

ENVIRONMENTAL ASSESSMENT

**Crown Castle USA Inc.
Proposed Wireless Telecommunications Facility
University of AZ BU#807689 (aka #879391)
7501 South Kolb Road
Tucson, Arizona 85747**

FEDERAL COMMUNICATIONS COMMISSION

SUBMITTED PURSUANT TO 47 CFR, PART 1, SUBPART 1,
RULE SECTION 1.1307(a)

The proposed telecommunications project consists of the installation of a 150-foot monopole tower to provide wireless telecommunications service. The project is located Tucson, Pima County, Arizona.

January 3, 2013

Prepared by



**Mark Larocque - President
Practical Environmental Services LLC
PO Box 642
Quarryville, PA 17566**

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1. PROJECT DESCRIPTION, PURPOSE AND NEED FOR ACTION

The proposed telecommunication tower, named as University of AZ BU #807689 (aka #879391), is located at 7501 So Kolb Road in Tucson, Pima County, Arizona. The proposed action includes the installation of a 150-foot tall monopole tower. The tower structure is to be constructed by Crown Castle USA (Crown Castle). On behalf of Crown Castle, Practical Environmental Solutions LLC (PES) is completing this Environmental Assessment (EA) for the proposed structure.

The proposed facility location is an approximate 10-acre parcel on Section 20 of Township 15 South and Range 15 East, owned by the University of AZ (Figure 1). The project is to be located in an undeveloped open lot. The property was historically undeveloped, desert land prior to the current site construction.

The proposed construction of this facility is one of several like structures that create a link in a network to provide wireless telecommunications service to the public in the surrounding area. The proposed site was selected to effectively meet radio frequency transmission requirements for this area, while avoiding or minimizing adverse environmental impacts.

The construction of, and/or installation of antennas on telecommunication towers, is regulated by the FCC and is subject to compliance with the National Environmental Policy Act (NEPA) of 1969. In accordance with NEPA, PES reviewed the Federal Emergency Management Agency (FEMA)/Flood Insurance Rate Map (FIRM) per Community Panel Number 04019C2855K. The FEMA/FIRM Map indicates that the site is located within FIRM Zone A with no base flood elevations (BFE) determined. The site elevation at the location is 2800 feet above mean sea level (amsl). This classification is within the 100-year floodplain. The flood hazard factors have been determined, and therefore, require the applicant to file an EA prepared in accordance with Council on Environmental Quality (CEQ) and FCC regulations for implementing NEPA.

This EA has been prepared to address the environmental impacts associated with the proposed action and allow the FCC to determine whether an Environmental Impact Statement (EIS) is required. The EA is based on a NEPA compliance evaluation conducted by PES and includes documentation from the site reconnaissance and research.

2. ALTERNATIVES

2.1 Preferred Alternative

Crown Castle evaluates several alternative candidate locations when selecting a proposed site. Alternatives often include sites for construction of a new tower as well as towers on buildings or other structures. Several search criteria must be met for a location to be considered suitable for construction of a communication tower or mounting of telecommunication antennas on an existing structure. The limiting factor is that the tower or structure on which antennas will be mounted must meet the coverage and capacity needs of the area.

The main objective of a wireless installation is to relay signals. Various obstacles can affect the efficiency of signals, including but not limited to: atmospheric conditions, terrain, vegetation and building obstruction. Once determinations of adequate signal propagation are made, an area's zoning regulations are determined and a search area is defined. The final selection of candidate sites is made based on effectiveness of coverage, environmental factors, access, lease availability and rate, and feasibility of construction.

The proposed tower is required to maintain a communications network serving the residences, businesses and highway traffic in the area. The proposed tower was historically selected as the preferred alternative due to its ability to meet the objectives stated above.

2.2 No Action Alternative

The "no action alternative" would consist of no construction at the proposed site. Crown Castle would not serve as the anchor tenant to make the proposed facility feasible and likewise would not assist in creating a structure for the other service providers licensed by the FCC to cover this area. Other service providers would then lose coverage in this area resulting in call blocking as described in Section 1.0 above. The alternative would be to seek out multiple, less efficient (from a radiofrequency standpoint) sites in the surrounding area. The "no action alternative" would therefore not meet the project needs and could result in the construction of more than one project to provide reliable service for routine and emergency calls.

3. ASSESSMENTS

The proposed facility location is an approximate 10-acre parcel on Section 20 of Township 15 South and Range 13 East, owned by the University of AZ. The parent property, zoned Commercial, consists of an open undeveloped lot. The permits required for the project are attached (see Appendix B).

The surrounding properties consist of residential land and undeveloped land. Other areas within a ½-mile radius of the Site are developed with residential usage also.

Under 47 CFR Section 1.1307, the FCC requires an evaluation of several environmental and human health issues to determine whether a proposed action may have a significant impact on the environment. Research and field surveys were historically completed for each criterion, including consultation with the AZ Historical Preservation Department, consultation with the United States Fish and Wildlife Service, consultation with the tribal representatives with ties to the area. The potential for impact on the following resources and human health criteria was evaluated:

- Designated Wilderness Areas
- Designated Wildlife Preserves
- Listed Threatened or Endangered Species or Designated Critical Habitat
- Proposed Threatened or Endangered Species or Designated Critical Habitat
- Historic Places
- Indian Religious Sites
- Floodplains
- Surface Features
- Zoning/High Intensity White Lights
- Radiation Exposure

3.1 Wilderness Areas and Wildlife Preserves

The site does not lie within the boundaries of an officially designated wilderness area or an officially designated wildlife preserve. This conclusion was made based on consultation with the US Fish and Wildlife Service (see attached NEPA).

3.2 Listed or Proposed Threatened or Endangered Species or Designated Critical Habitat

Field survey and literature searches indicate that the construction and operation of this communication site is not likely to affect listed or proposed threatened or endangered species or designated critical habitats. Although protected species are not likely to occur on the site, future occurrences cannot be ruled out due to changing natural populations and modifications to the official lists. The proposed site is not located within the boundaries of a designated critical habitat.

The facility is not being placed in a known bird migration route or stopover site. The proposed tower is not expected to require high intensity lighting and no guyed lines are planned. A Migratory Bird Study found no adverse effect to any species (see Appendix C).

3.3 Historic Places

The conclusions of the literature and record search indicate that the construction and operation of this communication site is not likely to affect districts, sites, buildings, structures, or objects listed in, or eligible for listing in the National Register of Historic Places (NHRP). Through coordination with the AZ SHPO Office, it was found that the proposed site is not located such that it would affect known sites, buildings, structures, or objects listed or eligible for listing in the NRHP. Therefore, the action would have no effect on historic resources. A copy of NEPA is included in Appendix A.

3.4 Indian Religious Sites

The conclusions of the literature and record search indicate that the construction and operation of this communication site will not affect Indian religious sites. It was historically has determined that the proposed site is not located near or within the boundaries of any known Indian religious sites (see attached).

3.5 100-Year Floodplain

The conclusions of the literature and record search (FEMA/FIRM Community-Panel No. 04019C2855K indicate that the facility will be located within the 100-year floodplain. The FEMA floodplain map shows that the tower structure will be located within the shaded flood zone A with a no base flood elevation (BFE) determined. The compound area ground elevation is 2800 feet asml.

3.5.1 Mitigation

Mitigation refers to those actions that would reduce or eliminate potentially adverse impacts due to a proposed project. Mitigation measures are implemented to ensure that the construction of the facility is designed to withstand any potential flooding that may occur, and minimize any adverse effects on floodplain resources.

The Council on Environmental Quality (CEQ) has defined mitigation in 40 CFR Part 1508.20 to include: (1) Avoiding impacts; (2) minimizing impacts; (3) rectifying impacts; (4) reducing impacts over time; and (5) compensating for impacts. These mitigation measures can be categorized as avoidance, minimization, and compensation, and are described below as they pertain to the facility's potential location in a floodplain.

In most jurisdictions, non-residential construction within a 100-year floodplain is feasible and allowed if the FEMA-coordinated local ordinances are met and the structure meets requirements of other local ordinances and guidelines. Usually, FEMA requires that the bottom member of the equipment platform be elevated to the BFE, and that the local government is given an opportunity

to review the EA. Since this proposed action has required permitting in the flood zone, the design must meet federal guidelines (Section A (2)(i) of Executive Order No. 11988) and local ordinances.

There are generally two options for non-residential construction within a floodplain: 1) elevation of the structure foundation above BFE; or 2) flood-proofing the structure.

There are zoning or building permits required (see Appendix B). The proposed facility has been designed to elevate the equipment cabinets or shelters by elevating the compound equipment to at least 1.5 feet above grade. This design will set the base elevation of the platform above the potential flood elevation.

3.6 Surface Features

The conclusion of the literature and record search, as well as on-site observations, indicated that construction and operation of this communication site could have a potential to affect (e.g. wetland fill, deforestation, or water diversion) surface features found on the subject site. No wetland areas subject to regulation by the US Army Corps of Engineers will be affected by this undertaking.

3.7 Zoning/High Intensity White Lights

Based on the fact that the tower at this facility is proposed to be less than 500 feet in height above ground level, Federal Aviation Administration (FAA) rules are expected to exclude the need for high intensity white lights. Further, because the tower height is proposed to be less than 500-feet, no high intensity lighting is anticipated.

3.8 Radiation Exposure

The proposed tower is a 150 foot tall monopole tower of standard configuration. This facility is expected to meet the radio frequency radiation exposure limits standards established by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, Inc. (ANSI/IEEE) pursuant to Section 24.52 (a) of the FCC Rules. The facility is categorically excluded if all of the following are true:

- a) This facility will be operated in the Multipoint Distribution Service, Paging and Radiotelephone Service, Cellular Radiotelephone Service, Narrowband or Broadband PCS, Private Land Mobile Radio Services Paging Operations, Private Land Mobile Radio Service Specialized Mobile Radio, Local Multipoint Distribution Service, or service regulated under Part 74, Subpart I.
- b) This facility will not be mounted on a building

- c) The lowest point of the antenna will be at least 10 meters above the ground

A summary checklist for the above criteria is provided in Appendix A.

4. COORDINATION AND COMMENTS

This project was coordinated with the US Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act, with the AZ Historic Preservation Department, pursuant to Section 106 of the National Historic Preservation Act, and other federal, state and local government guidelines and ordinances.

One criterion for choosing a suitable location includes the potential for causing public controversy. As of the date of this report, the proposed construction of this tower near Tucson has not resulted in controversy in the community. The zoning/building permit exemption is attached in Appendix B.

FEMA has been contacted concerning their role in reviewing EAs. Due to FEMA's limited resources, environmental assessments do not require FEMA review. According to FEMA and the FCC, FEMA requires no review or notification concerning construction projects within a floodplain or velocity zone as determined by FIRM maps. However, FEMA requires that the project meet local ordinances for building within any area defined as a floodplain or velocity zone. FEMA provides consultation to local jurisdictions if guidelines are not available for construction within a floodplain or velocity zone.

5. FINDING OF NO SIGNIFICANT IMPACT

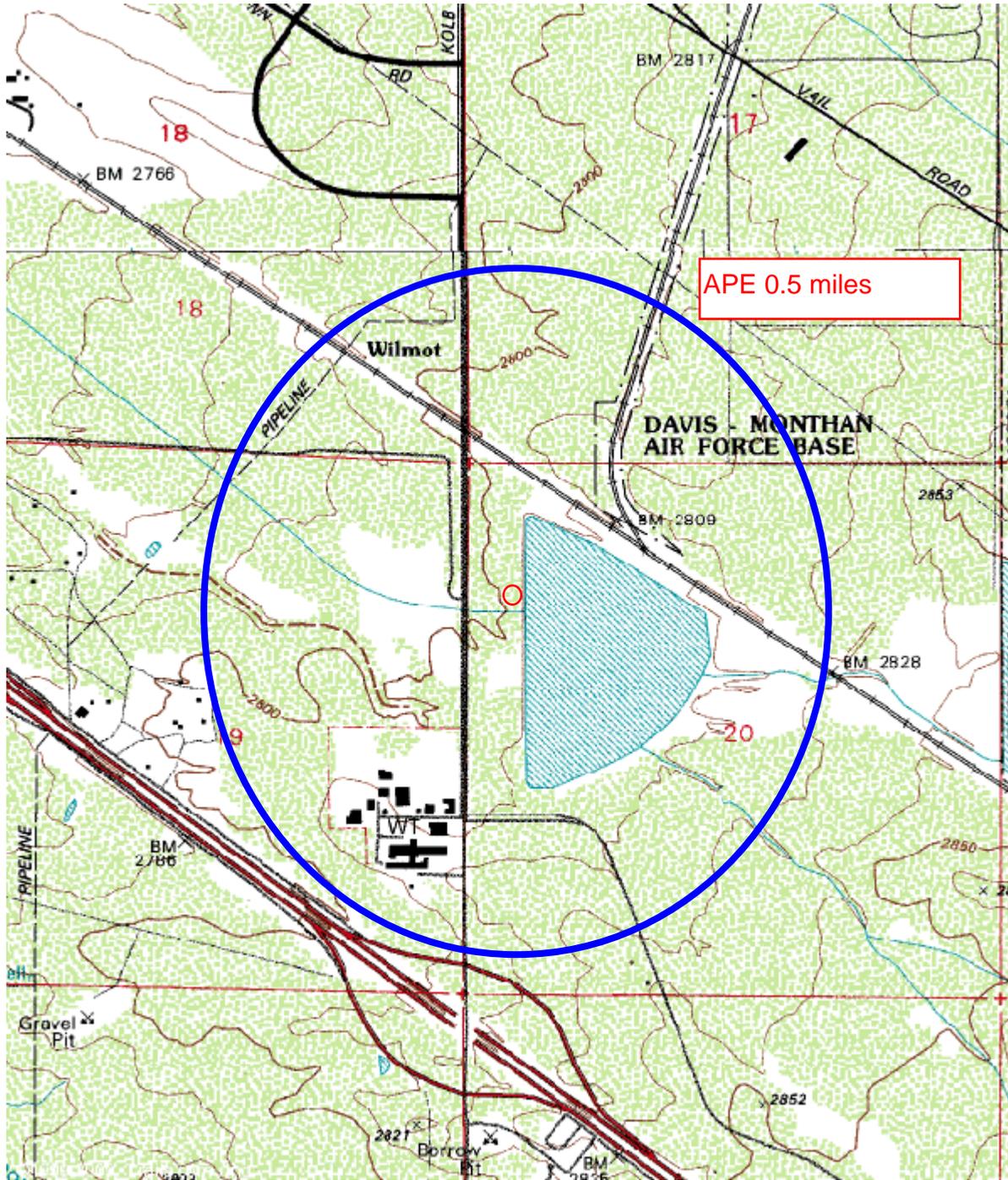
Based on the assessment of the above resource areas, it appears that the tower, operation, and maintenance of telecommunications equipment at the Crown Castle site – Univ. of AZ #879391 would not constitute a major federal action significantly affecting the quality of the human environment. For this reason and pursuant to the FCC regulations implementing NEPA, it is our opinion that no Environmental Impact Statement is required. Only the FCC can issue a Finding of No Significant Impact for this project.

6. REFERENCES

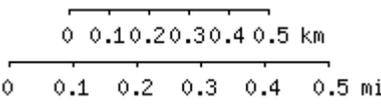
FEMA Floodplain Map Panel #04019C2855K,

NEPA – dated 4-14-09 – PES LLC

FIGURES



APE 0.5 miles

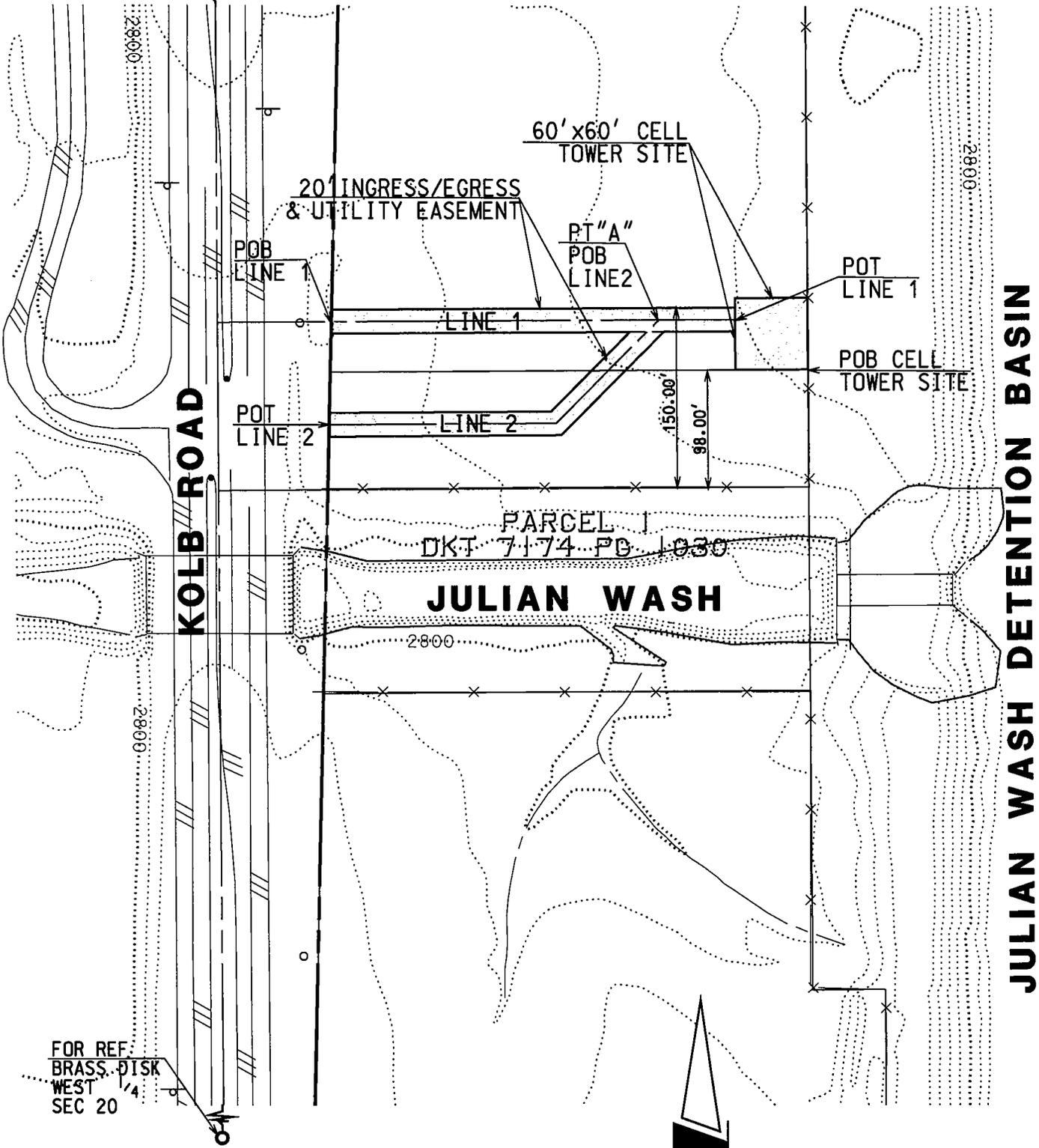


32.1157°N 110.8395°W

TUCSON SE (AZ) QUAD

POC
BRASS DISK
NW COR
SEC 20

U OF A SCIENCE & TECH PARK ANTENNA SITE EXHIBIT



FOR REF
BRASS DISK
WEST 1/4
SEC 20

RICK
ENGINEERING COMPANY

3945 EAST FORT LOWELL ROAD - SUITE 111
TUCSON, AZ 85712
520.795.1000
(FAX) 520.322.6956



SCALE: 1" = 120'

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APPENDIX A
NEPA CHECKLIST & BACKUP DOCUMENTATION

**CROWN CASTLE USA
FCC / NEPA ENVIRONMENTAL COMPLIANCE CHECKLIST**

Site Name:	University of AZ	Contact Person:	Janis Merritts
BU#:	879391	Contact Number:	724-416-2000

- | <u>YES</u> | <u>NO</u> | |
|-------------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1. A site inspection has been performed specifically for the information required in items 2-8 and 11. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2. Will the facility be located in an officially designated wilderness area? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 3. Will the facility be located in an officially designated wildlife preserve? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 4. Will the facility affect federally listed, threatened or endangered species or designated critical habitats or is the facility likely to jeopardize the continued existence of any federally proposed endangered or threatened species or likely to result in the destruction or adverse modification of federally proposed critical habitats? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. Will the facility affect districts, sites, buildings, structures, objects or other cultural resources listed, or eligible for listing, in the National Register of Historic Places? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 6. Will the facility affect Indian religious sites? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 7. Will the facility be located in a 100-year flood plain? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8. Will the construction of the facility involve a significant change in the surface features (e.g., wetland fill, deforestation, or water diversion)? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9. Will the antenna tower and/or supporting structure be equipped with high intensity white lights and be located in a residential neighborhood, as defined by local zoning laws? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10. Will the proposed facility fall outside the categorical exclusions contained in Table 1 of 47 CFR Section 1.1307(b) (1)? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 11. Will the proposed facility be constructed within one (1) mile of the centerline of a National Scenic Trail and has the Trail Management Office indicated that the proposed construction will have a significant adverse effect? |

A COPY OF A COMPLETED CROWN CASTLE INTERNATIONAL CORPORATION FCC ENVIRONMENTAL COMPLIANCE SURVEY DOCUMENTING THE PROCESS USED IN ARRIVING AT THE ABOVE ANSWERS MUST BE ATTACHED TO THIS FORM. IF ALL OF THE QUESTIONS ABOVE WERE ANSWERED "NO", NO FURTHER ACTION IS REQUIRED FOR FCC ENVIRONMENTAL PURPOSES. IF ANY OF THE QUESTIONS WERE ANSWERED "YES" WITH THE EXCEPTION OF #1, AN ENVIRONMENTAL ASSESSMENT MUST BE PREPARED AND FILED WITH THE FCC. IN ACCORDANCE WITH APPLICABLE CROWN PROCEDURES. NO CONSTRUCTION MAY BEGIN UNTIL THE FCC HAS REVIEWED THE ASSESSMENT AND APPROVED THE PROPOSAL.



Name
PES LLC

Company Name

Date
4-14-09

Crown Castle USA
FCC Environmental Compliance Survey

Site Name: **University of AZ**
Location: **7501 S Kolb Rd, Tucson, AZ**
Business Unit Number: **879391**

This Survey will identify whether a proposed facility will require the preparation and filing of an FCC Environmental Assessment. In completing the survey, the consultant may analyze accurate, up-to-date information obtained from a commercial service in conjunction with consultation with the appropriate agencies and sources listed below. Unless otherwise specified, the consultant is not required to consult each of the listed agencies. A site inspection must be performed in all cases. This Survey supports the completion of the FCC/NEPA Environmental Compliance Checklist and shall be attached as an addendum to the Checklist.

Answer "yes/no" questions only after completing the enumerated steps.

Yes **No**

 1. A site inspection has been performed specifically for the information required in items 2-8 and 11. – *completed on 2-25-09*

 2. Based upon information provided by a commercial service or consultation with the National Park Service (Department of Interior), U.S. Fish and Wildlife Service (Department of Interior), Bureau of Land Management (Department of Interior) and the U.S. Forest Service (Department of Agriculture), as appropriate, will the facility be located in an officially designated wilderness area? *No listings noted near site (1.0 miles)*

2(a) Contact National Park Service.
National Park Service Contact Name: _____
Phone: _____
Date(s): _____
Comments: _____

2(b) Contact U.S. Fish and Wildlife Service.
U.S. Fish and Wildlife Service Contact Name: _____
Phone: _____
Date(s): _____
Comments: _____

- 2(c) Contact U.S. Forest Service.
 U.S. Forest Service Contact Name: _____
 Phone: _____
 Date(s): _____
- 2(d) Contact Bureau of Land Management.
 Bureau of Land Management Contact Name: _____
 Phone: _____
 Date(s): _____
 Comments: _____
- 2(e) If contact with National Park Service reveals a wilderness area in a National Park, contact specific National Park Superintendent.
 National Park Superintendent Name: _____
 Phone: _____
 Date(s): _____
 Comments: _____
- 2(f) If contact with the U.S. Fish and Wildlife Service reveals a wilderness area in a National Wildlife Refuge, contact specific Wildlife Refuge Manager.
 Wildlife Refuge Manager Name: _____
 Phone: _____
 Date(s): _____
 Comments: _____
- 2(g) If contact with the U.S. Forest Service reveals a wilderness in a National Forest, contact National Forest Director.
 National Forest Director Name: _____
 Phone: _____
 Date(s): _____
 Comments: _____

If the yes/no answer was based in whole or in part upon information provided by a commercial service, specify the name of the service, the contact person, the dates of contact, and provide all correspondence to/from the service.

Commercial Service: **InfoMap Technologies**
 Contact Name: **Kevin**
 Date(s): **2-23-09**
 Comments: **No listings noted near site (1.0 miles)**

3. **Based upon information provided by a commercial service, or consultation with the U.S. Fish and Wildlife Service (Department of Interior) and state and local wildlife preservation agencies, will the facility be located in an officially designated wildlife preserve? No listings noted near site (1.0 miles)**

3(a) Contact U.S. Fish and Wildlife Service and consult the Division of Realty's National Refuge System list.

U.S. Fish and Wildlife Service Contact Name: _____

Phone: _____

Date(s): _____

Comments: _____

3(b) If contact with U.S. Fish and Wildlife Service reveals a National Wildlife Refuge, contact specific Wildlife Refuge Manager.

Date(s): _____

Comments: _____

3(c) Contact state and local government wildlife preservation offices.

Contact Name: _____

Phone: _____

Date(s): _____

Comments: _____

If the yes/no answer was based in whole or in part upon information provided by a commercial service, specify the name of the service, the contact person, the dates of contact, and provide all correspondence to/from the service.

Commercial Service: InfoMap Technologies

Contact Name: Kevin

Date(s): 2-23-09

Comments: No listings noted near site (1.0 miles)

4. **Will the facility affect listed or proposed threatened or endangered species (collectively, "Protected Species") or designated critical habitats? There are fifteen listed species for the county. None of these species are likely to occur at the proposed tower site. Given the site is urban/disturbed, the proposed tower is unlikely to affect these species. The AZ F&W office no longer responds to cell tower requests, the responsibility for the assessment lies with the tower consultant. PES sent a letter to the offices to inform them of the project. No response was received.**

4(a) Review the US Fish and Wildlife Service ("USFWS") and the applicable state environmental agency listings of Protected Species and critical

habitats located within the county where the site is located. Attach a copy of any listing for the county in question.

- 4(b) If review of the USFWS and state agency listings of Protected Species and critical habitats indicates a listed or proposed species or habitat may be present, a biologist must perform a site inspection and provide an informal biological assessment report including a determination as to whether the Protected Species or critical habitat is present at the site and whether it will be affected by the project.

5. **Based upon consultation with the State Historic Preservation Office (“SHPO”) in accordance with the PA, and taking into consideration the views of interested persons, will the facility affect districts, sites, buildings, structures or objects significant in American history, architecture, archeology, engineering or culture, that are listed, or eligible for listing, in the National Register of Historic Places? If the SHPO issues a “no effect” or “no adverse effect” letter, this question can be answered “yes.” If the SHPO issues an “adverse effect” finding, this question must be answered “yes.” SHPO concurrence attached. No further consultation is required.**

6. **Based upon consultation with the Tribal Historical Preservation Officer (“THPO”) or other official representatives of federally recognized tribes, will the proposed construction affect places or properties of significance to such tribes, including Indian religious sites? PES filed the site on the FCC TCNS system on 2-23-09 – TCNS #49306 The FCC issued letters to the below tribes on 2-27-09. The following tribes were notified:**

Pueblo of Zuni – PES contacted Davis Nieto on 3-23-09 – tribe has no interest in site
Cocopah tribe – no interest attached
Tohono Nation - PES contacted Peter Steere on 3-23-09 – tribe has no interest in site
AK Chin – no interest attached
Pascua Yaqui – Tribe has 30-day limit posted - no interest in site
Tonto Apache – no interest attached
Kaibab Paiute – Tribe has 30-day limit posted - no interest in site
San Juan Paiute - Tribe has 30-day limit posted - no interest in site
Mescalero Tribe - no interest attached

- 6(a) If the proposed facility is NOT located on tribal land or an Indian reservation:

- i. Determine whether any federally recognized Indian tribe or Native Hawaiian Organization (NHO) with ancestral ties to the immediate area of the proposed project wishes to participate in the Section 106 consultation process for the proposed project.
 - A. Enter information about the proposed construction into the FCC’s Tower Construction Notification System (TCNS) in order to contact the appropriate Tribes and attach FCC Form 620 or

Form 621. Provide the CCUSA Regulatory Department (regulatory.department@crowncastle.com) with the TCNS filing number. Please put "TCNS" in the "RE" line.

- B. After thirty (30) days have passed, by either email or letter (template located in Appendix D), contact any Tribes that have not responded.

After an additional ten (10) days with no response, notify Crown Castle's corporate Regulatory Department (regulatory.department@crowncastle.com). Email all evidence of attempts to contact the non-responsive Tribes, including a PDF of all TCNS emails, copies of the associated letters and Forms 620 or 621.

- C. The CCUSA regulatory department will provide notice to the FCC of any tribal non-response. The FCC will initiate contact with the Tribe. If the subject Tribe does not respond within twenty (20) days of the FCC's communication, no further due diligence is required for that particular Tribe.
- D. This section number 6 may be answered "no" only after each subject Tribe either, (i) concurs with Crown Castle's proposed project, or (ii) all of the above steps are completed.

6(b) If the proposed facility IS located on tribal land or reservation:

- i. Consult the Advisory Council on Historic Preservation, the Bureau of Indian Affairs, or the National Park Service to determine the name of the THPO or tribal representative.

Contact: _____
Phone: _____
Date(s): _____
Comments: _____

- ii. Begin consultation with the THPO or tribal representative in writing in accordance with 6(a) (1)-(6) above.

Provide copies of all correspondence from all parties contacted.



7. Based upon FEMA's Flood Insurance Rate Map ("FIRM") will the facility be located in a 100-year flood plain? If FIRMs are not available for the community where the site is located, consult other sources in accordance with FEMA guidelines. The site is in Zone A (within the 100-year flood zone) – FIRM #04019C2855K. – an EA and FONSI will be required.

7(a) Review FEMA's

Attach relevant portion of map.

- 7(b) If a review of the map indicates that the site is on a border of a 100- year floodplain and the site’s precise location cannot be reasonably determined using the map, consult with FEMA or its local delegate to determine whether the facility will be located within the 100-year floodplain.

In the event that a written statement is obtained from FEMA or the local agency delegated authority to implement the National Flood Insurance Program, stating that the area is no longer within the 100-year floodplain, the facility will not be considered to be within the 100-year floodplain for the purpose of the Checklist (attach correspondence, if applicable).

8. **Based upon consultation with the appropriate agency, will construction of the facility involve a significant change in surface features (e.g. wetland fill, deforestation, or water diversion)? **No listed wetlands in database.****
- 8(a) Review the National Wetlands Inventory or obtain information from a commercial service to determine if a wetland is identified on the property.
- 8(b) Perform a site inspection to identify evidence of wetland conditions on the property. **None noted**
- 8(c) Review the Soil Conservation Service County maps to determine soil type, vegetation type and hydrology of the property.
- 8(d) If a wetland is identified or water diversion will occur on the property, consult the Army Corps of Engineers (“ACOE”) regarding the effect of wetland fill or water diversion.
Date(s): _____
Comments: _____
- 8(e) If forests will be cleared, consult with U.S. Forest Service regarding effect of deforestation.
Date(s): _____
Comments: _____

9. **Will the antenna tower and/or supporting structure be equipped with high intensity white lights and be located in a residential neighborhood, as defined by applicable zoning laws? **As per Crown****

- 9(a) Contact the CCUSA representative to determine whether the site must have high intensity white lights. (Towers under 500 feet will not require high intensity lighting.)

9(b) If the tower is greater than 500 feet, contact the local zoning authority to determine the zoning of the proposed site.

10. **Based upon the power, frequency and description of antenna provided by the carrier to the CCUSA representative, will the proposed facility fall outside the categorical exclusions contained in Table 1 of 47 CFR Section 1.1307(b) (1)? [As per Crown](#)**

11. **Based upon review of the National Park Service database at <http://www.nps.gov/carto/TRAILMAP.html>, and information provided by a commercial service, will the tower be constructed within one (1) mile of the centerline of a National Scenic Trail? [No trails listed](#)**

11(a) If the proposed tower is located within one (1) mile of the centerline of a National Scenic Trail, the applicable trail management organization must be notified using the CCUSA template letter no later than five (5) days after the first zoning or permit application is filed. If zoning approval is not required, the notification must be made at least 45 days before any planned construction.

11(b) Once notified, the trail management organization has fifteen (15) days to provide its determination as to whether there will be a significant adverse effect.

11(c) If the trail management organization indicates that the proposed construction will have a significant adverse effect, CCUSA must consult with the trail management organization to evaluate possible mitigation. The minimum consultation period is fifteen (15) days.

11(d) If agreement is reached, the trail management organization will provide a certification letter to CCUSA. If no agreement is reached, the trail management organization cannot block the construction of the tower. However, the trail management organization could request that the FCC require CCUSA to submit an Environmental Assessment.

If you have answered yes to any of the yes/no questions, an FCC Environmental Assessment (EA) must be filed with the FCC and a Finding of No Significant Impact granted per the applicable CCUSA Regulatory Procedures prior to proceeding with any construction.



Signature

4-14-09
Date

President

Title

PES LLC

Company



RF VERIFICATION

For purposes of tower construction and compliance with the requirements and standards set forth by the Federal Communications Commission (FCC) in 47 CFR Section 1.1301 et seq., Crown Castle International Corp., based on information provided by the carrier, evaluates whether the proposed tower will fall outside the categorical exclusions as set forth by Table 1 of 47 CFR Section 1.1307 (b) (1) (a).

Table I provides as follows:

Table 1--Transmitters, Facilities and Operations Subject to Routine Environmental Evaluation (Not Categorically Excluded)

Service (title 47 CFR rule part)	Evaluation required if
Experimental Radio Services (part 5).	Power > 100 W ERP (164 W EIRP)
Multipoint Distribution Service (subpart K of part 21)	<p><i>Non-building-mounted antennas:</i> height above ground level to lowest point of antenna <10 m and power > 1640 W EIRP</p> <p><i>Building-mounted antennas:</i> power > 1640 W EIRP</p> <p>MDS licensees are required to attach a label to subscriber transceiver or transverter antennas that:</p> <p>(1) provides adequate notice regarding potential radiofrequency safety hazards, e.g., information regarding the safe minimum separation distance required between users and transceiver antennas; and references the applicable FCC- adopted limits for radiofrequency exposure specified in Sec. 1.1310.</p>
Paging and Radiotelephone Service (subpart E of part 22)	<p><i>Non-building-mounted antennas:</i> height above ground level to lowest point of antenna 10 m and power > 1000 W ERP (1640 W EIRP)</p> <p><i>Building-mounted antennas:</i> power > 1000 W ERP (1640 W EIRP)</p>
Cellular Radiotelephone Service (subpart H of part 22)	<p><i>Non-building-mounted antennas:</i> height above ground level to lowest point of antenna < 10 m and total power of all channels > 1000 W ERP (1640 W</p>

	<p>EIRP)</p> <p><i>Building-mounted antennas</i>: total power of all channels > 1000 W (1640 W EIRP)</p>
Personal Communications Services (part 24).	<p>(1) Narrowband PCS (subpart D): <i>non-building-mounted antennas</i>: height above ground level to lowest point of antenna < 10 m and total power of all channels > 1000 W ERP (1640 W EIRP)</p> <p><i>Building-mounted antennas</i>: total power of all channels > 1000 W ERP (1640 W EIRP)</p> <p>(2) Broadband PCS (subpart E): <i>non-building-mounted antennas</i>: height above ground level to lowest point of antenna < 10 m and total power of all channels > 2000 W ERP (3280 W EIRP)</p> <p><i>Building-mounted antennas</i>: total power of all channels > 2000 W ERP (3280 W EIRP)</p>
Satellite Communications (part 25)	<p>All included. In addition, for NGSO subscriber equipment, licensees are required to attach a label to subscriber transceiver antennas that: (1) provides adequate notice regarding potential radiofrequency safety hazards, e.g., information regarding the safe minimum separation distance required between users and transceiver antennas; and (2) references the applicable FCC- adopted limits for radiofrequency exposure specified in Sec. 1.1310 of this chapter.</p>
General Wireless Communications Service (part 26)	<p>Total power of all channels >1640 W EIRP</p>
Wireless Communications Service (part 27)	<p>(1) for the 1390 – 1392 MHz, 1392 – 1395 MHz, 1432 – 1435 MHz, 1670 – 1675 MHz and 2385 – 2390 MHz bands:</p> <p><i>Non-building-mounted antennas</i>: height above ground level to lowest point of antenna < 10 m and total power of all channels > 2000 W ERP (3280 W EIRP)</p> <p><i>Building-mounted antennas</i>: total power of all</p>

	<p>channels > 2000 ERP (3280 EIRP) (2) for the 698 -764 MHz, 746 – 764 MHz, 776 – 794 MHz, 2305 – 2320 MHz and 2345 – 2360 MHz bands – total power of all channels > 1000 W ERP (1640 W EIRP)</p>
Radio Broadcast Services (part 73)	All included
Experimental, auxiliary, and special broadcast and other program, distributional services (part 74)	<p>Subparts A, G, L: power > 100 W ERP Subpart I: <i>non-building-mounted antennas</i>: height above ground level to lowest point of antenna < 10 m and power > 1640 W EIRP <i>Building-mounted antennas</i>: power > 1640 W EIRP ITFS licensees are required to attach a label to subscriber transceiver or transverter antennas that: (1) provides adequate notice regarding potential radiofrequency safety hazards, e.g., information regarding the safe minimum separation distance required between users and transceiver antennas; and (2) references the applicable FCC-adopted limits for radiofrequency exposure specified in Sec. 1.1310.</p>
Stations in the Maritime Services (part 80).	Ship earth stations only
Private Land Mobile Radio Services Paging Operations). (part 90)	<p><i>Non-building-mounted antennas</i>: height above ground level to lowest point of antenna < 10 m and power > 1000 W ERP (1640 W EIRP) <i>Building-mounted antennas</i>: power > 1000 W ERP (1640 W EIRP)</p>
Private Land Mobile Radio Services Specialized Mobile Radio (part 90)	<p><i>Non-building-mounted antennas</i>: height above ground level to lowest point of antenna < 10 m and total power of all channels > 1000 W ERP (1640 W EIRP) <i>Building-mounted antennas</i>: Total power of all channels > 1000 W ERP (1640 W EIRP)</p>

Amateur Radio Service (part 97).....	Transmitter output power > levels specified in Sec. 97.13(c)(1) of this chapter
Local Multipoint Distribution Service (subpart L of part 101) and 24 GHz (subpart G of part 101).	<p><i>Non-building-mounted antennas:</i> height above ground level to lowest point of antenna < 10 m and power > 1640 W EIRP</p> <p><i>Building-mounted antennas:</i> power > 1640 W EIRP</p> <p>LMDS and 24 GHz licensees are required to attach a label to subscriber transceiver antennas that: (1) provides adequate notice regarding potential radiofrequency safety hazards, e.g., information regarding the safe minimum separation distance required between users and transceiver antennas; and (2) references the applicable FCC-adopted limits for radio-frequency exposure specified in Sec. 1.1310</p>

Based on the above criteria, the proposed service at this tower is categorically excluded from further environmental evaluation under 47 C.F.R. Section 1.1307.

CROWN CASTLE - _____ AREA

By: _____

Title: _____

Date: _____

Tower BUN: _____

TUCSON NEWSPAPERS

Tucson, Arizona

STATE OF ARIZONA)
COUNTY OF PIMA)

Debbie Capanear, being first duly sworn deposes and says: that she is the Legal Advertising Representative of **TNI PARTNERS, DBA TUCSON NEWSPAPERS**, a General Partnership organized and existing under the laws of the State of Arizona, and that it prints and publishes the Arizona Daily Star and Tucson Citizen, daily newspapers printed and published in the City of Tucson, Pima County, State of Arizona, and having a general circulation in said City, County, State and elsewhere, and that the attached

Legal Notice

was printed and published correctly in the entire issue of the said Arizona Daily Star and Tucson Citizen on each of the following dates, to-wit:

FEBRUARY 25 & MARCH 4, 2009

Debbie Capanear

Subscribed and sworn to before me this 13 day of March, 2009

Silvia Alvarez
Notary Public



SILVIA W. VALDEZ
Notary Public - Arizona
Pima County
Expires 12/15/09

My commission expires _____

TNI AD NO. 6643713

Crown Castle USA (Crown) is proposing to install a tower at the following site: Day of AZ #879391 (750) So. Kolb Rd in Tucson. Crown invites comments from any interested party on the impact of the proposed towers on any districts, sites, buildings, structures or objects significant in American history, archaeology, engineering, or culture that are listed or determined eligible for listing in the National Register of Historic Places. Specific information regarding the project is available for viewing and comments should be sent to Janis Merritts at 2000 Corporate Drive in Caponsquare, PA 15317 or by calling 724-416-2000 during normal business hours. Comments must be received by March 23, 2009. Publish February 25 & March 4, 2009. Arizona Daily Star Tucson Citizen

**PRACTICAL ENVIRONMENTAL SOLUTIONS LLC
PO BOX 642
QUARRYVILLE, PA 17566
610-857-1414 (P) 610-857-9118 (FAX)**

Sent via US Mail

February 23, 2009

**US Fish & Wildlife Service
2321 West Royal Palm Road – Suite 103
Phoenix, AZ 85021-4915**

Re: Consultation Request
Proposed Cell Tower Site – Pima County

Dear Sirs:

On behalf of Crown Castle USA, Practical Environmental Solutions LLC (PES) is requesting an effect determination for the following proposed cell tower location:

University of AZ #879391 – 7501 S Kolb Rd, Tucson (T15S, R15E, Section 20)

This site is on a 5 acre undeveloped tract. Crown plans to construct one 150 foot tall monopole tower with a 60x60 foot compound area on the site. No guyed lines will be used. We request a list of known species that may occur in the immediate vicinity of the site (0.25 miles). Based upon the urban developed nature of the site, PES does not believe that the proposed tower will have an effect on any listed plants, animals, or critical habitats. Copies of the USGS topo map, site plans, and photos are attached.

Please send your comments to PES's office by March 23, 2009. If you have any questions, please contact me at (610) 857-1414 (fax 610-857-9118).

Sincerely,

Practical Environmental Solutions LLC



Mark Larocque
President

PES LLC

From: <townotifyinfo@fcc.gov>
To: <pesllc@comcast.net>
Cc: <kim.pristello@fcc.gov>; <diane.dupert@fcc.gov>
Sent: Friday, February 27, 2009 3:00 AM
Subject: NOTICE OF ORGANIZATION(S) WHICH WERE SENT PROPOSED TOWER CONSTRUCTION NOTIFICATION INFORMATION - Email ID #2135224

Dear Sir or Madam:

Thank you for using the Federal Communications Commission's (FCC) Tower Construction Notification System (TCNS). The purpose of this electronic mail message is to inform you that the following authorized persons were sent the information you provided through TCNS, which relates to your proposed antenna structure. The information was forwarded by the FCC to authorized TCNS users by electronic mail and/or regular mail (letter).

Persons who have received the information that you provided include leaders or their designees of federally-recognized American Indian Tribes, including Alaska Native Villages (collectively "Tribes"), Native Hawaiian Organizations (NHOs), and State Historic Preservation Officers (SHPOs). For your convenience in identifying the referenced Tribes and in making further contacts, the City and State of the Seat of Government for each Tribe and NHO, as well as the designated contact person, is included in the listing below. We note that Tribes may have Section 106 cultural interests in ancestral homelands or other locations that are far removed from their current Seat of Government. Pursuant to the Commission's rules as set forth in the Nationwide Programmatic Agreement for Review of Effects on Historic Properties for Certain Undertakings Approved by the Federal Communications Commission (NPA), all Tribes and NHOs listed below must be afforded a reasonable opportunity to respond to this notification, consistent with the procedures set forth below, unless the proposed construction falls within an exclusion designated by the Tribe or NHO. (NPA, Section IV.F.4).

The information you provided was forwarded to the following Tribes and NHOs who have set their geographic preferences on TCNS. If the information you provided relates to a proposed antenna structure in the State of Alaska, the following list also includes Tribes located in the State of Alaska that have not specified their geographic preferences. For these Tribes and NHOs, if the Tribe or NHO does not respond within a reasonable time, you should make a reasonable effort at follow-up contact, unless the Tribe or NHO has agreed to different procedures (NPA, Section IV.F.5). In the event such a Tribe or NHO does not respond to a follow-up inquiry, or if a substantive or procedural disagreement arises between you and a Tribe or NHO, you must seek guidance from the Commission (NPA, Section IV.G). These procedures are further set forth in the FCC's Declaratory Ruling released on October 6, 2005 (FCC 05-176).

1. Supervisory Archaeologist Davis Nieto Jr - Pueblo of Zuni - Zuni, NM - electronic mail and regular mail
2. Cultural Resource Manager Jill McCormick - Cocopah Indian Tribe - Somerton, AZ - electronic mail
Exclusions: The Cocopah Indian Tribe would like to specify that all tower notifications be sent with complete project description, location, maps, and any/all information pertaining to past/present cultural

surveys with a detailed listing of the findings of the survey to include maps, locations, and classification of artifacts/features.

3. Cultural Affairs Manager Peter Steere - Tohono O'odham Nation - Sells, AZ - electronic mail

4. Cultural Resources Representative Nancy Nelson - Ak Chin Indian Community Council - Maricopa, AZ - regular mail

5. Cultural Resources Specialist Amalia Reyes - Pascua Yaqui Tribal Council - Tucson, AZ - electronic mail and regular mail

If the applicant/tower builder receives no response from the Pascua Yaqui Tribal Council within 30 days after notification through TCNS, the Pascua Yaqui Tribal Council has no interest in participating in pre-construction review for the proposed site. The Applicant/tower builder, however, must immediately notify the Pascua Yaqui Tribal Council in the event archaeological properties or human remains are discovered during construction, consistent with Section IX of the Nationwide Programmatic Agreement and applicable law.

6. NAGPRA Representative Wally Davis Jr - Tonto Apache Tribal Council - Payson, AZ - regular mail

7. Environmental Program Director LeAnn Skrzynski - Kaibab Paiute Tribe - Fredonia, AZ - electronic mail and regular mail

If the applicant/tower builder receives no response from the Kaibab Paiute Tribe within 30 days after notification through TCNS, the Kaibab Paiute Tribe has no interest in participating in pre-construction review for the proposed site. The Applicant/tower builder, however, must immediately notify the Kaibab Paiute Tribe in the event archaeological properties or human remains are discovered during construction, consistent with Section IX of the Nationwide Programmatic Agreement and applicable law.

8. Tribal Administrator Candelora Lehi - San Juan Southern Paiute Tribe - Tuba City, AZ - electronic mail and regular mail

If the applicant/tower builder receives no response from the San Juan Southern Paiute Tribe within 30 days after notification through TCNS, the San Juan Southern Paiute Tribe has no interest in participating in pre-construction review for the proposed site. The Applicant/tower builder, however, must immediately notify the San Juan Southern Paiute Tribe in the event archaeological properties or human remains are discovered during construction, consistent with Section IX of the Nationwide Programmatic Agreement and applicable law.

9. Tribal Historic Preservation Officer Holly Houghten - Mescalero Apache Tribe - Mescalero, NM - electronic mail and regular mail

Exclusions: We do not wish to review towers that are being placed upon existing buildings.

The information you provided was also forwarded to the additional Tribes and NHOs listed below. These Tribes and NHOs have NOT set their geographic preferences on TCNS, and therefore they are currently receiving tower notifications for the entire United States. For these Tribes and NHOs, you are required to use reasonable and good faith efforts to determine if the Tribe or NHO may attach religious and cultural significance to historic properties that may be affected by its proposed undertaking. Such efforts may include, but are not limited to, seeking information from the relevant SHPO or THPO, Indian Tribes, state agencies, the U.S. Bureau of Indian Affairs, or, where applicable, any federal agency with land holdings within the state (NPA, Section IV.B). If after such reasonable and good faith efforts, you determine that a Tribe or NHO may attach religious and cultural significance to historic properties in the area and the Tribe or NHO does not respond to TCNS notification within a reasonable time, you should make a reasonable effort to follow up, and must seek guidance from the Commission in the event of continued non-response or in the event of a procedural or substantive disagreement. If you determine that the Tribe or NHO is unlikely to attach religious and cultural significance to historic properties within the area, you do not need to take further action unless the Tribe or NHO indicates an interest in the proposed construction or other evidence of potential interest comes to your attention.

None

The information you provided was also forwarded to the following SHPOs in the State in which you propose to construct and neighboring States. The information was provided to these SHPOs as a courtesy for their information and planning. You need make no effort at this time to follow up with any SHPO that does not respond to this notification. Prior to construction, you must provide the SHPO of the State in which you propose to construct (or the Tribal Historic Preservation Officer, if the project will be located on certain Tribal lands), with a Submission Packet pursuant to Section VII.A of the NPA.

10. Archeologist & Compliance Specialist Connie Thompson Gibson - Arizona State Historic Preservation Office - Phoenix, AZ - electronic mail

11. Deputy SHPO Carol Griffith - Arizona State Parks - Phoenix, AZ - electronic mail

12. Deputy SHPO William Collins - Arizona State Parks - Phoenix, AZ - electronic mail

13. SHPO Ronald James - Historic Preservation Office - Carson City, NV - regular mail

14. SHPO Wilson Martin - Utah State Historical Society - Salt Lake City, UT - electronic mail

15. Deputy SHPO Roger Roper - Utah State Historical Society - Salt Lake City, UT - electronic mail

16. Deputy SHPO Jim Dykman - Utah State Historical Society - Salt Lake City, UT - electronic mail

17. SHPO James W Garrison - Arizona State Parks - Phoenix, AZ - electronic mail

"Exclusions" above set forth language provided by the Tribe, NHO, or SHPO. These exclusions may indicate types of tower notifications that the Tribe, NHO, or SHPO does not wish to review. TCNS automatically forwards all notifications to all Tribes, NHOs, and SHPOs that have an expressed interest in the geographic area of a proposal, as well as Tribes and NHOs that have not limited their geographic areas of interest. However, if a proposal falls within a designated exclusion, you need not expect any response and need not pursue any additional process with that Tribe, NHO, or SHPO. Exclusions may also set forth policies or procedures of a particular Tribe, NHO, or SHPO (for example, types of information that a Tribe routinely requests, or a policy that no response within 30 days indicates no interest in participating in pre-construction review).

If you are proposing to construct a facility in the State of Alaska, you should contact Commission staff for guidance regarding your obligations in the event that Tribes do not respond to this notification within a reasonable time.

Please be advised that the FCC cannot guarantee that the contact(s) listed above opened and reviewed an electronic or regular mail notification. The following information relating to the proposed tower was forwarded to the person(s) listed above:

Notification Received: 02/23/2009
Notification ID: 49306
Tower Owner Individual or Entity Name: Crown Castle
Consultant Name: Mark Larocque
P.O. Box: 642
City: Quarryville
State: PENNSYLVANIA
Zip Code: 17566
Phone: 610-857-1414
Email: pesllc@comcast.net

Structure Type: UTOWER - Unguyed - Free Standing Tower
Latitude: 32 deg 6 min 56.7 sec N
Longitude: 110 deg 50 min 22.4 sec W
Location Description: Unv of AZ #879391 - 7501 So Kolb Rd
City: Tucson
State: ARIZONA
County: PIMA
Ground Elevation: 855.3 meters
Support Structure: 30.5 meters above ground level
Overall Structure: 30.5 meters above ground level
Overall Height AMSL: 885.8 meters above mean sea level

If you have any questions or comments regarding this notice, please contact the FCC using the electronic mail form located on the FCC's website at:

<http://wireless.fcc.gov/outreach/notification/contact-fcc.html>.

You may also call the FCC Support Center at (877) 480-3201 (TTY 717-338-2824). Hours are from 8 a.m. to 7:00 p.m. Eastern Time, Monday through Friday (except Federal holidays). To provide quality service and ensure security, all telephone calls are recorded.

Thank you,
Federal Communications Commission

PES LLC

From: <towernotifyinfo@fcc.gov>
To: <pesllc@comcast.net>
Cc: <towernotifyinfo@fcc.gov>
Sent: Monday, March 02, 2009 5:31 PM
Subject: Reply to Proposed Tower Structure (Notification ID #49306) - Email ID #2139164

Dear Janis Merritts,

Thank you for using the Federal Communications Commission's (FCC) Tower Construction Notification System (TCNS). The purpose of this email is to inform you that an authorized user of the TCNS has replied to a proposed tower construction notification that you had submitted through the TCNS.

The following message has been sent to you from NAGPRA Representative Wally Davis Jr of the Tonto Apache Tribal Council in reference to Notification ID #49306:

The Tonto Apache Tribe Has No Interests In These Sites Thank You !!!!!

For your convenience, the information you submitted for this notification is detailed below.

Notification Received: 02/23/2009
Notification ID: 49306
Tower Owner Individual or Entity Name: Crown Castle
Consultant Name: Mark Larocque
P.O. Box: 642
City: Quarryville
State: PENNSYLVANIA
Zip Code: 17566
Phone: 610-857-1414
Email: pesllc@comcast.net

Structure Type: UTOWER - Unguyed - Free Standing Tower
Latitude: 32 deg 6 min 56.7 sec N
Longitude: 110 deg 50 min 22.4 sec W
Location Description: Unv of AZ #879391 - 7501 So Kolb Rd
City: Tucson
State: ARIZONA
County: PIMA
Ground Elevation: 855.3 meters
Support Structure: 30.5 meters above ground level
Overall Structure: 30.5 meters above ground level
Overall Height AMSL: 885.8 meters above mean sea level

PES LLC

From: <towernotifyinfo@fcc.gov>
To: <pesllc@comcast.net>
Cc: <towernotifyinfo@fcc.gov>; <culturalres@cocopah.com>
Sent: Monday, March 30, 2009 6:22 PM
Subject: Reply to Proposed Tower Structure (Notification ID #49306) - Email ID #2157807

Dear Janis Merritts,

Thank you for using the Federal Communications Commission's (FCC) Tower Construction Notification System (TCNS). The purpose of this email is to inform you that an authorized user of the TCNS has replied to a proposed tower construction notification that you had submitted through the TCNS.

The following message has been sent to you from Cultural Resource Manager Jill McCormick of the Cocopah Indian Tribe in reference to Notification ID #49306:

We have no interest in this site. However, if the Applicant discovers archaeological remains or resources during construction, the Applicant should immediately stop construction and notify the FCC and the Tribe, pursuant to 47 C.F.R Sec. 1.1312 of the Commission's rules.

For your convenience, the information you submitted for this notification is detailed below.

Notification Received: 02/23/2009
Notification ID: 49306
Tower Owner Individual or Entity Name: Crown Castle
Consultant Name: Mark Larocque
P.O. Box: 642
City: Quarryville
State: PENNSYLVANIA
Zip Code: 17566
Phone: 610-857-1414
Email: pesllc@comcast.net

Structure Type: UTOWER - Unguyed - Free Standing Tower
Latitude: 32 deg 6 min 56.7 sec N
Longitude: 110 deg 50 min 22.4 sec W
Location Description: Unv of AZ #879391 - 7501 So Kolb Rd
City: Tucson
State: ARIZONA
County: PIMA
Ground Elevation: 855.3 meters
Support Structure: 30.5 meters above ground level
Overall Structure: 30.5 meters above ground level
Overall Height AMSL: 885.8 meters above mean sea level

PES LLC

From: <towernotifyinfo@fcc.gov>
To: <pesllc@comcast.net>
Cc: <towernotifyinfo@fcc.gov>
Sent: Wednesday, March 04, 2009 5:16 PM
Subject: Reply to Proposed Tower Structure (Notification ID #49306) - Email ID #2141463

Dear Janis Merritts,

Thank you for using the Federal Communications Commission's (FCC) Tower Construction Notification System (TCNS). The purpose of this email is to inform you that an authorized user of the TCNS has replied to a proposed tower construction notification that you had submitted through the TCNS.

The following message has been sent to you from Cultural Resources Representative Nancy Nelson of the Ak Chin Indian Community Council in reference to Notification ID #49306:

We have no interest in this site. However, if the Applicant discovers archaeological remains or resources during construction, the Applicant should immediately stop construction and notify the FCC and the Tribe, pursuant to 47 C.F.R Sec. 1.1312 of the Commission's rules.

For your convenience, the information you submitted for this notification is detailed below.

Notification Received: 02/23/2009
Notification ID: 49306
Tower Owner Individual or Entity Name: Crown Castle
Consultant Name: Mark Larocque
P.O. Box: 642
City: Quarryville
State: PENNSYLVANIA
Zip Code: 17566
Phone: 610-857-1414
Email: pesllc@comcast.net

Structure Type: UTOWER - Unguyed - Free Standing Tower
Latitude: 32 deg 6 min 56.7 sec N
Longitude: 110 deg 50 min 22.4 sec W
Location Description: Unv of AZ #879391 - 7501 So Kolb Rd
City: Tucson
State: ARIZONA
County: PIMA
Ground Elevation: 855.3 meters
Support Structure: 30.5 meters above ground level
Overall Structure: 30.5 meters above ground level
Overall Height AMSL: 885.8 meters above mean sea level

PES LLC

From: <towernotifyinfo@fcc.gov>
To: <pesllc@comcast.net>
Cc: <towernotifyinfo@fcc.gov>
Sent: Wednesday, March 04, 2009 10:54 AM
Subject: Reply to Proposed Tower Structure (Notification ID #49306) - Email ID #2141241

Dear Janis Merritts,

Thank you for using the Federal Communications Commission's (FCC) Tower Construction Notification System (TCNS). The purpose of this email is to inform you that an authorized user of the TCNS has replied to a proposed tower construction notification that you had submitted through the TCNS.

The following message has been sent to you from Tribal Historic Preservation Officer Holly Houghten of the Mescalero Apache Tribe in reference to Notification ID #49306:

We have no interest in this site. However, if the Applicant discovers archaeological remains or resources during construction, the Applicant should immediately stop construction and notify the FCC and the Tribe, pursuant to 47 C.F.R Sec. 1.1312 of the Commission's rules.

For your convenience, the information you submitted for this notification is detailed below.

Notification Received: 02/23/2009
Notification ID: 49306
Tower Owner Individual or Entity Name: Crown Castle
Consultant Name: Mark Larocque
P.O. Box: 642
City: Quarryville
State: PENNSYLVANIA
Zip Code: 17566
Phone: 610-857-1414
Email: pesllc@comcast.net

Structure Type: UTOWER - Unguyed - Free Standing Tower
Latitude: 32 deg 6 min 56.7 sec N
Longitude: 110 deg 50 min 22.4 sec W
Location Description: Unv of AZ #879391 - 7501 So Kolb Rd
City: Tucson
State: ARIZONA
County: PIMA
Ground Elevation: 855.3 meters
Support Structure: 30.5 meters above ground level
Overall Structure: 30.5 meters above ground level
Overall Height AMSL: 885.8 meters above mean sea level

SHPO-2009-0344(3/3/09)

RECEIVED

MEMORANDUM

MAR 16 2009

ACTION	CC:	File ARIZONA STATE PARKS/SHPO
To: SHPO Section 106 Reviews		
From: Mark Larocque		Date: 3-13-09
Subject: Cell Tower Submission University of AZ #879391 7501 So, Kolb Rd, Tucson, Pima County		

The following information is for your review:

- Total square footage of disturbance – 60x60 ft compound, and 20x644.58 ft access easement/utility run – total area of disturbance is 16,491.6 sq ft or 0.41229 acres. The site is located in the open lot owned by the University of AZ.
- Client – Crown Castle USA – Janis Merritts Ph#724-416-2000
- The proposed site will be a ^{20 ft} 65 ft tall ~~mono-palm tree~~ style pole. *monopole*
- The legal description is T 15 South, R 15 East, Section 20 (NW1/4)
- The Tribal notification were made on the FCC TCNS system #48027 on 1-16-09 (attached)
- Public Notice add run in Tucson Citizen and Local County Planning Commission also notified in writing.
- The results of the Class 1 assessment identified zero (0) archaeological sites within the direct APE and one (1) Eligible Historical Structures within the visual APE.
- Based upon the results and recommendations in the Class 1 Assessment prepared by ACS, there will be no direct or visual effect to any historical resource, you office's concurrence is requested. The full Class I Assessment prepared by ACS is attached.

Please send you response to the address below.....thank you

Thanks

Mark Larocque
 PES LLC
 PO Box 642
 Quarryville, PA 17566
 610-857-1414 (fax 801-751-3594)
 cell - 484-431-8568
 email – pesllc@comcast.net

No Historic Properties Affected
for *Shane Madley*
 Arizona State Parks Board
 Historical Resources Division Chief

March 23, 2009

MEMORANDUM

ACTION	CC:	File
To: SHPO Section 106 Reviews		
From: Mark Larocque	Date: 3-13-09	
Subject: Cell Tower Submission University of AZ #879391 7501 So, Kolb Rd, Tucson, Pima County		

The following information is for your review:

- Total square footage of disturbance – 60x60 ft compound, and 20x644.58 ft access easement/utility run – total area of disturbance is 16,491.6 sq ft or 0.41229 acres. The site is located in the open lot owned by the University of AZ.
- Client – Crown Castle USA – Janis Merritts Ph#724-416-2000
- The proposed site will be a 150 ft tall monopole.
- The legal description is T 15 South, R 15 East, Section 20 (NW1/4)
- The Tribal notification were made on the FCC TCNS system #48027 on 1-16-09 (attached)
- Public Notice add run in Tucson Citizen and Local County Planning Commission also notified in writing.
- The results of the Class 1 assessment identified zero (0) archaeological sites within the direct APE and one (1) Eligible Historical Structures within the visual APE.
- Based upon the results and recommendations in the Class 1 Assessment prepared by ACS, there will be no direct or visual effect to any historical resource, you office's concurrence is requested. The full Class I Assessment prepared by ACS is attached.

Please send you response to the address below.....thank you

Thanks

Mark Larocque
PES LLC
PO Box 642
Quarryville, PA 17566
610-857-1414 (fax 801-751-3594)
cell - 484-431-8568
email – pesllc@comcast.net

PES LLC

From: <towernotifyinfo@fcc.gov>
To: <pesllc@comcast.net>
Cc: <kim.pristello@fcc.gov>; <diane.dupert@fcc.gov>
Sent: Friday, February 27, 2009 3:00 AM
Subject: NOTICE OF ORGANIZATION(S) WHICH WERE SENT PROPOSED TOWER CONSTRUCTION NOTIFICATION INFORMATION - Email ID #2135224

Dear Sir or Madam:

Thank you for using the Federal Communications Commission's (FCC) Tower Construction Notification System (TCNS). The purpose of this electronic mail message is to inform you that the following authorized persons were sent the information you provided through TCNS, which relates to your proposed antenna structure. The information was forwarded by the FCC to authorized TCNS users by electronic mail and/or regular mail (letter).

Persons who have received the information that you provided include leaders or their designees of federally-recognized American Indian Tribes, including Alaska Native Villages (collectively "Tribes"), Native Hawaiian Organizations (NHOs), and State Historic Preservation Officers (SHPOs). For your convenience in identifying the referenced Tribes and in making further contacts, the City and State of the Seat of Government for each Tribe and NHO, as well as the designated contact person, is included in the listing below. We note that Tribes may have Section 106 cultural interests in ancestral homelands or other locations that are far removed from their current Seat of Government. Pursuant to the Commission's rules as set forth in the Nationwide Programmatic Agreement for Review of Effects on Historic Properties for Certain Undertakings Approved by the Federal Communications Commission (NPA), all Tribes and NHOs listed below must be afforded a reasonable opportunity to respond to this notification, consistent with the procedures set forth below, unless the proposed construction falls within an exclusion designated by the Tribe or NHO. (NPA, Section IV.F.4).

The information you provided was forwarded to the following Tribes and NHOs who have set their geographic preferences on TCNS. If the information you provided relates to a proposed antenna structure in the State of Alaska, the following list also includes Tribes located in the State of Alaska that have not specified their geographic preferences. For these Tribes and NHOs, if the Tribe or NHO does not respond within a reasonable time, you should make a reasonable effort at follow-up contact, unless the Tribe or NHO has agreed to different procedures (NPA, Section IV.F.5). In the event such a Tribe or NHO does not respond to a follow-up inquiry, or if a substantive or procedural disagreement arises between you and a Tribe or NHO, you must seek guidance from the Commission (NPA, Section IV.G). These procedures are further set forth in the FCC's Declaratory Ruling released on October 6, 2005 (FCC 05-176).

1. Supervisory Archaeologist Davis Nieto Jr - Pueblo of Zuni - Zuni, NM - electronic mail and regular mail

2. Cultural Resource Manager Jill McCormick - Cocopah Indian Tribe - Somerton, AZ - electronic mail
Exclusions: The Cocopah Indian Tribe would like to specify that all tower notifications be sent with complete project description, location, maps, and any/all information pertaining to past/present cultural

surveys with a detailed listing of the findings of the survey to include maps, locations, and classification of artifacts/features.

3. Cultural Affairs Manager Peter Steere - Tohono O'odham Nation - Sells, AZ - electronic mail

4. Cultural Resources Representative Nancy Nelson - Ak Chin Indian Community Council - Maricopa, AZ - regular mail

5. Cultural Resources Specialist Amalia Reyes - Pascua Yaqui Tribal Council - Tucson, AZ - electronic mail and regular mail

If the applicant/tower builder receives no response from the Pascua Yaqui Tribal Council within 30 days after notification through TCNS, the Pascua Yaqui Tribal Council has no interest in participating in pre-construction review for the proposed site. The Applicant/tower builder, however, must immediately notify the Pascua Yaqui Tribal Council in the event archaeological properties or human remains are discovered during construction, consistent with Section IX of the Nationwide Programmatic Agreement and applicable law.

6. NAGPRA Representative Wally Davis Jr - Tonto Apache Tribal Council - Payson, AZ - regular mail

7. Environmental Program Director LeAnn Skrzynski - Kaibab Paiute Tribe - Fredonia, AZ - electronic mail and regular mail

If the applicant/tower builder receives no response from the Kaibab Paiute Tribe within 30 days after notification through TCNS, the Kaibab Paiute Tribe has no interest in participating in pre-construction review for the proposed site. The Applicant/tower builder, however, must immediately notify the Kaibab Paiute Tribe in the event archaeological properties or human remains are discovered during construction, consistent with Section IX of the Nationwide Programmatic Agreement and applicable law.

8. Tribal Administrator Candelora Lehi - San Juan Southern Paiute Tribe - Tuba City, AZ - electronic mail and regular mail

If the applicant/tower builder receives no response from the San Juan Southern Paiute Tribe within 30 days after notification through TCNS, the San Juan Southern Paiute Tribe has no interest in participating in pre-construction review for the proposed site. The Applicant/tower builder, however, must immediately notify the San Juan Southern Paiute Tribe in the event archaeological properties or human remains are discovered during construction, consistent with Section IX of the Nationwide Programmatic Agreement and applicable law.

9. Tribal Historic Preservation Officer Holly Houghten - Mescalero Apache Tribe - Mescalero, NM - electronic mail and regular mail

Exclusions: We do not wish to review towers that are being placed upon existing buildings.

Please be advised that the FCC cannot guarantee that the contact(s) listed above opened and review electronic or regular mail notification. The following information relating to the proposed tower w forwarded to the person(s) listed above:

Notification Received: 02/23/2009
Notification ID: 49306
Tower Owner Individual or Entity Name: Crown Castle
Consultant Name: Mark Larocque
P.O. Box: 642
City: Quarryville
State: PENNSYLVANIA
Zip Code: 17566
Phone: 610-857-1414
Email: pesllc@comcast.net

Structure Type: UTOWER - Unguyed - Free Standing Tower
Latitude: 32 deg 6 min 56.7 sec N
Longitude: 110 deg 50 min 22.4 sec W
Location Description: Unv of AZ #879391 - 7501 So Kolb Rd
City: Tucson
State: ARIZONA
County: PIMA
Ground Elevation: 855.3 meters
Support Structure: 30.5 meters above ground level
Overall Structure: 30.5 meters above ground level
Overall Height AMSL: 885.8 meters above mean sea level

PRACTICAL ENVIRONMENTAL SOLUTIONS LLC
PO BOX 642 – QUARRYVILLE, PA 17566
610-857-1414

February 28, 2009

Pima Co. Planning Dept.
201 North Stone Ave
Tucson, AZ 85701

RE: Proposed Crown Castle Telecommunications Facility
UofA #879391 – 7501 So Kold Rd, Tucson

Dear Sirs:

Crown Castle USA is proposing to install a new telecommunications tower at the above site. In accordance with the Federal Communications Commission regulation at 47 C.F.R. 1.1307(a)(4), we are providing notice to you and seeking any comments that you may have regarding the effect of the proposed action described above on historic properties in your community. Based on your level of interest in the proposed project, you may wish to become a consulting party. This notice is not intended to supplant any local zoning or permitting requirements, but is part of our State Historic Preservation Office filing.

We welcome any comments that you may have regarding any historic properties located in the area that could be potentially affected by the proposed action. Please direct your comments by calling Janis Merritts 724-416-2000 or by mail to 2000 Corporate Drive in Canonsburg, PA 15317. We request that you provide any comments that you may have by March 28, 2009. We thank you for your cooperation and look forward to working with your office.

Sincerely,

PES LLC



Mark Larocque
President



Site Access



Proposed lease area

**A CLASS I CULTURAL RESOURCE LITERATURE REVIEW FOR A CROWN CASTLE
INTERNATIONAL WIRELESS TELECOMMUNICATIONS FACILITY RELOCATION
(SITE #879391) NEAR KOLB ROAD AND INTERSTATE-10 IN TUCSON, PIMA COUNTY,
ARIZONA**

U of A Science and Tech Park (#879391)

Prepared by
Kristin L. Fangmeier, M.A.

Submitted by
Victoria D. Vargas, M.A., R.P.A.

Prepared for
Practical Environmental Solutions, LLC

Archaeological Consulting Services, Ltd.
Project No. 08-169-01-08
March 13, 2009



SHPO Standardized Report Abstract

REPORT TITLE: A Class I Cultural Resource Literature Review for a Crown Castle International Wireless Telecommunications Facility Relocation (Site #879391) near Kolb Road and Interstate-10 in Tucson, Pima County, Arizona

DATE OF REPORT: March 13, 2009

AGENCY PROJECT NO.: U of A Science and Tech Park (#879391), 7501 S. Kolb Road

ACS PROJECT NO.: ACS 08-169-01-08

AGENCIES/TRIBES: Federal Communications Commission (FCC)

LAND OWNERSHIP: Private

PROJECT FUNDING: Private

REGULATORY CONTEXT: Section 106 of the National Historic Preservation Act of 1966, as amended; 2004 FCC Nationwide Programmatic Agreement (NPA)

PROJECT DESCRIPTION: Crown Castle International proposes to move an existing 102-ft-tall monopole from 7551 S. Kolb Road to 7051 S. Kolb Road, located near Kolb Road and Interstate-10 in Tucson, Pima County, Arizona; the height of the monopole will also increase to 150 ft. In accordance with the FCC NPA, applicants for a FCC permit must comply with Section 106 of the 1966 National Historic Preservation Act (NHPA), as amended. At the request of Mr. Mark Larocque of Practical Environmental Solutions, LLC (PES, LLC), Archaeological Consulting Services, Ltd. (ACS) prepared a cultural resource literature review and cultural-historical overview of the project area to evaluate its potential for cultural resources.

Direct APE: 60 × 60 ft lease area, 20 × 644.58 ft access/utility easement

Visual APE: 0.5 mile around direct APE, per 2004 FCC NPA for telecommunication facilities less than 200 ft high

Review area: 1.0 mile around direct APE, per SHPO requirements

LOCATION: Township 15 South/Range 15 East/Section 20 (NW¼); plotted on the USGS 7.5' Tucson SE, Ariz. topographic quadrangle; Tucson, Pima County

SURVEYED ACRES: n/a

METHODOLOGY: Sources examined for this overview included site and project files at the State Historic Preservation Office (SHPO) and the AZSITE Cultural Resources Database (AZSITE); historic General Land Office (GLO) plats on file at the Bureau of Land Management (BLM) Arizona State Office were also reviewed.

NUMBER OF SITES: 11
Within direct APE: 0
Within visual APE: 1
Within review area outside visual APE: 10

ELIGIBLE SITES: Within visual APE: AZ Z:2:40(ASM)
Within review area outside visual APE: AZ AA:12:875 and FF:9:17(ASM)



NOT ELIGIBLE SITES: Within review area outside visual APE: AZ BB:13:660(ASM)

UNKNOWN ELIGIBILITY: Within review area outside visual APE: AZ BB:13:399, BB:13:400, BB:13:509, BB:13:523, BB:13:524, BB:13:531, and BB:13:532(ASM)

COMMENTS: ACS' Class I cultural resource literature review for a monopalm relocation near Kolb Road and Interstate-10 in Tucson revealed that the direct APE has been previously surveyed; however, the survey occurred more than 10 years ago, and given the high density of previously recorded cultural resources within the review area, resurvey is recommended per SHPO guidelines (State Historic Preservation Office 2004).

The Southern Pacific Railroad Mainline (AZ Z:2:40[ASM]), which has been determined eligible for the National Register under Criterion A, occurs within the visual APE. Because the railroad cannot be observed from the direct APE, the proposed monopalm will have no visual impact on the railroad. ACS recommends a finding of no historic properties affected within the visual APE.

If previously unrecorded cultural resources are found during construction, the resources should be protected in place and the FCC should be notified to address the findings as a post-review discovery in compliance with state law (ARS §41-844) and Stipulation IX of the 2004 FCC NPA. If human remains or funerary objects are discovered, work in the vicinity of the discovery must stop immediately and the FCC, SHPO, and Arizona State Museum (ASM) should be notified in accordance with state law (ARS §41-865) and Stipulation IX of the 2004 FCC NPA.



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Introduction

Crown Castle International proposes to move an existing 102-ft-tall monopole from 7551 S. Kolb Road to 7051 S. Kolb Road, located near Kolb Road and Interstate-10 in Tucson, Pima County, Arizona; the height of the monopole will also increase to 150 ft. In accordance with the 2004 Nationwide Programmatic Agreement (NPA) for Review of Effects on Historic Properties for Certain Undertakings Approved by the Federal Communications Commission (FCC NPA), applicants for an FCC permit must comply with Section 106 of the 1966 National Historic Preservation Act (NHPA), as amended.

At the request of Mr. Mark Larocque of Practical Environmental Solutions, LLC (PES LLC), Archaeological Consulting Services, Ltd. (ACS) prepared a Class I cultural resource literature review and cultural-historical overview of the project area to evaluate its potential for cultural resources. Sources examined for this overview included site and project files at the State Historic Preservation Office (SHPO) and the AZSITE Cultural Resources Database (AZSITE); historic General Land Office (GLO) plats on file at the Bureau of Land Management (BLM) Arizona State Office were also reviewed. Based on the results of the literature review, ACS recommends a finding of no historic properties affected in the visual APE; a Class III cultural resources survey is recommended to determine any impacts to National Register eligible sites within the direct APE, which was previously surveyed over 10 years ago.

Project Area of Potential Effect

The area of potential effect (APE) for direct impacts (**direct APE**) consists of the area of potential disturbance and any property that would be physically altered by the undertaking. The direct APE consists of a 60 × 60 ft lease area and a 20 × 644.58 ft access/utility easement on Arizona Board of Regents land in Section 20 (NW¼) of Township 15 South, Range 15 East (Gila and Salt River Baseline and Meridian) (Figures 1–3). The APE for visual impacts (**visual APE**), which is the area within which impacts to the setting of historic properties are assessed, consists of a 0.5-mi-radius around the direct APE, as mandated by Appendix B of the FCC NPA for telecommunication facilities less than 200 ft high. For the purposes of the Class I overview, the **review area** consists of a 1 mi buffer around the direct APE, per Arizona SHPO requirements.



Figure 1. Overview of proposed cell tower location facing west (photo courtesy of PES LLC).

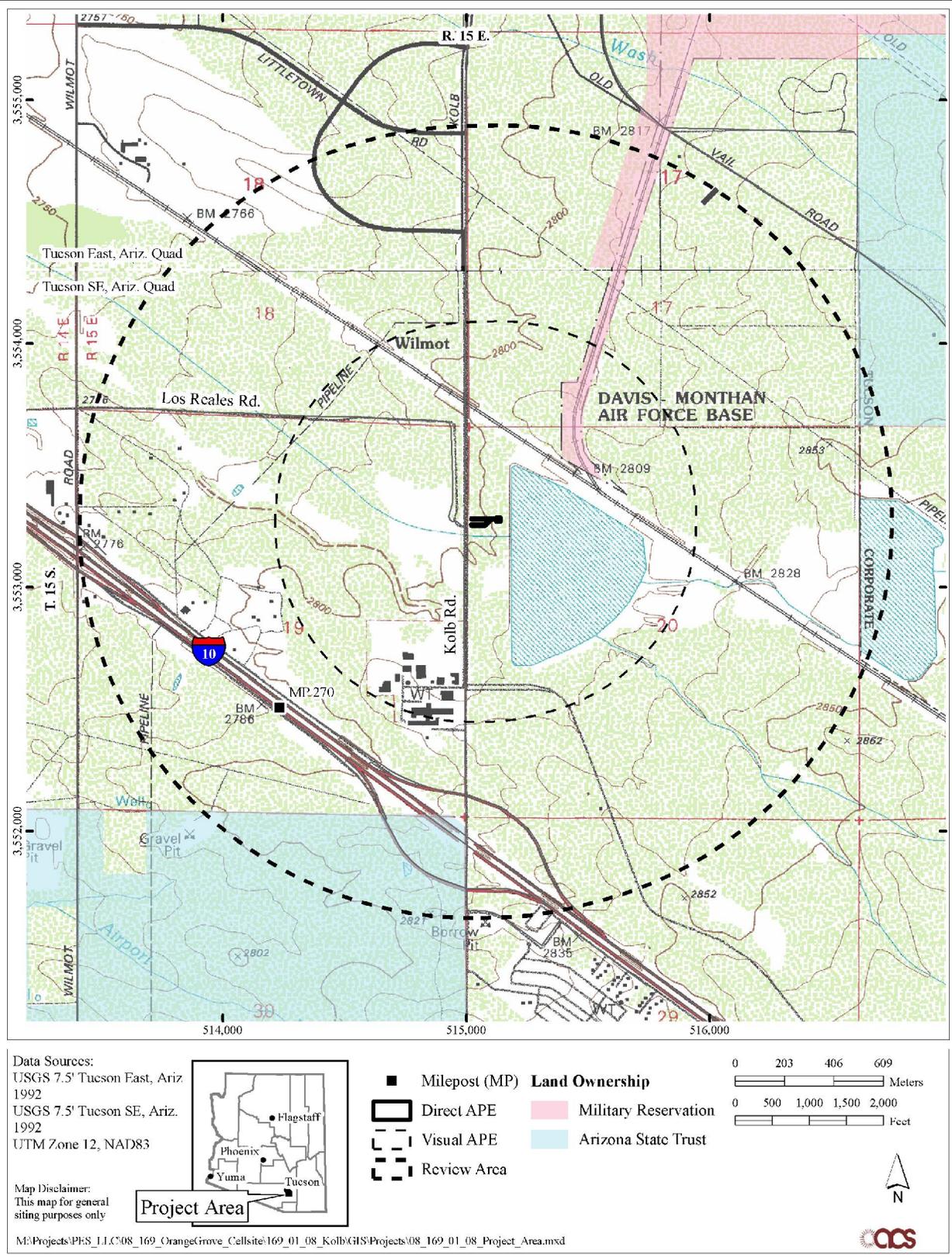


Figure 2. Portion of the USGS 7.5' Tucson SE, Ariz. topographic quadrangle showing the location of the direct APE, visual APE, and review area.

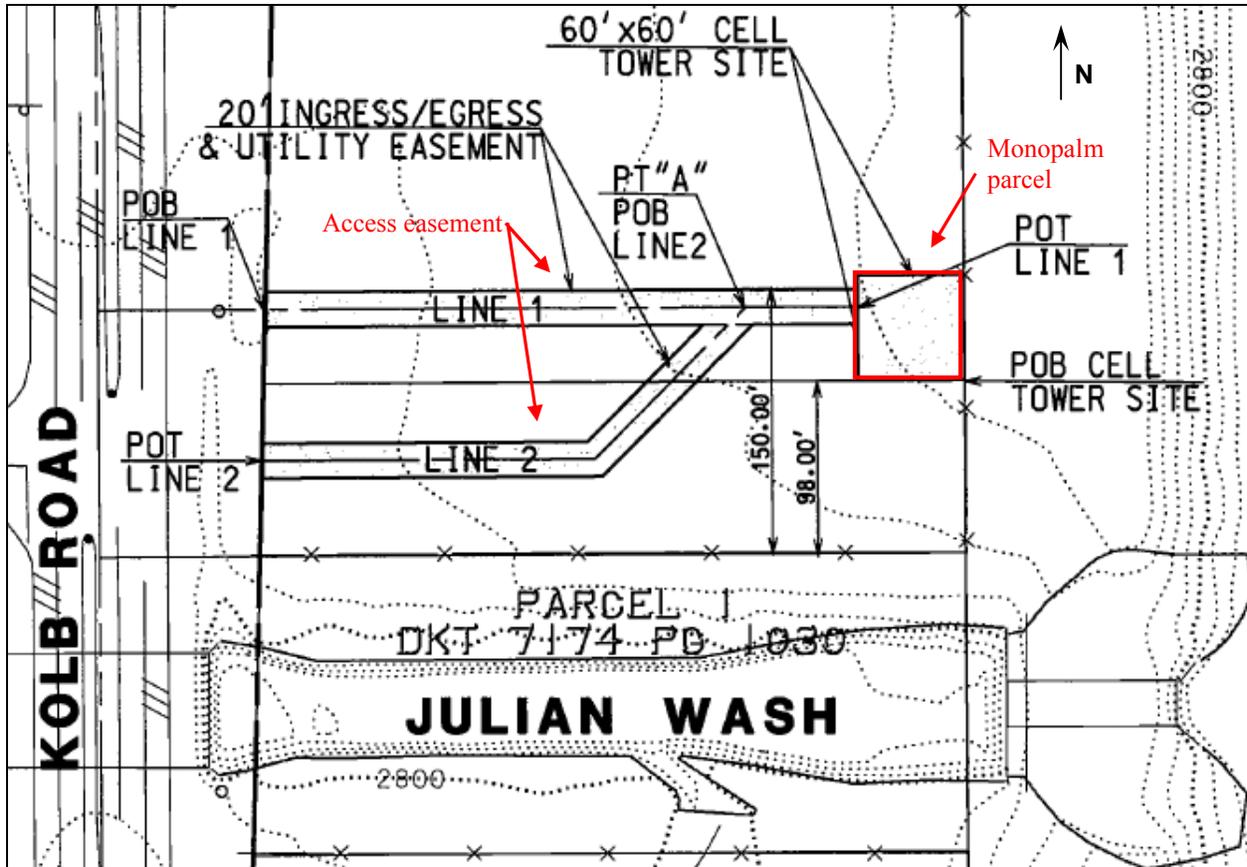


Figure 3. Site plan for the proposed monopalm parcel and access easement (courtesy of PES LLC). The channel labeled Julian Wash is a man-made channel that extends from a reservoir to the east and connects to Julian Wash.

The direct APE occurs 1.25 mi south of Julian Wash, a tributary of the Santa Cruz River, on gently sloping terrain; elevation is approximately 2,800 ft above mean sea level (amsl). The review area occurs within the Sonoran Desertscrub biotic community, Lower Colorado River Valley subdivision (Brown 1994:190). Common vegetation types include creosotebush, saltbush, brittlebush, mesquite, and numerous species of cacti. The direct APE consists of largely undisturbed desert (Figure 1).

Tucson Basin Cultural History

The following overview of Tucson Basin culture history provides a frame of reference for the current project findings. The chronological framework used in this overview is based on recent research by, among others, Gregory (2001a), Mabry (1998c), Mabry and Faught (1998), Wallace et al. (1995), and Deaver and Ciolek-Torello (1995) (Table 1).

Paleoindian Period

The Paleoindian period (10,000–7,500 B.C.) represents the earliest known occupation of North America. Paleoindian lifeways were based on small, nomadic bands that followed megafauna and gathered wild plants. Sites from this period have been documented in southern Arizona (Cordell 1997; Haury 1950; Huckell 1982, 1984b; Mabry 1998b). None have been reported in the Tucson Basin, although isolated points have been found (Huckell 1984b).



Table 1. Tucson Basin Chronology.

Date	Cultural Tradition	Period	Phase
1700	Recent (Mixed)	Historic	
1450	O'odham (Piman)	Protohistoric	
1300	Hohokam	Classic	Tucson
1150			Tanque Verde
950		Late Formative	Rincon
850			Rillito
750			Cañada del Oro
700			Snaketown
675			Sweetwater
650		Early Formative	Estrella
450			Tortolita
A.D. 1		Archaic	Late Archaic (Early Agricultural)
B.C. 1			
1,500	Middle Archaic		
4,800			
7,500			Early Archaic
10,000	Paleoindian	Paleoindian	

Archaic Period

Huckell (1984b) divided the Archaic period (7,500 B.C.–A.D. 450) into early, middle, and late chronological stages. Early Archaic (7,500–4,800 B.C.) people followed a generalized hunter-gatherer lifeway and a subsistence-settlement strategy involving high residential mobility, annual procurement rounds, and a wide interaction sphere. Sites of this stage are characterized primarily by abundant concentrations of fire-cracked rock; ground stone milling equipment, particularly one-hand manos and slab metates; and temporally diagnostic stemmed projectile points of the Jay, Ventana-Amargosa, San Dieguito, and Bajada types (Huckell 1996a; Mabry and Faught 1998). Few Early Archaic sites have been identified in the Tucson Basin.

The Middle Archaic period (4,800–1,500 B.C.) is perhaps the least understood period in Arizona prehistory (Huckell 1996a; Mabry and Faught 1998; Phillips et al. 2001). In the Southwest, evidence of alluvial cut-and-fill events suggests this was a time of lake desiccation (Waters 1989), hotter summers and cooler winters (Thompson et al. 1993), and perhaps lower effective moisture (Mabry 1998a; although see Thompson et al. 1993). These processes have helped to destroy or deeply bury many Middle Archaic sites, hindering field identification. The traditional Chiricahua phase (Sayles 1983; Sayles and Antevs 1941) falls within the Middle Archaic period (Huckell 1996a). Only two sites, the Arroyo site (AZ AA:3:28[ASU]) and an unnamed 4,300 year-old site in the Tucson area, have produced radiocarbon dates associated with Chiricahua-phase projectile point types (Bayham et al. 1986; Huckell 1996a). Other excavations of Middle Archaic sites in the Santa Cruz River Valley have yielded notched Elko and stemmed San Jose and “Pinto-like” projectile points (Mabry and Faught 1998).

Middle Archaic sites include occupational surfaces, thermal or roasting pits, an abundance of fire-cracked rock, and sometimes middens (Bayham et al. 1986; Fish 1967). Only a few structures have been identified in the southwestern Basin and Range province (e.g., Huckell 1984a; Phillips et al. 2001). Although recent research has yielded new dates on maize, pushing its presence in the Southwest as early as 1,700–1,900 B.C. (Gregory 1999; Stevens 1999; Wills 1995), no evidence of corn horticulture has been found in Middle Archaic sites.

The Late Archaic period, also referred to as the Early Agricultural period, dates from 1,500 B.C. to A.D. 450 (Huckell 1996b; Mabry 1998a; Mabry et al. 1997). During this time, populations began settling



in semi-permanent or permanent villages of circular pithouses and focused on cultivating maize as well as foraging for wild plants (Fish et al. 1986; Huckell 1988, 1990; Mabry et al. 1997; Roth 1992; Wills and Huckell 1994). Diagnostic artifacts included corner-notched points and dart point types with contracting stems, triangular knives, flake scrapers, and ground stone milling tools. Significant Late Archaic/Early Agricultural occupations have been reported from southern Arizona and in the Tucson Basin (Berry and Berry 1986; Doyel 1993; Gregory 2001a; Hackbarth 1998; Huckell 1984a, 1984b, 1990, 1996a, 1996b; Mabry 1998b; Mabry et al. 1997; Matson 1991; Roth 1989, 1992, 1995, 1996; Whalen 1971). One site containing a Late Archaic component occurs within 1 mi of the current project area (Antone and Lascaux 1996).

Early Formative Period

The Early Formative period (A.D. 450–700) represents a pan-Southwest transitional stage characterized by a continuation of the Late Archaic trends toward increasing sedentism and agricultural dependence, along with the introduction and development of pottery (e.g., Berry 1982; Cable and Doyel 1987; Matson 1991; Wilson et al. 1993). From this basal culture, the distinctive cultural pattern known as Hohokam emerged along the Gila River around A.D. 300 (Crown and Judge 1991; Gumerman 1991; Noble 1991). Populations in the Tucson Basin maintained a local expression of this older tradition until about A.D. 700, when the Hohokam culture flourished and spread its influence throughout most of central and southern Arizona (e.g., Deaver and Ciolek-Torrello 1993, 1995; Di Peso 1956, 1979; Hayden 1970).

The Agua Caliente phase (A.D. 1–450) marked the beginning of the Late Archaic–Early Formative period transition in the Tucson Basin (Ciolek-Torrello 1995; Deaver and Ciolek-Torrello 1995; Whittlesey 1993). Emerging architectural and ceramic traditions showed strong Mogollon-like traits that contrasted sharply with later regional developments (Ciolek-Torrello 1995; Deaver and Ciolek-Torrello 1995; Huckell 1987; Whittlesey 1995). Pithouses were circular to oval in shape, with a wide range in size and formality of construction. Most houses had plastered hearths, well-defined entryways with plastered pillars, and interior storage pits. Both inhumations and cremations occurred at some sites (Ciolek-Torrello 1995). Large communal houses also appeared at this time, suggesting increasing population and residential stability (Halbirt et al. 1993). Nonetheless, settlement patterns continued to reflect the residential mobility characteristic of the Late Archaic period (Huckell 1995; Huckell and Huckell 1984).

Except for the introduction of sand-tempered plain ware ceramics, the material culture remained very similar to that of Late Archaic farming villages (Chapman 1977; Halbirt 1987; Huckell 1993; Parry and Kelly 1987). Agua Caliente phase “incipient” ceramics were limited in size and form, suggesting a narrow functional range mostly concerned with storage of small quantities of dry seed (Deaver and Ciolek-Torrello 1995; Mabry 1998b). Although corn was present in Tucson Basin Early Formative contexts, the continuity of Late Archaic material culture and subsistence-settlement strategies suggest Early Formative populations were not solely dependent on agriculture (e.g., Gish 1989; Gregory 2001b; Miksicek 1989, 1992; Whittlesey 1995). Hunting and the exploitation of a wide variety of wild plants, including agave, amaranth, and acorns, also were emphasized (Huckell 1995; James 1989, 1992).

The subsequent Tortolita phase was characterized by the emergence of distinct regional trends. Slipped and polished red wares were added to the ceramic complex. New vessel forms also appeared, suggesting that ceramics were made to adapt to a variety of functions besides grain storage. Hallmark Hohokam manufacturing techniques and forms such as flare-rimmed bowls were present at some sites. Larger, more formally constructed subrectangular houses-in-pits replaced the earlier, Mogollon-like circular pithouses. Semi-flexed inhumations predominated. A more diverse ground stone assemblage included slab metates, mortars, pestles, axes, polishing stones, and manos. The chipped lithic artifacts reflect the expedient technology characteristic of later Hohokam assemblages (Bernard-Shaw 1990; Deaver and Ciolek-Torrello 1995; Eppley 1990).

The end of the Tortolita phase was marked by the introduction of brown pottery with broad-line, geometric designs executed in red paint. Local plain and red wares were still primarily sand tempered, but



small-scale local production of wares tempered with crushed gneiss or mica also occurred. Interregional contact is indicated by the presence of Gila Basin Hohokam ceramics such as Vahki Red, Estrella Red-on-gray, and Sweetwater Red-on-gray. No substantial occupations have been associated with this phase (Deaver and Ciolek-Torrello 1995).

Late Formative Period

The Late Formative period (A.D. 700–1150) was marked by the appearance and initial expansion of the Hohokam regional system, which included a complex of courtyard groups, trash mounds, ball courts, cremation mortuary rituals, and associated distinct pottery styles (Deaver and Ciolek-Torrello 1995; Wilcox 1979a, 1988; Wilcox and Sternberg 1983). Prior to the Snaketown phase, the Tucson and Gila Basins appear to have followed parallel but essentially independent trajectories. However, during the Late Formative period, the growing influence of the Gila Basin Hohokam dramatically altered the pottery traditions and regional cultural dynamics of Tucson Basin populations.

In the Tucson Basin, the Snaketown phase was marked by the spread of hachure-decorated pottery and an increase in the use of crushed micaceous temper, both reflecting the increasing influence from the Gila Basin. Few changes were apparent in the flaked stone assemblage, but the ground stone tool kit included trough metates, plain and carved effigy bowls, and three-quarter-grooved axes. Structures ranged from semicircular to rectangular with long vestibule entryways. Standardized cremation rituals were common, with burials often located in special crematory areas (Deaver and Ciolek-Torrello 1995).

The Cañada del Oro and subsequent Rillito phases were characterized by a steady rise in population, increased residential stability, and agricultural diversification (Doyel 1977a, 1977b; Masse 1979; Woosley 1980). Inhabitants living on the upper terraces of the Santa Cruz River, on bajadas, and in mountainous areas depended on dry farming and other subsistence adaptations, while people living at floodplain sites emphasized reliance on floodwater and irrigation agriculture, and exploitation of riparian resources (Masse 1980a, 1980b; Mayberry 1983; Wilcox et al. 1981). Ball courts, an indication of social integration with the Gila Basin Hohokam, first appeared in the late Cañada del Oro phase and reached their maximum expansion in the Rillito phase. Although imported red-on-buff wares were present at most sites, most ceramic assemblages were dominated by the local red-on-brown wares, suggesting much of the growth during this time was a result of local demographic processes rather than an influx of populations from the Salt-Gila area (e.g., Doyel 1977a, 1977b; Wasley and Doyel 1980). Intrusive ceramic types also point to contacts with Sonora, the San Simon Valley, and the Mogollon culture areas.

The Rincon phase, viewed as the height of the Tucson Basin Hohokam occupation, was characterized by initial population expansion and residential stability accompanied by rapid culture change (Betancourt 1978; Doyel 1977b; Wallace 1986). Population was concentrated mainly on the west side of the Santa Cruz River and around the Martinez Hill area. The number of sites increased, and many large sites had at least one ball court (Doelle and Wallace 1991). By the Middle Rincon phase, settlement was more dispersed, with many small hamlets replacing the earlier large villages. Increasing independence from the Gila Basin was reflected in decreased buff ware imports and the apparent collapse of the regional ball court system. Late Rincon developments included multi-dwelling walled compounds and a shift toward inhumation burials. The production of local polychrome and red wares and use of geometric motifs in ceramic decoration evidenced yet another divergence from the traditional curvilinear designs of the Gila Basin Hohokam (Doyel 1979; Greenleaf 1975; Kelly 1978; Wallace 1986; Zaslow and Dittert 1977). Settlements spread to the east side of the river and onto the floodplain. Late Rincon phase ceramics have been firmly associated with *cerros de trincheras*, interpreted as possible defensive features (Doelle and Wallace 1990).

Classic Period

In the Classic period, settlement patterns, site structure, architecture, and material culture changed. By A.D. 1300, many Hohokam characteristics disappeared or were significantly altered. In the Tucson



Basin, these sweeping changes became evident during the Tanque Verde phase (Elson 1986; Fish et al. 1992; Wallace and Holmlund 1984). Many of the changes represented elaborations of earlier local trends, including continued divergence in ceramic decoration; increase in the use of smudging; proliferation of red wares; the spread of walled, multi-structure domestic compounds; the emergence of platform mounds; and variability in burial practices (Doelle and Wallace 1991; Greenleaf 1975; Kelly 1978; Mayberry 1983; Zaslow and Dittert 1977). Variation in household size increased. Occupational as well as stylistic continuity are indicated by the presence of sites with both Rincon and Tanque Verde phase components. New sites proliferated on the east as well as the west side of the Santa Cruz River, and large roasting pits associated with agave processing became a common feature of sites in nonriverine settings (Doelle and Wallace 1991). While the incidence of Gila Basin Hohokam ceramic types steadily decreased, intrusive types from other areas increased, suggesting an apparent realignment of interregional exchange patterns.

The Tucson phase was characterized by population aggregation into a few large, integrated central communities with platform mounds. Use of large roasting pits and other nonriverine agricultural features declined. There was strong ceramic continuity; only relatively rare polychrome and intrusive types are diagnostic to this time (Doelle and Wallace 1991). It has been hypothesized that the combination of aggregation and continuity of local traditions were a result of increasing social differentiation, perhaps leading to warfare, both within individual settlements and between groups in different regions of the Hohokam area (e.g., Craig and Douglas 1984; Doelle and Wallace 1991; Downum 1986; Wilcox 1979b). After A.D. 1300, social cohesion was lost and many permanent villages were abandoned, with populations dispersing into ranchería-style settlements. Many of the distinctive and abundant Hohokam characteristics disappeared or were significantly altered, making continuity with the Protohistoric and Historic periods difficult to assess. By the Protohistoric period, the Gila River had become a low-density frontier setting (Fish et al. 1990).

Protohistoric Period

The Protohistoric period (A.D. 1450–1700) is defined as the time between the conquest of Mexico, when European influences were first being felt in the Southwest, and the reconquest of New Mexico after the Pueblo Revolt, which signaled the establishment of a permanent European presence in the New World. The best records for this period are the accounts of early explorers such as Fray Marcos de Niza (in 1539) and Coronado (in 1540) (Bolton 1952; Riley 1987). While these early sources do not include specific information about the size or cultural affiliation of the native populations, they do suggest that the people living along the Salt, Gila, and lower Santa Cruz and San Pedro River Valleys were a relatively homogeneous group who spoke dialects of the Piman language. Later accounts from the 1690s, when the Spanish government began establishing missions and settlements in southern Arizona, recognized more refined cultural and geographical distinctions of the O’odham people, the largest groups of which include the Tohono O’odham (Papago), the Sobaipuri, and the Akimel O’odham (Pima) (Fontana 1983b; Gilpin and Phillips 1998; Sheridan 1995). Various scholars (e.g., Crosswhite 1981; Fontana 1974; Hackenberg 1974) have concluded that the cultural variation and historic distribution of these groups was a result of adaptation to different ecological niches.

The Tohono O’odham (“Desert People”) practiced a seasonal migration between upper and lower elevations, occupying the mountain foothills near permanent springs in the winter, and inhabiting field villages through the summer until late fall (Fontana 1983b; Underhill 1969). These summer villages were located at the mouths of washes and included rock dams to channel runoff after the summer rains (ak-chin agriculture). Protohistoric sites are characterized by Hohokam-like houses as well as more ephemeral brush structures (Dart 1994:333).

Dialectically related to the Tohono O’odham, the Hia Ced O’odham (Sand Papago) were a small group that eked out a precarious seminomadic existence over a wide but mostly inhospitable terrain south and west of the Piman territory. Because of the ephemeral nature of their activities, archaeological evidence of the Hia Ced O’odham is rare (Gilpin and Phillips 1998).



The Sobaipuri, who likely descended from the Classic Hohokam of the Tucson Basin and lower San Pedro Valley (Di Peso 1953, 1956; Doyel 1977a; Seymour 1989, 1997), lived in rancheria-style settlements and practiced irrigation agriculture (Bolton 1948; Burrus 1971; Doelle 1984; Seymour 1993). Sites featured roasting pits, small rock rings, and flat cobble platforms. Material culture included plain and unslipped red wares, minimally shaped grinding tools, finely retouched unifacial flake tools, and triangular projectile points with concave bases and serrated edges. Later developments included subrectangular houses with boulder foundations, adobe structures, and European artifacts such as majolica and metal (Seymour 1993). The Sobaipuri were hard hit by Apache encroachment and Spanish persecution as well. By 1770, they had evacuated the San Pedro Valley, joining the Akimel O'odham to the north or other Sobaipuri settlements along the Santa Cruz River (Ezell 1983; Fontana 1983a; Gilpin and Phillips 1998). References to the Sobaipuri ceased during the mid 1800s, suggesting they had disappeared as an identifiable group (McGuire 1982).

Although their origins are still the subject of debate (e.g., Hadley and Sheridan 1995:8–10), the Pima or Akimel O'odham (“River People”) are most likely descended from the Hohokam of the Gila River region (c.f. Turner and Irish 1988). However, in contrast to those of the Hohokam, early Piman settlements were characterized by a relatively simple system of nonirrigated agriculture, heavy dependence on hunting and gathering, and dispersed rancheria settlements. The Spanish found at least six Akimel O'odham settlements along the Gila River west of Casa Grande Ruins; another settlement was established along the Santa Cruz River near Picacho Peak. These settlements were made up of a community house and various family compounds that included single-family homes, food storage structures, a ramada, a cooking windbreak, and a menstrual hut (Bahr 1971, 1983; Ezell 1961, 1963, 1983; Gilpin and Phillips 1998; Gladwin et al. 1965). Early Piman material culture included pottery, basketry, and the weaving and trading of cotton blankets.

Long-distance trade, as well as endemic warfare triggered by shifting alliances, was maintained with the Pueblos, the Pee-Posh (Maricopa), Cocopa, Quechan, and other groups (Doelle 1984; Ezell 1983; Gilpin and Phillips 1998; Kroeber and Fontana 1986; Riley 1987). The Spanish introduced wheat and various animals, including horses, cattle, and other livestock. Metal implements, irrigation farming, extensive trade, and slave raiding became common. Epidemics caused by European diseases combined with Apache raids resulted in the abandonment of settlements near Picacho Peak during the early 1700s. These groups appear to have relocated to the Gila and lower Santa Cruz River areas (Doyel 1989).

The highly mobile, semi-nomadic Apache were also important in the recent cultural history of southern Arizona. Although the early Apache might have been sedentary agriculturalists, the introduction of the horse, taken in raids from the Spaniards, drastically changed and redefined their way of life during the last half of the Protohistoric period (Gilpin and Phillips 1998). The adoption of the horse allowed the Apache to greatly increase their geographical range and to establish an intricate network of trading and raiding relationships that involved numerous cultural groups, from the Hopi villages in northern Arizona to the Spanish settlements in central Sonora (Basso 1983). This wide network of contacts resulted in a complex borrowing of cultural elements, most notably in religion and material culture (Basso 1983; Goodwin 1942; Underhill 1969).

Apache sites are generally inconspicuous, and include stone rings or wickiups, rockshelters, hearths and roasting pits, rock art, graves, ceremonial caves, and other sacred (traditional cultural) places. Most sites cannot be dated unless European artifacts are present (e.g., Brandes 1957; Ferg 1992; Gerald 1968; Hohmann and Redman 1988; Vivian 1970). Apache roasting pits have been associated with agave processing (Castetter et al. 1938; Ferg 1992). Additional information on the Protohistoric period is provided in excellent discussions by Cheek (1974), Masse (1981), Doelle (1984), Doelle and Wallace (1990), and Gilpin and Phillips (1998).



A Brief Overview of Tucson

Spanish colonizers were the first Europeans to explore the American Southwest; however, prior to 1687, no missions had been established in Pimería Alta—the northern region of Sonora that currently encompasses southern Arizona and northern Sonora, Mexico. Between 1687 and 1711, Father Eusibio Kino founded a number of missions in the region (with a 20-year exemption), building churches in friendly Pima villages, or rancherías. In all, eight missions were established with principal *cabaceras* and dependent *visitas*. Father Kino and Captain Juan Mateo Manje visited missions in Pimería Alta in 1697. At this time, the *cabacera* at San Xavier del Bac comprised a population of 830 Pima residents, with another 750 at San Augustin del Oaiur, a *visita* of San Xavier del Bac, established in the small village of Oaiur (which was located on the east bank of the Santa Cruz River).

Despite the early achievements of Father Kino, very little missionary activity occurred for the next 30 years. The Province of Sonora at this time was experiencing bitter political battles between Jesuit missionaries, who fought for natives protected under mission districts, and the merchants and civil leaders who urged secularization of all missions. Finally in 1732, the Jesuits resumed missionary activities among the Upper Pima; missions designated a generation before were reestablished. In 1751, a concentrated Pima uprising near Saric (south of Tumacacori) forced the evacuation of Spanish missionaries from the southern villages of Pimería Alta; the uprising however, was not widespread among all Upper Pima. Nevertheless, the Presidio of Tubac was established in 1752 to protect missions in the northern periphery of Pimería Alta (Mabry 2005; Spicer 1986; Williams 1986).

Perhaps more significant to successful development of Pimería Alta was the Apache problem, which had affected northeast Sonora and portions of Chihuahua since at least the 1690s and had effectively checked expansion northward into Pimería Alta. Additional presidios were constructed to combat the problem, including Terranate (1776) and the relocation of troops in Tubac to Tucson (1776). The Tucson presidio was constructed on the west bank of the Santa Cruz River to protect Spanish settlers and peaceful natives of San Xavier del Bac, San Cosme and San Augustin (Cosulich 1953:59). By this time, Sobaipuri settlements along the San Pedro River were abandoned, and the natives migrated to the Santa Cruz River.

The fragile welfare of missions and native villages of Pimería Alta were compounded after 1821 when Mexico won its independence from Spain. Over the next decade, all missions were secularized and many deserted as Franciscans were forced to evacuate; missions and presidios throughout Sonora were abandoned. On the eve of the Mexican-American War, the Mexican population in southern Arizona (Tucson and Tubac) was sparse, with the Sonoran missions either abandoned, or severely depleted (Griffin 1985; Kessell 1976; Trimble 1977). In the short period of American settlement before the Civil War, many emigrants traveling through southern Arizona came as entrepreneurs, with high hopes of success in a promising new country; primary accounts of conditions in Arizona before the Civil War reveal the great expense and difficulty in obtaining necessary supplies and goods from peripheral localities (Cosulich 1953:61–64). The arrival of the first Anglo American ranchers and businessmen in the 1850s and 1860s initially had little impact on life in Tucson. These newcomers were a small minority, and Tucson remained a small Mexican village with a predominantly Hispanic population.

With the success of the Butterfield Overland Stage Route along Cooke's Wagon Road (Mormon Battalion Route), and mining exploration near Tubac, early merchants began to realize profits within the small community. Pioneering residents and merchants, including Solomon Warner, Mark Aldrich, William S. Oury, Charles T. Hayden, Charles Meyer, and Hiram Stevens encouraged the steady growth of the former presidio. In 1871, the Village of Tucson was incorporated, and in the following year, the Common Council purchased two sections of land from the General Land Office for a townsite. The survey of these two square miles extended the town to the north of the original settlement and established a pattern that would continue to shape the subsequent growth of Tucson. The population at this time was slightly more than 8,000, many of whom were of American descent (Sonnichsen 1987:75–100). Southern Pacific Railroad arrived in Tucson in 1880, accelerating the growth and development of the town as it



brought in people, commerce, and building materials. Another key event, the opening of the University of Arizona in 1891 on a site northeast of town, would also have a noticeable impact on Tucson and the direction of future urban development.

At the turn of the century, a national depression significantly impacted Tucson, resulting in a population loss (Sonnichsen 1987). Development, however, continued unabated with the expansion of commercial businesses along Congress Street, and residential subdivisions spreading north and east toward the University along the route of the Tucson Street Railway. The railway, initially drawn by mule, extended north from the downtown core along Stone Avenue, then headed east on Third Street (currently University) to the University. In 1906, the railway was electrified; for the next 24 years, electric cars continued to run on the established route, with no expansion north of Third Street. By 1910, the population of Tucson was 13,193; for the moment at least, Tucson remained the largest city in Arizona Territory (Mabry et al 1994:4; Sonnichsen 1987).

At the turn of the twentieth century, Tucson was one of the fastest growing population centers in the Southwest. There were more than 7,000 people living in the city in 1900, but in the following 20 years the population nearly tripled, to 20,000. With the construction of thousands of Bungalows and Period Revival homes in new residential subdivisions. Commercial opportunities, municipal services like water and transportation. Tucson was starting to resemble typical communities across the country, but was particularly following the example of the twentieth-century city as it was being developed in California: sprawling suburban neighborhoods, first made accessible by streetcars, but soon by automobiles. In the 1920s, Tucson's population increased from 20,000 to 30,000 people, buses replaced streetcars, and residential expansion to the north and east included many new subdivisions north of Speedway Boulevard. However, most of these new neighborhoods were not actually in Tucson. By 1940, half of the people in the Tucson metropolitan area lived outside of city limits, and the city began an aggressive annexation campaign to incorporate most of the neighboring subdivisions. In response to war-time needs, Davis-Monthan Airport became a military base (Davis-Monthan Air Force Base 2009).

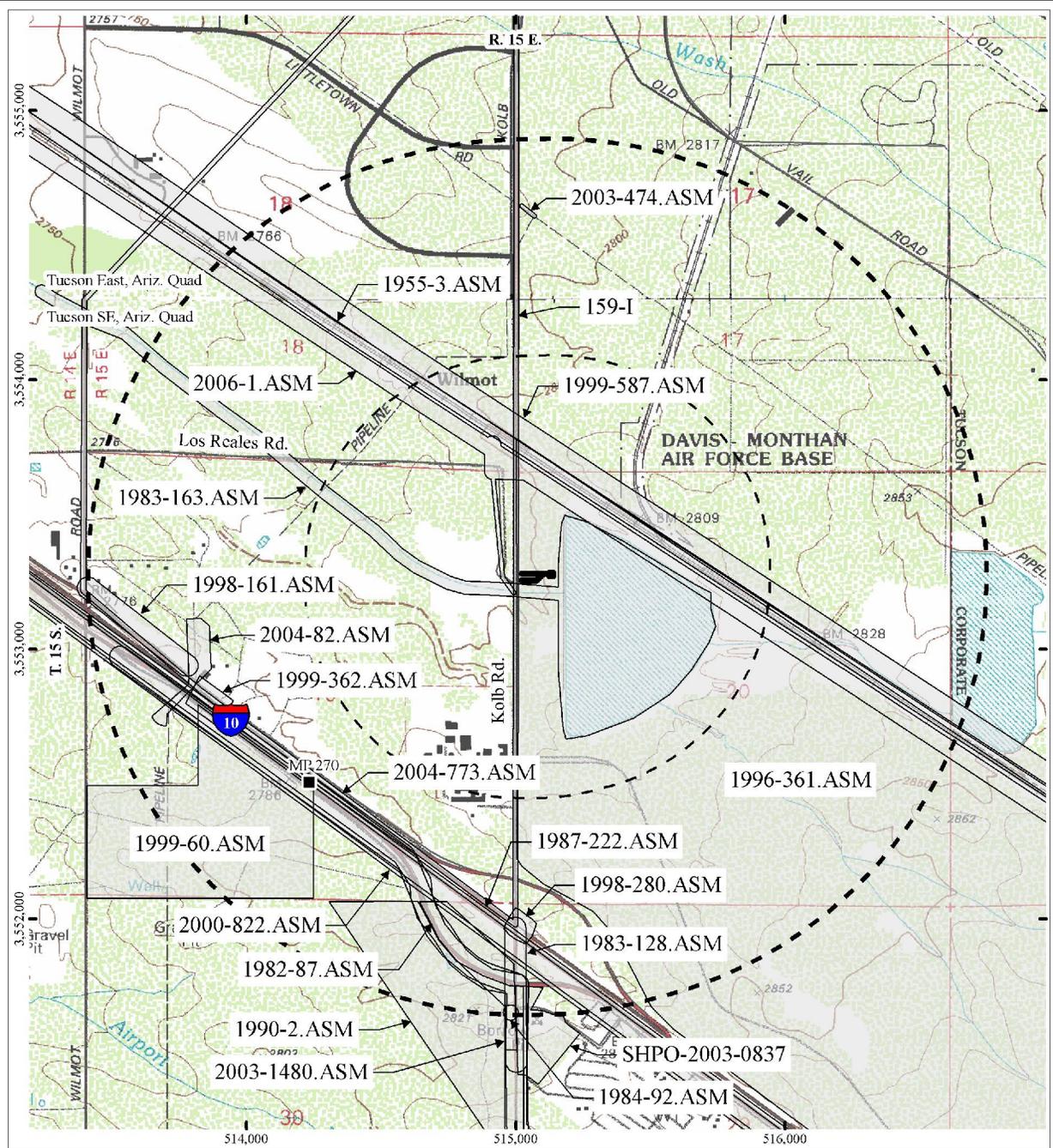
The post-World War II period brought unprecedented growth in Tucson. Wartime military activities around the city were replaced by the aerospace industry. Consolidated-Vultee Aircraft Corporation came to Tucson during the war, and after the war, Hughes Aircraft and Douglas Aircraft also built new plants in the area. In the 20 years following World War II, Tucson's fledgling manufacturing sector grew a hundredfold, and tourism grew to be a billion dollar-a-year industry. During this period, Tucson's incorporated area grew tenfold, and its population grew to six times its pre-war level. The University of Arizona reflected a similar growth trend, with 13,000 students enrolled by 1960 in a campus that was no longer situated on the edge of town, but was now in the center of a large urban area that was home to a quarter-million people. By 2006, Tucson numbered over half a million residents, with a metropolitan population over one million (Wikipedia 2009).

Results of the Literature Review

This section presents an inventory of cultural resource investigations undertaken to date within the review area, and lists the cultural resources that have been recorded as a result of these investigations. Sources examined include site and project files at SHPO and the AZSITE database.

The literature review revealed that at least 21 projects have been conducted within 1 mi of the direct APE, and the direct APE itself has been surveyed (Figure 4; Table 2). SWCA Environmental Consultants surveyed 194 acres for the University of Arizona Science and Technology Park survey in 1996 (1996-361.ASM) (Antone and Lascaux 1996); however, because the project occurred more than 10 years ago, resurvey is recommended.

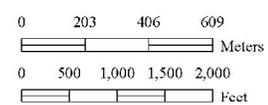
As a result of these projects, 11 cultural resources have been recorded within the review area, one of which, the Southern Pacific Railroad Mainline (AZ Z:2:40[ASM]), falls within the visual APE (Table 3; Figure 5). No previously recorded cultural resources are known to occur in the direct APE, however.



Data Sources:
 USGS 7.5' Tucson East, Ariz.
 1992
 USGS 7.5' Tucson SE, Ariz.
 1992
 UTM Zone 12, NAD83
 Cultural Resource Data:
 AZSITE, Arizona's Cultural
 Resources Inventory, courtesy
 of the Arizona State Museum

Map Disclaimer:
 This map for general
 siting purposes only

- Milcpost (MP)
- ▭ Previous Project
- ▭ Direct APE
- ▭ Visual APE
- ▭ Review Area



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Figure 4. Portion of the USGS 7.5' Tucson SE, Ariz. topographic quadrangle showing previous cultural resource projects within the review area.

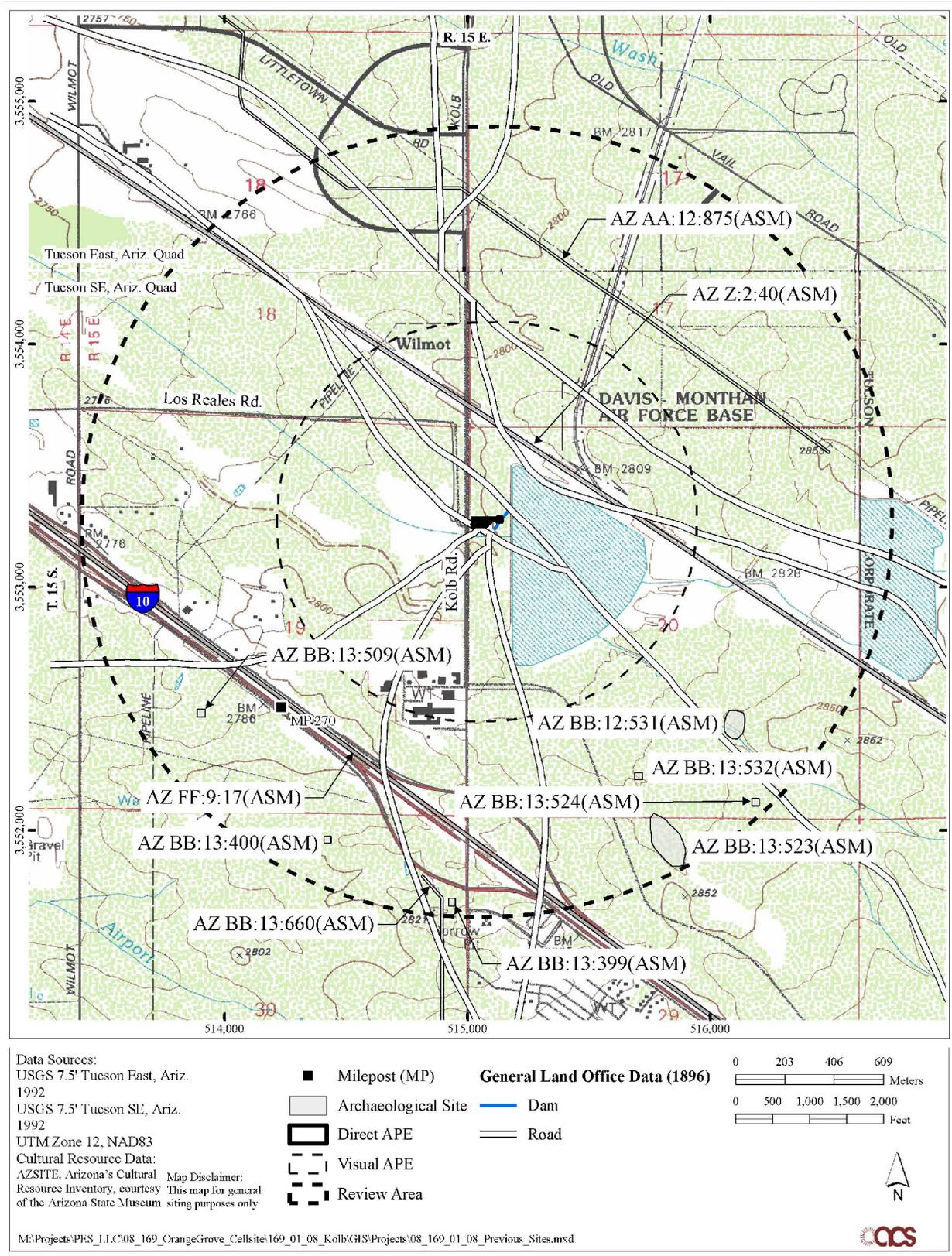


Figure 5. Portion of the USGS 7.5' Tucson SE, Ariz. topographic quadrangle showing previously recorded cultural resources within the review area.



Table 2. Summary of Previous Archaeological Research In Review Area.

Agency No.	Project Description	Reference
1955-3.ASM	Southern Pacific Pipeline Survey	(Komerska and Breternitz 1955)
1982-87.ASM	Pima County Body Politic DofT Survey	(Madsen 1982)
1983-128.ASM	State Land Survey	(Lange 1983)
1983-163.ASM	Kolb-Palo Verde Detention Basins and Outlet Channel	(Perrine 1983)
1984-92.ASM	TEP Local Surveys	(Sullivan 1984)
1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	(Rogge and Bruder 1987)
1990-2.ASM	State Land Near Kolb and I-10	(Harry 1990)
1996-361.ASM	UASTP	(Antone and Lascaux 1996)
1998-161.ASM	I-10 Wilmot Road Survey	(Chavarria 1998)
1998-280.ASM	I-10/Six Staging Areas	(Shepard 1998)
1999-60.ASM	Wilmot Road and I-10 Survey	(Folb 1999)
1999-362.ASM	Tucson Freeway Management System Phase I	(Hill and Garcia 1999)
1999-587.ASM	PBNS Level 3 Fiber Optic Line	(Doak 1999)
2000-822.ASM	Tucson Maintenance – I-10	(Barnes 2000)
2003-474.ASM	EPNG Line 1007 Survey	(Hesse 2003b)
2003-1480.ASM	Kolb Road	(Moses 2004)
2004-82.ASM	EPNG I-10 Crossing Survey	(Hesse 2003c)
2004-773.ASM	Craycroft to Kolb I-10 Survey	(Barr 2004)
2006-1.ASM	SFPP, LP, El Paso to Phoenix Expansion Project, Arizona Portion: Cochise and Pima	(Rawson et al. 2006)
SHPO-2003-0837	11-Acre Rezoning at Kolb Road	(Stephen 2000)
159-I	Transportation Corridors	(Rozen 1979)

Table 3. Summary of Previously Recorded Cultural Resources in Review Area.

Agency Number	Site Type	Eligibility ¹ (Criterion)	Reference
AZ AA:12:875(ASM)	El Paso Natural Gas Pipeline No. 1007	Determined eligible (C & D)	(Hesse 2003a)
AZ BB:13:399(ASM)	Hohokam artifact scatter w/ rock feature	Not evaluated	AZSITE #67888
AZ BB:13:400(ASM)	Hohokam rock piles	Not evaluated	AZSITE #67891
AZ BB:13:509(ASM)	Prehistoric artifact scatter w/ rock feature	Unknown	(Folb 1999)
AZ BB:13:523(ASM)	Hohokam artifact scatter w/ 14 thermal features	Not evaluated	(Antone and Lascaux 1996)
AZ BB:13:524(ASM)	Late Archaic/Hohokam artifact scatter w/ 2 thermal features	Not evaluated	(Antone and Lascaux 1996)
AZ BB:13:531(ASM)	Hohokam artifact scatter w/ 17 thermal features	Not evaluated	(Antone and Lascaux 1996)
AZ BB:13:532(ASM)	Hohokam artifact scatter w/ 3 thermal features	Not evaluated	(Antone and Lascaux 1996)
AZ BB:13:660(ASM)	Historic road	Not eligible	(Tucker 2000)
AZ FF:9:17(ASM)	US Highway 80	Determined eligible (A)	(Jolly and Fangmeier 2004)
AZ Z:2:40(ASM)	Southern Pacific Railroad Mainline (Southern Route)	Determined eligible (A)	AZSITE #14649

¹ Archaeologist's recommendation unless determined by SHPO.



In addition to the records check, historic General Land Office (GLO) plats on file at the Bureau of Land Management (BLM) BLM Arizona State Office were also reviewed. The 1895 GLO plat of Township 15 South, Range 15 East shows several roads in the review area, including six in the visual APE and one in the access easement portion of the direct APE. In addition, the Baker's Reservoir Dam is plotted within lease area portion of the direct APE (Figure 5).

Land patent records indicate that Lizette S. Contzen, formerly Lizette S. Garfield, received a stock raising homestead patent in 1938 for the N $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 20, where the direct APE is located; portions of three adjacent sections were also included in the 640-acre patent.

Historic Contexts

To be eligible for inclusion in the National Register of Historic Places (National Register), historic properties must be at least 50 years old and meet one or more of the criteria set forth in 36 CFR 60.4:

- Criterion A: applies to properties that are associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B: applies to properties that are associated with the lives of persons significant in our past; or
- Criterion C: applies to properties that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D: applies to properties that have yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more criteria, properties must be significant within the context of prehistory or history. Significant historic properties must also possess integrity, which is the composite of seven qualities: location, design, setting, materials, workmanship, feeling, and association. All of these qualities do not have to be present for a historic property to be eligible for the National Register. In fact, the integrity of archaeological properties is usually based on the degree to which the remaining evidence can provide *important* information about the prehistory or history of an area.

All archaeological sites have the potential to yield information, but assessment of the information's importance is a critical factor. To utilize the criteria effectively, the National Park Service developed the concept of historic context, which consists of a time (e.g., Late Historic period), a place (e.g., Tucson Basin), and a theme (e.g., ranching). Several historic context studies on the prehistory and history of Arizona have been developed by the National Park Service and SHPO. Those of relevance to the current project include, but are not limited to:

- Paleoindian and Archaic Sites in Arizona (Mabry 1998a)
- Lithic Sites in Arizona (Slaughter et al. 1992)
- Prehistoric Water Utilization and Technology in Arizona (Foster et al. 2002)
- Prehistoric to Historic Transition Period in Arizona (Gilpin and Phillips 1998)
- Homesteading in Arizona, 1862–1940 (Stein 1990)
- Transcontinental Railroading in Arizona, 1878–1949 (Janus Associates 1989)

The prehistoric sites within the review area include Late Archaic and Hohokam artifact scatters, mostly situated along an unnamed wash. Many contain agricultural features such as rock piles and thermal features such as roasting pits, both indicative of resource procurement and processing activities. Such sites may be eligible under Criterion D for their potential to inform on prehistoric settlement and subsistence patterns.

The review area contains several historic transportation corridors, the earliest of which dates back to ca. 1880. Construction of the Southern Pacific Railroad Mainline, AZ Z:2:40(ASM), began in California,



crossing into Arizona at Yuma in 1877, and continued east through Tucson in 1880; it joined the Atchison, Topeka and Santa Fe Railroad at Deming, New Mexico in 1881 and became the second transcontinental railroad (Myrick 1975). US Highway 80, designated AZ FF:9:17(ASM) and known as the “Ocean to Ocean” Highway, was part of the Historic State Highway System (HSHS) begun in 1927 and was the precursor to Interstate-10 (Arizona Roads 2008). These two sites have been determined eligible under Criterion A for their role in Arizona’s early transportation history. Numerous GLO roads also cross the review area, including the Road from Tucson to Davidson’s Spring, although none have been formally recorded. If they retain sufficient historic integrity, these roads may also be eligible. An unnamed road, AZ BB:13:660(ASM), parallels Kolb Road in the southern portion of the review area and has been recommended not eligible due to its lack of association with important persons, events, and engineering qualities.

Archival research indicates the direct APE falls within a stock-raising homestead patent issued to Lizette S. Contzen in 1938. While many homesteads lack integrity, and consequently are not considered eligible for the National Register, homesteads with sufficient integrity may be eligible under Criterion A for their association with the early settlement history of the area, Criterion B for their association with important persons, Criterion C for unique architectural or design characteristics, and Criterion D for their archaeological data potential. Although previous survey of the direct APE did not identify any historic cultural resources, at least 13 years has lapsed since the survey, during which time artifacts and features may have achieved historic age. Remnants of the Contzen homestead within the direct APE may be eligible under any of these criteria.

Visual Impact Assessment

One cultural resource occurs within the visual APE. The Southern Pacific Railroad Mainline Southern Route, AZ Z:2:40(ASM), crosses the visual APE approximately 0.2 mi northeast of the proposed cell tower location (Figure 5). The site has been determined eligible for the National Register under Criterion A (AZSITE #14649). As Figure 6 demonstrates, the railroad is not visible from the direct APE, so no visual impacts to the site are expected.



Figure 6. North-facing view from direct APE toward Southern Pacific Railroad Mainline, AZ Z:2:40(ASM) (photo courtesy of PES, LLC).



Summary and Recommendations

ACS' Class I cultural resource literature review for a monopalms relocation near Kolb Road and Interstate-10 in Tucson revealed that the direct APE has been previously surveyed; however, the survey occurred more than 10 years ago, and given the high density of previously recorded cultural resources within the review area, resurvey is recommended per SHPO guidelines (State Historic Preservation Office 2004).

The Southern Pacific Railroad Mainline (AZ Z:2:40[ASM]), which has been determined eligible for the National Register under Criterion A, occurs within the visual APE. Because the railroad cannot be observed from the direct APE, the proposed monopalms will have no visual impact on the railroad. ACS recommends a finding of no historic properties affected within the visual APE.

If previously unrecorded cultural resources are found during construction, the resources should be protected in place and the FCC should be notified to address the findings as a post-review discovery in compliance with state law (ARS §41-844) and Stipulation IX of the 2004 FCC NPA. If human remains or funerary objects are discovered, work in the vicinity of the discovery must stop immediately and the FCC, SHPO, and Arizona State Museum (ASM) should be notified in accordance with state law (ARS §41-865) and Stipulation IX of the 2004 FCC NPA.



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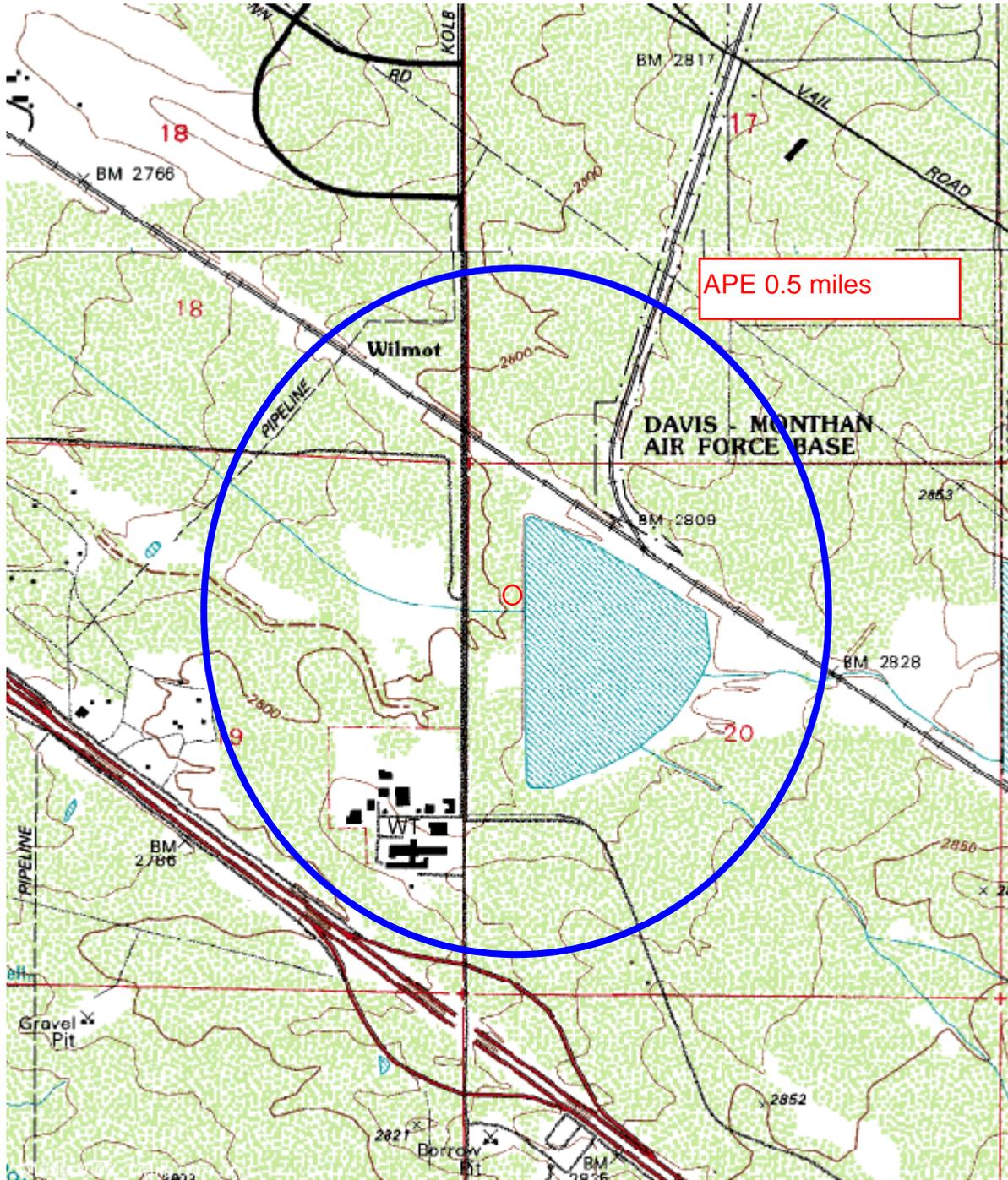
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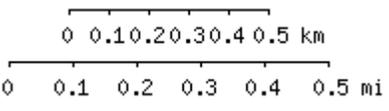
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- 1977 *Pattern Mathematics and Archaeology: the Pattern Technology of the Hohokam*. Anthropological Research Paper No. 2. Arizona State University, Tempe.



APE 0.5 miles



32.1157°N 110.8395°W

TUCSON SE (AZ) QUAD

InfoMap
Technologies Incorporated

Environmental FirstSearch™ Report

Target Property:

7501 S KOLB ROAD

TUCSON AZ 85747

Job Number: 879391

PREPARED FOR:

PES, LLC

205 Groff Road

Quarryville, PA 17566

Fill In Univ. of AZ #879391

02-23-09



Tel: (610) 430-7530

Fax: (610) 430-7535

Environmental FirstSearch *Search Summary Report*

Target Site: 7501 S KOLB ROAD
TUCSON AZ 85747

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
State ACEC	Y	NA	0.50	0	0	0	0	-	1	1
Wetlands	Y	11-20-00	0.15	0	0	0	-	-	0	0
Floodplains	Y	09-01-03	0.15	1	0	0	-	-	0	1
Historic Landmarks	Y	11-17-05	1.00	0	0	0	0	0	1	1
Federal Land Use	Y	08-01-06	1.00	0	0	0	0	0	2	2
- TOTALS -				1	0	0	0	0	4	5

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to InfoMap Technologies, certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in InfoMap Technologies's databases. All EPA sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent NPL and state landfill the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although InfoMap Technologies uses its best efforts to research the actual location of each site, InfoMap Technologies does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of InfoMap Technologies's services proceeding are signifying an understanding of InfoMap Technologies's searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

***Environmental FirstSearch
Site Information Report***

Request Date: 02-23-09
Requestor Name: PES
Standard: PES

Search Type: COORD
Job Number: 879391
Filtered Report

Target Site: 7501 S KOLB ROAD
TUCSON AZ 85747

Demographics

Sites: 5	Non-Geocoded: 4	Population: NA
Radon: 0.1 - 0.3 PCI/L		

Site Location

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>		<u>UTMs</u>
Longitude:	-110.83955	-110:50:22	Easting:	515136.622
Latitude:	32.11575	32:6:57	Northing:	3553089.049
			Zone:	12

Comment

Comment: PIMA COUNTY

Additional Requests/Services

Adjacent ZIP Codes: 1 Mile(s)	Services:
--------------------------------------	------------------

<u>ZIP Code</u>	<u>City Name</u>	<u>ST</u>	<u>Dist/Dir</u>	<u>Sel</u>
85706	TUCSON	AZ	0.08 NW	Y

	<u>Requested?</u>	<u>Date</u>
Sanborns	No	
Aerial Photographs	No	
Historical Topos	No	
City Directories	No	
Title Search/Env Liens	No	
Municipal Reports	No	
Online Topos	No	

Fill In Univ. of AZ #879391
7501 S Kolb Rd
Tucson, AZ 85747
FEMA#04019C2855K

***Environmental FirstSearch
Sites Summary Report***

Target Property: 7501 S KOLB ROAD
TUCSON AZ 85747

JOB: 879391
PIMA COUNTY

TOTAL: 5 **GEOCODED:** 1 **NON GEOCODED:** 4 **SELECTED:** 5

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
2	ACEC	US FISH and WILDLIFE ENDANGERED SP USFWS-85747/NEPA CONTACT	UNKNOWN AZ 85747	NON GC	
1	FLOODPLAINS	FEMA Q3 FLOOD DATA AZQ3-04019-1868/A - 100 YEAR	AZ	0.00 --	1
3	HISTSITES	STATE HISTORIC SITES CONTACT INFOR SHPO-85747	UNKNOWN AZ 85747	NON GC	
4	LANDUSE	ENDANGERED SPECIES 04019-85747/NEPA	TUCSON AZ 85747	NON GC	
7	LANDUSE	BUREAU OF INDIAN AFFAIRS CONTACT I BIA-85747	AZ 85747	NON GC	

***Environmental FirstSearch
Site Detail Report***

Target Property: 7501 S KOLB ROAD
TUCSON AZ 85747

JOB: 879391
PIMA COUNTY

ACEC

SEARCH ID: 2

DIST/DIR: NON GC

MAP ID:

NAME: US FISH and WILDLIFE ENDANGERED SPECIES CONTACT INFO
ADDRESS: UNKNOWN
AZ 85747
PIMA
CONTACT:

REV: 01/15/08
ID1: USFWS-85747
ID2:
STATUS: NEPA CONTACT
PHONE:

US FISH and WILDLIFE ENDANGERED SPECIES CONTACT INFORMATION

OFFICE: ARIZONA ECOLOGICAL SERVICES FIELD OFFICE
ADDRESS: 2321 WEST ROYAL PALM ROAD, SUITE 103
PHOENIX AZ 85021-4915
PHONE: 602 242-0210
FAX: 602 242-2513

OFFICE: LOWER COLORADO RIVER COORDINATOR
ADDRESS: 8102 NORTH 23RD AVE SUITE C
PHOENIX AZ 85021
PHONE: 602 841-5329
FAX: 602 841-5405

***Environmental FirstSearch
Site Detail Report***

Target Property: 7501 S KOLB ROAD
TUCSON AZ 85747

JOB: 879391
PIMA COUNTY

HISTORIC/LANDMARK SITE

SEARCH ID: 3

DIST/DIR: NON GC

MAP ID:

NAME: STATE HISTORIC SITES CONTACT INFORMATION
ADDRESS: UNKNOWN
AZ 85747
PIMA

REV: 01/10/08
ID1: SHPO-85747
ID2:
STATUS:
PHONE:

CONTACT:

STATE HISTORIC SITES CONTACT INFORMATION

OFFICE: ARIZONA STATE PARKS
ADDRESS: 1300 WEST WASHINGTON
PHOENIX AZ 85007
PHONE: 602-542-4009
FAX: 602-542-4180

***Environmental FirstSearch
Site Detail Report***

Target Property: 7501 S KOLB ROAD
TUCSON AZ 85747

JOB: 879391
PIMA COUNTY

FEDERAL LAND USE

SEARCH ID: 5

DIST/DIR: NON GC

MAP ID:

NAME: ENDANGERED SPECIES

REV: 12/31/99

ADDRESS: TUCSON AZ 85747
PIMA

ID1: 04019-85747

ID2: 04019

STATUS: NEPA

CONTACT:

PHONE:

FINAL FWS LISTING: 78-02-14

ENDANGERED SPECIES INFORMATION IS OBTAINED AT THE COUNTY LEVEL AND MAY OR MAY NOT BE APPLICABLE TO THIS TARGET SITE.

Environmental FirstSearch Descriptions

State ACEC: *USFWS* US FISH AND WILDLIFE CONTACT INFORMATION - database of contact information for the US Fish and Wildlife Service loaded by zipcode.

Wetlands: *US FWS* NATIONAL WETLANDS INVENTORY (NWI) - database of information on the characteristics, extent, and status of the Nation's wetlands and deepwater habitats. This data is available for select areas of the United States.

Floodplains: *FEMA* FLOODPLAINS – database of 100 year and 500 year flood zone boundaries for select counties in the United States

Historic Landmarks: *NPS* NATIONAL REGISTRY OF HISTORIC PLACES DATABASE - The nation's official list of cultural resources worthy of preservation. Properties listed include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture.

Federal Land Use: *USGS/EPA* FEDERAL LANDS OF THE UNITED STATES - Database of lands owned or administered by the Federal Government, including the Bureau of Land Management, the Bureau of Reclamation, the U.S. Department of Agriculture Forest Service, the Department of Defense, the U.S. Fish and Wildlife Service, the National Park Service, the Tennessee Valley Authority, and other agencies. Only areas of 640 acres or more are included. Descriptive information includes the name and type of the Federal land and the administering agency.

ENDANGERED SPECIES PROTECTION PROGRAM DATABASE – List of the Endangered Species by county and the species status.

RADON: *NTIS* NATIONAL RADON DATABASE - EPA radon data from 1990-1991 national radon project collected for a variety of zip codes across the United States.

Environmental FirstSearch Database Sources

State ACEC: *USFWS* United States Fish and Wildlife Services

Updated semi-annually

Wetlands: *US FWS* U.S. Fish and Wildlife Service

Updated when available

Floodplains: *FEMA* Federal Emergency Management Agency

Updated when available

Historic Landmarks: *NPS* National Park Service

Updated annually

Federal Land Use: *USGS/EPA* U.S. Geological Survey

Updated annually

RADON: *NTIS* Environmental Protection Agency, National Technical Information Services

Updated periodically

Environmental FirstSearch
Street Name Report for Streets within .25 Mile(s) of Target Property

Target Property: 7501 S KOLB ROAD
TUCSON AZ 85747

JOB: 879391
PIMA COUNTY

Street Name	Dist/Dir	Street Name	Dist/Dir
Los Reales Rd	0.02 SW		
S Kolb Rd	0.08 NW		

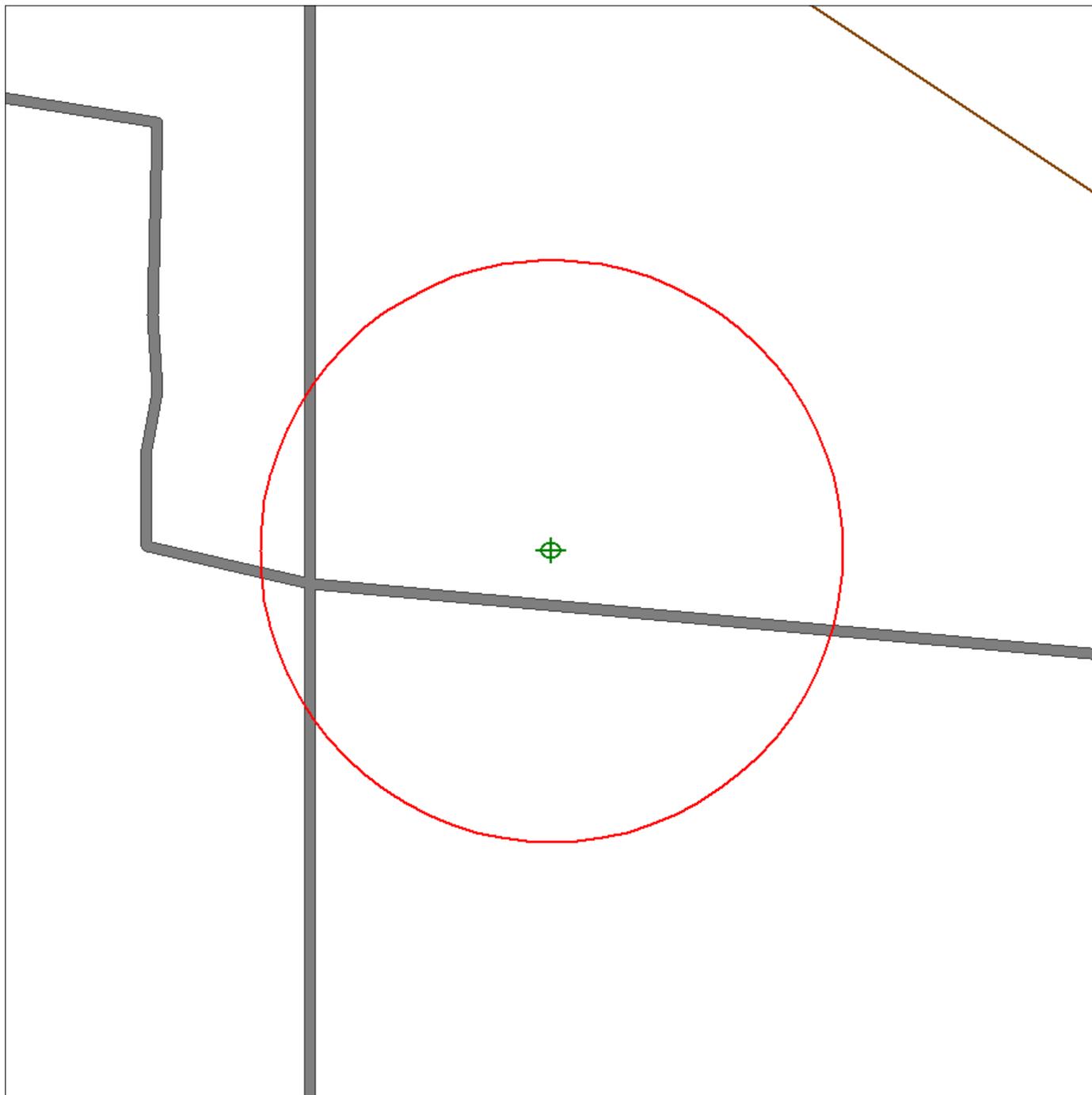


Environmental FirstSearch

.15 Mile Radius
NEPA Map: WETLANDS



7501 S KOLB ROAD, TUCSON AZ 85747



Source: 2002 U.S. Census TIGER Files

Target Site (Latitude: 32.11575 Longitude: -110.83955) ..



Identified Site, Multiple Sites, Receptor



Wetlands



Railroads



Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

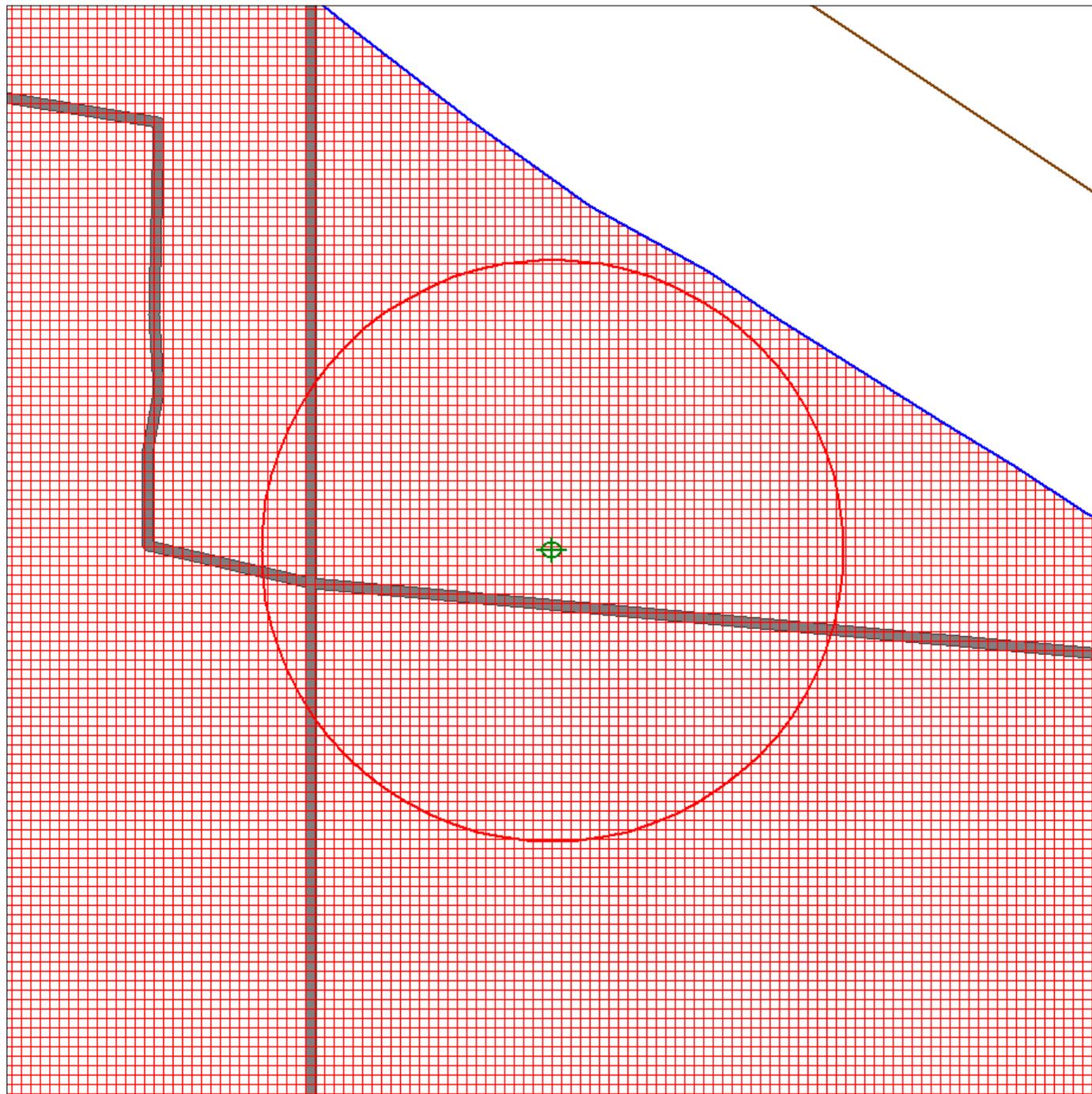


Environmental FirstSearch

.15 Mile Radius
NEPA Map: FLOODPLAINS



7501 S KOLB ROAD, TUCSON AZ 85747



Source: 2002 U.S. Census TIGER Files

- Target Site (Latitude: 32.11575 Longitude: -110.83955) 
- Identified Site, Multiple Sites, Receptor 
- Floodplains: 100 Year, 500 Year  
- Railroads 

Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

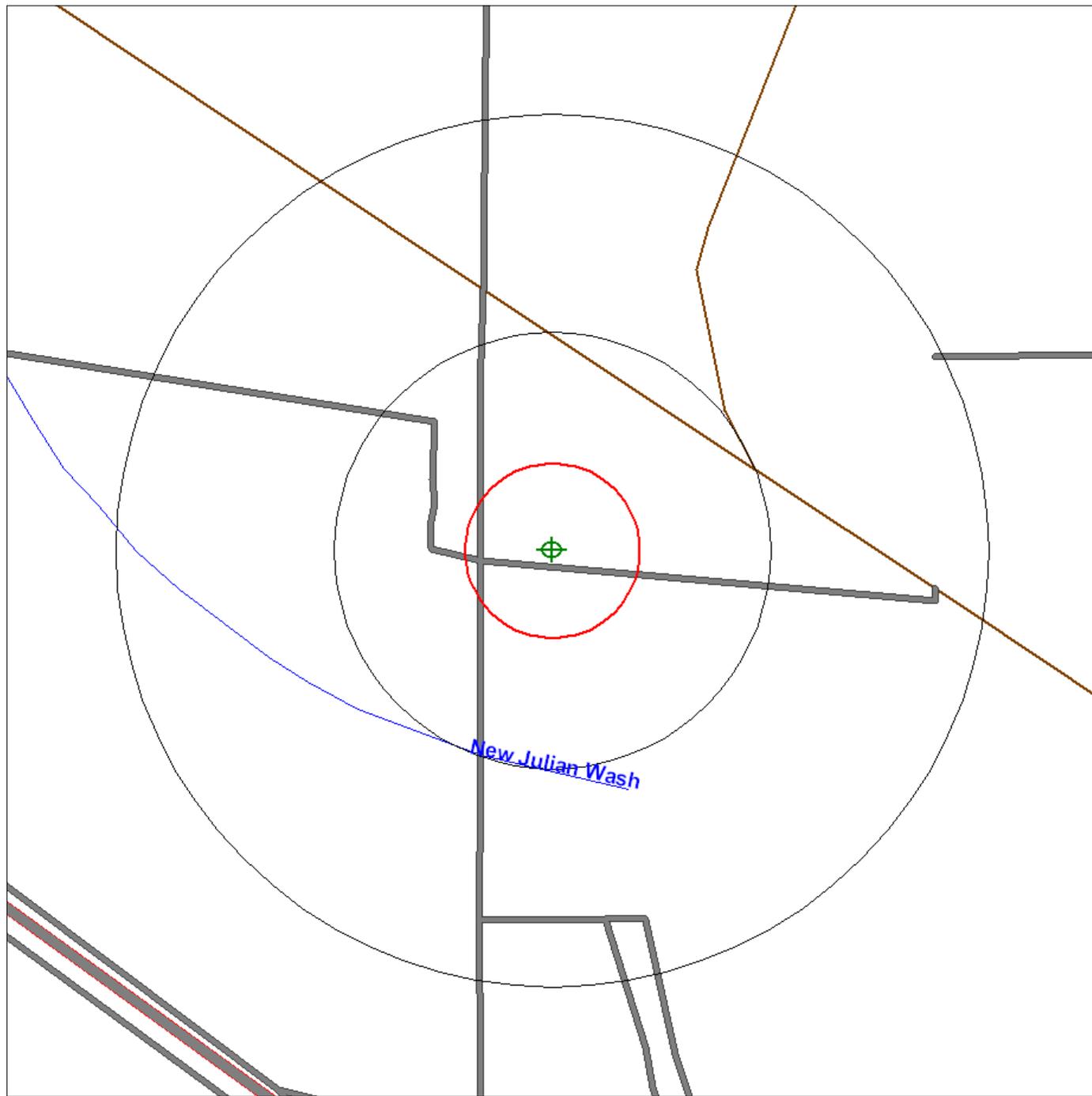


Environmental FirstSearch

.5 Mile Radius
NEPA Map: ACEC SITES



7501 S KOLB ROAD, TUCSON AZ 85747



Source: 2002 U.S. Census TIGER Files

- Target Site (Latitude: 32.11575 Longitude: -110.83955) 
- Receptor 
- Area of Critical Environmental Concern (ACEC), Protected Open Spaces  
- Railroads 

Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

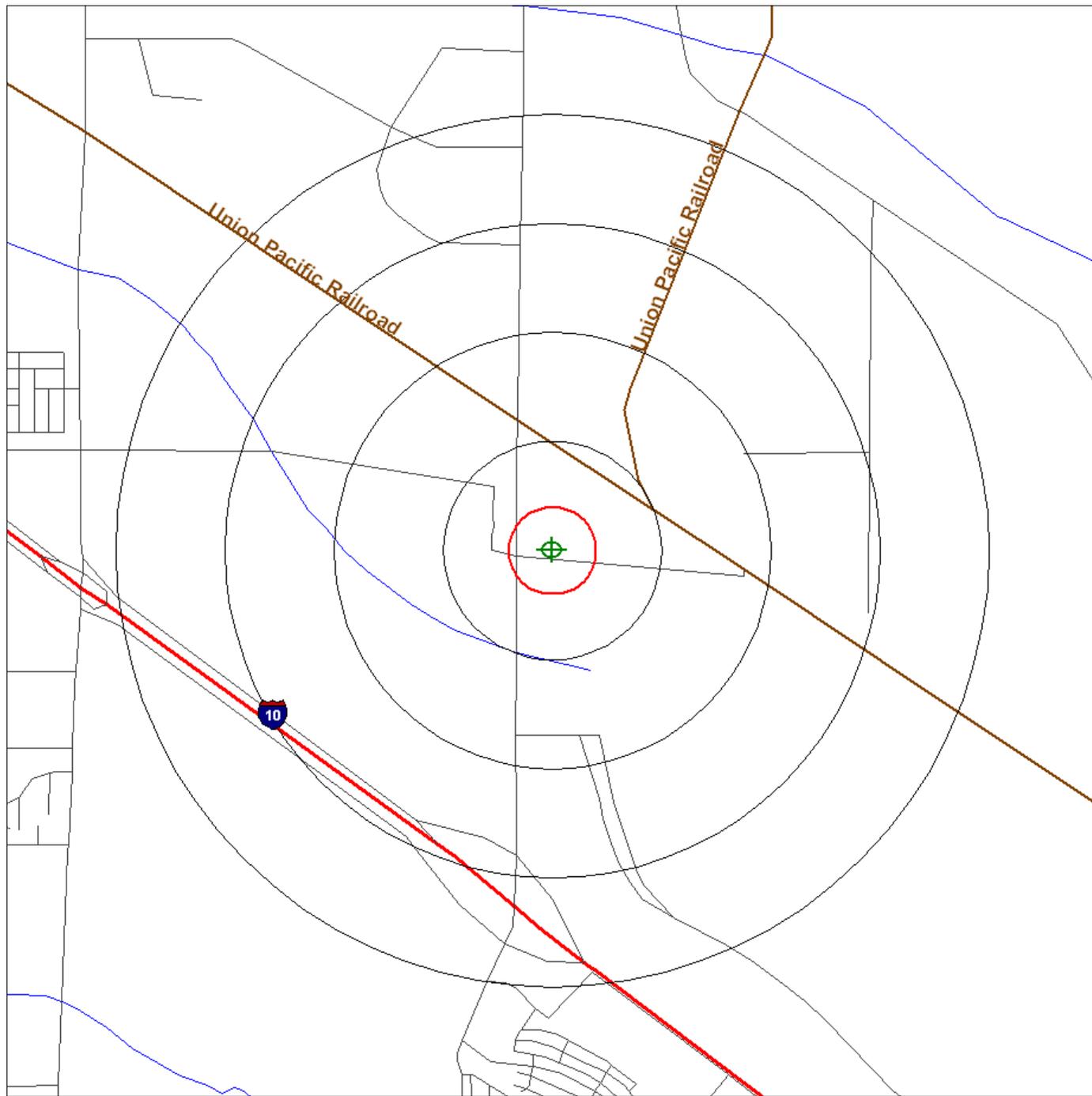


Environmental FirstSearch

1 Mile Radius
NEPA Map: HISTORIC SITES



7501 S KOLB ROAD, TUCSON AZ 85747



Source: 2002 U.S. Census TIGER Files

- Target Site (Latitude: 32.11575 Longitude: -110.83955) 
- Receptor 
- National Historic Sites and Landmark Sites  
- Railroads 

Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

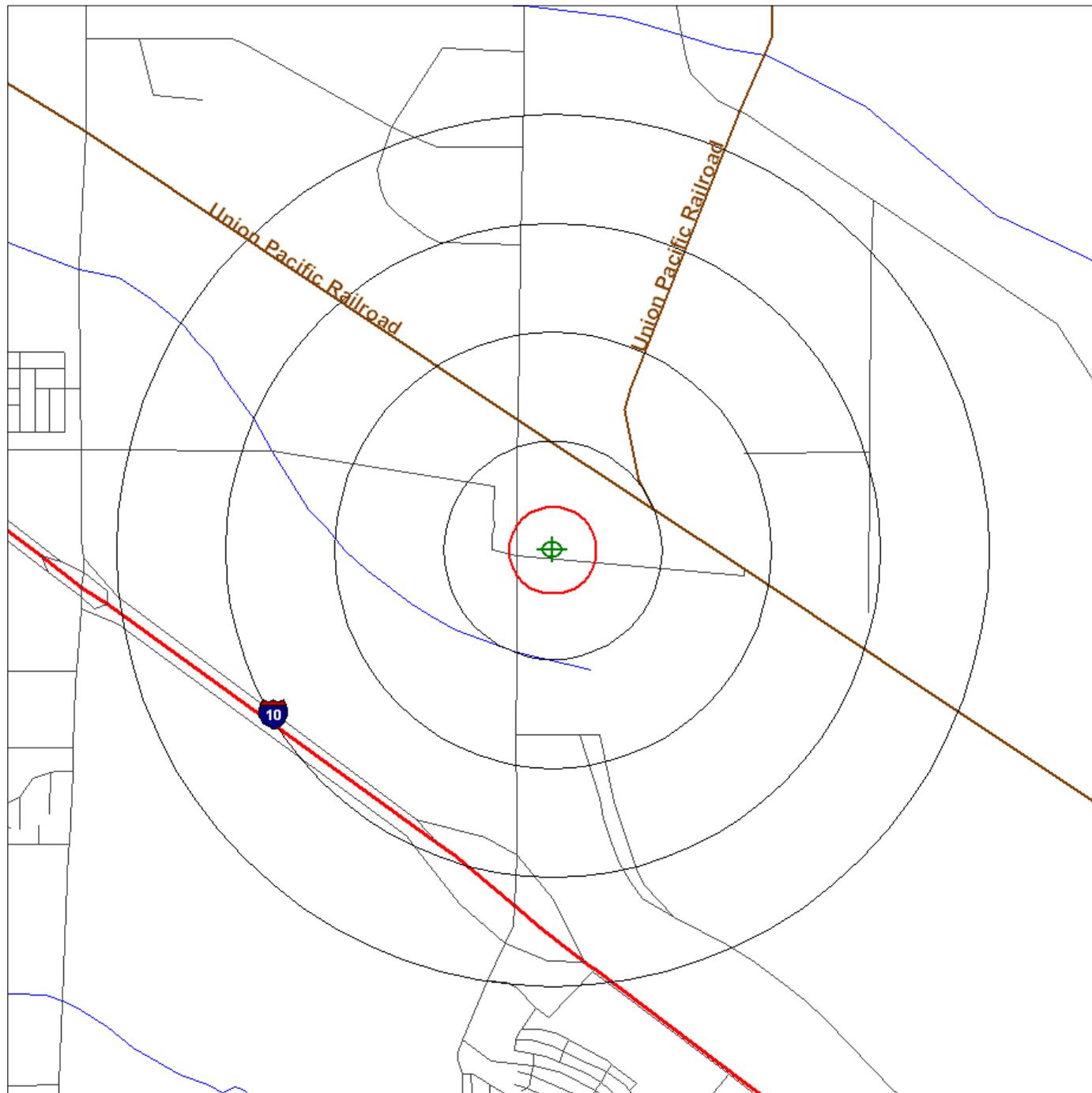


Environmental FirstSearch

1 Mile Radius
NEPA Map: LANDUSE



7501 S KOLB ROAD, TUCSON AZ 85747



Source: 2002 U.S. Census TIGER Files

Target Site (Latitude: 32.11575 Longitude: -110.83955)		
Receptor		
Fed. Land Use: Wilderness Areas		<input type="checkbox"/>
Fed. Land Use: Wildlife Preserves		<input type="checkbox"/>
Fed. Land Use: Amer. Indian Sacred Sites.....		<input type="checkbox"/>
Fed. Land Use: Endangered Species' Habitats.....		<input type="checkbox"/>
Railroads		

Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

APPENDIX B
ZONING

APPENDIX B
ZONING

APPENDIX C

Migratory Bird Study