Carnegiea gigantea)*, and the Endangered Pima pineapple cactus (PPC) (*Coryphantha scheerii* var. *robustispina)*. A complete list of vegetation observed during field surveys is provided in Appendix B of the Biological Evaluation (Appendix E).
A native plant inventory was not completed for the Project Site as neither a landscape planting plan or Environmental Resource Report Mitigation Plan are anticipated to be required.

2. Existing Landscaping and Screening

There is no existing landscaping or screening (walls/fences) along the Subject Parcel or Project Site boundaries. Naturally occurring vegetation is present outside of the area proposed to be grubbed and graded, within the 200-foot setback surrounding the Project.

J. Views

1. Description of Views out of the Site to Surrounding Area

View from the Site to the West

The view from the site to the west looks across South Swan Road and an existing distribution line towards undeveloped rangeland in the foreground. To the northwest is a view of a gravel pit and

to the southwest is a view of residences on large lots. The long-range view across the valley is unobstructed to the Tucson Mountains.

View from the Site to the North
The view from the site to the north is obstructed by the berms of a large gravel pit. The prison complex can be seen off to the northeast. To the east of the berms, the view is unobstructed to the Santa Catalina and Rincon Mountains.

View from the Site to the East
The view from the site to the east is across undeveloped rangeland to Wilmot Road. The prison complex can be seen to the northeast. The long-range view is unobstructed to the Santa Rita Mountains.

View from the Site to the South
The view from the site to the south looks towards an existing Western Area Power Administration (WAPA) 115 kV transmission line on wood H-frame structures and beyond that to residences on large lots. The long-range view is unobstructed to the Santa Rita Mountains.

2. Description of Views Depicted in the Photo Simulations

Visual simulations were prepared in connection with the related transmission line project (Sonoran to Wilmot Energy Center 138 kV Transmission Line Project). Three of these simulations include the Project. The proposed condition from three locations are described below.

Photo Simulation 1, Looking Southeast (Exhibit 10:)
This view is looking southeast toward the Project from the northwest corner of the Parcel, along South Swan Road and south of the borrow pits. In this view, the electrical equipment at the substation site is largely screened by existing vegetation and the block wall. The taller dead end structures create the largest visual impact, along with the transmission lines in the distance. The Santa Rita Mountains are visible in the background. Rooftops from the neighborhood to the south are also visible.

Photo Simulation 2, Looking East-Northeast (Exhibit 11)
This view is looking east-northeast, southwest of the Project. The existing WAPA transmission line is apparent in this simulation. In this view, the electrical equipment at the substation site is largely screened by existing vegetation and the block wall. The taller dead end structures create the largest visual impact, along with the transmission lines in the distance. The Rincon Mountains are visible in the background. No existing development is viewable from this location.

Photo Simulation from Key Observation Point #6, Looking North (Exhibit 12)
This view is from Whispering Sage Road, east of South Swan Road and looking north. An existing fenceline and residences are visible in the foreground to the right (east) and in the distance to the left (west). The Santa Catalina Mountains are visible in the background.

Exhibit 10. Photo Simulation No. 1, Looking Southeast

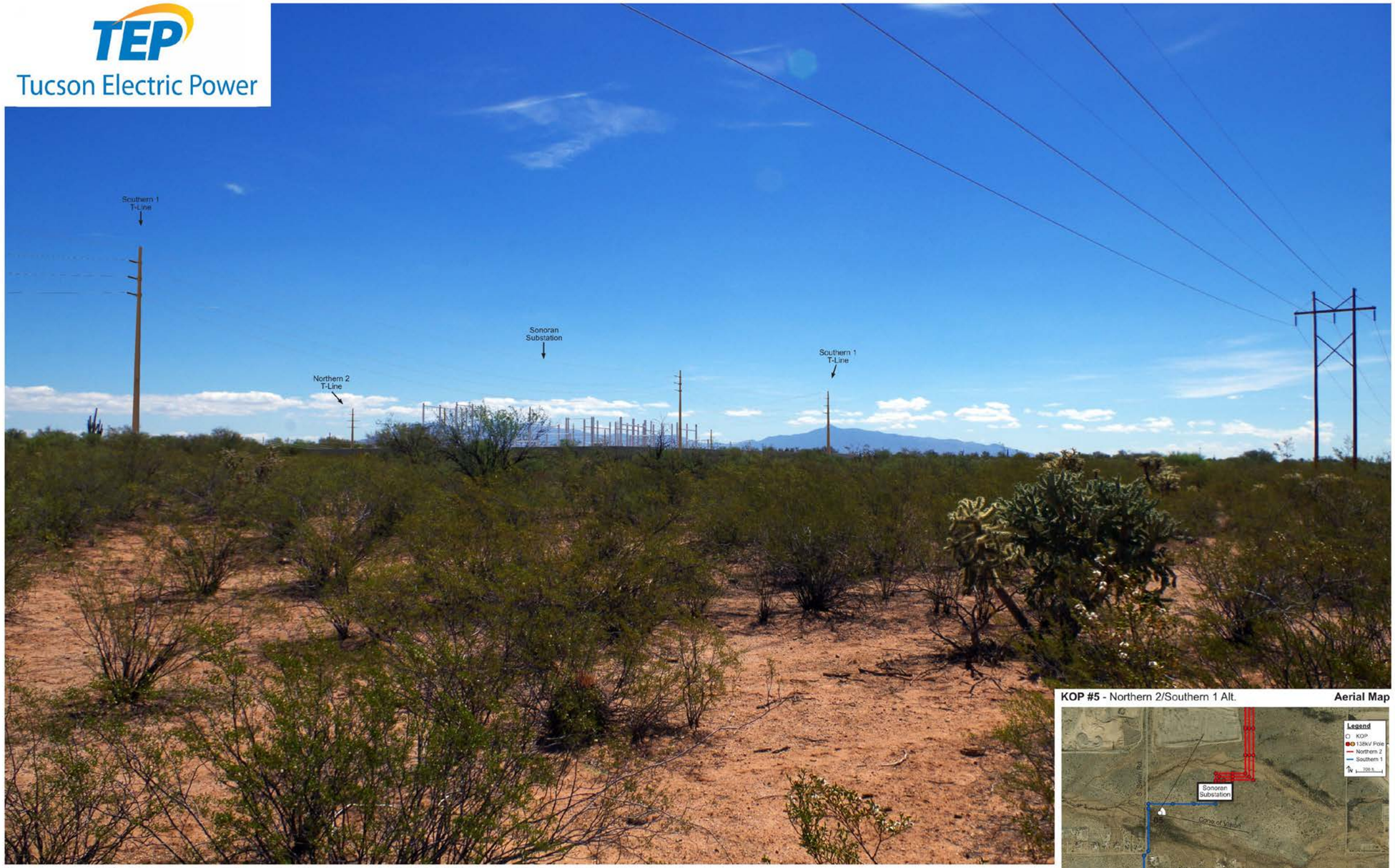


Exhibit 11. Photo Simulation No. 2, Looking East-Northeast

Exhibit 12. Photo Simulation No. 4, looking North

3. PLAN PROPOSAL

TEP substation planners, engineers, and their consultants (the "design team") have prepared a preliminary development plan that shows the proposed configuration of the Sonoran Substation. The design team carefully considered site hydrology, required property setbacks, the location of existing infrastructure, the configuration of transformers and switching equipment, and other technical constraints to identify the optimal location and layout of the substation facility. A PDP has been included as Exhibit 8. Preliminary Development Plan (design version) A through C.

A. Building Layout

There are no buildings proposed at the Sonoran Substation. The substation configuration is shown in Exhibits 6 A though B: Preliminary Development Plan (graphic version), and Exhibit 8 A through C: Preliminary Development Plan (design version) and will be enclosed by a 10-foot tall block wall. The electric transformer equipment will be approximately 30 feet in height; bus work is approximately 40 feet in height; and the dead-end structures will be 60–70 feet tall. In addition, eight to ten (8-10), 70-80-foot tall lightning protection masts will also be located within the substation enclosure. Note that these are not depicted in visual simulations or on Exhibit 8. Preliminary Development Plan (design version) A through C, because their exact number and height have not been determined at the time.

Transmission poles will be installed to support the transmission lines entering and exiting the substation. The estimated heights of these transmission line poles range from 75-120 feet. The preferred location of these poles is shown in Exhibits 10-12: Photo Simulations, however the transmission line siting case is still pending before the Arizona Corporation Commission Line Siting Committee, who will make the final determination.

B. Design Compatibility

1. Privacy for Adjacent Residences

The nearest adjacent residences are located greater than 300 feet to the south and over 1,400 feet to the southwest, across South Swan Road. TAA has no intent to develop any other portions of the parcel for residential use.

The substation will have a 10-foot-tall decorative masonry wall surrounding it and a 200-foot setback on all sides.

2. Compatibility with Climate and Surrounding Area

There are no buildings onsite. The substation wall will be decorative masonry in a natural color that blends with the surroundings.

3. Energy Conservation

All new substation designs by TEP include next-generation transformers and equipment manufacturers. These manufacturers have adopted conservation practices that increase substation grid efficiency and also reduce the transmission and distribution power losses of the system.

4. Building Setbacks

The substation wall is setback greater than 200 feet from any property lines.

5. Transition of Building Height and Number of Stories

Not applicable. There are no buildings being proposed.

6. Transition of Density

Not applicable.

7. Landscaping and Screening Mitigation for Noise and Visibility

Landscaping and screening is discussed above in 3.B.1. There are no exterior lighting impacts as a result of the proposed substation.

8. Street Improvements

None proposed or necessary as this is an unmanned substation.

9. Defensible Space Techniques

The substation will be surrounded by a 10-foot-high decorative masonry wall with security gates that can only be entered via a card reader. The substation will have an electronic security system including cameras that monitor activity.

10. View Corridors

View corridors are described in Section 2.J.

11. Changes in Elevation

Changes in elevation are discussed in Section 3.H and 3.J and depicted in Exhibit 8.

C. Hydrology & Drainage

1. Proposed Drainage Solution

Hydraulics associated with the project includes retention/detention, culverts, swales and erosion protection. A retention/detention basin is proposed at the western end of the substation to collect discharge from the site and outlet to a culvert under the southern access road via a 30-foot weir.

One culvert with erosion protection will receive discharge from the retention/detention basin and direct it under the southern access road.

Three swales are proposed, a swale along the inside of the north and south perimeter walls and along the outside of the west perimeter wall. The north and south swales direct site generated discharges to the west along the wall. The western swale collects discharge from the north and south swales and directs the discharge to the retention/detention basin.

Erosion protection includes riprap at the basin outlet and culvert inlet and additional protection will be installed as recommended along the slope downstream of the north and south weirs and downstream of the emergency weir.

2. Post-development Water Discharge On-site and Off-site

Post development water discharge is described in the Drainage Report, and maps are provided in Figures 3-5 of the Drainage Report (Appendix C).

D. Landscaping and Screening

Due to the location of the proposed substation and that it is situated away from adjacent land uses and on the larger Subject Parcel, 200-foot setbacks are proposed. To limit the use of water for the Project, no supplemental landscape plantings are proposed for the Project, nor are they considered necessary. Screening will be installed as generally depicted on Exhibit 6. Preliminary Development Plan – (graphic version) A and B. Screening will include a 10-foot high decorative masonry wall around the substation. A landscape buffer along South Swan Road is not planned at this time as there is an existing natural buffer along the road. Vegetation may be transplanted from the graded areas of site to the substation entrance off of South Swan Road and throughout the 200-foot setback area.

E. Lighting

Lighting will be installed at the substation for emergency and maintenance situations that may occur at night. There will be no dusk-to-dawn lighting within the Project or Project Site.

F. Pedestrian Access

Due to safety concerns, no pedestrian access will be allowed within the Project Site.

G. Signs

Signage will be limited to a TEP substation identification sign and safety signs mounted on the wall at each substation entrance (Photo 1). A sign identifying the Subject Parcel as the site of the future TEP Sonoran Substation would be placed on-site following approval of the SELUP (Photo 2. Example Notice Sign).

H. Topography

The grading for the substation pad is necessary due to the existing ground sloping steeper than the maximum slope that a substation pad can have. This grading includes various cut and fill areas including approximately 3 feet of cut at the east end of the pad and 6 feet of fill on the north side of the pad. The other main change in elevation due to grading is for the proposed retention/detention basin. The proposed basin is mostly left natural/undisturbed but has the driveway (to the southerly gate) elevated in order to create a berm to get the volume necessary to ensure that the post-development flows leaving the site do not exceed the pre-developed flows.

A minimum freeboard of one foot above flood elevation is applied to all essential equipment foundations.

I. Traffic & Trip Generation

The Project will be an unmanned electrical substation. Trips would be limited to one or two visits per month, except in the case of emergency.

Photo 1. Example substation signage

Tucson Electric Power

PUBLIC NOTICE

Future Site of a 138/46/13.8 kV Substation

Harrison Substation Project
Anticipated Start Date: April 2019
Anticipated Completion Date: May 2020

For more information on the project, including schedule updates, visit the Project webpage at tep.com/sonoran-to-wilmot/ or call (520) 884-3642.

Photo 2. Example Notice Sign

J. Undisturbed Areas

General Note 7 on Sheet 1 (Exhibit 8 - A) of the PDP indicates the gross site area and the proposed graded area. Sheet 2 & 3 (Exhibit 8 – B and C) depicts undisturbed areas delineated with a line around the grading limits and called out with Keynote 5.

K. Utilities

1. Proposed Changes to Utilities and Easements and New Utilities and Easements

There are no existing utilities and easements impacted by the Project. The Project is the construction of a new electric substation and as such all proposed improvements are related to utilities.

New transmission, sub-transmission, and distribution easements will be obtained from TAA, South Wilmot Land Investors, LLC, and the WEC, LLC. South Swan Road right-of-way may also be utilized.

2. Additional Utility Information

a. Estimated Number of Residents That Will Live On-site

Not applicable. No residential use is being proposed.

b. Water Service Provider

No water service is proposed for the Project.

c. Existing Infrastructure

This Project will connect to existing infrastructure with the exception of the proposed driveway connecting to South Swan Road as shown on Exhibit 8. Preliminary Development Plan (design version) A through C.

d. Public Sewer Connection

The Project will not connect to the public sewer or have on-site sewage disposal.

L. Vehicular Use Area

No vehicular use areas are required. Vehicles will park within the enclosed wall.

4. ENVIRONMENTAL RESOURCE REPORT

The following Environmental Resource Report (ERR) is submitted as a requirement for the SELUP of a proposed 138/46/13.8 kV electric utility substation in Tucson, Arizona. In accordance with the COT Administrative Manual 2-03.5.2 A & C, an ERR is required because the proposed substation is located within the Rincon/Southeast Plan Area and TEP is proposing to use the "set-aside" option of the Native Plant Preservation Ordinance. This section has been organized to include all information required for the ERR, as outlined in the COT Administrative Manual 2-03.5. References are made to previous sections of the report with applicable information.

TROW completed a Preliminary Jurisdictional Determination (PJD) and a Biological Evaluation that included the SSSA, inclusive of the Project Site (Appendix E). This site resource inventory identifies existing conditions on-site including topography/hydrology, vegetation and wildlife, and a composite map. Information discussed and depicted in text and maps is based on site visits, aerial photographs, engineering, and correspondence with state, county, and city agencies.

A. Table of Contents

A Table of Contents is located at the beginning of this document. It references all information included in this report by page or exhibit number. The PDP for the SELUP (Exhibit 8. Preliminary Development Plan (design version) A through C) is provided as a substitute for the conceptual grading plan.

B. Topography/Hydrology

1. Topography

The Project Area is located within the Tucson Basin at an elevation of approximately 2,450 feet above mean sea level. The Tucson Basin occurs within Basin and Range Physiographic Province of southern Arizona, which is characterized by linear, north to south trending alluvial filled basins surrounded by normal fault-block mountain ranges. This wide basin is surrounded by the Santa Catalina Mountains, Rincon Mountains, Santa Rita Mountains, Tortolita Mountains and Tucson Mountains. Also see Section 3.H above. Contours are provided on Exhibit 8. Preliminary Development Plan (design version) B through C).

2. Hydrologic Conditions

FEMA FIRM Map Panel No. 04019C2900L dated June 16, 2011 indicates that the Project Site and adjacent area is in Zone X, or an area outside the 0.2% annual chance floodplain.

The existing 100-year floodplain limits as mapped by EEC and peak discharges entering and leaving the site are delineated on Exhibit 8: Hydrology and Drainage Map.

Approximately 109 acres of the Subject Parcel occur within 100-year floodplain and 5.4 acres of the Project Site occurs in 100-year floodplain. No 100-year floodplain will be developed for the Project.

3. Encroachment on Significant Natural Features

No significant or unique natural features, vegetation or floodplain areas located on the Project Site which will be impacted. 100-year floodplain associated with mapped ERZ washes will be completely avoided. Site selection for the substation and design focused on minimizing impacts to riparian resources, archeological site, PPC and washes. While some riparian vegetation will be impacted, impacts were minimized by avoiding higher value habitat.

The Project Site is located within the Lee Moore Wash Study Area and occurs in the Franco Wash watershed comprised of 32.23 square miles (COT 2018). The northern branch of Franco Wash is south of the Project Site. TROW completed a PJD for the Project site and surrounding area on March 1-2, & 12, 2018 (within Appendix E). The PJD indicates that there are no perennial waterways in the Project Area; however, two potentially jurisdictional ephemeral drainages (F & G in the PJD) are present on the Subject Parcel and touch the Project Site. The drainages flow generally from east to west across the parcel and ultimately into the Santa Cruz River, located approximately 7.6 km (4.7 miles) to the west. Drainage F is a small drainage and its outflow is intercepted by an existing WAPA transmission line access road. Drainage G is larger than Drainage F and is joined with a tributary to the east.

The drainages delineated during the PJD fieldwork are potentially jurisdictional "water of the United States" (WUS) under the Clean Water Act because they were found to exhibit clear signs of an ordinary high water mark (OHWM), such as a sandy bottom substrate or cut bank. Wash G and F are designated ERZ Regulatory washes on COT's MapTucson portal.

MapTucson also identifies other washes, including a second branch of the previously mentioned ERZ wash, outside of the Project Site, but within the Subject Parcel. These washes are located in the extreme southwest corner of the Subject Parcel and would not be impacted by the Project.

C. Vegetation and Wildlife

TROW completed a Biological Evaluation (BE) that included the SSSA, inclusive of the Project Site in April 2018 (Appendix E: Biological Evaluation). The SSSA is located in portions of Sections 2, 10, 11, and 15, Township 16 South, Range 13 East, G&SRB&M. Prior to conducting fieldwork in the SSSA, Tierra performed background "desktop" research including a review of the U.S. Fish and Wildlife Service (FWS) Information, Planning, and Conservation System (IPAC); the Arizona Game and Fish Department (AZGFD) Heritage Data Management System (HDMS); Pima County and City of Tucson GIS data; and Google Earth aerial imagery to obtain information on sensitive biological resources that may be present in the SSSA. After compiling a list of special status species potentially occurring in the SSSA, biologists visited the site and conducted protocol Pima Pineapple Cactus (PPC) surveys of the SSSA over a two-week period starting on March 19, 2018, and ending on March 30, 2018 during which time they also evaluated the potential for listed special status species listed to occur in the SSSA based on the existing characteristics of the area.

Native vegetation within the Project Area is consistent with the Arizona Upland subdivision of the Sonoran desertscrub biotic community (Brown 1994). This subdivision consists of a scrubland or low woodland of leguminous trees with an understory of shrubs and perennial succulents on upland areas. Xeroriparian habitat, which includes many of the same plants that are found on the upland

areas, but with more robust growth, occurs along the network of ephemeral washes that are found throughout the subdivision.

Vegetation observed in the SSSA during Tierra's surveys is consistent with the description of the Arizona Uplands biotic community above. Dominant plant species observed in the SSSA include creosote *(Larrea tridentata)*, velvet mesquite *(Prosopis velutina)*, yellow palo verde *(Parkinsonia microphylla)*, jumping cholla *(Cylindropuntia fulgida)*, Christmas cactus *(C. leptocaulis)*, walkingstick cactus *(C. spinosior)*, and whitethorn acacia *(Vachellia constricta)*. Other common plant species observed in the SSSA include triangle-bur ragweed *(Ambrosia deltoidea)*, brittlebush *(Encelia farinosa)*, burroweed *(Isocoma tenuisecta)*, ocotillo *(Fouquieria splendens)*, desert Indian weed *(Plantago ornata)*, and desert zinnia *(Zinnia acerosa)*. Other cacti species observed include cactus apple *(Opuntia engelmannii)*, candy barrel cactus *(Ferocactus wislizenii)*, Arizona pencil cholla *(Cylindropuntia arbuscula)*, saguaro (*Carnegiea gigantea)*, and the Endangered PPC (*Coryphantha scheerii* var. *robustispina).*

Mammal species observed in the SSSA during the surveys include coyote, black-tailed jackrabbit, round-tailed ground squirrel *(Xeropermophilus tereticaudus)*, and Harris's antelope squirrel *(Ammospermophilus harrisii)*. Bird species observed include cactus wren, curve-billed thrasher *(Toxostoma curvirostre)*, Gila woodpecker, common raven *(Corvus corax)*, red-tailed hawk *(Buteo jamaicensis)*, kestrel *(Falco sparverius)*, mourning dove, Gambel's quail, and Lucy's warbler *(Vermivora luciae)*. Observed reptiles include zebra-tailed lizard *(Callisaurus draconoides)*, regal horned lizard *(Phrynosoma solare)*, and tiger whiptail *(Aspidoscelis tigris)*. Sign of wildlife identified in the SSSA was limited to white-throated woodrat *(Neotoma albigula)* dens.

There are no perennial surface water sources, wetlands, caves, or cliffs, on the site that would provide suitable cover or breeding, nesting, or foraging habitat for most wildlife species that are found in the Sonoran Desert region. The site does have large saguaros, trees, and snags that support nesting and large expanses of native vegetation suitable for forage.

Review of Pima County Ordinance 2005-FC2 GIS data indicates that mapped Xeroriparian C, and D vegetation is present within the Project Site and that Xeroriparian D habitat would be impacted by ground disturbing activities (see Appendix E: Biological Evaluation). Observations made during TROW's field surveys confirmed that xeroriparian vegetation is present and its extents roughly match that shown by the 2005-FC2 GIS data.

There is no Class I or Class II habitat identified as Critical and Sensitive Biological Communities (CSBC) present on the Project Site. Drainages downstream of the Project Site and drainages north, east and south of the Project site are mapped as CSBC.

D. Threatened and Endangered Species

Special status species were determined by obtaining a FWS IPAC Official Species List of Threatened and Endangered species (Appendix E of the BE) and an AZGFD HDMS Arizona Environmental Online Review Tool Report (Appendix F of the BE).

The FWS IPAC Official Species List, which includes the recently-delisted lesser long-nosed bat,

indicated that eight animal species (four Endangered, three Threatened, and one Experimental Nonessential Population) and one Endangered flowering plant species have potential to occur in the SSSA. The AZGFD report indicated nine special status species have documented occurrences within 4.8 km (3.0 miles) of the Preliminary Study Area used for the BE. Five of these nine species are considered Priority Vulnerable Species (PVS) that appear in Pima County's Sonoran Desert Conservation Plan (SDCP).

The determinations of a wildlife species' potential for occurring in the SSSA were made by analyzing four aspects of what constitutes suitable habitat. Suitable habitat can contain one or more of the following: foraging habitat, residential habitat, resting habitat, and mating habitat. Foraging habitat for a species contains food items, such as prey species and plants, and can also contain a water source. Residential habitat is a species' home, such as a burrow, nest, or some other form of shelter. Resting habitat can include temporary shelters, such as shade under a tree, shrub, or rock, and for bird species, perches for roosting or casual use. Mating habitat can be as simple as an area where other same-species individuals can be found or can be more complicated, such as a lekking area or other area used for mating displays. Suitable habitat for plant species is determined by whether or not a suitable combination of soils, moisture, exposure, elevation, and other factors required by a given plant species is present within the area of concern. The biotic community of an area in question is also important; for example, a desert obligate plant is extremely unlikely to occur in a Petran Montane Conifer Forest biotic community.

Special status species were assessed for their potential to occur in the SSSA (Table 3). Potential to occur is ranked from lowest to highest using the ratings "0," "1," "2," "3," and "Present." A rating of "0" is assigned when there is no potential for a species to occur in the SSSA, such as when there is unsuitable habitat present or the range of the species in question is completely out of the SSSA. A rating of "1" is assigned when there is a low potential for a species to occur in the SSSA, such as when there is low-quality habitat (containing only one of the four aspects that make up suitable habitat) present in the SSSA. The species under consideration may occur in an area with a rating of "1," but is not common. A rating of "2" is assigned when there is medium potential for a species to occur in the SSSA (the SSSA contains marginal habitat, two or three aspects of suitable habitat may be present, and the species is likely to occur). A rating of "3" is assigned when there is a high potential for a species to occur in the SSSA; all of the suitable habitat aspects are present, and the species is most likely to occur. A rating of "present" is given if the species was observed in the SSSA during the survey.

After analysis of the data, 9 of the 17 special status species were removed from further consideration because either the SSSA is outside their known range or suitable habitat is not present (potential = "0") (Table 3).

Table 3. Special Status Species and Their Potential for Occurrence in the SSSA

Scientific Name	Common Name	Status	Presence
Lithobates chiricuhuensis	Chiricahua leopard frog	T, PVS	0
Athene cunicularia hypugaea	western burrowing owl	1B, PVS[a]	1
Coccyzus americanus	yellow-billed cuckoo	T, PVS	0
Peucaea carpalis	**rufous-winged sparrow**	**1B, PVS[a]**	**Present**

Scientific Name	Common Name	Status	Presence
Sterna antillarum browni	California least tern	E	0
Antilocapra americana sonoriensis	Sonoran pronghorn	ENP	0
Lasiurus xanthinus	Western yellow bat	1B, PVS[a]	0
Leptonycteris curasoae yerbabuenae	lesser long-nosed bat	1A, PVS	1
Myotis velifer	cave myotis	1B[a]	1
Panthera onca	jaguar	E, 1A	0
Tadarida brasiliensis	Brazilian free-tailed bat	1B[a]	1
Coryphantha scheeri* var. *Robustispina	**Pima pineapple cactus**	**E, HS, PVS[a]**	**Present**
Tumamoca macdougalii	Tumamoc globeberry	SR, PVS[a]	1
Gopherus morafkai	Sonoran desert tortoise	1A[a]	1
Hypsiglena sp. *nov*	Hooded nightsnake	1B[a]	0
Kinosternon sonoriense longifemorale	Sonoyta mud turtle	E	0
Thamnophis eques megalops	northern Mexican gartersnake	T	0

[a]Species with known occurrences within 4.8 km (3.0 miles) of the PSA (AZGFD).
Key: E = Endangered (FWS); T = Threatened (FWS); ENP = Experimental Non-essential Population (FWS); 1A = SGCN Tier (AZGFD); HS = Highly Safeguarded (ADOA); SR = Salvage Restricted (ADOA); PVS = Priority Vulnerable Species (Pima County SDCP); NPTS = not present at time of surveys.

Two special status species were observed in the SSSA: the Federally Endangered PPC and the State and County-listed rufous-winged sparrow. In addition to these two species, it was determined that the SSSA is located within an Arizona Upland biotic community that is consistent with the habitat profiles of western burrowing owl, Sonoran desert tortoise, lesser long-nosed bat, cave myotis, Brazilian freetailed bat, and Tumamoc globeberry.

The eastern portion of the SSSA and the inactive borrow pit in the northern portion of the SSSA contain open areas with scattered shrubs potentially suitable for western burrowing owl; however, no individuals sign or potentially suitable burrows for this species were observed in these areas or any other areas within the SSSA during Tierra's surveys. Therefore, the Project would have no impact on western burrowing owl because the area is not currently occupied by this species.

Tierra biologists performed a protocol PPC survey in the SSSA and along additional transmission line alternative routes resulting in 63 detections, including 60 individuals found within the study areas and 3 detections outside the survey area boundaries (see PPC Survey Report, Appendix H of the BE). Grading of the substation will result in the removal of at least two (2) and up to four (4) PPC, which will be transplanted in to the adjacent 200-foot setback area.

No desert tortoise individuals or burrows and only marginal forage plants for this species were observed in the SSSA during Tierra's surveys. However, the northern portion of the SSSA does contain rocky slopes that would constitute suitable habitat for this species. Due to the lack of burrows in the SSSA, but the presence of Arizona Upland habitat, rocky slopes, and at least some

forage, desert tortoise may only use the SSSA for connectivity. Therefore, the Project is unlikely to impact desert tortoise.

No roost sites or potential lesser long-nosed bat roost sites were observed in the SSSA during Tierra's surveys; however, saguaros are present that could provide forage for this species. In addition to protection provided by Arizona Native Plant Law, these saguaros are also protected under provisions outlined in City of Tucson Development Standard 2-15-0 and Land Use Code Article 3, Division 8, which encourage the preservation of native plants in place. Viable and transplantable saguaros in area to be disturbed will be transplanted to the 200-foot setback area. Any required mitigation will be implemented.

Roosting habitat for cave myotis and Brazilian free-tailed bat is not present in the SSSA; however, desertscrub vegetation supporting insect species is present that could be utilized by these species as foraging habitat. Therefore, the Project may have a negligible impact on forage habitat and is not likely to result in a trend towards Federal listing or loss of viability

Three rufous-winged sparrows were identified in the SSSA during Tierra's surveys, two near the transmission line access road at Swan and another in the eastern portion of the SSSA, which indicates that suitable habitat is present, and it is very likely that the individuals observed are residents due to the relatively small breeding territories of this species. However, no confirmed rufous-winged sparrow nests were observed during the surveys. Grubbing and grading of the substation pad will not take place during nesting season and pre-construction migratory bird surveys will be conducted to ensure that no migratory birds are impacted due to construction.

Suitable habitat for Tumamoc globeberry is present along the smaller washes in the SSSA; however, no individuals of this species were identified during Tierra's surveys. Since this species would have been dormant at the time of year the surveys occurred, undiscovered individuals may be present in the SSSA. The amount of Tumamoc globeberry habitat that would be removed during construction of the Sonoran Substation is expected to be minimal because the substation will be sited to avoid impacts to washes.

E. Conceptual Grading Plan

Approximately 16.4 acres of the 317-acre Parcel will be graded to construct the substation, retention/detention basin, and driveways. A PDP, which shows the proposed site grading is provided as Exhibit 8. Preliminary Development Plan (design version) A through C, in lieu of a conceptual grading plan.

F. Composite Map

A composite map is included as Exhibit 13. There are no gateway or scenic routes, heavily disturbed soils, landfills, protected peaks/ridges, sloped areas in excess of 15 percent, significant vegetative communities and/or wildlife habitat corridors, or trails or trail access points located on the Project Site. PPC are depicted as purple circles. Historical or archaeological features are not depicted on the exhibit in order to protect their locations. TEP is working with the COT historic preservation officer to mitigate impacts to one archaeological site. Remaining archaeological sites will be avoided. Surrounding land use includes gravel pits, open space and a neighborhood.

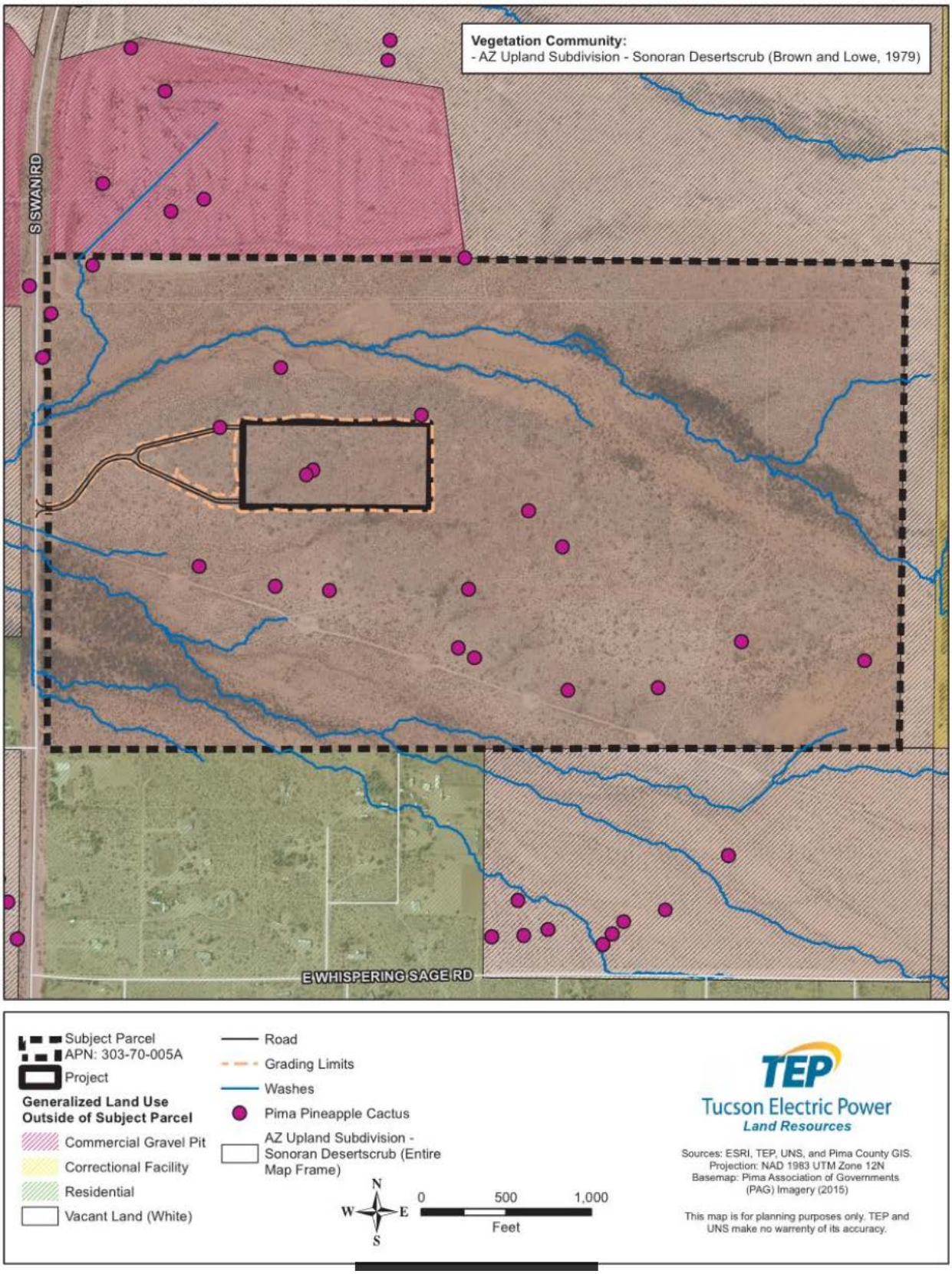


Exhibit 13. Composite Map

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Appendix A. Cultural Resources Survey Report

Appendix B. Archaeological Treatment Plan

Appendix C. Drainage Report

Appendix D. Phase I Environmental Site Assessment

Appendix E. Biological Evaluation