Southline Transmission, LLC

New Application for a Certificate of Environmental Compatibility

L-00000AAA-16-0370-00173

PART 3 OF 5

BARCODE # 0000173990

To review Parts 1 & 2 please see:
BARCODE # 0000173988 & 0000173989

To review Parts 4 & 5 please see:
BARCODE # 0000173991 & 0000173992

Arizona Corporation Commission
DOCKETED
OCT 14 2016
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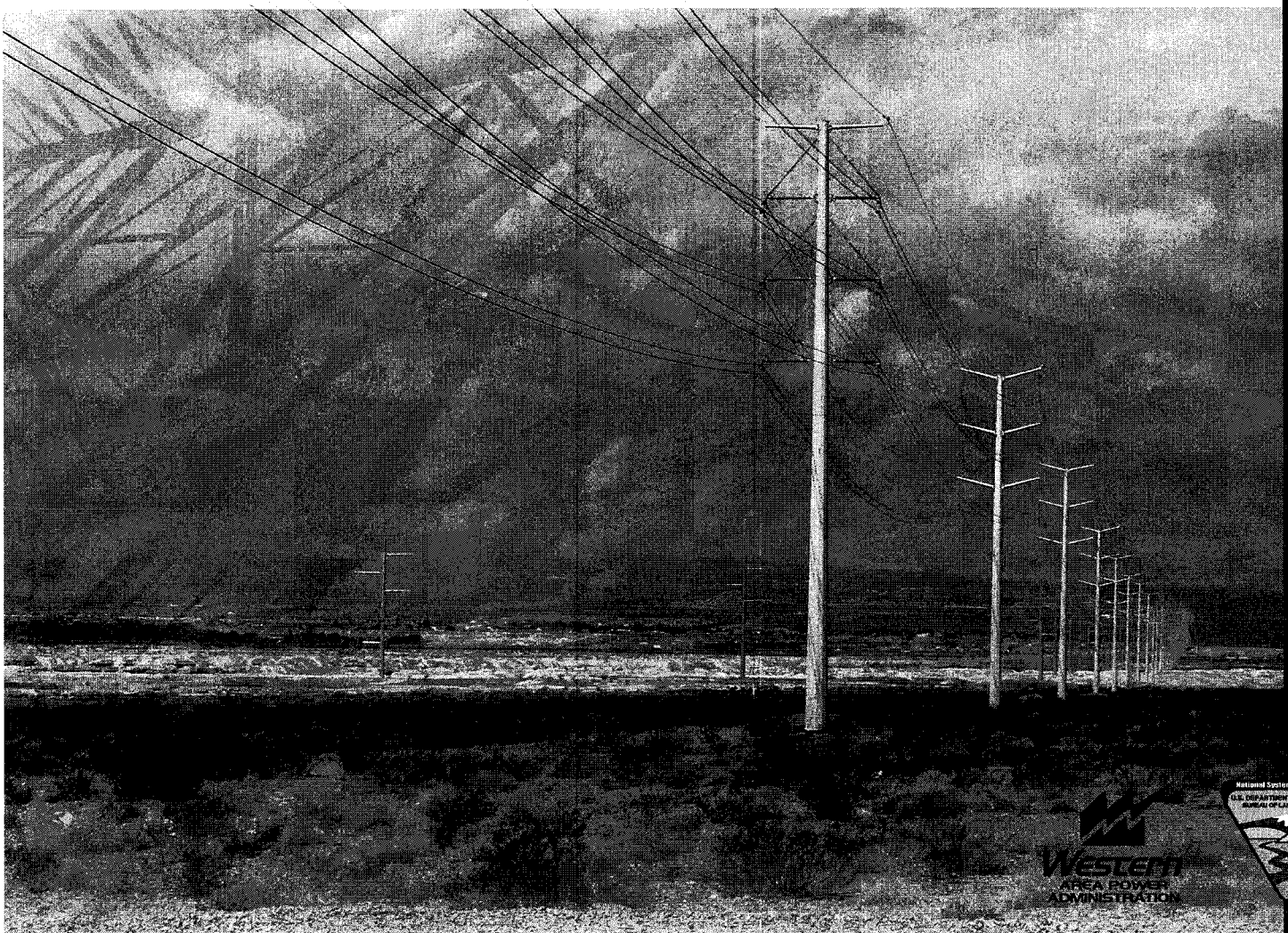
BLM
WESTERN

Southline Transmission Line Project

Final Environmental Impact Statement

Volume 4 of 4



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BLM MISSION STATEMENT

The Bureau of Land Management is responsible for stewardship of our public lands. The BLM is committed to manage, protect, and improve these lands in a manner to serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield of our Nation's resources within the framework of environmental responsibility and scientific technology. These resources include recreation, rangelands, timber, minerals, watershed, fish and wildlife habitat, wilderness, air, and scenic quality, as well as scientific and cultural values.

WESTERN MISSION STATEMENT

Western Area Power Administration's mission is to market and deliver clean, renewable, reliable, cost-based federal hydroelectric power and related services.

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Volume 2 – Chapter 3
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Chapter 5

CONSULTATION AND COORDINATION

5.1 INTRODUCTION

BLM and Western conducted consultation and coordination activities as required by CEQ regulations (40 CFR 1500–1508) regarding NEPA and applicable Federal laws, such as requirements to afford Federal and intergovernmental agencies, States, tribes, stakeholders, organizations, and the public with meaningful opportunities to provide input and identify concerns regarding the EIS.

Section 1.2 of the EIS describes public outreach efforts to date, including scoping at the start of the proposed Project and public involvement during the Draft EIS availability period. Public involvement is a vital component of NEPA for vesting the public in the decision-making process and allowing for full environmental disclosure.

This chapter summarizes specific consultation and coordination efforts carried out by the BLM and Western throughout the development of the EIS. Though not a part of the NEPA process, this chapter also summarizes Southline's public involvement efforts conducted prior to their filing of the formal ROW application.

5.2 PUBLIC INVOLVEMENT

5.2.1 Southline's Pre-NEPA Public Coordination

Early in the process, and prior to filling out the ROW application, Southline embarked on a public engagement program that was designed to identify stakeholders and to work closely with these stakeholders. As discussed in chapter 1, Southline conducted a series of over 25 stakeholder meetings and workshops in New Mexico and Arizona throughout July, August, and September 2011 (see table 1-7). The goals of the meetings were to give the public early notification of the proposed Project and to begin work on Project routes with interested stakeholders, such as land management agencies, local jurisdictions, community organizations, and landowners.

Pre-NEPA public meetings were hosted in Deming and Lordsburg, New Mexico (September 21–22, 2011); in Willcox, Tucson, and Marana, Arizona (September 27–29, 2011); and in Benson, Arizona (November 10, 2011). Routing workshops were hosted in Deming (September 22, 2011) and Tucson (September 28, 2011). Southline also met with county commissioners and supervisors from Hidalgo and Luna counties in New Mexico, from Cochise and Pima counties in Arizona, and city administrators from Deming, Columbus, Willcox, and Tucson.

Because of Southline's early public outreach efforts, the public was informed about the proposed Project and was familiar with the goals of the proposed Project prior to the formal agency public scoping process. Stakeholders had participated in the preliminary routing process, leading to a better public understanding about Southline's approach to routing, Southline used the input generated from this early public involvement to develop Project routes as proposed in their ROW application, and to identify potentially unsuitable routes. This initial public outreach formed the foundation for the proposed Project's NEPA public process.

5.2.2 NEPA Public Scoping Period

The public was informed about the formal application for the Project and public scoping period by an NOI published in the Federal Register on April 4, 2012. This initiated the NEPA process for the Project and began a 60-day public scoping period, during which the public had the opportunity to provide input on potential issues to be addressed in the EIS.

As a result of public requests for an extension of the 60-day scoping comment period (ending on June 5, 2012), the scoping comment period was extended by 30 days (ending on July 5, 2012). Notification of the 30-day extension was disseminated via Internet news release and email. NEPA scoping was particularly effective since agencies and the public were already familiar with the proposed Project and had actively been engaged in formulating routing alternatives during Southline's pre-NEPA public outreach. The comments received became part of the administrative record and are included in the EIS analysis.

Members of the public had several methods for providing comments during the scoping period:

- Comments could be handwritten on comment forms at the scoping meetings. Comment forms were provided to all meeting attendees and were also available throughout the meeting room, where attendees could write and submit comments during the meeting.
- Emailed comments could be sent to a dedicated email address: BLM_NM_Southline@blm.gov.
- Individual letters and comment forms could be mailed via U.S. Postal Service to the BLM Las Cruces District Office.

All comments were given equal consideration, regardless of method of transmittal.

Scoping Meetings

BLM and Western held a total of six public and two agency scoping meetings for the proposed Project: one agency meeting and three public meetings in New Mexico, and one agency and three public meetings in Arizona. As much as possible, public scoping meeting were held in locations intended to provide more immediate and easier access for potential environmental justice communities. The scoping meetings were advertised in a variety of formats, beginning at least 2 weeks prior to their scheduled dates. Table 5-1 identifies the meeting notification methods and dates.

Table 5-1. Scoping Meeting Notification Methods and Dates

Publicity Item	Venue and Date
NOI	Federal Register – April 4, 2012
Newspaper ads	Las Cruces Sun-News – April 20 and May 4, 2012 The Deming Headlight – April 20 and 27, 2012 Hidalgo County Herald – April 19 and May 3, 2012 San Pedro Valley News-Sun – April 19 and May 3, 2012 Arizona Daily Star – April 20 and May 7, 2012 Arizona Range News – April 25 and May 2, 2012 The Eastern Arizona Courier – April 29 and May 9, 2012 The Explorer – May 9, 2012
Email distribution	Email to BLM Stakeholder List – April 27, 2012 – Agency and public scoping notification (653 recipients) June 4, 2012 – Notification of extended comment period (790 recipients) June 28, 2012 – Notification of scoping comment period end date (788 recipients)

Table 5-1. Scoping Meeting Notification Methods and Dates (Continued)

Publicity Item	Venue and Date
Postcard distribution	U.S. Postal Service (Public and agency recipients) – April 23, 2012 – Agency and public postcard notice (626 recipients) April 25, 2012 – Agency and public postcard notice (64 recipients) May 1, 2012 – Notification to permittees (206 recipients)
BLM website	http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html Posting of the meetings at least 15 days prior to the meetings

Table 5-2 gives the dates, times, and locations of the public and agency scoping meetings, as well as the number of attendees.

The meetings were conducted in an open-house format, with a PowerPoint presentation and question-and-answer period following the presentation. The open-house format and presentation were designed to allow attendees to view informational displays and hear a presentation of the proposed Project and summary of the NEPA process, as well as to allow members of the public to ask agency staff about the proposed Project and the EIS process and submit written or verbal comments onsite.

Table 5-2. Public and Agency Scoping Meetings (2012)

Date	Time	City/State	Address	No. of Attendees
Public Meetings				
May 8, 2012	5:30 p.m.	Las Cruces, New Mexico	Mesilla Valley Days Inn and Suites 901 Avenida de Mesilla	22
May 9, 2012	5:30 p.m.	Deming, New Mexico	Mimbres Valley Special Events Center 2300 East Pine Street	30
May 10, 2012	5:30 p.m.	Lordsburg, New Mexico	Dugan-Tarango Middle School 1352 Hardin	20
May 15, 2012	5:30 p.m.	Willcox, Arizona	Quality Inn 1100 West Rex Allen Drive	20
May 16, 2012	5:30 p.m.	Benson, Arizona	Benson Unified High School 360 South Patagonia Street	22
May 17, 2012	5:30 p.m.	Tucson, Arizona	Palo Verde High Magnet School 1302 South Avenida Vega	31
Agency Meetings				
May 8, 2012	10:00 a.m.	Las Cruces, New Mexico	Mesilla Valley Days Inn and Suites 901 Avenida de Mesilla	18
May 17, 2012	10:00 a.m.	Tucson, Arizona	National Advanced Fire and Resource Institute 3265 East Universal Way	31

Meeting attendees were asked to sign in upon entering, at which time they were provided with handouts and informed of the meeting format and how to comment at the meeting. The handouts (i.e., comment form, newsletter, and contact business card) and informational displays provided information about the following:

- NEPA and the EIS process;
- Agency purpose and need;
- Project background;

- Location maps;
- Similarities and differences between the Southline Project and the SunZia project;
- Potentially affected resources and issues to be analyzed in the EIS;
- Planning process and potential amendments to RMP(s); and
- How to provide comments to the BLM and Western.

Additionally, an interactive GIS mapping station was available for meeting attendees to view the proposed Project to aid them in providing comments about specific locations within the analysis area.

These meetings served to provide information on Project planning activities to date, and to give agency personnel and members of the public the opportunity to ask questions or make comments. Presentations were given at each meeting by the BLM National Project Manager and a representative of Southline. Western staff members were also available at the meetings for questions, as were staff members from BLM's Las Cruces, Safford, and Tucson Field Offices, and staff members from Southline. Meeting attendees were encouraged to ask questions and were allowed to provide oral comments after the presentation. However, BLM asked attendees to submit their comments in writing, as no court reporter was present and the meetings were not recorded.

Scoping Comments

Scoping comments were submitted in a variety of formats (i.e., U.S. Postal Service, email, and comment form). All comments and corresponding information (e.g., exhibits, photographs, and maps) were entered into the comment database. Comments were coded to reflect the subject matter of concern, sorted, and summarized for consideration in the development of the EIS. Table 5-3 gives the number of comments received by source.

Table 5-3. Number of Scoping Comments Received by Source

Source	Comments Received
U.S. Postal Service	39
Email	68
Comment Form	26
Total	**133**

Note: Scoping comments received May 8 through August 1, 2012.

During public and agency scoping, 109 non-duplicative comments were submitted, and 24 comments were received from the same person or organization, for a total of 133 comments received. Comments often addressed multiple issues and included input on several issue categories, which when broken out totaled 576 comments. Table 5-4 shows the comments categorized by issue.

A more detailed description of the scoping process, preliminary issues, and scoping comment analysis is contained in the "Scoping Summary Report" (SWCA 2012). The "Scoping Summary Report" is available at the BLM Project website: http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html.

Table 5-4. Summary of Scoping Comments Received by Issue

Issue Category	Comments Received	Percentage of Total
Air Quality	8	1.4%
Biological Resources	109	18.9%
Cultural Resources	29	5.0%
Hazardous Materials	1	0.2%
Intentional Destructive Acts	1	0.2%
Lands	23	4.0%
Noise	1	0.2%
Military	8	1.4%
Reclamation	1	0.2%
Public Health and Safety	7	1.2%
Recreation	13	2.3%
Request	47	8.2%
Socioeconomics	37	6.4%
Soils and Geology	5	0.9%
Transportation	14	2.4%
Visual Resources	27	4.7%
Water Resources	19	3.3%
Wilderness	4	0.7%
Miscellaneous	23	4.0%
NEPA/Process	199	34.5%
Total	**576**	

Note: All comments were received by August 1, 2012.

Comments received may have included input on several issue categories.

5.2.3 Draft EIS Comment Period

The public was informed about the availability of the Draft EIS/RMPA via publication of an NOA in the Federal Register on April 11, 2014. This initiated the 90-day comment period, during which the public had the opportunity to provide input on the proposed Project and the analysis in the Draft EIS/RMPA.

The BLM and Western each distributed press releases on April 11, 2014, and paid notices were published in newspapers of record. Both the press release and notices notified the public of the availability of the Draft EIS, the beginning of the 90-day comment period, and public meeting dates, times, and locations hosted by the BLM and Western. As during public scoping (see section 5.2.2), there were several methods for providing comments on the Draft EIS/RMPA during the comment period. These included:

- Comments could be handwritten on comment forms at the public meetings. Comment forms were provided to all meeting attendees and were also available throughout the meeting room, where attendees could write and submit comments during the meeting.
- Emailed comments could be sent to a dedicated email address: BLM_NM_Southline@blm.gov.
- Individual letters and comment forms could be mailed via U.S. Postal Service to the BLM Las Cruces District Office.

All comments were given equal consideration, regardless of method of transmittal.

A total of 87 comment submittals (letters, emails, commenters at hearings) were provided to the BLM and Western during the 90-day Draft EIS comment period; within the 87 letters, there were 797 individual comments. All comments that were received became a part of the administrative record, were entered into an interactive, searchable database and coded to reflect the subject matter of concern, sorted, and summarized. Chapter 8 of this EIS includes all Draft EIS comments and agency responses to these comments in tabular format. Section 1.1.2 in chapter 1 summarizes the changes to the EIS between the Draft and Final documents.

Draft EIS Open House Meetings/Hearings

BLM and Western hosted six public open house/hearings and two agency meetings: one agency meeting and three public open house/hearings in New Mexico, and one agency meeting and three public open house/hearings in Arizona. The meetings and open house/hearings were hosted to provide information on the proposed Project, answer questions about the analysis in the Draft EIS/RMPA, and encourage public comments on the Draft EIS. As much as possible, public open house/hearings were held in locations intended to provide more immediate and easier access for potential environmental justice communities.

The public open house/hearings were advertised in a variety of formats, beginning at least 2 weeks prior to their scheduled dates. Table 5-5 identifies the hearing notification methods and dates. Dates and locations of the public open house/hearings and agency meetings follow in table 5-6.

Table 5-5. Draft EIS/RMPA Open House/Hearing and Meeting Notification Methods and Dates (2014)

Publicity Item	Venue and Date
NOA	Federal Register – April 11, 20124
Newspaper ads	Las Cruces Sun-News – April 18 and May 2, 2014 The Deming Headlight – April 18 and May 2, 2014 Hidalgo County Herald – April 17 and May 1, 2014 El Paso Times – April 25 and May 2, 2014 San Pedro Valley News-Sun – May 7 and May 4, 2014 Arizona Daily Star – May 5 and May 16, 2014 Arizona Range News – May 7 and May 14, 2014 The Eastern Arizona Courier – May 4 and May 14, 2014 The Explorer – May 14, 2014
Legal ads	Las Cruces Sun-News – April 20 and April 27, 2014
Email distribution	Email to BLM Stakeholder List April 14, 2014 – Agency and public scoping notification (998 recipients) May 2, 2014 – Agency and public hearing reminder for New Mexico hearings (998 recipients) May 15, 2014 – Agency and public hearing reminder for Arizona hearings (997 recipients) June 26, 2014 – Reminder comment deadline ends in 2 weeks (1,049 recipients) July 3, 2014 – Reminder comment deadline ends in 1 week (1,061 recipients) July 9, 2014 – Reminder comment deadline ends tomorrow (1,059 recipients)
Postcard distribution	U.S. Postal Service (Public and agency recipients) April 16, 2014 – Agency and public postcard notice (990 recipients) April 16, 2014 – Notification to permittees (268 recipients) April 25, 2014 – Tucson property owners and residents along route (2,056 recipients)
BLM website	http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html Posting of the meetings at least 15 days prior to the meetings

Table 5-6. Locations of Public Open House/Hearings and Agency Meetings for Draft EIS (2014)

Date	Time	City/State	Address	No. of Attendees
Public Open House/Hearings				
May 6, 2014	5:30 p.m.	Las Cruces, New Mexico	Ramada Las Cruces Hotel and Conference Center, 201 East University Avenue	20
May 7, 2014	5:30 p.m.	Deming, New Mexico	Mimbres Valley Special Events Center 2300 East Pine Street	21
May 8, 2012	5:30 p.m.	Lordsburg, New Mexico	Lordsburg Special Events Center 502 West 2nd Street	11
May 20, 2014	5:30 p.m.	Benson, Arizona	Benson Community Center 705 West Union Street	27
May 21, 2014	5:30 p.m.	Willcox, Arizona	Willcox Community Center 312 West Stewart Street	13
May 22, 2014	5:30 p.m.	Tucson, Arizona	El Rio Neighborhood Center 1390 West Speedway Boulevard	31
Agency Meetings				
May 6, 2014	1:00 p.m.	Las Cruces, New Mexico	Ramada Las Cruces Hotel and Conference Center, 201 East University Avenue	20
May 22, 2014	1:00 p.m.	Tucson, Arizona	El Rio Neighborhood Center 1390 West Speedway Boulevard	30

The hearings were conducted in an open-house format, with a PowerPoint presentation and question-and-answer hearing period following the presentation. The open-house format and presentation were designed to allow attendees to view informational displays and hear a presentation of the proposed Project and summary of the NEPA process, as well as to allow members of the public to ask agency staff about the proposed Project and the analysis in the Draft EIS.

An interactive GIS mapping station was available for public open house/hearing attendees to view the proposed Project to aid them in providing comments about specific locations within the analysis area.

A court reporter recorded the BLM and Western presentation, questions and answers, and formal comment portion of each public open house/hearing; transcripts of the public open house/hearings can be found in the project record. Substantive questions and all formal hearing comments are coded and included in chapter 8 of the EIS.

Draft EIS Comments

Comments on the Draft EIS/RMPA were submitted in a variety of formats (i.e., hearing, U.S. Postal Service, email, and comment form). All comments and corresponding information (e.g., exhibits, photographs, and maps) were coded to reflect the subject matter of concern, and sorted for consideration in the development of the Final EIS.

A total of 87 comment submittals (letters, emails, commenters at hearings) was provided to the BLM and Western during the 90-day Draft EIS comment period; within the 87 letters, there were 797 individual comments. Table 5-7 provides a summary of the issues and resource topics commented on during the Draft EIS comment period. All comments that were received became a part of the project record, were coded to reflect the subject matter of concern, were sorted, and were responded to. Chapter 8 of the Final EIS includes all Draft EIS comments and agency responses to these comments in tabular format.

Table 5-7. Summary of Substantive Draft EIS Comments Received by Issue

Issue Category	Comments Received	Percentage of Total
Air Quality	37	4.7%
Biological Resources	73	9.2%
Cultural Resources	36	4.5%
Hazardous Materials	0	0.0%
Intentional Destructive Acts	0	0.0%
Land Use/Military/Farm and Range	114	14.3%
Noise	1	0.1%
Public Health and Safety	6	0.8%
Recreation	1	0.1%
Socioeconomics	27	3.4%
Soils and Geology	2	0.3%
Special Designations	10	1.3%
Transportation	3	0.4%
Trails	11	1.4%
Visual Resources	62	7.8%
Water Resources	22	2.8%
Wilderness	5	0.6%
Miscellaneous	31	3.9%
NEPA/Process	333	41.9%
Requests for information–not substantive	21	2.6%
Total	**795**	100%

5.2.4 Route Variation Outreach

In December 2014, BLM and Western sent outreach letters to property owners within one half-mile of the route variation alignments east of Willcox Playa in Cochise County and south of Tucson International Airport along Old Vail Connection Road in Pima County. The purpose of the outreach letters was to notify the property owners of the new route variations (see section 2.7) that were added to the EIS analysis. Comments and responses to those outreach letters are included in table 8-1 in chapter 8 and are considered in this EIS.

5.2.5 Project Status

The Project website as well as email was used to provide information regarding Project status to agencies, stakeholders, and other interested parties. There were no direct mailings; however, a copy of the Project newsletter with flyers advertising scoping meetings was sent to libraries, community centers, city and town halls, and senior centers, as well as to the BLM State, District, and Field Offices.

In addition, there is a toll-free information line (800-356-0805) that is provided on written Project material. The information line is maintained and updated by BLM with deadlines, important comment

dates, and publication notification information. Also included are meeting details when meetings are announced, and Project contacts.

5.2.6 Records of Decision

The BLM and Western will each issue separate decisions. The BLM would issue a ROD with all terms and conditions deemed appropriate by the BLM. The BLM decisions to be made are to:

- decide whether to grant, grant with modifications, or deny all or part of the ROW application for the transmission line, substation expansions, and associated access roads and facilities;
- decide whether one or more RMPs would be amended to allow for a ROW for the proposed transmission line and associated facilities;
- decide whether to approve potential RMPA(s) if the proposed Project is not approved;
- determine the most appropriate route across BLM-administered public lands for the transmission line, taking into consideration multiple-use objectives; and
- determine the terms and conditions (stipulations) that should be applied to the construction, operation and maintenance, and decommissioning of the transmission line on BLM-administered public lands.

Once a BLM ROD is issued, it will be distributed to cooperating agencies, tribes, interested organizations, and individuals. An NOA will be published in the Federal Register and advertised in the newspapers listed above in tables 5-1 and 5-5. The ROD will also be made available to everyone who requested a copy of the Final EIS and posted on the Project website.

Western's ROD will announce and explain Western's decision pursuant to Section 1222 of the EPAct of 2005 on whether and under what conditions to participate in the proposed Project and describe any conditions, such as mitigation commitments, that would need to be met. Western may issue a ROD no sooner than 30 days after EPA's Notice of Availability of the Final EIS is published in the Federal Register. If Western decides to allow Southline to upgrade its existing facilities and to use its existing transmission easements as part of the proposed Project, Western and Southline would enter into a joint Project agreement.

5.3 AGENCY CONSULTATION AND COORDINATION

As defined by CEQ regulations, a cooperating agency, or cooperator, is an agency (other than the lead agency) that has special expertise with respect to an environmental issue and/or has jurisdiction by law. Federal, State, and local agencies that have clear jurisdiction over portions of the proposed Project routes were invited via formal letter to become a cooperator in the preparation of the EIS. Tribal governments were also invited to participate in the Project as a cooperating agency and to provide special expertise with respect to environmental issues.

The role of a cooperator is to participate in the process and provide leadership, expertise, guidance, and review, as well as to offer information related to the agency's authority. Cooperators were asked to submit a signed memorandum of agreement that identifies the agreed-upon responsibilities for preparing and participating in the EIS, including activities outlined in 40 CFR 1501.6(b). A cooperator could be a Federal, State, tribal, or local agency with jurisdiction by law or special expertise with respect to an environmental issue. An invitation letter was sent to potential cooperators listed below.

Agencies invited included:

- Arizona Air National Guard
- ADOT
- AGFD
- ASLD
- City of Sierra Vista, AZ
- Cochise County, AZ
- Doña Ana County, NM
- Graham County, AZ
- Grant County, NM
- Greenlee County, AZ
- Hidalgo County, NM
- Luna County, NM
- NMDGF
- NMDOT
- NMSLO
- Pima County, AZ
- Pima County Department of Environmental Quality
- Pinal County, AZ
- U.S. Air Force Davis-Monthan Air Force Base
- USACE
- U.S. Army Fort Huachuca
- U.S. Border Patrol
- BIA
- Reclamation
- DOD
- EPA
- FAA
- FHWA
- FRA
- FWS
- Forest Service
- NPS
- Ak-Chin Indian Community
- Comanche Nation
- Fort Sill Apache Tribe of Oklahoma
- Gila River Indian Community
- Kiowa Tribe of Oklahoma
- Mescalero Apache Tribe
- Navajo Nation
- Pascua Yaqui Tribe
- Pueblo of Acoma
- Pueblo of Isleta
- Pueblo of Laguna
- Pueblo of Tesuque
- Pueblo of Zuni
- Salt River Pima-Maricopa Indian Community
- San Carlos Apache Tribe
- The Hopi Tribe
- Tohono O'odham Nation
- Tonto Apache Tribe
- White Mountain Apache Tribe
- Yavapai-Apache Nation
- Ysleta del Sur Pueblo

Sixteen agencies accepted invitations to participate; the following Federal, State, and local agencies have signed on and have been consulted as cooperating agencies during preparation of the EIS. The mission statement of each agency can be found on their respective websites. These 16 cooperating agencies are:

- USACE (Albuquerque District)
- Reclamation (Phoenix Area Office)
- DOD Clearinghouse
- EPA
- DOD Fort Huachuca
- NPS
- Forest Service (Coronado National Forest)
- FWS (Region 2)
- AGFD
- ASLD

- NMDGF
- NMSLO
- Cochise County, Arizona
- Greenlee County, Arizona
- Graham County, Arizona
- City of Sierra Vista, Arizona

On October 4, 2012 and December 12, 2012, BLM and Western conducted webinars for the cooperating agencies to participate in the alternatives development process for the proposed Project. The agency alternatives developed, as presented in section 2.7 of this EIS, were based in part on input from cooperating agency staff attending these webinars.

On August 24, 2012 and April 13, 2013, BLM and Western conducted Tumamoc Hill outreach meetings in Tucson, Arizona. A follow-up webinar was hosted by BLM and Western on November 7, 2013 to update workshop attendees on proposed Project alternatives and present visual simulations of the proposed Project alternatives around Tumamoc Hill. These meetings and webinars were stakeholder workshops designed to gain input on proposed Project alignments and resource sensitivities around the sensitive Tumamoc Hill area. Attendees at these workshops included agencies and local officials. Coordination with Tucson Ward 1 and their participation in these meetings specifically reached out to neighborhoods surrounding Tumamoc Hill.

Additionally, on June 13, 2013, BLM and Western met with representatives from DOD Fort Huachuca to discuss potential issues with potential alignment alternatives. Representatives from Fort Huachuca expressed concerns regarding impacts from the proposed Project on the BSETR. Meeting notes are included as a part of the administrative record.

The cooperating agencies reviewed the Administrative Draft EIS in October and November 2013, and the Administrative Final EIS in February 2015.

BLM and Western conducted a site visit to the Willcox Playa with the FWS and AGFD in January 2014. The goal of the site visit was to discuss routing options near the playa and to allow FWS and AGFD to discuss their concerns regarding potential impacts near the Willcox Playa. See chapter 2 of the EIS for route variations included as a result of FWS and AGFD outreach.

On December 16, 2014, BLM and Western conducted a webinar for the cooperating agencies to summarize feedback received on the Draft EIS, describe the new route variations, and notify the cooperating agencies that the Agency Preferred Alternative in the Final EIS had changed since the Draft EIS. The cooperating agencies reviewed the Administrative Final EIS in January 2015.

On May 6, 2015, BLM and Western met with representatives from AGFD and FWS to discuss their concerns regarding Project alternatives in the vicinity of the Willcox Playa Wildlife Area. A follow-up meeting was held with Jim DeVos (Assistant Director, Wildlife Management Division) of the AGFD on June 10, 2015. On June 24, 2015, the AGFD provided a letter outlining their mitigation requests to offset impacts to the Willcox Playa Wildlife Area; this mitigation has been incorporated into the PCEMs in chapter 2 (see table 2-8). Meeting notes and the AGFD letter are included as part of the administrative record.

5.4 TRIBAL CONSULTATION AND COORDINATION

In 2012, in compliance with the NEPA, the NHPA (as amended), and EO 13175, the BLM initiated government-to-government consultation with the 21 federally recognized tribes listed below (table 5-8).

- Ak-Chin Indian Community
- Comanche Nation
- Fort Sill Apache Tribe of Oklahoma
- Gila River Indian Community
- The Hopi Tribe
- Kiowa Tribe of Oklahoma
- The Navajo Nation
- Mescalero Apache Tribe
- Pascua Yaqui Tribe
- Pueblo of Acoma
- Pueblo of Isleta
- Pueblo of Laguna
- Pueblo of Tesuque
- Pueblo of Zuni
- Salt River Pima-Maricopa Indian Community
- San Carlos Apache Tribe
- Tohono O'odham Nation
- Tonto Apache Tribe
- White Mountain Apache Tribe
- Yavapai-Apache Nation
- Ysleta del Sur Pueblo

The initial notification letters provided information about the proposed project, initiated government-to-government consultation, invited the tribes to participate as a cooperating agency in the preparation of the EIS, and invited them to participate in NHPA Section 106 process.

This initial outreach and follow-up calls resulted in several face-to-face consultation meetings, which are listed below in table 5-8. Table 5-8 also includes letter and email correspondences with the tribes.

Table 5-8. Correspondence and Meetings with Tribes

Date	Native American Tribe/ Tribal Organization	Description
10/4/2011	San Carlos Apache Tribe	BLM Meeting with San Carlos Apache and White Mountain Apache, which included an overview of the Southline Project. Additional BLM staff present: Connie Stone, Dan McGrew, Amy Sobiech, Joan Galanis, Mike Johnson, Tom Dabbs, and Scott Cooke. Ms. Grant expressed concern about springs and plant resources near Lordsburg and wondered whether there were plans to establish a utility corridor in the area.
10/4/2011	White Mountain Apache Tribe	BLM Meeting with San Carlos Apache and White Mountain Apache, which included an overview of the Southline Project. Additional BLM staff present: Connie Stone, Dan McGrew, Amy Sobiech, Joan Galanis, Mike Johnson, Tom Dabbs, and Scott Cooke.
4/23/2012	Ak-Chin Indian Community	Tribal consultation initiation and cooperating agency invitation letter from BLM.
4/23/2012	Comanche Nation	Tribal consultation initiation and cooperating agency invitation letter from BLM.
4/23/2012	Fort Sill Apache Tribe of Oklahoma	Tribal consultation initiation and cooperating agency invitation letter from BLM.
4/23/2012	Gila River Indian Community	Tribal consultation initiation and cooperating agency invitation letter from BLM.
4/23/2012	Kiowa Tribe of Oklahoma	Tribal consultation initiation and cooperating agency invitation letter from BLM.

Table 5-8. Correspondence and Meetings with Tribes (Continued)

Date	Native American Tribe/ Tribal Organization	Description
4/23/2012	Mescalero Apache Tribe	Tribal consultation initiation and cooperating agency invitation letter from BLM.
4/23/2012	Pascua Yaqui Tribe	Tribal consultation initiation and cooperating agency invitation letter from BLM.
4/23/2012	Pueblo of Acoma	Tribal consultation initiation and cooperating agency invitation letter from BLM.
4/23/2012	Pueblo of Isleta	Tribal consultation initiation and cooperating agency invitation letter from BLM.
4/23/2012	Pueblo of Laguna	Tribal consultation initiation and cooperating agency invitation letter from BLM.
4/23/2012	Pueblo of Tesuque	Tribal consultation initiation and cooperating agency invitation letter from BLM.
4/23/2012	Pueblo of Zuni	Tribal consultation initiation and cooperating agency invitation letter from BLM.
4/23/2012	Salt River Pima-Maricopa Indian Community	Tribal consultation initiation and project introduction letter from BLM.
4/23/2012	San Carlos Apache Tribe	Tribal consultation initiation and project introduction letter from BLM.
4/23/2012	The Hopi Tribe	Tribal consultation initiation and project introduction letter from BLM.
4/23/2012	The Navajo Nation	Tribal consultation initiation and project introduction letter from BLM.
4/23/2012	Tohono O'odham Nation	Tribal consultation initiation and project introduction letter from BLM.
4/23/2012	Tonto Apache	Tribal consultation initiation and project introduction letter from BLM.
4/23/2012	White Mountain Apache Tribe	Tribal consultation initiation and project introduction letter from BLM.
4/23/2012	Yavapai-Apache Nation	Tribal consultation initiation and project introduction letter from BLM.
4/23/2012	Ysleta del Sur Pueblo	Tribal consultation initiation and project introduction letter from BLM.
5/2/2012	The Hopi Tribe	Hopi response letter to BLM, interested in consulting on any proposal that has the potential to adversely affect NRHP-eligible properties.
5/4/2012	White Mountain Apache Tribe	Response letter thanking BLM for the April 23 letter regarding the Southline Project and stating that there is no need to send additional information unless project planning or implementation results in the discovery of sites and/or items having known or suspected Apache Cultural affiliation.
5/7/2012	Ysleta del Sur Pueblo	Ysleta del Sur Pueblo response to BLM consultation initiation letter. The Pueblo currently does not have any comments and believes the project will not adversely affect traditional, religious, or culturally significant sites of Pueblo and does not have any opposition to the Project. Request consultation if any remains or artifacts are found that fall under NAGPRA guidelines.
5/22/2012	Pascua Yaqui Tribe	Email from BLM (Jane Childress) with response to questions from the Pascua Yaqui Tribe.
7/3/2012	Tohono O'odham Nation	Email from BLM with copy of tribal consultation initiation and Project introduction letter.
7/18/2012	Tohono O'odham Nation	Meeting at San Xavier with BLM (Amy Sobiech and Karen Simms also present), Western (Mark Wieringa), San Xavier District Tohono O'odham, Galileo Project (Meredith Griffin). Project Overview and discussion with handouts of Project presentation, maps, and timeline. Tribal concerns with ROW across their lands.
7/20/2012	Four Southern Tribes	Meeting with BLM and 4 Southern Tribes. Sign-In sheet (21 attendees) attached to meeting notes. Southline Project update with PowerPoint presentation and handouts (newsletter and map).

Table 5-8. Correspondence and Meetings with Tribes (Continued)

Date	Native American Tribe/ Tribal Organization	Description
8/28/2012	Pueblo of Zuni	Introductory presentation on the Southline Project, including PowerPoint presentation.
10/15/2012	Ysleta del Sur Pueblo	Introductory presentation on the Southline Project, including PowerPoint presentation and handouts of project area map and PowerPoint presentation.
10/18/2012	San Carlos Apache Tribe	Introductory presentation on the Southline Project, including PowerPoint presentation and handouts of project area map and PowerPoint presentation.
11/9/2012	Pueblo of Isleta	Introductory presentation on the Southline Project, including PowerPoint presentation and handouts of project area map and PowerPoint presentation. Tribe had questions about whether Southline and SunZia would be in the same corridor. That has not yet been determined but is possible in some places.
4/23/2013	Tohono O'odham Nation	Meeting to discuss issues related to Tumamoc Hill. Tribal representatives expressed concerns regarding any routing of the proposed Project that includes Tumamoc Hill.
9/23/2013	The Hopi Tribe	Letter from the Hopi Tribe indicating that they have reviewed the materials sent to them on 9/23/2013 and would like to continue consultation on the project, including reviewing cultural resources survey information and proposed treatment plans.
1/15/2014	The Hopi Tribe	Southline presentation included reviewing maps and discussing cultural issues, including trails, crossing of San Xavier District land, and Tumamoc Hill.
3/27/2014	Ak-Chin Indian Community	Letter from BLM transmitting a CD and hard copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Comanche Nation	Letter from BLM transmitting a CD copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Fort Sill Apache Tribe of Oklahoma	Letter from BLM transmitting a CD and hard copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Gila River Indian Community	Letter from BLM transmitting a CD and hard copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Kiowa Tribe of Oklahoma	Letter from BLM transmitting a CD copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.

Table 5-8. Correspondence and Meetings with Tribes (Continued)

Date	Native American Tribe/ Tribal Organization	Description
3/27/2014	Mescalero Apache Tribe	Letter from BLM transmitting a CD and hard copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Pascua Yaqui Tribe	Letter from BLM transmitting a CD copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Pueblo of Acoma	Letter from BLM transmitting a CD copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Pueblo of Laguna	Letter from BLM transmitting a CD copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Pueblo of Tesuque	Letter from BLM transmitting a CD copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Pueblo of Zuni	Letter from BLM transmitting a CD and hard copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Salt River Pima-Maricopa Indian Community	Letter from BLM transmitting a CD and hard copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	San Carlos Apache Tribe	Letter from BLM transmitting a CD copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	The Hopi Tribe	Letter from BLM transmitting a CD copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.

Table 5-8. Correspondence and Meetings with Tribes (Continued)

Date	Native American Tribe/ Tribal Organization	Description
3/27/2014	The Navajo Nation	Letter from BLM transmitting a CD copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Tohono O'odham Nation	Letter from BLM transmitting a CD and hard copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Tohono O'odham Nation	Letter from BLM transmitting a CD and hard copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Tonto Apache	Letter from BLM transmitting a CD copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
3/27/2014	Ysleta del Sur Pueblo	Letter from BLM transmitting a CD and hard copy of the Southline Draft EIS. The letter also summarizes the project, lists cooperating agencies, provides email and physical addresses for comments, outlines the length of the comment period, provides locations for public hearings, and extends the offer to arrange consultation meetings and provide additional information.
4/17/2014	Ak-Chin Indian Community	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Comanche Nation	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Fort Sill Apache Tribe of Oklahoma	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Gila River Indian Community	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Kiowa Tribe of Oklahoma	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Mescalero Apache Tribe	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Pascua Yaqui Tribe	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Pueblo of Acoma	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Pueblo of Laguna	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Pueblo of Tesuque	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Pueblo of Zuni	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Salt River Pima-Maricopa Indian Community	Invitation letter from BLM to agency only and public Draft EIS meetings.

Table 5-8. Correspondence and Meetings with Tribes (Continued)

Date	Native American Tribe/ Tribal Organization	Description
4/17/2014	San Carlos Apache Tribe	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	The Hopi Tribe	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	The Navajo Nation	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Tohono O'odham Nation	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Tohono O'odham Nation	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Tonto Apache	Invitation letter from BLM to agency only and public Draft EIS meetings.
4/17/2014	Ysleta del Sur Pueblo	Invitation letter from BLM to agency only and public Draft EIS meetings.
5/5/2014	The Hopi Tribe	Letter from the Hopi Cultural Preservation Office concurring that this proposal is likely to adversely affect numerous prehistoric cultural resources significant to the Hopi Tribe but that effects cannot be determined until the alignment is determined. They have reviewed the Draft EIS/RMPA and understand that only 7% of the analysis area has been previously surveyed. They also understand that BLM is attempting to develop a PA to address cultural resource identification for the areas still to be surveyed. They request continuing consultation on the proposal and to be provided with copies of the cultural resources survey and treatment plan for review and comment.
5/13/2014	San Carlos Apache Tribe	Tribal consultation response letter to BLM indicating concurrence with Draft EIS/RMPA report findings.
6/17/2014	Tohono O'odham Nation	Also present: BLM: Mark Mackiewicz, Western: Mark Wieringa, Galileo Project: Ellen Carr, Maria Martin. Meeting at San Xavier with San Xavier District Tohono O'odham to provide Project update and seek comments on the Draft EIS. Meeting included a PowerPoint presentation. Handouts included maps and the May 2014 Project newsletter. Tribal representatives expressed concerns regarding erosion of access roads.
7/25/2014	Fort Sill Apache Tribe of Oklahoma	Letter to BLM requesting detailed information on the footprint of the Southline Project and the Apache and proposed Midpoint substations. A meeting with BLM to review the footprint information is also requested.
7/31/2014	Fort Sill Apache Tribe of Oklahoma	Mr. Thompson called to request a meeting with BLM and also maps of the proposed Southline Project showing the location of the Akela Flats Reservation.
8/4/2014	Fort Sill Apache Tribe of Oklahoma	Email from BLM providing maps for Cochise County and the Akela Flats Reservation.
8/7/2014	Fort Sill Apache Tribe of Oklahoma	Response from BLM to July 25 letter informing Mr. Thompson that no decision has yet been made on the Southline Project and so there are no exact routes yet determined and asking for the locations of Fort Sill Apache trust/fee lands so that BLM can provide a map of the Midpoint and Apache substations in relation to tribal land. The letter also re-invites the Fort Sill Apache Tribe to be a cooperating agency on the Southline Project (original invitation letter from 4/23/12 enclosed) and mentions that Jane Childress will be contacting Chairman Haozous to arrange a meeting.
8/25/2014	Fort Sill Apache Tribe of Oklahoma	Ms. Childress contacted Mr. Haozous to follow up on the request for a meeting.
10/6/2014	Pueblo of Isleta	Meeting to provide update on Southline Project.
2/17/2015	Tohono O'odham Nation	Meeting to provide updates on Southline Project and to present the completed PA.

Government-to-government consultation is conducted in accordance with guidance provided in BLM Manual 8120 (BLM 2004d). Consultation efforts are coordinated by the Project lead for tribal and Section 106. All records of coordination and consultation efforts, including logistical support for meetings and preparation of materials, are part of the administrative record. Although the BLM and Western are responsible for government-to-government consultation with regard to the proposed Project, other cooperating Federal agencies may elect to engage in separate government-to-government consultation with regard to issuance of permits and/or impacts on cultural resources on lands within their jurisdiction.

In recognition of the tribes' special relationship with the U.S. government, the BLM will continue to consult with the appropriate tribal governments at an official executive level (government to government), in accordance with the NHPA, EO 13175, and the NEPA. The BLM has provided opportunities for government officials and members of federally recognized tribes to comment on and participate in the preparation of the EIS and will consider these comments, notify consulted tribes of final decisions, and inform them of how their comments were addressed in those decisions. At a minimum, officials of federally recognized tribal governments will be offered the same level of involvement as state and county officials. Coordination will address consistency with tribal plans, as appropriate; and the observance of specific planning coordination authorities, including Section 101(d)(6) of the NHPA, American Indian Religious Freedom Act, EO 13007 (Indian Sacred Sites), EO 12898 (Environmental Justice), and Secretarial Order 3206 (American Indian Rights, Federal Tribal Trust Responsibilities and the ESA). Although no tribes requested cooperating agency status for the preparation of this EIS, several tribes are participating in Section 106 consultation, which will continue during the post-EIS phases of Project implementation. The tribes that have been actively participating in government-to-government and Section 106 consultations include the Tohono O'odham Nation, the Gila River Indian Community, the Salt River Pima-Maricopa Indian Community, the Ak-Chin Indian Community, the San Carlos Apache Tribe, the Mescalero Apache Tribe, the Fort Sill Apache Tribe, the White Mountain Apache Tribe, the Hopi Tribe, the Pueblo of Isleta, the Pueblo of Ysleta del Sur, and the Pueblo of Zuni.

5.5 FORMAL CONSULTATION

5.5.1 Section 106 of the National Historic Preservation Act

The lead Federal agency, along with any other Federal agency that may be issuing permits or licenses for the Project, has a responsibility under Section 106 of the NHPA to consider the effects of its undertakings on "historic properties" (properties listed in or eligible for the NRHP). Eligible properties may include a diversity of archaeological, historical, and traditional cultural resources. Implementing regulations for Section 106, Protection of Historic Properties (36 CFR 800), define a process for Federal agencies to consult with the SHPOs, ACHP, and other interested parties as they assess the effects of their undertakings and devise methods to resolve those adverse effects.

The Section 106 process is initiated with the establishment of the undertaking (§800.3), which was done shortly after the BLM and Western published the NOI in the Federal Register in April 2012. While the BLM and Western are joint lead Federal agencies for the NEPA process, the BLM is the lead Federal agency for Section 106 compliance. The BLM is also using the NEPA scoping process to satisfy the public involvement process for Section 106 of the NHPA (16 U.S.C. 470f), as provided for in 36 CFR 800.2(d)(3). The Section 106 process was coordinated with the NEPA process, starting with public scoping. During this period, consulting parties were identified and notified of the Project. These parties include the tribes listed above, the Tohono O'odham THPO, SHPOs in Arizona and New Mexico (§800.3(c)), Forest Service (Coronado National Forest), USACE, BIA, Western, ASLD, NMSLO, Arizona State Museum, NPS, Pima County, City of Tucson, Town of Marana, University of Arizona

Desert Laboratory on Tumamoc Hill, National Trust, and Archaeology Southwest. Western is completing tribal consultation related to the Upgrade Section of the proposed Project.

Compliance with other pertinent laws such as the NAGPRA, ARPA, and AIRFA is also being coordinated under the NHPA and NEPA. Federal agencies are required to consult with the public and tribes on the identification of historic properties and the effects that the agencies' undertaking may have on these properties. Western participates as a Consulting Party during these consultations. BLM's consultation with the tribes is conducted on a government-to-government basis, as prescribed by EOs and legislation, including the AIRFA, ARPA, NEPA, and EO 13007.

The Section 106 process entails the identification of historic properties (§800.4) within a defined "area of potential effects" (APE). The APE for this undertaking was determined in consultation and forms the parameters for the identification effort. Identification of historic properties began with a Class I level inventory, which included the review of existing information such as previous inventories and previously recorded sites. In accordance with §800.4 (b)(2), for projects "where alternatives under consideration consist of corridors or large land areas," a phased approach can be followed to identify and evaluate historic properties. Further, "the agency official may also defer final identification and evaluation of historic properties if it is specifically provided for in a . . . programmatic agreement executed pursuant to §800.14(b)." The Final PA is included in appendix L. The PA must be executed before the BLM or Western issues a ROD.

For a project of this scale, an intensive Class III inventory would be conducted on the selected alternative prior to the start of construction. Right-of-entry, as appropriate, would be obtained prior to any fieldwork.

During the Class III inventory, the cultural resources identified would be evaluated for their significance and assessed for their eligibility for the NRHP. Determinations of eligibility would be made in consultation; sites determined eligible or listed in the NRHP are "historic properties." However, since the identification effort would take place in stages for this Project, the identification and evaluation process would be provided for in the PA and deferred until after the ROD and associated approvals.

The assessment of adverse effects on historic properties (§800.5) is typically the next step in the Section 106 process. An adverse effect is found "when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association." Due to the scope and complexity of the proposed Project, and because the "effects on historic properties cannot be fully determined prior to the approval of an undertaking" (§800.14(b)(1)(ii)), the BLM determined early in the process that the undertaking would have an "adverse effect" on historic properties. In accordance with §800.6(a)(1), the ACHP was notified of the "adverse effect" determination, concurred with the determination, and agreed to participate in consultations to resolve the adverse effects.

To resolve the potential adverse effects of the undertaking on historic properties, a Project-specific PA was developed among the Section 106 Consulting Parties. The Final PA is provided in appendix L. The PA must be executed before the BLM or Western issues their decisions (RODs).

A list of consultation activities is given below in table 5-9.

Table 5-9. Section 106 Consultation Activities

Date	Agency	Contact Type	Description
4/23/2012	Arizona SHPO	Letter from BLM	Invitation to agency scoping meetings. Map attached.
4/23/2012	New Mexico SHPO	Letter from BLM	Invitation to agency scoping meetings. Map attached.

Table 5-9. Section 106 Consultation Activities (Continued)

Date	Agency	Contact Type	Description
5/14/2012	Arizona SHPO	Letter to BLM	Handwritten comment on copy of 4/23/2012 agency scoping meeting invitation indicating that Arizona SHPO looks forward to Section 106 consultation on the Project. SHPO also asked whether BLM or Western would be taking the lead on the Section 106 consultation.
11/14/2012	Arizona SHPO	Letter from BLM	Project notification letter to Arizona SHPO. Map and Project newsletter attached. Copy to Nancy Brown, ACHP.
11/14/2012	New Mexico SHPO	Letter from BLM	Project notification letter to Arizona SHPO. Map and Project newsletter attached. Copy to Nancy Brown, ACHP.
3/1/2013	ACHP	Letter from BLM	Notification letter to ACHP that the Southline Project would have an adverse effect on historic properties in New Mexico and Arizona and invitation to participate in the Project.
3/19/2013	ACHP	Letter to BLM	Letter advising BLM that ACHP has decided to participate in consultation for the Southline Project.
8/8/2013	Consulting parties	In-person meeting	Kick-off meeting hosted by BLM in Albuquerque, New Mexico. GoTo Meeting conference call was available for those who could not attend.
8/15/2013	Consulting parties	In-person meeting	Kick-off meeting hosted by BLM in Tucson, Arizona. GoTo Meeting conference call was available for those who could not attend.
12/4/2013	Consulting parties	Webinar	Webinar hosted by BLM for resource sensitivity and draft PA review.
4/17/2014	Consulting parties	Letter from BLM	Invitation to agency Draft EIS meetings. Flyer with map attached.
4/17/2014	Consulting parties	Letter from BLM	Invitation to agency Draft EIS meetings. Flyer with map attached.
6/18/2014	Consulting parties	In-person meeting	Meeting hosted by BLM at the San Xavier District Council Chambers to provide an update on Draft EIS, to review and discuss preferred alternatives, tribal concerns, cultural focus areas, and PA. GoTo Meeting conference call was available for those who could not attend.

5.5.2 Section 7 of the Endangered Species Act

Section 7 of the ESA requires Federal agencies to ensure that their actions do not jeopardize the continued existence of threatened or endangered species or result in the destruction of their designated critical habitat. It also requires consultation with the FWS if the action agency determines that an action may affect listed species.

A letter from BLM inviting FWS to participate in the scoping of the proposed Project was sent on April 23, 2012. The FWS provided a written response on June 4, 2012 with comments and recommendations on specific species to evaluate for potential effects as well as suggested mitigation measures. FWS was also consulted on the development of species specific mitigation used in this EIS. FWS comments and recommendations are addressed in Sections 3.8 and 4.8, "Biological Resources."

Formal consultation under Section 7 of the ESA with the FWS was initiated on March 4, 2014. On April 3, 2014, the FWS responded in a letter indicating that all required information was included in the March 4, 2014 submittal. On July 9, 2014, FWS sent a letter requesting a 60-day extension of the deadline to complete formal consultation. BLM responded on July 30, 2014, concurring with the request for an extension. The FWS issued a BO on December 30, 2014. The BO and amendment are included in

this EIS in appendix M; mitigation and conservation measures have been added to table 2-8 and are considered in the analysis in chapter 4. The Biological Assessment and correspondence with FWS are a part of the Project Record.

5.6 LIST OF PREPARERS AND REVIEWERS

This EIS was reviewed by a team from the BLM and Western. A team associated with SWCA Environmental Consultants assisted the BLM and Western in conducting research, gathering data, and preparing the EIS and supporting documents. Table 5-10 identifies BLM team members and their roles.

Table 5-10. BLM and Western Project Team

Name	Title	Involvement (Section(s) of EIS)	Office
Bill Childress	Las Cruces District Manager	Authorized Officer	Las Cruces District Office
Mark Mackiewicz	Senior National Project Manager	BLM Project Manager	Washington, DC
Mark Wieringa	NEPA Document Manager	Western Project Manager	Western Natural Resources Office
Eddie Arreola	RECO Manager	Military	Arizona State Office
Jane Childress	Cultural and Tribal Lead	BLM Project cultural and tribal Point of Contact	National Transmission Support Team
Mark Massar	Biological Lead	BLM Wildlife and Vegetation	National Transmission Support Team
Scott Whitesides	Planning and Environmental Coordinator	BLM NEPA	National Transmission Support Team
Matt Basham	Archaeologist	Cultural Resources	Arizona State Office, Renewable Energy Coordination Office (RECO)
Steve Blazek	NEPA Compliance Officer	Project initiation	DOE Golden Field Office
Donald Byron	Project Management Team Lead	Engineering Point of Contact	Western Desert Southwest Region
Jeff Conn	Natural Resource Specialist	Wildlife	Safford Field Office
Johnida Dockens	Environmental Protection Specialist	Local Office Point of Contact	Western Desert Southwest Region
Claire Douthit	Attorney/Advisor	Legal	Western Office of General Counsel
Kristen Duarte	Range Management Specialist	Vegetation Farmlands and Rangeland	Tucson Field Office
Vanessa Duncan	Safety & Occupational Health Specialist	Hazardous Materials	Las Cruces District Office
Linda Dunlavey	Realty Specialist	Lands	Tucson Field Office
R.J. Estes	Rangeland Management Specialist	Farmlands and Rangeland/Grazing Vegetation	Safford Field Office
Dennis Godfrey	Public Affairs Officer	Public Affairs	Arizona State Office, RECO
Oswaldo Gomez	Outdoor Recreation Planner	Visual	Las Cruces District Office

Table 5-10. BLM and Western Project Team (Continued)

Name	Title	Involvement (Section(s) of EIS)	Office
Stacey Harris	Public Utilities Specialist	TIP Office Point of Contact	Western Corporate Services Office
Rebecca Heick	Acting Deputy State Director, Lands & Minerals Division; Branch Chief, Minerals and Lands	Minerals	Arizona State Office
Ray Hewitt	Geographer/GIS	GIS Data	Las Cruces District Office
Christopher Horyza	Planning and Environmental Coordinator	Wilderness Characteristics	Arizona State Office
Michael Johnson	Sun Zone Social Scientist	Socioeconomics	Arizona State Office
Craig Knoell	TIP Office Manager	TIP Office Point of Contact (retired)	Western Corporate Services Office
Debby Lucero	Lead Realty Specialist	Land Use	New Mexico State Office
Frank Lupo	Attorney Advisor	Legal	Office of the Solicitor
Dan McGrew	Archaeologist	Cultural Resources (Arizona)	Safford Field Office
Kenneth Mahoney	Program Lead: National Monuments, National Conservation Areas, Wilderness, Wild & Scenic Rivers	Wilderness Characteristics	Arizona State Office
Linda Marianito	Environmental Division Manager	Local Office Point of Contact	Western Desert Southwest Region
Frances Martinez	Realty Specialist	Land Use Special Designations	Las Cruces District Office
Lisa Meiman	Public Affairs Team Lead	Public Affairs	Western Natural Resources Office
Francisco Mendoza	Outdoor Recreation Planner	Recreation Visual	Tucson Field Office
Lisa Meyer	Western Cultural Resources Lead	Western Cultural Point of Contact	Western Corporate Services Office
Jill Jensen	Archaeologist	Cultural Resources	Western Desert Southwest Region
Jennifer Montoya	Planning and Environmental Specialist	BLM NEPA Point of Contact	Las Cruces District Office
Daniel Moore	Geologist	Air Quality Minerals (in Geology) Paleontological Resources	Tucson Field Office
Patrick Moran	Geologist	Minerals (in Geology) Paleontological Resources	Las Cruces District Office
Mohammad Nash	Hydrologist	Air Quality Noise Soils Water Resources (Surface and Ground)	Las Cruces District Office
Jackie Neckels	Environmental Coordinator	Military	Arizona State Office, RECO
Ron Peru	Realty Specialist	Land Use Special Designations Visual	Safford Field Office

Table 5-10. BLM and Western Project Team (Continued)

Name	Title	Involvement (Section(s) of EIS)	Office
Tom Phillips	Acting State Recreation Lead-New Mexico State Office	Wilderness Characteristics	Working from Las Cruces District Office
Todd Rhoades	Project Manager	Engineering Point of Contact	Western Desert Southwest Region
Lynn Richardson	TIP Liaison	TIP Point of Contact	Western Consultant
Dana Robinson	GIS Specialist	GIS Data	Arizona State Office
Karla Rogers	Visual Resources Field Coordinator	Lead Visual Resources	National Operations Center
Jose Sanchez	Natural Resources Specialist	Recreation	Las Cruces District Office
Pam Shields		Project Initiation	Western Desert Southwest Region
Phil Smith	Range Specialist	Farmlands and Rangeland/Grazing Vegetation	Las Cruces District Office
Darrell Tersey	Natural Resource Specialist	Wildlife	Tucson Field Office
Larry Thrasher	Geologist	Minerals (in Geology) Paleontological Resources	Safford Field Office
Steven Torrez	Wildlife Biologist	Wildlife	Las Cruces District Office
Steve Tromly	Native American Liaison	Tribal, Cultural Point of Contact	Western Corporate Services Office
Melissa Warren	RECO Project Manager (former)	Military	Arizona State Office

5.7 THIRD-PARTY CONTRACTOR— SWCA ENVIRONMENTAL CONSULTANTS

5.7.1 Contract Disclosure Statement

SWCA Environmental Consultants (SWCA) is the contractor assisting the BLM and Western in preparing the Draft and Final EIS for the proposed Southline Transmission Line Project. BLM and Western are responsible for reviewing and evaluating the information and determining the appropriateness and adequacy of incorporating any data, analyses, or results in the EIS. BLM and Western determine the scope and content of the EIS and supporting documents and have furnished direction to SWCA, as appropriate, in preparing these documents.

The CEQ's regulations (40 CFR 1506.5(c)), require contractors who prepare an EIS to execute a disclosure statement specifying they have no financial or other interest in the outcome of the project. The term "financial interest or other interest in the outcome of the project" for the purposes of this disclosure is defined in the March 23, 1981, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 Federal Register 18026–18028 at Questions 17a and 17b. Financial or other interest in the outcome of the project includes "any financial benefit such as promise of future construction or design work on the project, as well as indirect benefits the consultant is aware of (e.g. if the project would aid proposals sponsored by the firm's other clients)" (46 Federal Register 18026–18038 and 10831).

In accordance with these regulations, SWCA hereby certifies that it has no financial or other interest in the outcome of the Project.

Certified by:

_____
Signature

Ken Houser
Name

Principal, Southwest Operations
Title

January 5, 2014
Date

5.7.2 SWCA Team

Table 5-11 identifies SWCA team members and their roles in preparing the EIS.

Table 5-11. SWCA Preparers and Contributors

Name	Involvement (Role or Section(s) of EIS)	Credentials	Years of Experience
Ken Houser Cara Bellavia DeAnne Rietz David Brown Charles Coyle	Project Management, NEPA Adequacy	M.A., PG M.U.E.P., B.A. M.S., CPESC M.L.A. M.A.	30 17 16 12 23
Brad Sohm Dan Whitley Daniel Sloat	Air Quality Climate Change Noise	PE M.A. B.S., QSTI	11 4 10
Matt Bandy Adrienne Tremblay	Cultural Resources Paleontological Resources	Ph.D. Ph.D.	23 9
Peter David Jenny Addy	Farmlands and Rangeland/Grazing	M.S. B.S.	27 3
Ryan Rausch Jeffery Johnson	Farmlands and Rangeland/Grazing Land Use Special Designations Military	M.E.L.P. M.S.	11 9
David Lightfoot Vicky Amato Jenny Addy	Farmlands and Rangeland/Grazing Vegetation	Ph.D. M.S. B.S.	28 10 3
Steve O'Brien Jerome Hess	Geology Minerals (in Geology) Wastes and Hazardous Materials	B.A. M.S.	17 18
DeAnne Rietz	Wastes and Hazardous Materials	M.S., CPESC	16
Jonathan Rigg	Electrical Characteristics (EMF) Transportation Human Health and Safety Intentional Destructive Acts	M.A.	12

Table 5-11. SWCA Preparers and Contributors (Continued)

Name	Involvement (Role or Section(s) of EIS)	Credentials	Years of Experience
Doug Jeavons (BBC Research)	Socioeconomics and Environmental Justice	M.A. (economics) B.A.	25
Cody Stropki	Soils	Ph.D.	13
Eleanor Gladding Russell Waldron Jeffery Johnson Lara Dickson	Noxious Weeds Wildlife	M.S. B.S. M.S. M.S.	24 21 9 17
Pam Cecere Steve Leslie	Visual	M.S. B.S.	13 17
Chris Garrett	Water Resources (Surface and Ground)	B.S., P.HGW.	21
Matt McMillan	Water Resources (Wetlands) Wildlife	M.S.	12
Jean-Luc Cartron	Migratory Birds	Ph.D., M.D.	24
Chris Query Glenn Dunno Allen Stutz	GIS Cartography	M.A. M.A. B.S.	17 19 19

5.8 FIRST-PARTY CONTRACTOR—CH2M HILL

The Southline Resource Reports referenced in chapters 1–4 of the EIS and in the literature cited in chapter 6 of the EIS, were prepared by a team from CH2M Hill and are available in the Project Record. The Southline Resource Reports are one of many valuable references used in the EIS, and it is important to note that CH2M Hill did not author the EIS. Additionally, considering guidance at 40 CFR 1506.5, the reports were subject to independent evaluation (see section 5.8.1 below). These reports were prepared in 2012 and 2013 and do not include all the data used in the Draft and Final EISs as additional alternatives, route variations, and data were included subsequent to these reports being finalized.

At the request of commenters on the Draft EIS, the CH2M Hill authors of the Southline Resource Reports, their credentials, and years of experience are included here (table 5-12).

Table 5-12. CH2M Hill Southline Resource Report Authors

Southline Resource Report	Author	Credentials	Years of Experience
Report 01: Air Quality and Climate Change	Sheila Rygwelski Robert Pearson	PE Ph.D., PE	12 36
Report 02: Cultural Resources	Fred Huntington Chris Dore Mary Prasciunas	B.A. Ph.D. Ph.D.	24 15 10
Report 03: Farmlands and Rangeland	Molly Cresto	B.S., M.A.	11
Report 04: Geology and Minerals	Greg Warren, PG	B.S., M.A.	19
Report 05: Hazardous Materials and Waste	Christopher Waller	B.S., EIT	5
Report 06: Health and Human Safety	Sheila Rygwelski	PE	12
Report 07: Land Use	Molly Cresto	B.S., M.A.	11
Report 08: Noise	Kevin Belanger Mark Bastasch	M.C.R.P., B.S. PE	4 16

Table 5-12. CH2M Hill Southline Resource Report Authors (Continued)

Southline Resource Report	Author	Credentials	Years of Experience
Report 09: Paleontology	Levi Pratt	B.A.	7
Report 10: Recreation	Cary Olson	B.S., M.S.	15
Report 11: Socioeconomics and Environmental Justice	Fatuma Yusuf	B.S., M.S., Ph.D.	18
Report 12: Soils	Steve Long	B.S., M.S.	25
Report 13: Special Designations	Molly Cresto	B.S., M.A.	11
Report 14: Transportation	Jacqueline Dowds-Bennett	PE, M.S.	21
Report 15: Vegetation	Kim Otero David Cerasale Tom Strong	B.A., M.S. Ph.D. Ph.D.	25 15 25
Report 16: Visual Resources	MariaElena Conserva Josh Hohn Mark Greenig Tom Priestley Angela Wolfe Michael Stephan	Ph.D. M.C.P, M.A. MUP, B.S. Ph.D., M.L.A. B.S. A.E.	16 11 25 30 8 33
Report 17: Water Resources	Matthew Franck	B.S., APA	25
Report 18: Wildlife	Kim Otero	B.S., M.A.	25
Report 19: Military Operations	Cary Olson	B.S., M.S.	15
Report 20: Cumulative	Molly Cresto	B.S., M.S.	11
Project Management and Senior Review	Jen Rouda	B.S.., M.S.	17

5.8.1 Independent Review Process

BLM and Western assisted Southline and its consultant CH2M Hill by outlining the types of information required for preparation of the EIS. In the fall of 2012, BLM and Western hosted a series of ID team calls with staff from the BLM, Western, SWCA, and CH2M Hill to provide guidance and data needs for resources to be analyzed in the EIS. BLM and Western, supported by SWCA, provided guidance worksheets to CH2M Hill to outline the types of data needed, as discussed on the fall 2012 ID team calls. The Southline Resource Reports were submitted in early 2013; the SWCA team (see table 5-11) first conducted an initial review of each report and associated data for content and completeness and to identify data gaps. Final review and concurrence was provided by the BLM/Western team (see table 5-10) prior to utilizing portions of the reports and referencing them in the EIS.

5.9 RECIPIENTS OF THE ENVIRONMENTAL IMPACT STATEMENT

BLM and Western will circulate copies of the EIS to any agencies that have jurisdiction and special expertise, those authorized to develop and/or enforce environmental standards, and any agencies or individuals requesting a copy of the document. Copies will also be made available at BLM State, District, and Field Offices, as well as at libraries and on the Project website.

Tribes and cooperating agencies listed in section 5.4 will receive copies of the EIS; cooperating agencies also participated in the finalization of the EIS. Everyone on the most current mailing list will receive notification of the release of the EIS via mailing with a detachable postcard that can be returned to request

a copy of the EIS on CD. Hard copies will be available for public viewing at BLM offices (New Mexico State Office, Las Cruces District Office, Arizona State Office, Safford Field Office, and Tucson Field Office). An electronic copy of the EIS will also be available via BLM's Southline Project website.

A number of organizations and special interest groups have been notified and coordinated with for this Project and have been placed on the Project mailing list. A list of these organizations is provided in table 5-13.

Table 5-13. Organizations and Special Interest Groups Notified

Advisory Council on Historic Preservation
American Wind Energy Association
Anglers United
Animas Foundation
Archaeological Conservancy
Archaeology Southwest
Arizona Association for Environmental Education
Arizona Audubon Society
Arizona Cattle Growers Association
Arizona Dude Ranch Association
Arizona Farm Bureau
Arizona Land and Water Trust
Arizona League of Conservation Voters
Arizona Mining Association
Arizona Association of Conservation Districts
Arizona Off-Highway Vehicle Coalition
Arizona Power Authority
Arizona Public Service
Arizona Riparian Council
Arizona Society of Range Management
Arizona Solar Energy Association
Arizona Trails Association
Arizona Wilderness Coalition
Arizona Wildlife Federation
Audubon New Mexico
Avra Valley Coalition
Back Country Horsemen of America
Cascabel Working Group
Center for Biological Diversity
Center of Excellence for Hazardous Materials Management
Central Arizona Land Trust
Coalition for Sonoran Desert Protection
Coalition of Renewable Energy Landowners Association
Cochise County Farm Bureau
Community Watershed Alliance
Continental Divide Trail Alliance
Defenders of Wildlife
Desert Foothills Land Trust
Desert Laboratory on Tumamoc Hill
Doña Ana County Farm Bureau
Drylands Institute

Table 5-13. Organizations and Special Interest Groups Notified (Continued)

Ecology and Evolutionary Biology Department, University of Arizona
Empire-Fagan Coalition
Environmental Arizona
Freedom to Roam
Friends of Agua Fria National Monument
Friends of Ironwood Forest
Friends of Sonoita Creek
Friends of the Santa Cruz River
Gila Conservation Coalition
Gila Watershed Partnership of Arizona
Graham County Farm Bureau
Grand Canyon Wildlands Council
Grant County Farm Bureau
Greenlee County Farm Bureau
Hidalgo County Farm Bureau
Huachuca Audubon
International Brotherhood of Electrical Workers 611
International Society for the Protection of Mustangs and Burros
Las Cruces 4-Wheel Drive Club
Luna County Farm Bureau
Mountain Bike Association of Arizona
National Parks Conservation Association
National Tribal Environmental Council
National Trust for Historic Preservation
National Trust for Historical Conservation
National Wildlife Federation
Natural Resources Defense Council
The Nature Conservancy
The Nature Conservancy of New Mexico
The Nature Conservancy, New Mexico Field Office
New Mexico Cattle Grower's Association
New Mexico Conservation Voters
New Mexico Environmental Law Center
New Mexico Farm and Livestock Bureau
New Mexico Farm and Livestock Bureau, Collegiate Farm Bureau
New Mexico Federal Lands Council
New Mexico Interstate Stream Commission
New Mexico Land Conservancy
New Mexico Natural History Institute
New Mexico Off Highway Vehicle Alliance
New Mexico Off Highway Vehicle Association
New Mexico Solar Energy Association
New Mexico Wilderness Alliance
New Mexico Wildlife Federation
New Mexico Wind Working Group
New Mexico Wool Growers
Pima County Farm Bureau
Pinal County Farm Bureau
Public Lands Foundation

Table 5-13. Organizations and Special Interest Groups Notified (Continued)

Public Lands Interpretive Association
Redington Natural Resource Conservation District
Rocky Mountain Bird Observatory
San Pedro Natural Resource Conservation District
Shooting Roundtable
Sierra Club
Sierra Club, El Paso Group
Sierra Club Rincon Chapter
Sierra Club Rio Grande Chapter
Sky Island Alliance
Solar Reserve
Sonoran Institute
Southern Arizona Buffelgrass Coordination Center
Southern Arizona Leadership Council
Southwest Environmental Center
Southwest Natural Resources
Southwest New Mexico Grazing Association
Southwest Regional Conservation Committee
Southwestern Power Administration
Tonopah Area Coalition
Trust for Public Land
Tucson Audubon
Tucson Mountains Association
Union of Concerned Scientists
Upper Gila Watershed Alliance
Upper San Pedro Partnership
Western Environmental Law Center
Western Governors' Association
Western Interstate Energy Board
Western Regional Partnership
Western Resource Advocates
Western Watersheds Project
WildEarth Guardians
Wilderness Land Trust
The Wilderness Society
The Wilderness Society / BLM Action Center
Wings Over Willcox

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Chapter 6

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Chapter 7

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Chapter 8

DRAFT EIS COMMENTS AND RESPONSES

8.1 INTRODUCTION

The BLM and Western published an NOA for the Draft EIS/RMPA in the Federal Register on April 11, 2014. The NOA announced the release of the Draft EIS and the beginning of a 90-day comment period. This chapter provides public comments received by the BLM and Western in response to publication of the Draft EIS, and the BLM's and Western's responses to those comments. The information in this chapter did not exist in the Draft EIS.

A total of 89 comment submittals (letters, emails, commenters at hearings) was provided to the BLM and Western during the 90-day comment period. All comments on the Draft EIS were given careful consideration with necessary changes incorporated into this Final EIS. Comments are transcribed below in table 8-1 as they were received. The comments are sorted by resource category (see "Document Abbreviations") in the order in which they occur in the EIS.

As noted in section 5.2.4, the BLM and Western sent outreach letters to property owners within ½ mile of route variation alignments east of Willcox Playa in Cochise County and south of Tucson International Airport along Old Vail Connection Road in Pima County. The purpose of the outreach letters was to notify the property owners of the new route variations (see sections 1.12.2 and 2.7) that were added to the EIS analysis. A total of 35 comment submittals and inquiries (letters, emails, phone calls) was provided to the BLM and Western. As with comments during the 90-day comment period, these comments are transcribed below in table 8-1 as they were received and are addressed in the Final EIS (see comments starting with number 799).

8.2 RESPONSE TO COMMENTS

In responding to comments, every effort was made to address all questions, concerns, and other points presented by the commenter. Table 8-1 presents all of the comments that were received on the Draft EIS. It includes the comment letter number, commenter name, the specific comment, and the BLM's and Western's response to the comment. Comments have been recorded verbatim as they were received.

Not all comments in table 8-1 resulted in text changes that appear in the Final EIS. The "Agency Response to Comments" provided by BLM and Western, in many cases, refers to information that was already contained in the Draft EIS, or provides an explanation and/or clarification regarding why a text change to the document was not required. If a response indicates that information was presented in the Draft EIS, please note that the information is also included in the Final EIS. If a section of the Draft EIS is referenced in table 8-1, the information can be found in the Final EIS in the same section unless otherwise noted. Where the "Agency Response to Comments" warranted revising text in the EIS, the agency response refers to a corresponding section, figure or table, and unless otherwise noted, revisions were made as suggested by the commenter or comment. Please note that page numbers in the Final EIS are likely different from those in the Draft EIS.

The following is a list of comment type codes that were used to indicate each comment's associated resource or concern.

Order in Table 8-1	Document Abbreviations	Comment ID
1	1-AIR	Air Quality
2	15-NOISE	Noise and Vibration
3	4-GEO	Geology and Minerals
4	14-SOIL	Soil Resources
5	10-PALEO	Paleontological Resources
6	20-WATER	Water Resources
7	2-BIO	Biological Resources (Vegetation and Wildlife)
8	3-CUL	Cultural Resources
9	19-VIS	Visual Resources
10	7-LAND	Land Use (Farm/Range/Military)
11	12-SD	Special Designations
12	21-WILD	Wilderness Characteristics
13	11-REC	Recreation
14	13-SOCI	Socioeconomics and EJ
15	16-PHS	Public Health and Safety
16 (no comments received)	5-HAZ	Hazardous Materials
17	17-TRANS	Transportation
18 (no comments received)	6-IDA	Intentional Acts of Destruction
19	18-TRAIL	National Scenic and Historic Trails Assessment
20	9-NEPA	NEPA/Process
21	8-MISC	Miscellaneous (support/non-support)

Table 8-1. Comments on the Draft EIS and Agency Response

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
31	14	14	New Mexico Department of Environmental Quality	Nelson	1-AIR	AQB concurs with the statements in the draft EIS regarding air quality impacts, regulatory requirements and the use of best management practices (BMPs) during construction. The AQB appreciates the opportunity to participate in this review process and anticipates commenting on the Final EIS and RMP Amendment	Thank you for your comment.
166	32	32.12	EPA	Jansky/Weeks	1-AIR	Additional mitigation measures; page 606. This section notes that emissions related to construction impacts will be minimized through best management practices (bmp's) and other mitigation measures. Recommendation: EPA recommends that a Construction Emissions Mitigation Plan (CEMP) be developed for the project, and in addition to all applicable local, state, or federal requirements, the following mitigation measures be included in the CEMP in order to reduce air quality impacts associated with emissions of NOx, CO, PM, S02, and other pollutants from construction-related activities: Fugitive Dust Source Controls: Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate at active and inactive sites during workdays, weekends, holidays, and windy conditions; • install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions; and • Prevent spillage when hauling material and operating non-earthmoving equipment and limit speeds to 15 miles per hour. Limit speed of earth-moving equipment to l 0 mph. Mobile and Stationary Source Controls: • Plan construction scheduling to minimize vehicle trips; • Limit idling of heavy equipment to less than 5 minutes and verify through unscheduled inspections; • Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels, prevent tampering, and conduct unscheduled inspections to ensure these measures are followed; • If practicable, utilize new, clean equipment meeting the most stringent of applicable Federal or State Standards. In general, commit to the best available emissions control technology. Tier 4 engines should be used for project construction equipment to the maximum extent feasible; • Lacking availability of non-road construction equipment that meets Tier 4 engine standards, the responsible agency should commit to using EPA-verified particulate traps, oxidation catalysts and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site; and • Consider alternative fuels and energy sources such as natural gas and electricity (plug-in or battery). Administrative controls: • Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking; • Develop a construction traffic and parking management plan that maintains traffic flow and plan construction to minimize vehicle trips; and • Identify sensitive receptors in the project area, such as children, elderly, and infirmed, and specify the means by which impacts to these populations will be minimized (e.g. locate construction equipment and staging zones away from sensitive receptors and building air intakes).	A Construction Emissions Mitigation Plan (CEMP) would be part of the Erosion, Dust Control, and Air Quality Plan within the POD. See table 2-8 of the EIS for reference to the CEMP and appendix N of the EIS for the draft NEPA POD. The suggested mitigation measures would be considered in the CEMP.
174	34	34.1	ADEQ	Arnst	1-AIR	The part of your project in Pima County is located in a maintenance are for carbon monoxide (CO) and a nonattainment area for I O-micron particulate matter (PM10). As described, it may have a de minimis impact on air quality.	This information was stated and acknowledged in sections 3.2 and 4.2 (Air Quality) of the Draft EIS.
175	34	34.2	ADEQ	Arnst	1-AIR	Disturbance of particulate matter is anticipated during construction. Considering prevailing winds, to comply with other applicable air pollution control requirements and minimize adverse impacts on public health and welfare, the following information is provided for consideration	Particulate matter disturbance and prevailing winds were discussed and acknowledged in sections 3.2 and 4.2 (Air Quality) of the Draft EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
176	34	34.3	ADEQ	Arnst	1-AIR	REDUCE DISTURBANCE of PARTICULATE MATTER during CONSTRUCTION. This action, plan or activity may temporarily increase ambient particulate matter (dust) levels. Particulate matter 10 microns in size and smaller can penetrate the lungs of human beings and animals and is subject to a National Ambient Air Quality Standard (NAAQS) to protect public health and welfare . Particulate matter 2.5 microns in size and smaller is difficult for lungs to expel and has been linked to increases in death rates; heart attacks by disturbing heart rhythms and increasing plaque and clotting; respiratory infections; asthma attacks and cardiopulmonary obstructive disease (COPD) aggravation. It is also subject to a NAAQS. The following measures are recommended to reduce disturbance of particulate matter, including emissions caused by strong winds as well as machinery and trucks tracking soil off the construction site: I. Site Preparation and Construction A. Minimize land disturbance ; B. Suppress dust on traveled paths which are not paved through wetting , use of watering trucks, chemical dust suppressants , or other reasonable precautions to prevent dust entering ambient air; C. Cover trucks when hauling soil; D. Minimize soil track-out by washing or cleaning truck wheels before leaving construction site; E. Stabilize the surface of soil piles; and F. Create windbreaks. II. Site Restoration A. Revegetate any disturbed land not used; B. Remove unused material; and C. Remove soil piles via covered trucks.	These measures are included in table 2-7 in chapter 2 of the Draft EIS (now table 2-8 in the Final EIS). Sections 3.2 and 4.2 (Air Quality) have been revised in the EIS to include this information.
177	34	34.4	ADEQ	Arnst	1-AIR	The following rules applicable to reducing dust from open areas, dry washes or riverbeds , roadways and streets are enclosed. Arizona Administrative Code R 18-2-604 and R 18-2-605 and Arizona Administrative Code R18-2-804.	Table 2-8 in chapter 2, as well as section 3.2 (Air Quality), has been revised in the EIS to include this information.
389	68	68.66	Pima County	Bernal/Connolly	1-AIR	Item 2. Section – Executive Summary: ES. 7 Affected Environment, Issues, and Environmental Impacts: ES. 7.1 Air Quality. Page, Line – xx, 7, 16. Comment: Potential air quality impacts from ground-disturbing activities should be minimized. Resolution: In accordance with Pima County Code Title 17 fugitive dust emissions from construction activities should be controlled.	The executive summary of the EIS includes additional information on Pima County's air quality permitting requirements. Pima County requirements were discussed in section 3.2, table 3.2-4, and appendix B of the Draft EIS.
390	68	68.67	Pima County	Bernal/Connolly	1-AIR	Item 3. Section – Chapter 1: Section 1.13.1 Resource Issues. Page, Line – 29, Table 1-8. Comment: Additional impacts on non-attainment from carbon monoxide and smaller particulate matter in the air such as particulate matter 10 (PM10). Resolution: This would need to be rewritten to specify that mitigation measures would need to be used to minimize the potential additional impacts on non-attainment of any of the criteria pollutants. Or that there are "possible increases in certain criteria pollutants associated with the project."	Section 1.13.1 of the Draft EIS only summarized those issues identified during scoping for the purpose of analysis; revisions to these issues are not appropriate to clarify here. Impacts such as possible increases to criteria pollutants are addressed in section 4.2 of the Draft EIS.
391	68	68.68	Pima County	Bernal/Connolly	1-AIR	Item 4. Section – Chapter 2: Section 2.4.1 Site Preparation and Preconstruction Activities: Framework Plans. Page, Line – 42, 24-41. Comment: PDEQ would like a copy of the Erosion, Dust Control, and Air Quality Plan to verify that the project is including the applicable Pima County Air Quality rules and regulations. Resolution: PDEQ would like a copy of the Erosion, Dust Control, and Air Quality Plan to verify that the project is including the applicable Air Quality rules and regulations.	Section 2.4.1 of the EIS has been revised to clarify that agencies like Pima County would be incorporated into the development of Framework Plans, as appropriate.
392	68	68.69	Pima County	Bernal/Connolly	1-AIR	Item 5. Section – Chapter 2: Section 2.4.1 Site Preparation and Preconstruction Activities: Framework Plans: Erosion, Dust Control, and Air Quality Plan. Page, Line – 45, 4-10. Comment: The Erosion, Dust Control, and Air Quality Plan should contain the appropriate references to Pima County Code Title 17. Resolution: The Erosion, Dust Control, and Air Quality Plan should contain the appropriate references to Pima County Code Title 17. Pima County Code Title 17 includes rules regarding the control of fugitive dust emissions from construction activities, as well as from portable stationary sources, including concrete batch plants.	Section 2.4.1 of the EIS has been revised to clarify that agencies like Pima County would be incorporated into the development of Framework Plans, as appropriate. Applicable County Plans, Laws, Ordinances, Regulations, and Standards Related to Air Quality, including Pima County, were discussed in chapter 3 of the Draft EIS (see table 3.2-4).
393	68	68.70	Pima County	Bernal/Connolly	1-AIR	Item 6. Section – Chapter 3: Section 3.2.2 Laws, Ordinances, Regulations, and Standards: Federal: Clean Air Act and National Ambient Air Quality Standards. Page, Line – 190, 10-13. Comment: The sentence for criteria pollutants needs to be revised for Particulate Matter 2.5 microns. Resolution: The PM standard for PM 2.5 is for particulate matter equal to or less than 2.5 microns in diameter.	Section 3.2.2 of the EIS has been revised based on this comment.
394	68	68.71	Pima County	Bernal/Connolly	1-AIR	Item 7. Section – Chapter 3: Section 3.2.2 Laws, Ordinances, Regulations, and Standards: Federal: Clean Air Act and National Ambient Air Quality Standards. Page, Line – 193, 10-11. Comment: HAPS are regulated by the National Emissions Standards for Hazardous Air Pollutants not because they did not meet specific criteria for the development of the National Ambient Air Quality Standards (NAAQS), but because the Clean Air Act authorizes the regulations of airborne toxic air pollutants and developing risk-based standards for each HAP is a difficult task. Instead EPA approaches HAPs with control technologies rather than set standards. Resolution: This sentence should be revised to include specific reference to the Clean Air Act and the NESHAP program.	Section 3.2.2 of the EIS has been revised based on this comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
395	68	68.72	Pima County	Bernal/Connolly	1-AIR	Item 8. Section – Chapter 3: Section 3.2.2 Laws, Ordinances, Regulations, and Standards: State and Local Regulations. Page, Line – 194, 10-11. Comment: Arizona does not have additional ambient air quality standards. Pima County incorporates the NAAQS by reference and has statutory authority to operate the air quality programs. Resolution: This sentence needs to be revised.	Section 3.2.2 of the EIS has been revised based on this comment.
396	68	68.73	Pima County	Bernal/Connolly	1-AIR	Item 9. Section – Chapter 3: Section 3.2.2: State and Local Regulations, Arizona. Page, Line – 197, 13-35. Comment: This section is completely inaccurate and needs to be rewritten. Pima County does not have an agreement with the Arizona Department of Environmental Quality (ADEQ) for air quality regulations. Pima County has statutory authority pursuant to Arizona Revised Statute 49-402 (A.R.S. 49-112). Also, Pima County incorporates the NAAQS by reference. Resolution: This section needs to be rewritten to accurately depict State and Local authority. Including, but not limited to, statutory authority of the Pima County Air Pollution Control District.	Section 3.2.2 of the EIS has been revised based on this comment.
397	68	68.74	Pima County	Bernal/Connolly	1-AIR	Item 10. Section – Chapter 3: Section 3.2.2: State and Local Regulations, Arizona. Page, Line – 198, 1-6. Comment: This paragraph is out of context and needs to have explanation. Will the project be using a local concrete batch plant with an existing permit that would only operate within Pima County, a portable concrete batch plant with an existing permit through ADEQ, or will a new concrete batch plant be constructed that would necessitate application for the appropriate air quality permit? Resolution: PDEQ is the Air Quality permitting authority for sources of air pollution within Pima County. Concrete batch plants can obtain an Authorization to Operate under an ADEQ General permit within Pima County. If a portable plant from outside Pima County (that is permitted through the State of Arizona) will be used for the project permitting of the plant should be verified with PDEQ before construction/operation, and proper notification should be given for the location of the plant within Pima County.	Section 3.2.2 of the EIS has been revised based on this comment.
398	68	68.75	Pima County	Bernal/Connolly	1-AIR	Item 11. Section – Chapter 3: Section 3.2.2: State and Local Regulations, County. Page, Line – 198, 14-15. Comment: Table 3.2-4 will need to be updated. Pima County incorporates the NAAQS by reference. Resolution: Pima County does not have the same Ambient Air Quality Standards as ADEQ because Pima County incorporates the NAAQS by reference. Also, PDEQ is the Air Quality permitting authority for stationary sources of air pollution within Pima County, including concrete batch plants.	Section 3.2.2 of the EIS has been revised based on this comment.
399	68	68.76	Pima County	Bernal/Connolly	1-AIR	Item 12. Section – Chapter 3: Section 3.2.3 Issues to be Analyzed: Pima County Arizona. Page, Line – 203, 4. Comment: Summerhaven does not have a current maintenance plan, per the EPA SIP. Resolution: This sentence needs to be removed.	Section 3.2.3 of the EIS has been revised based on this comment.
400	68	68.77	Pima County	Bernal/Connolly	1-AIR	Item 13. Section – Chapter 3: Section 3.2.4 Analysis Area Conditions: Background Air Quality. Page, Line – 204, 10. Comment: The project should also identify air quality monitors operated by the Pima County Department of Environmental Quality that are within or near the vicinity of the air quality analysis area. Resolution: This section should state that PDEQ operates air quality monitors within Pima County including monitors which collected data presented in Appendix B.	Section 3.2.4 of the EIS has been revised based on this comment.
401	68	68.78	Pima County	Bernal/Connolly	1-AIR	Item 14. Section – Chapter 3: Section 3.2.4 Analysis Area Conditions: Regional Air Emissions Sources. Page, Line – 204, 16-25. Comment: Regional Air Emission Sources section needs to be rewritten as the sources listed in Table 3.2-5 are not PSD sources. Existing sources in Pima County that are Major Sources that have potential PSD emissions should be listed. Table 3.2-5 needs to be revised because the sources listed are Major sources, not PSD sources. Resolution: In Pima County "Major" means emitting or having the potential to emit 100 tons per year (tpy) or more of any criteria pollutant for the specific source categories listed in the PSD regulations. There are 28 listed source categories, which include power plants that use steam to generate electricity, petroleum refineries and glass fiber processing plants. If a plant does not fall into one of the listed source categories, then a threshold of 250tpy applies. The author should consult with the PDEQ Air Quality Permitting Section to determine the correct Major sources to list. The CalPortland Rillito Cement Plan is permitted through the Arizona Department of Environmental Quality and the author should contact ADEQ to determine if the CalPortland Rillito Cement Plant is a PSD source, or a Major source.	Section 3.2.4 of the EIS has been revised based on this comment.
402	68	68.79	Pima County	Bernal/Connolly	1-AIR	Item 15. Section – Chapter 3: Section 3.2.4 Analysis Area Conditions. Page, Line – 205, 5. Comment: This section should include a discussion regarding the CO2 equivalence of the SF6 emissions from the proposed substations. Resolution: Sulfur hexafluoride (SF6) is considered a potent greenhouse gas and as such the emissions of the SF6 from the substations should be discussed.	Section 3.2.4 of the EIS has been revised based on this comment.
403	68	68.80	Pima County	Bernal/Connolly	1-AIR	Item 16. Section – Chapter 4: Section 4.1.2 Cumulative Effects. Page, Line – 578, 24-25. Comment: Cumulative Impacts are discussed in detail in section 4.21, not 4.20 as stated. Resolution: This section needs to be rewritten to accurately depict applicable rules and regulations.	Section 2.2 of the EIS has been revised to indicate that section 4.21 is the discussion of cumulative effects.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
404	68	68.81	Pima County	Bernal/Connolly	1-AIR	Item 17. Section – Chapter 4: Section 4.2.1 Introduction. Page, Line – 580, 21-25. Comment: This is inaccurate; the predicted emissions should be compared to the NAAQS. The standards the Draft EIS attributes to the State are inaccurate because Pima County incorporates the NAAQS by reference into Pima County Code Title 17. Resolution: This section needs to be rewritten to accurately depict applicable rules and regulations.	The proposed Project is also located in New Mexico, which has additional ambient air quality standards. The NMAAQS are additional ambient air quality standards applicable in the analysis area, as discussed in section 4.2.1 of the Draft EIS.
405	68	68.82	Pima County	Bernal/Connolly	1-AIR	Item 18. Section – Chapter 4: Section 4.2.1 Introduction. Page, Line – 580, 32-41. Comment: Fugitive dust emissions should be minimized and controlled to meet requirements of Pima County Code Title 17. Resolution: This section should be revised so that fugitive dust emissions are minimized by control measures and controlled to meet requirements of Pima County Code Title 17.	Section 4.2.1 of the EIS has been revised based on this comment.
406	68	68.83	Pima County	Bernal/Connolly	1-AIR	Item 19. Section – Chapter 4: Section 4.2.1 Introduction. Page, Line – 580, 35-36. Comment: Fugitive dust emissions should be minimized and controlled to meet requirements of Pima County Code Title 17. Resolution: Unpaved roads, unpaved haul/access roads, and staging areas affected by the project should be stabilized when in use and following use until the area becomes permanently stabilized by paving, landscaping or otherwise in order to control fugitive dust emissions, including windblown dust, or dust caused by vehicular traffic on the area pursuant to (sentence left incomplete)	Section 4.2.1 of the EIS has been revised based on this comment.
407	68	68.84	Pima County	Bernal/Connolly	1-AIR	Item 20. Section – Chapter 4: Section 4.2.1 Introduction. Page, Line – 580, 40-41. Comment: Emissions from concrete batch plants would need to be controlled according to air quality permit conditions. Resolution: The project will need to verify that the proper air quality permit is in place for any concrete batch plants to be used within Pima County. Emissions from concrete batch plants would need to be controlled according to air quality permit conditions.	Section 4.2.1 of the EIS has been revised based on this comment.
408	68	68.85	Pima County	Bernal/Connolly	1-AIR	Item 21. Section – Chapter 4: Section 4.2.1 Introduction. Page, Line – 581, 9-12. Comment: Pima County Code Title 17 covers fugitive dust emissions from construction activity in Pima County. Resolution: This section should include references to local air quality control. Pima County Code Title 17 covers fugitive dust emissions from construction activity in Pima County.	Section 4.2.1 of the EIS has been revised based on this comment.
409	68	68.86	Pima County	Bernal/Connolly	1-AIR	Item 22. Section – Chapter 4: Section 4.2.1 Introduction. Page, Line – 581, 11-12. Comment: Fugitive dust emissions should be minimized and controlled to meet requirements of Pima County Code Title 17. Resolution: Unpaved roads, unpaved haul/access roads, and staging areas affected by the project should be stabilized when in use and following use until the area becomes permanently stabilized by paving, landscaping or otherwise in order to control fugitive dust emissions, including windblown dust, or dust caused by vehicular traffic on the area pursuant to (sentence left incomplete)	Section 4.2.1 of the EIS has been revised based on this comment.
410	68	68.87	Pima County	Bernal/Connolly	1-AIR	Item 23. Section – Chapter 4: Section 4.2.2 Methodology and Assumptions: Analysis Assumptions. Page, Line – 581, 30-39. Comment: Assumptions for fugitive dust emissions should also list what control measures were assumed for any fugitive dust generating activities. Also, estimates for emissions from concrete batch plants would need to include a list of control measures assumed. Resolution: Emissions estimates for the emissions inventory should also list what control measures were assumed.	Appendix B in the Draft EIS contains assumptions used in the analysis and has been updated based on this comment.
411	68	68.88	Pima County	Bernal/Connolly	1-AIR	Item 24. Section – Chapter 4: Section 4.2.3 Impacts Analysis Results: Impacts Common to All Action Alternatives: Construction. Page, Line – 586, 15-18. Comment: If fugitive dust emissions are included in off-site visibility impacts at Saguaro National Park Class I area, the Project should reevaluate the impacts with control measures for fugitive emissions. Pima County Code Title 17 states that "No person shall cause, suffer, allow, or permit diffusion of visible emissions, including fugitive dust, beyond the property boundary line within which the emissions become airborne, without taking reasonably necessary and feasible precautions to control generation of airborne particulate matter." Resolution: The Project will need to comply with Pima County Code Title 17 fugitive dust provisions. Visible fugitive dust emissions should not cross property boundary. There should be no impact at Saguaro National Park East due to visible fugitive dust emissions from the Project.	Section 4.2.3 of the EIS has been revised based on this comment.
412	68	68.89	Pima County	Bernal/Connolly	1-AIR	Item 25. Section – Chapter 4: Section 4.2.3 Impacts Analysis Results: Route Group 3 – Apache Substation to Pantano Substation. Page, Line – 597, 32-36. Comment: Will the project be using a local concrete batch plant with an existing permit that would only operate within Pima County, a portable concrete batch plant with an existing permit through ADEQ, or will a new concrete batch plant be constructed that would necessitate application for the appropriate air quality permit? Resolution: PDEQ is the Air Quality permitting authority for sources of air pollution within Pima County. Concrete batch plants can obtain an Authorization to Operate under an ADEQ General permit within Pima County. If a portable plant from outside Pima County (that is permitted through the State of Arizona) will be used for the project permitting of the plant should be verified with PDEQ before construction/operation, and proper notification should be given for the location of the plant within Pima County.	Section 4.2.2 of the EIS has been revised based on this comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
413	68	68.90	Pima County	Bernal/Connolly	1-AIR	Item 26. Section – Chapter 4: Section 4.2.3 Impacts Analysis Results: Route Group 3 Impacts to Ambient Air Quality. Page, Line – 600, 1-2 & 10-11. Comment: This Table is inaccurate, only the NAAQS should be listed, not Arizona Ambient Air Quality Standards. Pima County incorporates the NAAQS by reference. Resolution: The air quality authorities in Arizona, including for example the State and Pima County incorporate the NAAQS by reference. The more stringent NAAQS apply to these areas despite the lag in updating the State rules or Local Code (Pima County Code Title 17).	Section 4.2.3 of the EIS has been revised based on this comment.
414	68	68.91	Pima County	Bernal/Connolly	1-AIR	Item 27. Section – Chapter 4: Section 4.2.3 Impacts Analysis Results: Route Group 4 – Pantano to Saguaro. Page, Line – 602, 3-5 & 603, 1-2. Comment: Will the project be using a local concrete batch plant with an existing permit that would only operate within Pima County, a portable concrete batch plant with an existing permit through ADEQ, or will a new concrete batch plant be constructed that would necessitate application for the appropriate air quality permit? Resolution: PDEQ is the Air Quality permitting authority for sources of air pollution within Pima County. Concrete batch plants can obtain an Authorization to Operate under an ADEQ General permit within Pima County. If a portable plant from outside Pima County (that is permitted through the State of Arizona) will be used for the project permitting of the plant should be verified with PDEQ before construction/operation, and proper notification should be given for the location of the plant within Pima County.	Section 3.2.2 of the EIS has been revised based on this comment.
415	68	68.92	Pima County	Bernal/Connolly	1-AIR	Item 28. Section – Chapter 4: Section 4.2.3 Impacts Analysis Results: Route Group 4 Impacts to Ambient Air Quality. Page, Line – 604, 7-8 & 14-15. Comment: This Table is inaccurate, on the NAAQS should be listed, not Arizona Ambient Air Quality Standards. Pima County incorporates the NAAQS by reference. Resolution: The air quality authorities in Arizona, including for example the State and Pima County incorporate the NAAQS by reference. The more stringent NAAQS apply to these areas despite the lag in updating the State rules or Local Code (Pima County Code Title 17).	Section 4.2.3 of the EIS has been revised based on this comment.
416	68	68.93	Pima County	Bernal/Connolly	1-AIR	Item 29. Section – Chapter 4: Section 4.21.4 Cumulative Effects by Resource: Air Quality and Climate Change: Construction. Page, Line – 1072, 1-6. Comment: Fugitive dust emissions should be minimized and controlled to meet requirements of Pima County Code Title 17. Resolution: Fugitive dust from earth moving associated with the Project and other construction activities should be controlled in accordance with Pima County Code Title 17. Unpaved roads, unpaved haul/access roads, and staging areas affected by the project should be stabilized when in use and following use until the area becomes permanently stabilized by paving, landscaping or otherwise in order to control fugitive dust emissions, including windblown dust, or dust caused by vehicular traffic on the area pursuant to (sentence left incomplete)	Applicable county rules were addressed in section 3.2.2 of the Draft EIS.
417	68	68.94	Pima County	Bernal/Connolly	1-AIR	Item 30. Section – Appendix B: Section Supplemental Air Quality Information: State and Local Regulations: Pima County. Page, Line – B-4, 22-33. Comment: This section is inaccurate. Pima County has statutory authority pursuant to Arizona Revised Statute 49-402 (A.R.S. 49-112), as well as delegation from the US EPA for certain portions of the air quality program. Resolution: This section needs to be rewritten to accurately depict applicable rules and regulations.	Appendix B of the EIS has been revised based on this comment.
418	68	68.95	Pima County	Bernal/Connolly	1-AIR	Item 31. Section – Appendix B: Section Supplemental Air Quality Information: State and Local Regulations: Pima County. Page, Line – B-4, 28-33. Comment: This section is inaccurate. A fugitive dust activity permit is also required for blasting activities. Resolution: This section needs to be rewritten to accurately depict applicable rules and regulations.	Appendix B of the EIS has been revised based on this comment.
167	32	32.13	EPA	Jansky/Weeks	15-NOISE	Noise and Vibration. Chapter 4; page 627. All 4 route groups have noise sensitive receptors (nsr's) that will experience short-term construction noise as high as 83 a-weighted decibels (dBA). BMP's discussed in the DEIS, and in the Programmatic EIS developed for Western States Energy Corridors, are expected to reduce the noise levels below the maximum level. The DEIS also states that the project will comply with all local noise ordinances. There is not a quantitative or qualitative discussion of how much noise levels will be reduced, and if this reduction will comply with local ordinances or the Noise Pollution Control Act of 1972. Recommendation: The FEIS should include a quantitative or qualitative discussion of how much noise levels will be reduced by project bmp's.	Section 4.3 in chapter 4 in the EIS has been revised to clarify how noise levels would be reduced by project PCEMs.
170	32	32.16	EPA	Jansky/Weeks	4-GEO	Geology and Mineral Resources. Chapter 3; page 220. Line 24 of the DEIS states no earth fissures are documented in route group 1. Line 27 says route group 1 crosses approximately 227 fissures. Recommendation: For the FEIS, please clarify which information regarding fissures and route group 1 is correct.	Section 3.4 in in the EIS has been revised to clarify the number of fissures intersected by the proposed Project.
713	82	82.132	SunZia	Wray	14-SOIL	Geology and Soils The affected environment and environmental consequences for earth resources do not include analyses of impacts resulting from the construction and operation of the Southline Project, with regard to floodplain hazards, subsidence, future oil and gas leases, or future extraction of mineral resources. The absence of these studies indicates that the range of impacts was not fully analyzed and is therefore deficient. We request that this deficiency be corrected.	Data on, and impacts to, geologic hazards, including subsidence, future oil and gas leases, and future extraction of mineral resources (mining claims), was included in the Draft EIS in sections 3.4 and 4.4 (Geology and Minerals). Sections 3.7 and 4.7 (Water Resources) of the Draft EIS included information on floodplain hazards.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
706	82	82.125	SunZia	Wray	10-PALEO	Fossil localities are not discussed as part of impacts from the Southline Project. The Potential Fossil Yield Classification is the best way to assess impacts to paleontological resources, but the presence or absence of previously recorded fossil localities can help determine if classifications of 2 or 3 need to be assessed, or help in determining mitigation requirements. For example, having previously recorded fossil localities in an area mapped as Qa might suggest a further look in those sediments within the Southline Project area. Please include Fossil localities in the impact analysis. The Draft EIS should be supplemented to address the unclear nature of these impacts by actually disclosing impacts and the rationale for the conclusions. Then, the Draft EIS should be republished and an additional 30-day comment period be provided to allow public review and comment on the same.	Available data on the Potential Fossil Yield Classification (PFYC) and known localities were used in the Draft EIS in sections 3.6 and 4.6. The PFYC maps used were shown as figures 3-6.1a and 3-6.1b in the Draft EIS (now figures 3-6.1a–d in the Final EIS). Section 4.6 of the Draft EIS described potential impacts to fossil localities. The actual location of any particular fossil site is protected from public disclosure so as to protect the site. And in no way is the PFYC system meant to imply that further research, including field surveys, would be required where proposed projects are in Category 2 or 3 areas, where the fossil potential is low to moderate or unknown, and thus finds are not expected to be made. For this proposed Project, mitigation for Category 1, 2, or 3 areas is the stipulation that all work in the vicinity of a find shall stop immediately and the local BLM office will be contacted (see table 2-8 in the Final EIS).
32	14	14	New Mexico Department of Environmental Quality	Nelson	20-WATER	The U.S. Environmental Protection Agency (USEPA) requires National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) coverage for storm water discharges from construction projects (including common plans of development) that will result in the disturbance (or re-disturbance) of one or more acres, including expansions, of total land area. Since this project will exceed one acre (including staging areas, etc.), it will require appropriate NPDES permit coverage prior to beginning construction. Among other things, this permit requires that a Storm Water Pollution Prevention Plan (SWPPP) be prepared for the site and that appropriate Best Management Practices (BMPs) be installed and maintained both during and after construction to prevent, to the extent practicable, pollutants (primarily sediment, oil & grease and construction materials from construction sites) in storm water runoff from entering waters of the U.S. This permit also requires that permanent stabilization measures (revegetation, paving, etc.), and permanent storm water management measures (storm water detention/retention structures, velocity dissipation devices, etc.) be implemented post construction to minimize, in the long term, pollutants in storm water runoff from entering these waters. In addition, permittees must ensure that there is no increase in sediment yield and flow velocity from the construction site (both during and after construction) compared to pre-construction, undisturbed conditions (see Subpart 9.4.1.1).	The comment accurately reflects the permitting requirements per NPDES as stated and acknowledged throughout the Draft EIS (see chapters 2, 3, and 4).
159	32	32.5	EPA	Jansky/Weeks	20-WATER	Wetlands/Waters of the U.S. Executive Summary; page xxii. The DEIS states "Potential impacts to water resources include the potential for discharge of pollutants, including sediment, to groundwater or surface water, the placement of larger structures within floodplains, and potential disturbance of waters of the U.S. (WUS) or wetlands." Recommendation: Change the word "or" to "including" as wetlands are considered WUS under the Clean Water Act (CWA). If there is a need to differentiate between jurisdictional wetlands and isolated wetlands or "non-jurisdictional" wetlands; then that distinction should be made.	The executive summary in the EIS has been revised based on this comment.
160	32	32.6	EPA	Jansky/Weeks	20-WATER	Chapter 2; page 46. The DEIS states "General water quality is protected under the Federal Clean Water Act (CWA), and a permit may be required if a project would result in discharges to regulated WUS. The purpose of a Stream, Wetland, Well, and Spring Protection Plan (SWWSPP) would be to describe measures to protect those resources from potential impacts during construction, operation, and maintenance activities. The plan would describe avoidance, minimization, and mitigation measures and would be intended for use as a guide to determine the appropriate site specific measures to be implemented during construction activities. Also, page 42 of the DEIS states the final Plan of Development (POD) for the SWWSPP will not be completed until after the FEIS. Recommendation: A draft POD should be made a part of the FEIS so measures for avoiding, minimizing, and mitigating impacts to aquatic resources can be reviewed and commented on. Without knowing the finalized route, having a field verified delineation of WUS, or the mitigation required to offset project impacts; it is difficult to adequately assess the environmental impacts of the proposed project.	A draft NEPA POD is available with the EIS (see appendix N).
161	32	32.7	EPA	Jansky/Weeks	20-WATER	Chapter 3; page 258. Portions of the wetlands and WUS section state that wetlands, ephemeral arroyos, special aquatic sites, and drainages exist within the analysis area, and would require protection or compensatory mitigation if permanently impacted. Recommendation: Jurisdictional wetlands and other special aquatic sites are protected under the CWA. The nature of the impact, permanent or otherwise, has no bearing on that determination. Both permanent and temporary impacts to jurisdictional waters would be addressed under Section 404 of the CWA, which requires that all practicable alternatives for avoiding and minimizing impact to WUS be made, and that all unavoidable impacts be mitigated. Please make clear in the FEIS that any impacts to wetlands will require protection or mitigation.	Section 3.7 in the EIS has been revised to make clear that a jurisdictional delineation would be completed for the selected alternative, if the ROW is approved, and that all practicable methods of avoidance to WUS would be accomplished through micro-siting. Any potential impacts would require protection or mitigation through the CWA permit process.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
162	32	32.8	EPA	Jansky/Weeks	20-WATER	Chapter 3; page 258: The DEIS states "An inventory of all wetlands within analysis area boundary from National Wetlands Inventory (NWI) maps indicates that approximately 7,639 acres of wetlands occur within the analysis area, consisting of 20 freshwater ponds (typically stock tanks), 6 lakes, 1 freshwater forested/shrub wetland, and 3 other wetland areas." Recommendation: It is evident that the NWI maps serve as the bases for determining the presence or absence of aquatic features for this document. The NWI maps provide a good starting point, however, it should be noted that NWI maps are not intended to delineate or certify the presence or absence of jurisdictional WUS. Also, NWI maps are not 100% accurate in identifying aquatic features. Prior to commencement of dredge or fill activities a field verification along the alignment should be made to accurately delineate WUS, including wetlands, should be made. This field verification should be conducted in conjunction with the Clean Water Act Section 404 permitting process.	Section 3.7 in the EIS has been revised to clarify that a WUS delineation would be completed for the selected alternative in conjunction with a Section 404 CWA permit.
168	32	32.14	EPA	Jansky/Weeks	20-WATER	Chapter 4; page 685. The new build and upgrade sections of the proposed project have unavoidable impacts to floodplains associated with placing structures in floodplains. This requires consultation with the FEMA designated floodplain administrator for the area. Recommendation: Please consult the local FEMA floodplain administrator to determine if project impacts to floodplains will remain within allowable levels. Include this consultation in the FEIS.	FEMA floodplains and local requirements were discussed in section 3.7.3 of the Draft EIS; section 4.7 in the EIS has been revised to include reference to local FEMA floodplain administrator based on this comment.
229	42	42.3	U.S. International Boundary and Water Commission	Anaya	20-WATER	The USIBWC requests that proposed construction activities be accomplished in a manner that does not change historic surface runoff characteristics at the international border. The USIBWC will not approve any construction near the international boundary in the United States that increases, concentrates, or relocates overland drainage flows into either country. This requirement is intended to ensure that developments in one country will not cause damage to lands or resources in the other country. The USIBWC will need copies of any hydrological or hydraulic studies and site specific drawings for work proposed in the vicinity of the international boundary, particularly if culverts or other structures are proposed to be constructed in any drainage courses that cross the boundary. We will also require that you assure that structures constructed along the United States/Mexico border are maintained in an adequate manner and that liability issues created by these structures are addressed.	Chapter 2 (see table 2-8), as well as sections 3.7 (Water Resources) and 3.11 (Land Use) in chapter 3 in the EIS, has been revised based on this comment.
280	57	57.1	ADEQ–Water Quality	LeStarge/Taunt	20-WATER	On behalf of Linda Taunt, Deputy Division Director of the Water Quality Division, Arizona Department of Environmental Quality (ADEQ), ADEQ does not see any impacts related to water quality that have not been addressed already in the Draft Environmental Impact Statement.	Thank you for your comment.
330	68	68.7	Pima County	Bernal/Connolly	20-WATER	Also, as the Federal Emergency Management Agency (FEMA) considers electrical transmission as a critical facility, access to such facilities for maintenance and repair during times of flooding is a very significant issue. As well as the need to protect any substation from a 500-year floor event, as per FEMA guidelines (please see attached comments from Pima County Regional Flood Control Department).	Sections 3.7 and 4.7 of the EIS have been revised to include additional information on FEMA's guidelines for 500-year floodplains.
419	68	68.96	Pima County	Bernal/Connolly	20-WATER	We commented that electrical transmission is considered a critical facility by FEMA and as such accessibility for maintenance and repair during times of flooding is a significant issue which should be evaluated during the NEPA process and that substations should be protected from the 500-year flood event per FEMA guidelines. This issue does not appear to have been explicitly addressed. Adding discussion of Critical Facility designations and requirements to ES.7.16 Public Health and safety is recommended. Protection from 500 year flood should be identified in the substation descriptions and identified in the floodplain section beginning on page 258.	The executive summary and section 3.7 in the EIS has been revised based on this comment.
420	68	68.97	Pima County	Bernal/Connolly	20-WATER	The routes, maintenance access roads and fencing will cross numerous watercourses regulated by Pima County. Although Pima County Regional Flood Control District (PCRFCD) authority with regard to federal floodplains, local floodplains and Regulated Riparian Habitat (RRH) has been acknowledged on page 251 and 252, RRH is notably excluded from DEIS decision space and operational elements. This appears to be in part due to the incomplete understanding of RRH as it relates to the Pima County Conservation Lands System (CLS). While Important Riparian Area (IRA) incudes RRH, not all RRH is IRA under the CLS. While inclusion of IRA in the DEIS is significant, RRH should be identified here as well.	Sections 3.7 and 4.7 in the EIS have been revised based on this comment.
421	68	68.98	Pima County	Bernal/Connolly	20-WATER	The federal definition of wetlands is too narrow for the affected environment and PCRRH should be assessed and mitigated as the best available local information. It is notable that Pima County CLS IRA has been quantified and that RRH mapping is not available across the entire project and therefore cannot be used for route comparison purposes.	Sections 3.7 and 4.7 in the EIS have been revised to include available RRH for the relevant portions of the proposed Project in Pima County, based on this comment.
422	68	68.99	Pima County	Bernal/Connolly	20-WATER	RRH should be added to line 27 on page 252 of section 3.7.4 Issues to be Analyzed.	Section 3.7 in the EIS has been revised for the relevant portions of the proposed Project in Pima County, based on this comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
423	68	68.100	Pima County	Bernal/Connolly	20-WATER	RRH should be called out in the "Framework" management and mitigation plans described in Chapter Two. Specifically RRH should be added to ES7 Affected Environment, Issues and Environmental Impacts and the appropriate mitigation plans including the: Plant and Wildlife Species Conservation Measures Plan; Stream, Wetland, Well, and Spring Protection Plan; and Reclamation, Vegetation, and Monitoring Plans.	Section 2.4.1, as well as sections 3.7 and 4.7 in the EIS, has been revised for the relevant portions of the proposed Project in Pima County, based on this comment.
424	68	68.101	Pima County	Bernal/Connolly	20-WATER	Non-xeric PCRRH should be added to the maps of surface water and wetlands contained in Chapter 3.	Maps found in section 3.7 of the EIS have been revised to include the relevant portions of the proposed Project in Pima County, based on this comment.
425	68	68.102	Pima County	Bernal/Connolly	20-WATER	Although RRH application will be limited to determining local impact and required mitigation it should be acknowledged. To that end we further recommend that RRH and IRA be added to the acronym/glossary list and that footnotes be added wherever the term riparian is used to reduce confusion with the other vegetation inventories used including the National Wetland Inventory and SWReGap.	The acronym and glossary list have been revised in the EIS. When appropriate, RRH has been used instead of "riparian" so that the difference is clear to the reader. No footnotes have been added.
426	68	68.103	Pima County	Bernal/Connolly	20-WATER	Line 17 and 18 on page 69 describe that access roads will be located to avoid "riparian vegetation". A reference to required permitting shall be added to comply with regulating PCRRH.	Section 2.4.2 in chapter 2 of the EIS has been revised to clarify that an Access Road Plan would be prepared, which would comply with appropriate Federal, State, and local agency requirements. These requirements would include regulated PCRRH.
427	68	68.104	Pima County	Bernal/Connolly	20-WATER	Recently maintenance of transmission lines within Pima County has been conducted which unnecessarily destroy RRH which contribute to erosion and local flooding. Mechanical and chemical means have been used to control vegetation growth along power lines to prevent fires from damaging transmission facilities. The NEPA process should include evaluation of alternative maintenance plans which minimize destruction of riparian habitat. This issue is not included in those to be analyzed listed in Section 3.16.3 on page 544 of Chapter 3.	As discussed in section 2.4.1 of the Draft EIS, vegetation management practices along the ROW would be in accordance with NESC ANSI A300 Part 7, "American Operations Integrated Vegetation Management" (BLM's Integrated Vegetation Management Handbook – H 1740-02, March 25, (BLM 2008a)), Western operation and maintenance clearing practices and construction specifications, electric utility ROWs, and International Society of Arboriculture BMPs. The Vegetation Management Plan would be part of the POD as one of the Framework Plans and would be based on NERC Reliability Standard FAC-003-1. Table 2-8 of the Draft EIS also describes design features and mitigation to minimize impacts to riparian vegetation, which is important to the BLM and Western in considering this proposed Project.
428	68	68.105	Pima County	Bernal/Connolly	20-WATER	In order to mitigate impacts to RRH on linear projects the use of Best Management Practices to control erosion and to replace habitat damaged during construction is appropriate. These impacts are site specific and should be considered in tower placement and design, access road routing, and maintenance practices. Still total impacts may best be addressed on a County wide basis by submitting a Conservation Plan. Such plans are an option under PCRFCD Regulated Riparian Habitat Mitigation Standards and Implementation Guidelines which allow large development including utility projects where the special needs of large scale projects are met while supporting the onsite preservation and mitigation of RRH.	Section 2.4.1 and sections 3.7 and 4.7 in the EIS have been revised to clarify how Pima County requirements would be incorporated into the development of Framework Plans and be used to minimize potential impacts from the proposed Project.
429	68	68.106	Pima County	Bernal/Connolly	20-WATER	Per the DEIS the new towers may be of the lattice type. During scoping we commented that consideration should be given to monopoles if placement is within floodways or riparian habitat to minimize the footprint and potential to become clogged with debris during floods. It is not clear if this item has been addressed.	Chapter 2 of the Draft EIS stated that lattice towers and monopoles are being considered for the New Build portion of the Project, while monopoles are proposed for the Upgrade portion of the Project.
430	68	68.107	Pima County	Bernal/Connolly	20-WATER	In conclusion the footprint, placement and accessibility of the lattice towers and access roads will impact the exposure of these facilities to flood damages. Minimization and mitigation of the impacts on flood hazards and riparian habitat will require site specific design and consideration of county wide cumulative effects. Final consideration of these issues will occur during permitting.	The comment accurately reflects the discussion provided in section 2.4.2 of the Draft EIS: "Structure selection and individual structure placement would be determined during the final design phase of the Project."
525	76	76.45	Arizona State Land Department	Ojeda	20-WATER	In POD, Page 8-2, Table 8-1; With regards to the Wetland delineation and permit, please note that the ASLD as land manager must be consulted prior to filing any documentation with the U.S. Army Corps of Engineers.	Comment on the POD noted and shared with Southline Transmission Line, LLC, for incorporation into the final POD. A draft NEPA POD is included as an appendix to this EIS (see appendix N). Additionally, section 3.7 in the EIS has been revised to include a similar statement.
9	5	5.5	Town of Marana	Spencer	2-BIO	Willcox Playa is an ACEC and an Audubon Important Bird Area. Migrating sandhill cranes and other bird species face innumerable threats twice per year during migration. Please do not add another serious peril to bird migration and to the daily movements of the sandhill cranes.	The potential impact of the proposed transmission line on wildlife, along with a description of mitigation measures and other measures proposed to reduce potential impacts, was analyzed in section 4.8.2 of the Draft EIS. Based on feedback from the public and cooperating agencies on the Draft EIS, new route variations (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize impacts to wildlife at the Willcox Playa. AGFD has provided mitigation measures to offset impacts to wildlife habitat and management goals and objectives for their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8; P7 remains included in the Agency Preferred Alternative.
41	15	16	BIA		2-BIO	Page 270, line 12. The Nation has a Tribally Sensitive Species list which should have been referenced or discussed, even if the Nation d id not want to share it. Appendix D, Table D-1 should have made reference to the list (if shared).	BLM and Western coordinated with the Tohono O'odham Nation to ensure that tribally sensitive species for the tribe were considered in the EIS. Sections 3.8 and 4.8 (Biological Resources) and appendix D have been revised in the EIS to indicate that the species of tribal concern for the Nation were considered in the analysis; however, based on coordination with the Nation, the actual list and analyses of species are not included in the document.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
42	15	15.10	BIA		2-BIO	Page 271: The Nation has a sensitive species list. The Nation should have received equal treatment in this section.	Sections 3.8 and 4.8 (Biological Resources) and appendix D have been revised in the EIS to indicate that the species of tribal concern for the Tohono O'odham Nation were considered in the analysis. Based on coordination with the Nation, the actual list and analyses of species are not included in the document.
43	15	15	BIA		2-BIO	Page 323: The Nation's sensitive species list should have been mentioned/incorporated in this section.	Sections 3.8 and 4.8 (Biological Resources) and appendix D have been revised in the EIS to indicate that the species of tribal concern for the Tohono O'odham Nation were considered in the analysis. Based on coordination with the Nation, the actual list and analyses of species are not included in the document.
44	15	15.12	BIA		2-BIO	Page 692, line 404: Impacts to sensitive species on the Nation should have been addressed. If the Nation did not or would not provide a list, that fact should have been stated so in Chapter 3. As written, it appears the document ignored or left out the Nation's sensitive species. Whether the omission was because of lack of cooperation by the Nation or an oversight by the document preparers is not clear.	Sections 3.8 and 4.8 (Biological Resources) and appendix D have been revised in the EIS to indicate that the species of tribal concern for the Tohono O'odham Nation were considered in the analysis. Based on coordination with the Nation, the actual list and analyses of species are not included in the document.
45	15	15.13	BIA		2-BIO	Page 722: Pima pineapple is known to be present on the San Xavier Reservation. Surveys will need to be conducted.	Western completed surveys for the Pima pineapple cactus across the San Xavier Reservation in the summer of 2014. Table 2-8, which includes project design features and mitigation, in chapter 2 of the EIS has been revised to indicate that additional species specific surveys for the Pima pineapple cactus on the San Xavier Reservation would be conducted, if needed.
50	16	16.3		Kestler	2-BIO	I am concnered about the impact on wildlife in the Wilcox Playa area - particulary on the birds. It is very important that there be minimal harm to wildlife. My experience with birds tells me that this is particularly important because of the increase in the power to be carried.	The potential effects of the proposed transmission line on wildlife, including migratory birds, along with a description of mitigation measure and other measures proposed to reduce potential impacts, were described in section 4.8.2 of the Draft EIS. Based on feedback from the public and cooperating agencies on the Draft EIS, new route variations at Willcox Playa (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize impacts to wildlife at the Willcox Playa. AGFD has provided mitigation measures to offset impacts to wildlife habitat and management goals and objectives for their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8; P7 remains included as part of the Agency Preferred Alternative.
141	26	26.4		Hatch	2-BIO	I will be including my (previously submitted) list of 138 endangered flora & fauna in the local area East of Interstate 10, along with a link to an album of photos and videos I've personally taken near our residence at 3983 North Sheppard Road, Willcox, AZ – including many of the endangered species on that list – which you can download at your convenience and feel free to share with whomever or whatever entity. I will follow up by printing and sending this message and a flash drive with all of the above mentioned photos and videos	Thank you for sharing your research regarding special status species near the Willcox Playa and surrounding area. Impacts to biological resources, including vegetation, wildlife, and special status species, were considered in sections 3.8 and 4.8 (Biological Resources) of the Draft EIS.
164	32	32.10	EPA	Jansky/Weeks	2-BIO	Chapter 5; page 1130. The DEIS states there will be adverse effects to threatened and endangered species and migratory birds. According to the DEIS, BLM has consulted the U.S. Fish and Wildlife Service (FWS) to gather information on species occurrence, potential effects of the action on species, and species specific mitigation measures. At this time consultation is ongoing. Section 5.6 is titled "Formal Consultation", and Section 7 of the Endangered Species Act (ESA) is a sub-heading of this section. If formal consultation on Section 7 of the ESA was entered into between BLM and FWS, it is not apparent. Formal Section 7 consultation has strict time frames that must be adhered too, whereas, informal consultation does not. There is no correspondence between BLM and FWS to determine when formal consultation was initiated. There is not a biological assessment from BLM or a biological opinion from FWS to determine the effects of the project on special status species. Recommendation: The FEIS should include correspondence between BLM and FWS to determine if formal or informal consultation is occurring. Include the biological assessment from BLM if one was prepared. The FEIS should also contain a biological opinion from FWS	Section 5.5.2 (formerly section 5.6) of the EIS has been revised to include information on formal consultation with the FWS. Additionally, the BO and amendment have been included as an appendix (see appendix M in the EIS).
219	41	41.4	Hearing	No ID Speaker	2-BIO	I had a question about the potential wildlife considerations on this. Were there any factors in the design to try to minimize impacts from wildlife collisions with the Sandhill cranes you see on the playa a lot, golden eagles, things of that nature?	The potential impacts of the proposed transmission line on wildlife, along with a description of mitigation measures and other measures proposed to reduce potential impacts, was described in section 4.8 of the Draft EIS. Based on feedback from the public and cooperating agencies on the Draft EIS, new route variations (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize impacts to wildlife at the Willcox Playa. AGFD has provided mitigation measures to offset impacts to wildlife habitat and management goals and objectives in their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8. Chapter 2, as well as sections 3.8 and 4.8 of the EIS, has been revised to include additional mitigation measures for wildlife. Therefore, P7 remains part of the Agency Preferred Alternative, as described in section 2.10.5 of the EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
234	44	44.1	Quantitative Programming Corporation	Santinello	2-BIO	As currently conceived, Southline could negatively impact an Important Bird Area, the Willcox Playa, as well as the San Pedro River Valley, Cienega Creek and Tumamoc Hill, and should be adjusted and constructed accordingly. I wanted to let the Bureau of Land Management know it would be much better for the future wellbeing of this area if these special habitats were avoided and protected to the greatest extent possible.	The potential environmental impacts of the proposed Project and alternatives on resources like Willcox Playa, the San Pedro River valley, Cienega Creek, and Tumamoc Hill were analyzed in chapter 4 of the Draft EIS. As noted in the Draft EIS, BLM and Western developed local alternatives around Tumamoc Hill, with various stakeholders, to minimize impacts to Tumamoc Hill. As discussed in section 3.8 of the Draft EIS, the existing Western line and ROW cross the San Pedro River and Cienega Creek; therefore, upgrading the transmission line in place, as proposed by this project, would minimize potential impacts to these sensitive special habitats. Additionally, the Agency Preferred Alternative in the EIS includes an alternative that would move the existing line away from crossing Tumamoc Hill proper. Even though the line would still be on Tumamoc Hill property, this move minimizes impacts to Tumamoc Hill (see chapter 2).
235.1	45	45.1		Foley	2-BIO	As currently conceived in its Draft EIS, the Southline project would be routed adjacent to an Important Bird Area, the Willcox Playa, and through or adjacent to important bird habitats such as the San Pedro River Valley, Cienega Creek and Tumamoc Hill	The potential environmental impacts of the proposed Project and alternatives on resources like Willcox Playa, the San Pedro River valley, Cienega Creek, and Tumamoc Hill were analyzed in chapter 4 of the Draft EIS. As discussed in section 3.8 of the Draft EIS, the existing Western line and ROW cross the San Pedro River and Cienega Creek; therefore, upgrading the transmission line in place, as proposed by this project, would minimize potential impacts to these sensitive special habitats. Additionally, the Agency Preferred Alternative in the EIS includes an alternative that would remove the existing line away from crossing Tumamoc Hill proper. Even though the line would still be on Tumamoc Hill property, this move minimizes impacts to Tumamoc Hill resources (see chapter 2). Based on feedback from the public and cooperating agencies on the Draft EIS, new route variations (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize impacts to wildlife at the Willcox Playa. AGFD has provided mitigation measures to offset impacts to wildlife habitat and management goals and objectives in their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8; P7 remains included as a part of the Agency Preferred Alternative.
236	45	45.2		Foley	2-BIO	Wherever possible, riparian, scrub mesquite, and upland Sonoran Desert vegetation shoul be preserved in place rather than allowing mass grading, especially with regard to sensitive areas such as those described above.	As discussed in chapter 2 of the Draft EIS, grading would only be conducted where necessary.
240	46	46.3		Hamel	2-BIO	The wildlife here and negative effects on them have me concerned. We have coatimundi, Harris hawks, Mexican Freetailed bat, AZ Big Brown bat, Gila monsters, 4 types of Orioles, multiple types of hummingbirds, Sand Hill Cranes, Herons, Bear, Deer, Bobcat, javelina, road runner, Blue Bgrosbeak, desert tortoise, Flycatchers – this is a beautiful unspoiled area and we don't want it ruined.	The potential impacts to biological resources, including wildlife, were considered in sections 3.8 and 4.8 (Biological Resources) of the Draft EIS.
266	49	49.17	Cascabel Working Group	Meader	2-BIO	San Pedro River Crossing. While the routing of the project will minimize impacts to the San Pedro River and its riparian area, the Environmental Impact Statement should stipulate that construction of the project will be done without the clear-cutting and removal of riparian vegetation. The riparian vegetation at the river crossing is remnant mesquite woodland and scrubland and is short enough to leave in place, as is the practice with the existing line. This should also be done with the crossing of Cienega Creek and Davidson Canyon.	Project design features and mitigation measures in table 2-7 in the Draft EIS (now table 2-8 in the Final EIS) indicated that removal of riparian scrubland would be avoided, where possible. This would apply to the San Pedro River, Cienega Creek, and Davidson Canyon crossings.
287	60	60.2		Wood	2-BIO	Destruction of property/vegetation (mine) during construction,	The potential impact of the proposed transmission line on property in terms of land use was described in section 4.11.1, property value in section 4.15, and vegetation in section 4.8 of the Draft EIS.
294	62	62.1	Town of Marana	Spencer/Grossman	2-BIO	The transmission line appears to pass less than half a mile from the Ina Road Bridge, which is a roost for approximately 30,000 bats; Mexican free-tailed bats (Tadarida brasiliensis) and cave myotis (Myotis velifer). Although these bats are not listed as threatened or endangered, a roost of this size is significant and acts as a maternity colony during April/May. If there are methods appropriate to transmission lines and towers that will aid in deterring bats, please implement such measures.	Thank you for your comment and the information provided. BLM and Western worked with the FWS and AGFD regarding potential impacts to bats. Potential impacts to bats at the Ina Road bridge, along with mitigation, have been added to table 2-8 and in section 4.8 in the EIS.
295	62	62.2	Town of Marana	Spencer/Grossman	2-BIO	The farm fields of Marana and the surrounding area are home to several burrowing owl burrows. The areas around concrete-lined ditches are often inhabited by the owls and should be surveyed by a qualified biologist (as stated in the EIS) just prior to construction. Please coordinate with AZ Game and Fish Department and Bob Fox, Wild at Heart: bob@wildatheartowls.org; phone: 480-595-5047 if owls are located within the area proposed for disturbance.	Project design features in the Draft EIS indicate the types of considerations for burrowing owls (see table 2-7 in the Draft EIS, now table 2-8 in the Final EIS). Preconstruction surveys would be conducted to determine the presence of burrowing owls in areas of suitable habitat, including farm fields. If the species is present, mitigation measures outlined in section 4.8 and table 2.8 of the EIS would be implemented.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
296	62	62.3	Town of Marana	Spencer/Grossman	2-BIO	Please consider aligning the Southline along an existing transmission line or the Sunzia line on the same right-of-way as much as possible to reduce the effects to migratory birds and other species. The EIS states that combining the two lines to the extent possible would increase levels of disturbance to natural resources, but no real explanation is provided for this statement.	As described in chapter 2 of the Draft EIS, local agency alternatives were developed to consider routing the Southline and SunZia transmission line projects where appropriate (see local alternatives DN1 and LD4). It should be noted that in Avra Valley, within the Town of Marana, the proposed Project is a rebuild of an existing line and is not close to the not yet constructed SunZia alignment, which is located east and north of the Tortolita Substation. Collocation of the proposed line with other transmission lines would decrease the overall level of impacts by limiting the impacts to a smaller overall area; however, localized impacts at the site of the collocated lines would be greater due to larger blocks of disturbance. The benefits of collocation with the SunZia transmission line are dependent upon that project being constructed. Section 4.21 of the EIS has been revised to include additional information on the cumulative effects of two transmission lines.
297	62	62.4	Town of Marana	Spencer/Grossman	2-BIO	Large numbers of winter migrant hawks inhabit the farm field and riverine land in the Marana area, including crested caracara (Caracara cheriway), peregrine falcons (Falco peregrinus), prairie falcons (Falco mexicanus), great-horned owls (Bubo virginianus), and many other bird species, including mountain plovers (Charadrius montanus). It is difficult to determine how these species (and the sandhill cranes and other large birds in other locations along the R-O-W) will be affected when no details are provided for the mitigation other than saying that an "Avian Protection Plan" will be developed. More detail should be incorporated into this EIS.	The Avian Protection Plan will adhere to APLIC guidelines for reducing collisions, including co-locating lines. Additional information has been added to section 2.4.1 of the EIS that clarifies how the Avian Protection Plan content would be developed and examples of measures that ***could*** be used. Sections 3.8 and 4.8 of the EIS have been revised to address the additional guidance.
298	62	62.5	Town of Marana	Spencer/Grossman	2-BIO	The current preferred alternative slices through approximately 2 miles of riparian habitat on the Santa Cruz River, just west of the Pinal Airpark in Pinal County. It would be preferable to cross the river at a right angle rather than running through the riparian area for such a great distance, to avoid effects on migrating birds that follow the waterway during spring and fall.	The proposed alignment follows the existing line through an area that has minimal riparian vegetation and has been disturbed since the existing line was installed; a new alignment would increase new disturbance.
299	62	62.6	Town of Marana	Spencer/Grossman	2-BIO	Buffelgrass, Johnson grass, giant arundo, and Sahara mustard are two of the invasive species that occur in the area. Please include a plan to avoid introducing or spreading invasive species.	The BLM and Western are aware of the potential for the proposed Project to result in conditions favorable to the expansion of invasive species. Mitigation commitments for invasive species were included in table 2-7 in the Draft EIS (now table 2-8 in the Final EIS).

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
309	66	66.1	Volunteer Ecologists	Reichenbacher	2-BIO	A little over a century ago scientists at the Carnegie Desert Laboratory on Tumamoc Hill discovered a delicate vine clambering over shrubs and cacti. This would become Tumamoca macdougalii (Tumamoc globeberry) a new genus and a new species known only from Tumamoc Hill (known to botanists as the "type locality"). History did not record the exact location from which the first specimens were collected , but it is highly likely to have been within two hundred yards of what, under the current preferred alternative, would be an upgraded corner 230 kV tower site. This tower site is 11 yards from a known Tumamoc globeberry plant that we have been monitoring since 2007. The i mage above (taken 20 Aug. 201 1) shows the plant (indicated by pink flagging tape). The three wooden towers carryi ng the current 1 15 kV lines to be replaced are directly behind. Fig. B-68 (DEIS Vol. 4, p. K68) shows the current environment of the north side of Tumamoc Hill and the same image with a simulated replacement tower. Since the footprint of the new tower would be similar or somewhat larger than that of the existing poles, our concern is with impacts caused by construction activities. For a long time Tumamoc globeberry was known only from Tumamoc Hill. Then it sporadically turned up elsewhere in southern Arizona and Sonora, Mexico. It was listed as a federal endangered species in 1986, but then more surveys showed it was widespread, though never common, through the remote deserts of western Sonora. The circumstances of listing and delisting are too complex to go into here, but they have to do with the Central Arizona Project (CAP). One of us (F. Reichenbacher) participated in the listing and delisting process as a U.S. Bureau of Reclamation consultant. These discussions noted various likely future impacts to Tumamoc globeberry including locations where we all believed that it would be possible to focus on conservation and not impact avoidance and mitigation. Tumamoc Hill was one of these locations. In 2007 our group of volunteer ecologists revisited select populations of Tumamoc globeberry in the Tucson and Avra Valley area. We are sorry to report that many of the populations have experienced steep population declines; affecting several populations we had hoped were well protected. In 2013 we found nine Tumamoc globeberry plants on Tumamoc Hill, all that remains of a population that included 50 to 100 individual plants in the 1980's and 1990's. All are within 150 yards of the tower site pictured above. The justification for removing Tumamoc globeberry from the endangered species list focused on the large populations in Mexico. Although delisting monitoring was done as required by law, no one to our knowledge has revisited any of the populations in Mexico since 1995. The population declines we have documented in the Tucson area occurred between 1995 and 2007. Our monitoring surveys have documented several Tumamoc globeberry populations in danger of local extinction, including the type location of the genus and species on Tumamoc Hill. The cause seems to be related to habitat changes caused by the Tucson urban heat island compounded by the effects of global warming. In the early 1990's no one was thinking about this; certainly not in connection with a curious vine in the Sonoran Desert. IfTumamoc globeberry populations continue to decline, it would then seem necessary for the federal government to consider relisting.	Thank you for the extensive information on the Tumamoc globeberry. Chapter 2 (see table 2-8 of the EIS), as well as sections 3.8.1 and 4.8.1 of the EIS, has been revised to include additional considerations for Tumamoc globeberry. The Agency Preferred Alternative was identified in part to avoid impacts on Tumamoc Hill by moving the preferred alignment to the west of Tumamoc Hill on segment TH1a (see section 2.7 of the EIS), which would run along Starr Pass Boulevard and Greasewood Road, rather than crossing Tumamoc Hill in the existing Western ROW. As noted in table 2-8 in the Final EIS, preconstruction coordination with Pima County, the University of Arizona, and other appropriate groups would be conducted to minimize impacts to Tumamoc globeberry monitoring plots and plants on Tumamoc Hill.
316	67	67.5	Arizona Game and Fish Department	Ritter/Francis	2-BIO	The DEIS states that a reduction in the range of occurrence of any sensitive species would be a significant impact, and that individual projects are required to implement measures to mitigate impacts to special status species. Two species the DEIS does not mention under the Department's Species of Greatest Conservation Need section are the American pronghorn and the ornate box turtle. Due to the loss of habitat within their range, American pronghorn and ornate box turtle have each been elevated one tier in the Arizona State Wildlife Action Plan: 2012-2022. Pronghorn are now a tier Ib species, and the ornate box turtle is a tier Ia species. Pronghorn are found adjacent to the New Mexico border in the Playa de los Pinos along the APA route and in the valley near the Circle I Hills. Box turtles are found in Sulphur Springs Valley and San Simon Valley. The Department recommends incorporating these species into your evaluations.	Sections 3.8 and 4.8 of the EIS have been revised based on this comment.
331	68	68.8	Pima County	Bernal/Connolly	2-BIO	Other concerns noted in further detail in the attachments herein include: • the notable omission of Regulated Riparian Habitat (RRH) from the DEIS decision space and operational elements; • conservation of sensitive vegetative resources, including riparian areas, Pima pineapple cacti, saguaro and ironwood; • control and eradication of invasive species;	Sections 3.8 and 4.8 of the EIS have been revised based on this comment.
333	68	68.10	Pima County	Bernal/Connolly	2-BIO	• potential compromise to regionally important biological corridors;	Potential impacts to biological resources, including regionally important biological corridors, were considered in sections 3.8 and 4.8 (Biological Resources) of the Draft EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
353	68	68.30	Pima County	Bernal/Connolly	2-BIO	We call your attention to an important monitoring plot for the Tumamoc globeberry that is located along the current power line alignment at Tumamoc Hill. While this rare plant is no longer federally protected, the plants in monitoring plot and the data associated with the monitoring site are very important to our understanding of trends in the species. Impacts to this monitoring site from construction and maintenance can and should be completely avoided. While the alternative routes may affect other Tumamoc globeberry populations, these other populations are not associated with a wealth of long-term data on the status of the species.	Chapter 2 (see table 2-8), as well as sections 3.8 and 4.8 of the EIS, has been revised to include additional considerations for Tumamoc globeberry. The Agency Preferred Alternative was selected in part to avoid impacts on Tumamoc Hill by moving the preferred alignment to the west of Tumamoc Hill on segment TH1a (see section 2.7), which would run along Starr Pass Boulevard and Greasewood Road, rather than crossing Tumamoc Hill in the existing Western ROW. As noted in table 2-8 in the Final EIS, preconstruction coordination with Pima County, the University of Arizona, and other appropriate groups would be conducted to minimize impacts to Tumamoc globeberry monitoring plots and plants on Tumamoc Hill.
355	68	68.32	Pima County	Bernal/Connolly	2-BIO	Additionally, the rebuild crosses through or is adjacent to several County-owned preserves, including Cienega Creek Natural Preserve, Bar V Ranch, Tucson Mountain Park, and Tumamoc Hill and mitigation or compensation for impacts is not proposed. These lands are of particularly high value to County residents for their cultural and natural resources values; the County also intends to rely on most of these areas as mitigation lands for our forthcoming Section 10 Incidental Take Permit from the U.S. Fish and Wildlife Service. We recommend that Southline mitigate unavoidable natural resource impacts by protecting lands elsewhere in the Conservation Lands System.	Chapter 2 (see table 2-8), as well as section 4.8.1 of the EIS, has been revised to include additional consideration for Pima County Conservation Lands. Disturbance within Pima County Conservation Lands would primarily occur within the Western ROW for the existing line. As described in section 2.4.1 of the Draft EIS, a Reclamation, Vegetation, and Monitoring Plan would be developed, areas of temporary disturbance would be restored, and the success of that restoration would be monitored. If during final Project design it is determined that impacts that could not be mitigated through restoration would occur outside of the existing ROW within Conservation Lands, then compensatory mitigation would be considered. Please note that lands within the existing ROW for Western's 115-kV lines would not be appropriate for mitigation lands for Pima County's section 10 permit.
437	69	69.1	Nature Conservancy	Marshall	2-BIO	The mission of The Nature Conservancy is to conserve the lands and waters on which all life depends. We recognize that new transmission lines are an integral part of the shift to renewable energy supplies in the Southwest. Our comments are focused on helping develop a balanced decision that responds to the need for energy while minimizing impacts to wildlife and other important natural resources.	Thank you for your comment.
440	69	69.4	Nature Conservancy	Marshall	2-BIO	The DEIS discloses substantial impacts to cranes from the preferred alternative, but it does not consider the importance of the Playa to cranes from the perspective of cumulative effects. Historically, the Playa was one of several areas frequented by wintering cranes. But with the loss of habitat at the delta of the Colorado River, the Playa is now the primary wintering area in Arizona. Whereas BLM has identified alternatives to the north that would avoid impacts, the cranes do not have alternative locations in the region that provide the feeding, loafing, and roosting habitats found at Willcox Playa and areas to the East and South. Selecting an alternative that minimizes the disclosed impacts as well as further cumulative impacts to Sandhill Cranes and other water-dependent species would minimize diminishment of the environmental baseline and increase the likelihood that the Willcox Playa and Sulphur Springs Valley remain viable habitat. We encourage BLM to select an alternative for Route Group 2 that does not bisect travel routes between Willcox Playa and feeding, roosting, and loafing areas to the East and South.	The potential impacts of the proposed transmission line on wildlife, along with a description of mitigation measures and other measures proposed to reduce potential impacts, were analyzed in section 3.8 of the Draft EIS. Based on feedback from the public and cooperating agencies on the Draft EIS, new route variations (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize impacts to wildlife at the Willcox Playa. AGFD has provided mitigation measures to offset impacts to wildlife habitat and management goals and objectives in their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8; P7 remains included as a part of the Agency Preferred Alternative. Section 4.21.4 of the EIS has been revised to clarify the potential cumulative effects on sandhill cranes.
443	70	70.1		Engoron-March	2-BIO	Special habitats must be avoided and protected to the greatest extent possible while developing the southern transmission.	Potential impacts to biological resources were considered in sections 3.8 and 4.8 (Biological Resources) of the Draft EIS. It is the policy and goals of both lead agencies, the BLM and Western, to avoid sensitive areas to the extent practicable. Project design features outlined in table 2-7 of the Draft EIS (now table 2-8 in the EIS) were developed to assist in routing and Project design to avoid special habitats whenever practicable.
444	71	71.1	U.S. Fish and Wildlife Service	Nicholopoulos	2-BIO	Table 3.8-7. Federal Endangered Species Act Species by Route Group, Chapter 3, page 316. Cactus Ferruginous Pygmy-Owl is listed as Endangered in this section; however, the species was de-listed because it was found to be not warranted, "Additionally, using the currently accepted taxonomic classification of the pygmy-owl (Glaucidium brasilianum cactorum), we find that listing the pygmy-owl is not warranted at this time throughout all or a significant portion of its range, including the petitioned and other potential DPS configurations" (Federal Register, Vol 76, No. 193, p. 61856, October 5, 2011).	Sections 3.8 and 4.8 of the EIS have been revised to include additional clarification for species delisted under the ESA.
445	71	71.2	U.S. Fish and Wildlife Service	Nicholopoulos	2-BIO	Comment 2. Table 3.8-10 New Mexico Wildlife Conservation Act Species by Route Group, Chapter 3, Page 321. The Bendire's Thrasher is one the Service's highest-priority non-ESA-listed bird conservation targets and is listed on the Service's list of Birds of Conservation concern. Bendire's Thrasher has also recently become of high interest to the New Mexico Department of Game and Fish, but their list of Species of Greatest Conservation Need has not yet been updated. This species is found in the Southline Transmission Line project area; potential impacts to that species and its habitats should be addressed in the document.	Sections 3.8 and 4.8 of the EIS have been revised to include information on the Bendire's thrasher.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
446	71	71.3	U.S. Fish and Wildlife Service	Nicholopoulos	2-BIO	Rare Plants. Consideration for the rare plant, Tumamoc globeberry (Tumamoca macdougalii), should be given during this project. Although no longer listed as an endangered species under the ESA, the plant is quite rare, appears to be declining, and is listed as sensitive by both the BLM and U.S. Forest Service. The species is also protected under the Arizona Native Plant Law as a salvage-restricted plant. In the past decade, the numbers of individuals in monitored populations have declined. For example, there were I 78 plants recorded at Tumamoc Hill in I985; in 2013, only 9 individuals remained. The preferred alternative would involve placing tower sites within this population already known to be in decline and in danger of local extinction. The preferred alternative would have one tower being placed approximately ten meters from a monitored plant.	Chapter 2 (see table 2-8), as well as sections 3.8 and 4.8 of the EIS, has been revised to include additional considerations for Tumamoc globeberry. The Agency Preferred Alternative was identified in part to avoid impacts on Tumamoc Hill and the long-term monitoring plots by moving the preferred alignment to the west of Tumamoc Hill on segment TH1a (see section 2.7), which would run along Starr Pass Boulevard and Greasewood Road rather than crossing Tumamoc Hill in the existing Western ROW. BLM and Western will work with the species' experts to develop the surveys for this plant, and utilize previously collected location data. If the species is found within the ROW during preconstruction surveys, individual plants would be avoided.
447	71	71.4	U.S. Fish and Wildlife Service	Nicholopoulos	2-BIO	Therefore, we recommend an alternative route be taken away from Tumamoc Hill (e.g. THI A, THI B, or THI C), though other routes may also go through appropriate Tumamoc globeberry habitat. We also recommend surveys be conducted for the plant in suitable habitat to ensure the protection of these plants. Should it not be possible to avoid the Tumamoc Hill alternative, ensure great care be taken during pole placement to avoid plants at this location. We are in touch with a group of volunteer scientists who monitor the population yearly during fruiting when plants are most easily located. This group plan to survey and monitor throughout the Tumamoc Hill corridor in August of 20 I4. We would be happy to assist you in contacting them. It is important to preserve existing populations of this species to prevent further decline and avoid the need to re-list this species under the ESA to ensure adequate protection for the conservation of this species.	Thank you for the offer of assistance. If the species is found within the ROW during preconstruction surveys, individual plants would be avoided. The Agency Preferred Alternative was identified, in part to avoid impacts on Tumamoc Hill and the long-term monitoring plots by moving the preferred alignment to the west of Tumamoc Hill on segment TH1a (see section 2.7), which would run along Starr Pass Boulevard and Greasewood Road, rather than crossing Tumamoc Hill in the existing Western ROW. Further, the BLM and Western would work with the species' experts to determine locations of known plants and to craft effective surveys, and the Project would avoid all known locations to protect the rare plant.
448	71	71.5	U.S. Fish and Wildlife Service	Nicholopoulos	2-BIO	Sandhill Crane. As previously stated in out June 4, 20 I2, scoping comments, we are concerned about the effects to sandhill cranes from locating the powerline along the east edge of the Willcox Playa. The Draft EIS states there will be collisions and likely mortality, and we agree. Therefore, we recommend an alternative route be located farther east of the Willcox Playa. While collisions may not be eliminated, we believe they would occur less often than the proposed location. We are currently coordinating with the BLM, WAPA, and Arizona Game and Fish Department in exploring alternative locations. If alternative locations to the east are feasible, we offer our assistance in determining specific locations and coordinating with the applicant.	The potential impacts of the proposed transmission line on wildlife, along with a description of mitigation measures and other measures proposed to reduce potential impacts, were analyzed in section 4.8 of the Draft EIS. Based on feedback from the public and cooperating agencies on the Draft EIS, new route variations (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize impacts to wildlife at the Willcox Playa. AGFD has provided mitigation measures to offset impacts to wildlife habitat and management goals and objectives in their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8; P7 remains included as a part of the Agency Preferred Alternative.
535	78	78.8	Coalition For Sonoran Desert Protection	Campbell	2-BIO	In the arid Sonoran Desert, "direct ground disturbance" can cause irreparable harm to Sonoran Desert flora and fauna. It can take decades for vegetation to re-establish itself if active restoration isn't completed. An increase in "ambient noise levels" can also negatively impact local wildlife and their ability to forage, rest, and mate in their habitat, especially for smaller wildlife species with small home ranges. Increased access and use of CLS lands through new access roads and by OHV and other users can have a variety of negative impacts to these lands.	The potential impact of the proposed transmission line on vegetation and wildlife was addressed in sections 3.8 and 4.8 of the Draft EIS. Additionally, the potential impacts to land use and in terms of changing access were addressed in sections 3.7 and 4.7 of the Draft EIS.
536	78	78.9	Coalition For Sonoran Desert Protection	Campbell	2-BIO	Pima County guidelines clearly state that all impacts to CLS lands should be mitigated. This includes mitigating for impacts to Important Riparian Areas, Biological Core Management Areas, Special Species Management Areas, and Multiple Use Management Areas at a prescribed ratio consistent with their biological importance. The DEIS should be revised to include adequate mitigation for all impacts to Pima County's CLS lands. The DEIS directly quotes the mitigation policies for the CLS, as outlined in Pima County's Comprehensive Land Use Plan. These mitigation policies should be adhered to in full for the Southline Transmission Line Project to satisfactorily mitigate for all impacts to the CLS.	Chapter 2 (see table 2-8), as well as sections 3.8 and 4.8 of the EIS, has been revised to include additional clarification for mitigation for Pima County Conservation Lands. However, the area to be crossed is in an existing ROW for an existing Western line and the additional impacts from the upgrade of the existing transmission line would occur within that ROW and disturbance area. Little disturbance outside the ROW would be expected to occur in CLS areas. Any additional ROW, if acquired, would be for protective clearance from development at the edge of the ROW and to ensure safe clearance for conductors. If during Project design it is determined that Project facilities would have impacts outside of the existing ROW, compensation for those additional impacts would be considered.
537	78	78.10	Coalition For Sonoran Desert Protection	Campbell	2-BIO	Analysis of Impacts to Arizona's Wildlife Linkages Habitat fragmentation and loss are currently recognized as the principal threats to biological diversity. Any actions that result in fragmentation would have a significant impact on biological resources. While the BLM acknowledges these facts by incorporating statements into the DEIS, it does not adequately assess potential impacts caused by habitat fragmentation or impacts to wildlife linkages and movements as a result of this project. The Southline Transmission Line Project has the potential to significantly impact the movement of some wildlife species. We appreciate that the BLM included information about designated wildlife linkages within the vicinity of the analysis area. However, further analysis of potential impacts to these areas and to the various species that may utilize them is necessary. Also, as noted on p. 311 of the DEIS, other natural topographical features have been identified as animal movement corridors, although not all of these have been analyzed and modeled in linkage assessments. In order to better evaluate potential effects from this project, the BLM should also address possible impacts to these non-designated corridors and how these could affect wildlife movement.	Potential impacts to wildlife corridors were addressed in section 4.8 of the Draft EIS. As described in section 4.8 of the Draft EIS, impacts would be minimized through: spanning ephemeral drainages and riparian areas; revegetating temporary disturbance areas; and monitoring and rectifying erosion and invasive species issues if they arise.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
538	78	78.11	Coalition For Sonoran Desert Protection	Campbell	2-BIO	As shown in Table 3.8-6, nine movement corridors occur within the analysis area, which are used by a variety of focal species. These areas may also be important for a number of other non-focal species that are not shown in the table. In its assessment of potential impacts to these corridors, however, the BLM only provides very general information, including the expected acreage to be affected within each linkage and the broad statement that impacts "would include habitat loss, degradation, and fragmentation as well as increased OHV access due to the presence of access roads" as well as "potential barriers to movement along the corridor" (p. 746). Such a broad summary does not provide adequate information on how species' movements could be affected by this project. Further information and analysis is needed on how each area will be affected and on how the various species that use these corridors could be impacted.	Sections 3.8 and 4.8 have been revised based on this comment. As described in section 4.8 of the Draft EIS, impacts would be minimized through: spanning ephemeral drainages and riparian areas; revegetating temporary disturbance areas; and monitoring and rectifying erosion and invasive species issues if they arise.
539	78	78.12	Coalition For Sonoran Desert Protection	Campbell	2-BIO	In the DEIS, the BLM repeatedly states that impacts for each of the routes and alternatives would be as described for the potential cougar corridor in route group 1 (as shown on p. 746). This is misleading and could seriously downplay potential impacts to some species, especially considering that the various species that use these corridors would be affected differently within each area.1 For example, as noted in the DEIS, wide-ranging and generalist species, such as mountain lions, may experience minimal movement restriction within the corridors as a result of this project. However, the BLM does not address the fact that species with very specific habitat requirements, limited movement ability, inability/unwillingness to cross open or disturbed spaces, etc., may experience significant movement restrictions. Depending on what parts of the corridors are affected – and to what degree the habitat is changed – the modified areas may no longer serve as functional corridors for some species. The BLM needs to further analyze potential impacts on corridor usage by a diversity of species as a result of this project. Footnote: 1 Andrén, H. 1994. Effects of habitat fragmentation on birds and mammals in landscapes with different proportions of suitable habitat: a review. Oikos 71:355–366.	Thank you for providing this information and these references. Sections 3.8 and 4.8 of the EIS have been revised based on this comment. As described in section 4.8 of the Draft EIS, construction, operation and maintenance of the proposed transmission line and the associated access roads would create temporary impacts associated with the presence of workers and equipment that may cause species to avoid using work areas during construction activities.
540	78	78.13	Coalition For Sonoran Desert Protection	Campbell	2-BIO	Similarly, the BLM must more thoroughly assess cumulative impacts to wildlife species as a result of changes to movement corridors. As climate change, drought, human development, and other factors alter habitat availability, quality, and range, the ability for species to move is becoming increasingly important. As the DEIS indicates, numerous past, present, and reasonably foreseeable actions could affect both available habitat and movement ability. Cumulatively, these projects will result in major, adverse, long-term impacts that will continue to fragment habitat and create barriers to species movement, access to resources, and genetic interchange (p. 1092–1093). Movement corridors may cease to be functional for some species, resulting in population-level – perhaps even species-level – impacts. This is a significant impact that must be more thoroughly analyzed.	Section 4.21.4 of the EIS, which discusses the potential cumulative impacts to biological resources, has been revised based on this comment.
541	78	78.14	Coalition For Sonoran Desert Protection	Campbell	2-BIO	Lastly, in the interest of using the best available science, we encourage the BLM to review and incorporate information from the Pima County Wildlife Connectivity Assessment, funded by Pima County's Regional Transportation Authority and completed by the Arizona Game and Fish Department in 20122. This assessment resulted from a multi-year process involving a large group of community stakeholders and scientists and provides a more detailed analysis of wildlife linkages in Pima County, including areas where the Southline Transmission Line Project will have impacts. Footnote: 2 The Pima County Wildlife Connectivity Assessment can be found at: http://www.azgfd.gov/w_c/conn_Pima.shtml	Thank you for your comment. Sections 3.8 and 4.8 of the Draft EIS used information from the Pima County Wildlife Connectivity Assessment (see AGFD (2012b) in chapter 6).
542	78	78.15	Coalition For Sonoran Desert Protection	Campbell	2-BIO	Mitigation for Impacts to Arizona's Wildlife Linkages The proposed Southline Transmission Project has numerous potential impacts to Pima County's and southern Arizona's wildlife linkages. The protection of wildlife linkages is a core focus of the Sonoran Desert Conservation Plan and the Coalition for Sonoran Desert Protection. Significant local resources, including millions of dollars of open space purchases and infrastructure investments, have been spent on protecting Sonoran Desert wildlife linkages in recent years. The DEIS falls short in not requiring any significant mitigation for these impacts.	Proposed Project design features in the Draft EIS for the rebuild of the existing line with existing access roads include measures to limit weed introduction and spread, minimize impacts to washes, riparian corridors, and other species' movement areas, limit spans to approximately 1,200 feet, reclaim disturbed areas, avoid removal of riparian vegetation except when needed to maintain safety standards for line clearance, and exclude roads from riparian areas. These features were described in table 2-7 (now table 2-8 in the Final EIS) and section 4.8-2 of the Draft EIS.
543	78	78.16	Coalition For Sonoran Desert Protection	Campbell	2-BIO	Generally speaking, a new or upgraded transmission line, new or improved access roads, and increased vehicle traffic and associated maintenance activities will fragment wildlife habitat and potentially sever wildlife linkages and migration corridors. New access roads associated with the transmission line could facilitate the introduction and spread of invasive species as well as unauthorized motorized activity and associated disturbances that could impair the functionality of wildlife linkages.	The potential risk of invasive species and mitigation for these species were covered in sections 3.8 and 4.8 of the Draft EIS. However, sections 3.8 and 3.8 of the EIS have been revised to clarify the types of potential impacts that would result from upgrading or building a new transmission line. Proposed project design features in the Draft EIS include measures to limit weed introduction and spread, minimize impacts to washes, riparian corridors, and other species' movement areas, limit spans to approximately 1,200 feet, reclaim disturbed areas, avoid removal of riparian vegetation except when needed to maintain safety standards for line clearance, and exclude roads from riparian areas. These features were described in table 2-7 (now table 2-8 in the Final EIS) and section 4.8-2 of the Draft EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
544	78	78.17	Coalition For Sonoran Desert Protection	Campbell	2-BIO	In the list of "Additional Mitigation Measures" on p. 809-810 of the DEIS, there are no mitigation measures that address restoration of ground disturbances. Most of the mitigation measures describe measures for pre-construction and construction activities, but almost none of them address the post-construction timeframe. We recommend the inclusion of additional mitigation measures that require active restoration of ground-clearance/disturbance activities with a plant palette reflective of the local ecosystem.	All Project design features and mitigation measures are now outlined in chapter 2 of the EIS (see section 2.4.6 and table 2-8). The Draft EIS included this information previously in table 2-7. Additional text has been added to section 2.4.3 (see "Reclamation Plan") and to section 4.8 in the EIS regarding operational mitigation measures and to indicate that plant palettes for the revegetation efforts would be specific to the local ecosystem.
547	78	78.20	Coalition For Sonoran Desert Protection	Campbell	2-BIO	While we recognize the need for improved transmission lines as we increase our use of renewable energy and upgrade our energy infrastructure, we cannot support a project that does not adequately mitigate for its impacts to such a highly sensitive and threatened ecosystem such as the Sonoran Desert. The present-day realities of climate change only increase the pressure to preserve and protect the Sonoran Desert, one of the most seriously threatened ecosystems with the greatest projected impacts from climate change.	Chapter 2 (see section 2.4.6 and table 2-8), as well as sections 3.8 and 4.8 of the EIS, has been revised to include additional mitigation considerations.
696	82	82.115	SunZia	Wray	2-BIO	No information on biology of individual species is presented without access to supplementary reports. Appendix E only presents basic information on Endangered Species Act listed species. Without such information, including the potential response of any species to exposure from the impacts of the Southline Project, conclusions regarding the specific (e.g., behavioral response of individuals) or general (e.g., contribution of the Southline Project's effects to overall population trends) impacts of the Southline Project are unsupported.	The Draft EIS considered species and provided basic information for those species. Material in appendix E of the Draft EIS cited other additional information sources about species impacted. This information was considered in preparation of the Draft EIS. Overall impacts were described in section 4.8 of the Draft EIS.
697	82	82.116	SunZia	Wray	2-BIO	No general discussion of a number of potential Southline Project impacts is presented. Transmission lines can have offsite direct and indirect impacts to species susceptible to predation or those that display a negative response to vertical structures or human activity. In those cases, acres of ground disturbance may not adequately reflect the total area of impact.	Relevant portions of section 4.8 of the Draft EIS addressed the potential impacts of predation and human activity (i.e., noise), as well as introduction of transmission line towers.
698	82	82.117	SunZia	Wray	2-BIO	Additional potential impacts not discussed in detail include erosion, sedimentation, and the potential for blasting that will likely disturb sensitive wildlife, such as roosting bats. We request that this deficiency be corrected.	Relevant portions of section 4.8 of the EIS have been modified to address the potential impacts of erosion, sedimentation, and impacts from blasting.
699	82	82.118	SunZia	Wray	2-BIO	The statements regarding the amount of habitat present in the analysis area do not support the conclusions drawn, or they are not stated clearly. Is the intent to state that the loss of habitat in the analysis area will not result in a detectable population change in the analysis area? If so, there is no information about the proportion of the analysis area that could also support each species. If the intent is to make a statement about potential changes in regional populations, the phrasing is unclear and no information is presented on the status of regional populations or the extent of their habitat for any species. Please clarify.	Section 4.8 of the EIS has been revised for clarification.
700	82	82.119	SunZia	Wray	2-BIO	The Big Burro Mountains to Cedar Mountains Potential Cougar Corridor is only discussed in the context of providing habitat, presumably for resident Mountain Lions, and the statements of the potential impacts of the Southline Project (e.g., total acres affected out of total acres in the Corridor) reflect that approach. However, if the intent is to define a movement corridor connecting two blocks of habitat, then the entire corridor is crossed by the Southline Project. To support a conclusion that the Southline Project would have a low impact on the corridor, a discussion of the species' response to project-related actions is required.	Sections 3.8 and 4.8 of the EIS have been revised to clarify impacts to the Big Burro Mountains to Cedar Mountains Potential Cougar Corridor.
701	82	82.120	SunZia	Wray	2-BIO	Table 4.8-21 identifies the Colorado River Toad and Sonoran Green Toad as the same species. They are separate species. This is stated correctly in Table 3.8-8. Please correct by clarifying that these are different species, and identifying the impacts of the Southline Project on each	Section 4.8 of the EIS has been revised and the analysis updated.
702	82	82.121	SunZia	Wray	2-BIO	No information is presented in the form of relative intensity of impacts among alternatives, restricting the comparison of alternatives to one of merely comparing acreage affected. Please also evaluate relative intensity among alternatives	Section 4.8 of the Draft EIS used acreage/area as a surrogate for relative intensities with distinctions provided for the differences between impacts from the New Build and Upgrade sections.
704	82	82.123	SunZia	Wray	2-BIO	The Wildlife section provides acres of impact by vegetation type, but does not identify the locations of that vegetation or connect vegetation to wildlife likely to be present.	Vegetation types addressed in the wildlife section (section 3.8) of the Draft EIS were depicted in figures 3.8-2 and 3.8-3 of the Draft EIS. The scale of these figures has been updated in the Final EIS to allow for a more detailed representation of the existing vegetation types (see figures 3.8-2a–f and figures 3.8-3a–d).
768	83	83.1	Audubon Arizona	Supplee	2-BIO	Audubon Arizona is the state office of the National Audubon Society and as such we respectfully submit the following comments concerning the Draft Environmental Impact Statement (DEIS) for the Southline interstate transmission line. Audubon has specific expertise and knowledge about birds, bird habitats and bird related recreation and economic values, therefore we are limiting our comments primarily to those topics.	Thank you for your comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
769	83	83.2	Audubon Arizona	Supplee	2-BIO	Our specific concern is the new build segment between Hidalgo and Apache sub-stations near Willcox Playa. Audubon Arizona believes the proponent alternative identified as E, F,Ga, Gb, Gc, I, and J segments will reduce the potential of bird strikes significantly. Sandhill crane flight patterns to and from the Playa and also the APECO ash pond are predominately to the south and east. Routing the Southline to the south side of the Playa will likely increase the potential for cranes striking the lines. Birds do fly north-northwest to farm fields in the Bonita area, but not in the same numbers.	Based on feedback by the public and cooperating agencies on the Draft EIS, new route variations (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize impacts to wildlife at the Willcox Playa. AGFD has provided mitigation measures to offset impacts to wildlife habitat and management goals and objectives in their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8; P7 remains included as a part of the Agency Preferred Alternative. The potential impacts of the proposed transmission line on wildlife were described in section 4.8 of the Draft EIS. Additionally, APLIC guidelines would be adhered to for minimizing collisions and developing an Avian Protection Plan.
770	83	83.3	Audubon Arizona	Supplee	2-BIO	We offer some observations about and suggestions for bird strike mitigation later in this letter.	Thank you for your comment and sharing information with the lead agencies.
771	83	83.4	Audubon Arizona	Supplee	2-BIO	Willcox Playa/Cochise Lakes Important Bird Area (IBA). This IBA was identified as a Global Important Bird Area in October, 2011 and encompasses the 74 square mile, 47,343 acre Willcox Playa, a broad alkaline lakebed fringed with semi-desert grassland (primarily saltgrass and sacaton) and mesquite. Further details and maps for this IBA are located at http://aziba.org/?page_id=712.The playa is seasonally flooded to a shallow depth. Outlying this playa are the satellite lakes/wetlands of Cochise Lakes (or aka Lake Cochise), alkali flats, and Willcox Playa Wildlife Area containing Crane Lake. The Playa itself is administered by the Department of Defense and the U.S. Army Corps of Engineers. It is not managed in anyway, and is posted no trespassing. On the upper east side of the playa is the Arizona Game and Fish Department managed Willcox Playa Wildlife Area, consisting of 555 acres. There are ten "pot hole" ponds, and one 30-acre impoundment at the Wildlife Area.	Thank you for providing this information. Important Bird Areas were considered in sections 3.8 and 4.8 of the Draft EIS. Detail has been added to section 3.8 of the EIS regarding Willcox Playa/Cochise Lakes.
772	83	83.5	Audubon Arizona	Supplee	2-BIO	The significant avian values are over-wintering Sandhill Cranes and migratory and wintering shorebirds, waterfowl, and waterbirds. The Wildlife Area (Crane Lake), and Cochise Lakes are important sites for roosting, resting, and feeding. Sandhill Cranes depend heavily on the surrounding agricultural lands of the broader Sulphur Springs and Bonita	Habitat for and potential impacts to Sandhill cranes, migratory and wandering shore birds, waterfowl, and waterbirds were considered in sections 3.8 and 4.8 of the Draft EIS. Based on feedback by the public and cooperating agencies on the Draft EIS, new route variations (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize impacts to wildlife at the Willcox Playa. AGFD has provided mitigation measures to offset impacts to wildlife habitat and management goals and objectives in their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8; P7 remains included as a part of the Agency Preferred Alternative.
773	83	83.6	Audubon Arizona	Supplee	2-BIO	Valleys for feeding, particularly in fields of waste corn. The site is important to special status avian species such as Swainson's hawk, scaled quail, chestnut-collared longspur and Cassin's sparrow. It supports significant concentrations of shorebirds (>100) and cranes (>2000). Willcox Playa and environs supports the second largest over-wintering concentration of Sandhill Cranes (Grus canadensis) in Arizona, typically 4,000 to 9,000 birds (White Water Draw Wildlife Area to the south over-winters 10,000 to 22,000 cranes). There are occasional years when crane numbers spike when a large number of birds (>13,000) from White Water Draw switch to roosting in this area (using either the Playa or Crane Lake).Most significantly both in spring and late summer shorebirds can stop-over in very substantial numbers (400-800 individuals at Cochise Lakes). These in-migration shorebird species using the include: Wilson's Phalarope (April, May, July, Aug., Sept.), Willet (April), Least Sandpiper (April, Aug., Sept.), Western Sandpiper (April, Aug., Sept.), Long-billed Dowitcher (May, Sept.), Black- necked Stilt (July, Aug., Sept.), and American Avocet (July, Aug., Sept.), plus lesser numbers of other shorebird species (Killdeer, Marbled Godwit, Spotted Sandpiper, Solitary Sandpiper, Greater Yellowlegs, Long-billed Curlew, Baird's Sandpiper, Pectoral Sandpiper, Stilt Sandpiper, and Red-necked Phalarope). Small numbers of some shorebirds occasionally breed within the IBA, including American Avocet and rarely Snowy Plover (Audubon WatchList 2007-Yellow, AZGFD Species of Greatest Conservation Need 2006).	Habitat for and potential impacts to Sandhill cranes, migratory and wandering shore birds, waterfowl, and waterbirds were considered in sections 3.8 and 4.8 of the Draft EIS. In particular, see table 3.8-11 for a list of all species considered. Based on feedback by the public and cooperating agencies on the Draft EIS, new route variations (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize impacts to wildlife at the Willcox Playa. AGFD has provided mitigation measures to offset impacts to wildlife habitat and management goals and objectives in their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8; P7 remains included as a part of the Agency Preferred Alternative.
774	83	83.7	Audubon Arizona	Supplee	2-BIO	Ducks over-winter on the lakes in large flocks, primarily composed of American Wigeon, Northern Shoveler, Ruddy Duck, Lesser Scaup, Ring-necked Duck, Cinnamon Teal and Green- winged Teal. In rare very wet winters, waterfowl in huge numbers (>15,000, half or which are Green-winged Teal) come to feed and rest within the Playa.	Habitat for and potential impacts to ducks were considered in sections 3.8 and 4.8 of the Draft EIS. In particular, table 3.8-11 of the Draft EIS includes a list of all species considered.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
775	83	83.8	Audubon Arizona	Supplee	2-BIO	In a 2005 USDA Forest Service Technical Report, Manville said that collisions with power transmission and distribution lines are estimated to kill as many as 175 million birds annually, and an additional tens to hundreds of thousands more birds are electrocuted. The difficulty with quantifying the impact of these utilities is that due to great expanse of area they cover they are poorly monitored for both strikes and electrocutions (Manville 2005). In the San Luis Valley of Colorado, collisions with transmission lines were one of the contributing mortality factors to the experimental whooping cranes population. On certain sections of transmission lines in the San Luis Valley where wetlands and agricultural foods are bisected by transmission lines, Sandhill Crane collision events have been as high as 75 birds a night (Mark Smith pers. comm.). A 2000 report completed for Idaho Hells Canyon transmission line complex summarized the following factors contributing to the susceptibility of a bird species to collision and the risks associated with a transmission line (Bevanger 1994). (1) biological, (2) topographical, (3) meteorological, and (4) technical aspects. Biological aspects to consider include bird vision, flight abilities, flight speed, activity patterns, and behavior during displays, hunting, or landing. Topographical factors to consider include the transmission line height and alignment in relation to the surrounding terrain. Bird flight lanes often concentrate in low spots in the landscape, e.g., river drainages. Lines that run perpendicular to these areas are more apt to be hit by birds. Line siting in the Sulphur Springs Valley segment of Arizona should consider these factors and obtain information about the major Sandhill crane and avian flight corridors north to south across Interstate 10 between the Willcox Playa and Bonita valley to the north and south and south west from Wilcox Playa to farm fields in Kansas Settlement. The ideal mitigation in high risk areas for bird strike is to bury the line. Research at diverse locations reveals that Sandhill crane collisions with power lines are most prevalent for birds moving to and from feeding and roosting locations. An inferior solution to buried lines is installation of avian collision averters as recommended by Murphy, etal. 2009.	Thank you for providing this information. Based on feedback by the public and cooperating agencies on the Draft EIS, new route variations (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize impacts to wildlife at the Willcox Playa. AGFD has provided mitigation measures to offset impacts to wildlife habitat in their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8; P7 remains included as a part of the Agency Preferred Alternative. Mitigation measures proposed, including use of avian flight diverters, were included in table 2-7 (now table 2-8 in the EIS) and section 4.8 of the Draft EIS. Sections 3.8 and 4.8 of the EIS have been revised to include information from the report cited.
776	83	83.9	Audubon Arizona	Supplee	2-BIO	Riparian Areas. We appreciate the use of an existing power line corridor in the vicinity of the San Pedro River valley. Audubon Arizona favors the Proponent preferred and agency proposes routing. The proponent alternative route H would also be acceptable as it parallels existing disturbances. Design of the transmission lines at the San Pedro River crossing should be such that removal of riparian trees is minimal and avoid the trimming (topping) or cutting down of riparian vegetation. It is not clear in the DEIS if the height of the lines over riparian area crossings is sufficient to eliminate the need to clear or top trees underneath. We would extend this recommendation to other riparian corridor crossing locations such as the Santa Cruz River.	The BLM and Western share the commenter's concerns about riparian crossings, and have proposed using existing crossings in part because of those concerns. As described in chapter 2 and section 4.8 of the Draft EIS, riparian areas would be spanned and vegetation would not be topped unless necessary to avoid potential safety issues and meet clearance requirements.
777	83	83.10	Audubon Arizona	Supplee	2-BIO	The Arizona Partners in Flight Bird Conservation Plan states, "Riparian woodlands comprise a very limited geographical area that is entirely disproportionate to their landscape importance, recreational value, and immense biological interest (Lowe and Brown 1973). It has been estimated that only 1% of the western United States historically constituted this habitat type, and that 95% of the historic total has been altered or destroyed in the past 100 years (Krueper 1993, 1996)... Riparian woodlands are among the most severely threatened habitats within Arizona.... Maintenance of existing patches of this habitat, and restoration of mature riparian deciduous forests should be among the top conservation priorities in the state". http://www.azgfd.gov/pdfs/w_c/partners_flight/APIF%20Conservation%20Plan.1999.Final.pdf	The BLM and Western share the commenter's concerns about riparian crossings, and have proposed using existing crossings in part because of those concerns (see chapter 2 of the Draft EIS). In addition, to minimize impacts on riparian woodlands, these areas would be spanned and vegetation removal limited to the minimum amount necessary to avoid potential safety issues and meet clearance requirements. Sections 3.8 and 4.8 of the EIS have been revised to include information from the report cited.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
778	83	83.11	Audubon Arizona	Supplee	2-BIO	The San Pedro River is a unique and extremely important biological asset in the arid southwest. As one of the few undammed and flowing rivers the San Pedro functions as a vital corridor and refugia habitat for a wide diversity of plants and animals and exhibits a remarkably intact riparian system including extensive stands of Fremont cottonwood (Populus fremontii), Goodding's willow (Salix goodingii) gallery forest and large mesquite (Prosopis velutina) bosques. Duncan and Slagle (2004) describe the San Pedro River as one of the most significant perennial undammed desert rivers in the United States. Species that are listed or proposed for listing under the Endangered Species Act are represented in sustainable numbers within this corridor. The National Audubon Society has recognized the San Pedro River corridor as a globally important Bird Area (IBA). The values that earn this recognition include some of the highest nesting densities of riparian obligate birds in the western United States and a critically important fall and spring migration corridor for thousands of neotropical migrants. Further information about the two San Pedro River Important Bird Areas is available at http://aziba.org/?page_id=461 and http://aziba.org/?page_id=539 IBA designation is particularly relevant to protecting critical habitat utilized by birds during some part of their life cycle (breeding, feeding, nesting, and migrating) as well as conserving the general biodiversity of wildlife species. Over 100 species of breeding birds and another approximately 250 species of migrant and wintering birds occur in the area, representing roughly half the number of known breeding species in North America. The San Pedro River serves as a migratory corridor for an estimated 4 million migrating birds each year. Notably, 36 species of raptors, including the gray hawk (Asturina nitidta = Buteo nitidus), Mississippi kite (Ictinia mississippiensis), common black hawk (Buteogallus anthracinus), and zone-tailed hawk (Buteo albonotatus) can be found within the San Pedro River watershed. Regarding the gray hawk, the San Pedro is thought to support more than 40 percent of the nesting gray hawks in the United States. Land birds occurring in significant numbers/density and/or diversity include Bell's vireo (Vireo bellii), Lucy's warbler (Vermivora luciae), and Yellow warbler (Setophaga petechial = Dendroica petechial).	Thank you for providing this information. The BLM and Western share the commenter's concerns about crossing the San Pedro River and have proposed using existing crossings in part because of those concerns (see chapter 2 of the Draft EIS). In addition to minimizing impacts on the San Pedro River, it would be spanned and vegetation removal limited to the minimum amount necessary to avoid potential safety issues and meet clearance requirements. The biological importance of the San Pedro River and the potential impacts to habitat associated with the river were addressed in sections 3.8 and 4.8 of the Draft EIS.
780	83	83.13	Audubon Arizona	Supplee	2-BIO	We applaud the proponent and BLM for considering the issue of introducing invasive plant species. Of particular concern is introduction of invasive plant species including but not limited to African buffelgrass (Pennisetum ciliaris), blue panic (Panicum antidotale, a Federal Noxious Weed), bermuda grass (Cynodon dactylon), Sahara mustard (Brassica tournefortii), and another African grass, Lehman's Lovegrass (Eragrostis lehmanniana). The highest risk of invasive species spread is by being carried on vehicles and equipment during construction and also during post- construction maintenance.	The BLM and Western share your concerns about invasive plant species and have proposed mitigation measures shown in table 2-7 (now table 2-8 in the EIS) and in section 4.8 of the Draft EIS to minimize the establishment and spread of noxious and invasive weed species. Thank you for your comment.
783	84	84.3		Kestler	2-BIO	If at all possible find ways to reduce likelihood of birds flying into the lines. I'm told there are sound frequencies that will minimize birds touching the live power lines.	As stated in chapter 2 and section 3.8 in the Draft EIS, an Avian Protection Plan would be a Project-tailored plan designed to reduce collision mortality that results from avian interactions with electric utility facilities. Section 3.8 of the EIS has been revised for clarification.
790	86	86.2	New Mexico Department of Game and Fish	Wunder	2-BIO	In general, the DEIS is difficult to read and distinguish between alternatives, local alternatives, routes and subroutes. On pages xxiii of the Executive Summary, it states that specific reasonable mitigation measures to reduce adverse effects to wildlife and habitats "could" be implemented. However, later chapters seem to suggest these mitigation activities will occur. The final EIS should definitely state that these reasonable mitigation measures will be implemented by the project proponent.	Tables 2-11, 2-12, 2-13, and 2-14 in the Draft EIS (now tables 2-15, 2-16, 2-17, and 2-18 in the EIS) included a comparison of potential impacts by alternatives. Maps throughout the Draft EIS included color coding indicating alternative type (local, proponent, etc.). Relevant sections (executive summary, as well as sections 2.4.6, 3.8, and 4.8) of the EIS have been updated to clarify proposed vs. committed mitigation.
791	86	86.3	New Mexico Department of Game and Fish	Wunder	2-BIO	Chapter 4 Environmental Consequences does not seem to correctly identify and quantify that Route Group 1, Subroute 1.2 (southernmost route) would impact significantly more Crane Migration Corridors and Wintering Areas (as identified by NMDGF), Bird Habitat Conservation Areas (as identified by the multi-agency Inter-Mountain Joint Venture), and undeveloped habitat.	Section 4.8 of the EIS has been revised to clarify impacts to Crane Migration Corridors and Wintering Areas, Bird Habitation Conservation Areas, and undeveloped habitat along subroute 1.2.
792	86	86.4	New Mexico Department of Game and Fish	Wunder	2-BIO	We believe that construction of Subroute 1.2 would cause cumulative effects from new habitat disturbance, fragmentation and loss, and migratory bird mortality that would be significant when compared to the Agency Preferred Alternative (Subroute 1.1)	The lead agencies agree with the commenter, and this is one reason that subroute 1.2 was not identified as the Agency Preferred Alternative in the Draft EIS. Sections 4.8.1 and 4.8.2 of the Draft EIS discuss the potential direct and indirect (not cumulative) impacts to biological resources in terms of habitat disturbance, fragmentation and loss, and avian mortality. Section 4.21 of the Draft EIS discusses the potential cumulative effects of the proposed Project.
794	86	86.6	New Mexico Department of Game and Fish	Wunder	2-BIO	LD-2 avoids direct impact to the Lordsburg Playa, but would be situated between playa basins and would likely cause mortality to migratory birds flying between basins. If LD-2 is chosen for implementation, bird diverters should be installed on the transmission lines to decrease the potential for bird strikes.	As stated in chapter 2 and section 3.8 in the Draft EIS, an Avian Protection Plan would be a Project-tailored plan designed to reduce avian collision mortality that results from avian interactions with electric utility facilities. Bird diverters will be used for the final route selected, as described by APLIC (2006). LD2 is not included in the Agency Preferred Alternative in the Final EIS.
795	86	86.7	New Mexico Department of Game and Fish	Wunder	2-BIO	However, the Department believes that LD3-A would cause significantly less mortality to cranes and other migratory birds than installing bird diverters on LD-2 transmission lines.	Section 4.8 of the EIS has been revised based on this comment. LD3a is included in the Agency Preferred Alternative in the Final EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
13	7	7.1	Hopi Tribe	Kuwanwisiwma	3-CUL	We concurred that this proposal is likely to adversely affect numerous prehistoric cultural resources significant to the Hopi Tribe and stated that we can 't really determine effects until an alignment is determined, and that it seems the BLM is working for the proponent because the BLM's objective is to provide the proponent with the right-of-way grant.	As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). BLM's decisions to be made are outlined in table 1-1. No one can assess the impacts to historic properties (NRHP eligible or listed) until the final route is determined. A Programmatic Agreement (PA) is being developed since "... effects on historic properties cannot be fully determined prior to the approval of the undertaking" (36 CFR 800.14(b)(ii)). This PA provides the process by which BLM will identify, evaluate, and resolve adverse effects to historic properties and is being developed in consultation with many parties (see appendix L). Please note that is the BLM and Western's preference to first avoid impacts to cultural resources; avoidance is the first step in the BLM's regional mitigation hierarchy, as described in chapter 2.
14	7	7.2	Hopi Tribe	Kuwanwisiwma	3-CUL	We have now reviewed the DEIS/RMPA that states that only 7% of the analysis has been previously surveyed and 997 archaeological sites and or historic bui lt environmental resources have been previously recorded. Tumamoc Hill and Mount Graham are identified as resources of concern to tribes. We again note the scant cultural resource data, and that the cultural resources survey will not be conducted until after the Record of Decision has been made and an alternative is selected.	This information was stated and acknowledged in sections 3.9 and 4.9 and appendix L (the PA) of the Draft EIS. The regulations for the NHPA are clear that Class III inventory does not have to take place prior to the ROD and they specify that in such a case a PA be developed. The draft Southline PA requires a Class III inventory of the area of potential effects (36 CFR 800.14 (b)(ii)) (see appendix L). The discovery of a large or important historic property may result in rerouting of the Agency Preferred Alternative.
15	7	7.3	Hopi Tribe	Kuwanwisiwma	3-CUL	We understand the BLM is attempting to develop a Programmatic Agreement to address the 7% cultural resource identification. Therefore we reiterate our request for continuing consultation on this proposal incl uding being provided with copies of the cultural resources survey of the area of potential effect and any proposed treatment plans for review and comment.	This information was stated and acknowledged in sections 3.9 and 4.9 and appendix L (the Programmatic Agreement) of the Draft EIS.
46	15	15.14	BIA		3-CUL	Page 1129, line 13: Should include THPOs.	Section 5.5 in chapter 5 of the EIS has been revised to include tribal historic preservation offices (THPOs).
163	32	32.9	EPA	Jansky/Weeks	3-CUL	Cultural Resources. Chapter 4; section 4.9 and 4.10. The project as a whole has been determined to have adverse effects to cultural, archeological, and historical resources. Some of these impacts are directly to the resources in question, and others are visual impacts associated with these resources. Each route group has surveyed resources that will be affected, under evaluated resources where determinations of eligibility have yet to be completed, and large areas that have not been surveyed. Due to the projects size and clear potential for adverse effects to occur, a Programmatic Agreement (PA) for the proposed project is currently being developed to comply with 36 CFR 800.4(b)(2) and 800.14(b)(1)(ii). According to the DEIS, the PA is a legally binding document which will outline the process that will be followed to identify, evaluate, and mitigate historic properties that may be affected by the proposed project. Recommendation: The proposed project will have many direct and indirect adverse impacts to cultural, archeological, and historical resources. Include a finalized PA, signed by all the parties listed in the Draft PA, in the FEIS. Also include any correspondence between the signatories of the PA, such as, consultation with any Tribal Historic Preservation Officer (THPO), State Historic Preservation Officer (SHPO), and Federal or State agency	Chapter 5 of the EIS has been revised to include additional information regarding tribal consultation. The final PA is in the EIS (see appendix L) and must be finalized prior to a decision by the BLM or Western.
335	68	68.12	Pima County	Bernal/Connolly	3-CUL	survey, documentation and mitigation of impacts to archaeological and historic sites and other cultural resources;	The potential impact of the proposed transmission line on cultural resources, including archaeological and historic sites, was analyzed in section 4.9 of the Draft EIS. As discussed in section 4.9 of the Draft EIS, the Project-specific PA stipulates the areas of potential effects (APEs) for this Project and the "direct effects" APE would be inventoried at the Class III level (see appendix L of the EIS).
336	68	68.13	Pima County	Bernal/Connolly	3-CUL	exacerbation of impacts to Tumamoc Hill;	The proposed local alternatives were formulated by local stakeholders specifically to reduce potential impacts to biological and cultural resources. The potential impacts to Tumamoc Hill were described in the relevant sections of chapter 4 of the Draft EIS. Adverse effects to this historic property will then be assessed as stipulated in the executed PA. Pima County has actively participated as a Section 106 Consulting Party and is also an invited signatory to the PA. A draft PA was included as appendix L to the Draft EIS; a final PA is included in the Final EIS.
356	68	68.33	Pima County	Bernal/Connolly	3-CUL	An important concern for Pima County is to protect its designated Conservation Areas and other properties owned and managed for cultural resources preservation purposes, including several intersected by the proposed Southline Transmission Line alignment, such as Empirita Ranch (National Register Listed), Valencia Site (National Register Listed, and Tumamoc Hill (National Register Listed as an Archaeological District and as a National Historic Landmark). We have grave concerns about the potential for Adverse Effects on these resources, in particular Valencia Site and Tumamoc Hill, and we ask that the HPTP closely follow the requirements of Section 106, and NEPA, and address adverse effects to these important resources.	As described in section 4.9 of the Draft EIS, adverse effects to historic properties would be assessed as stipulated in the executed PA, which has been developed to comply with Section 106 of the NHPA. Pima County has actively participated as a Section 106 Consulting Party and is also an invited signatory to the PA. A draft PA was included as appendix L to the Draft EIS; a final PA is included in the Final EIS (see appendix L).

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
357	68	68.34	Pima County	Bernal/Connolly	3-CUL	Tumamoc Hill is threatened by the greatest potential threat from the Southline upgrade of the existing Western right of way. We have expressed these concerns consistently throughout the public review and Section 106 processes at many meetings. We continue to argue for the avoidance of Tumamoc Hill and we restate our preference that the transmission line be removed from the vicinity of Tumamoc Hill. We prefer the proposed Local Alternatives developed for Route Group 4, including TH3-OPTION and TH3B, which follow the existing utility corridor along the Santa Cruz River, well to the east of Tumamoc Hill, removing any potential adverse effect to Tumamoc Hill. The DEIS includes the Agency Preferred Alternative, which avoids Tumamoc Hill by using several subroute alternatives to pass by Tumamoc Hill on the west side, using Greasewood Road. While we appreciate the intent to avoid impacting the Hill, this alternative presents its own set of problems, including a right of way between 100-150 feet wide still needs to intersect the National Register-listed Tumamoc Hill, the problem of accessing each transmission line pole from the adjacent streets, the potential to adversely affect the historic fence surrounding Tumamoc Hill (a contributor to the National Register listing), and the significant potential for adverse visual effect because of proximity to Tumamoc Hill as well as the neighboring residential subdivisions in the area.	The comment accurately reflects the analysis of impacts to Tumamoc Hill throughout the Draft EIS. Local alternative segments TH3a and b, and TH3-Options A, B, and C, are alternatives considered in detail and are not located on Tumamoc Hill. Since the fence is a feature within the NHL and the National Register District, it will be fully considered in the efforts to avoid, minimize, and mitigate any adverse effects to the entire historic property, including the fence, which is a contributing element.
359	68	68.36	Pima County	Bernal/Connolly	3-CUL	p. xxv in Section 7.8, Lines 9-14: Lists impacted sites, including National Register-listed or eligible sites; Valencia Site, Empirita Ranch, Tumamoc Hill. Does not list important sites that are considered, but not determined, eligible, such as West Branch Site.	The West Branch site is considered appropriately in the Draft EIS. The executive summary of the Draft EIS includes only listed properties. This is appropriate, as the West Branch is not the only site that is clearly eligible, but has not been placed on the National Register. Listing all of these sites in the executive summary would not change anything in terms of analysis, and it would add unnecessary length to the summary.
362	68	68.39	Pima County	Bernal/Connolly	3-CUL	p. 44, Chapter 2, discussion of HPTP, lines 24-30: The discussion includes avoidance, minimization, and mitigation of impacts with reference to the HPTP, but there is no mention of cultural resources monitoring needed during construction, or a program of monitoring to assess long-term effects of the transmission line during its use life, or the need to monitor certain maintenance and repair activities that might occur during the transmission line use life, and any use, repair, or maintenance of access roads. There is no mention of the need to conduct cultural resources monitoring at the end of the transmission line use life during Decommissioning activities. All these listed activities have potential for Adverse Effects on cultural and historic resources.	As stated in chapter 2 of the Draft EIS, the HPTP would be developed pursuant to the PA, which Pima County is a party to. As discussed in the PA in appendix L of the Draft EIS, if decommissioning takes place in the future, it would be considered a separate undertaking when it occurs. Chapter 2 of the EIS has been revised to clarify this. Monitoring is built into much of the process as detailed in the draft PA (III.A.i.). A Monitoring and Discovery Plan will be included in the HPTP. The need for and utility of monitoring is addressed on a site by site basis, depending on the circumstances. Most maintenance and repair activities should not require monitoring, although some activities may warrant it. In the HPTP, there will be a list of operations and maintenance activities that will not require additional Section 106 review. Any other activities would warrant a review, and a requirement for monitoring may result. The operation of the transmission line should not cause long-term adverse effects to historic properties remaining in the APE. Historic properties that could be adversely affected by operations and maintenance would be mitigated during construction. A final PA is included in the Final EIS.
363	68	68.40	Pima County	Bernal/Connolly	3-CUL	p. 58, Table 2-3 compares the disturbances of various possible transmission pole types and construction methods, identifying the single-pole tabular steel pole to have the smallest footprint (on p. 58), but the point is that all poles and construction methods cause ground disturbances with a potential to impact cultural resources that should be taken into account.	The comment accurately reflects the analysis provided in chapter 4 of the Draft EIS.
365	68	68.42	Pima County	Bernal/Connolly	3-CUL	Table 2.7 Design Features for Environmental Protection by Resource; mentions that cultural resources survey reporting requirements will follow BLM Handbooks, but should also state that (in Arizona) reporting shall meet standards of ASM and AZ-SHPO. Same table does not indicate the HPTP will mitigate impacts from the Decommissioning at the end of the transmission line's use life. The effects on cultural resources from Decommissioning activities should be taken into account.	As stated in chapter 2 of the Draft EIS, the HPTP would be developed pursuant to the Section 106 PA and would include provisions for monitoring and discovery (see table 2-7 of the Draft EIS, now table 2-8 in the EIS). Pima County is a Section 106 Consulting Party and an Invited Signatory to the PA. Therefore, Pima County has been involved in the consultations for the Project and will continue to provide their feedback as the PA is executed and implemented. Reporting standards are detailed in the PA (Section VII) and include both Federal and State (NM and AZ) standards. As discussed in the PA in appendix L of the Draft EIS, if decommissioning takes place in the future, it would be considered a separate undertaking when it occurs.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
366	68	68.43	Pima County	Bernal/Connolly	3-CUL	p. 110, Chapter 2, 2.4.5 Decommissioning: There is no discussion of potential adverse effects of Decommissioning Activities and the need for cultural resources monitoring.	As discussed in the PA in appendix L of the Draft EIS, if decommissioning takes place in the future, it would be considered a separate undertaking when it occurs. For the purposes of Section 106 of the NHPA, decommissioning would be a new action for Section 106 review, and historic properties potentially affected by decommissioning would be considered in the BLM-approved Termination and Reclamation Plan in accordance with the pertinent laws, regulations, and policies extant at the time. Chapter 2 has been revised in the EIS to include similar language. Monitoring is built into much of the process as detailed in the draft PA (III.A.i.). A Monitoring and Discovery Plan will be included in the HPTP. The need for and utility of monitoring is addressed on a site by site basis, depending on the circumstances. Most maintenance and repair activities should not require monitoring, although some activities may warrant it. In the HPTP, there will be a list of operations and maintenance activities that will not require additional Section 106 review. Any other activities would warrant a review, and a requirement for monitoring may result. The operation of the transmission line should not cause long-term adverse effects to historic properties remaining in the APE. Historic properties that could be adversely affected by operations and maintenance would be mitigated during construction. A final PA is included in the Final EIS.
372	68	68.49	Pima County	Bernal/Connolly	3-CUL	p. 336, Chapter 3, Section 3.9.5, Cultural Resources: The discussion of the Class I records search defines the visual effects corridor as 10 miles centered on the transmission line (p. 332, lines 1-5). The cultural resources analysis area for the upgrade section cites the "existing 500- foot" right of way corridor. The Western easement (1950) includes a legal description right of the alignment, but does not define a specific width or any dimension to the right of way, so this assumed dimension of 500 feet is an unsupported claim by Western that should be negotiated with land owners/managers whose lands are crossed by the transmission line before construction can take place.	Section 3.9.5 of the EIS has been revised to clarify that the existing ROW is 100 feet and the analysis area for the upgrade is 500 feet.
373	68	68.50	Pima County	Bernal/Connolly	3-CUL	The Class I Records Search Methods are described in this section; used City of Tucson records for list of National Register Properties and Districts. Did not use Pima County's up-to-date comprehensive list of National Register-listed Historic Properties and Districts.	Section 3.9 of the EIS has been revised to clarify that Pima County data were also used in the development of the analysis.
374	68	68.51	Pima County	Bernal/Connolly	3-CUL	Figure 3.9-1b depicts Archaeology Southwest's Cultural Resources Priority Areas in the upgrade section (southern Arizona). Pima County has useful cultural resources sensitivity mapping based on the Cultural Resources Element of the Sonoran Desert Conservation Plan that is based on expert knowledge and incorporates known associations of recorded sites with mapped environmental zones (Conservation Lands System) to develop predictive mapping of projected areas of cultural sensitivity in eastern Pima County. This sensitivity mapping is available to public access and GIS files can be shared on request. While limited to Pima County, the sensitivity mapping does cover a large portion of the Southline upgrade section and could contribute to refining the Class I inventory results.	Sections 3.9 and 4.9 have been revised in the EIS to include additional cultural resources sensitivity mapping provided by Pima County.
379	68	68.56	Pima County	Bernal/Connolly	3-CUL	p. 577, Chapter 4 Environmental Consequences: p. 813, Chapter 4.9 Cultural Resources, Section 4.9.2, lines 22-24, describe the Southline upgrade section right of way as 150 feet wide, but as mentioned, this is not a legally defined right of way and needs to be negotiated with land owners/managers. Direct effect analysis area determined to be 100 feet either side of the right of way, total 350 feet wide corridor.	As described in chapter 2 of the Draft EIS, the new 230-kV line would be built 50 feet away from the edge of the existing 100-foot ROW, parallel to the existing line. This would allow the existing line to remain in service until the new line is energized, at which point the existing line would be decommissioned and removed. The existing ROW would then be abandoned, except for a 25-foot-wide strip along the edge, which would become part of the new 150-foot ROW. ROW and land acquisition were described in chapter 2 of the Draft EIS as well.
381.1	68	68.57	Pima County	Bernal/Connolly	3-CUL	p. 814-815 Resource Forecasting. This discussion has better data for the upgrade section from survey, but contains an extended description that attempts to quantify the forecast of potential numbers of sites within the APE that seems needlessly complicated and drawn out. It uses formulae developed in other areas that may be appropriate, but again, this section is overly complicated and unnecessarily "scientistic."	Predictive modeling is a complicated mathematical and statistical exercise. It is necessary to explain this process in the EIS to support the results of the modeling. These results are the basis of the analysis, which is presented and explained in the EIS.
381.2	68	68.58	Pima County	Bernal/Connolly	3-CUL	No matter how well developed a mathematical formula is, its calculations and results are no better than the fundamental assumptions underlying the exercise. The description is valid for the DEIS, and does provide numbers that can be used for planning mitigation, etc., but it should be placed in a more realistic context to avoid the danger of estimated numbers of sites becoming conceptually realized and treated as if they are real entities, rather than well based guesses. The relative accuracy and reliability of such forecasting should be explained.	The purpose of the predictive modeling is to forecast the potential for historic properties, both in density and sensitivity, and is necessary for the NEPA analysis. Although the results of the model could be used for other purposes, such as planning for the Proponent, this is not how BLM will be using it. NEPA analysis necessarily relies on assumptions and predictions, but the Section 106 process does not. The Section 106 process requires that the agency official "take the steps necessary to identify historic properties within the area of potential effects" (36 CFR 800.4(b)). The only sites that will be considered through the Section 106 process will be actual sites located on the ground, within the area of potential effects. Section 3.9 of the Draft EIS was reviewed in light of this comment, and no changes to the text were found to be necessary for the EIS.
382	68	68.59	Pima County	Bernal/Connolly	3-CUL	p.817, lines 24-43, We appreciate this section's discussion of some of the flaws of the quantitative forecasting methods	Thank you for your comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
383	68	68.60	Pima County	Bernal/Connolly	3-CUL	p.818, lines 1-12, Archaeological Sensitivity: Using the scale of 1-5 seems to be a simpler, more direct method of making site estimates	Thank you for your comment.
384	68	68.61	Pima County	Bernal/Connolly	3-CUL	p. 850 Table 4.9-13 Route Group 4 Projects site numbers and site density, based on known sites (determined by previous survey) and should provide reliable measures of cultural resources impacts. Subroute 4.1 is shown to contain higher site numbers and site density; these are useful, if already known data.	The comment accurately reflects the analysis provided in section 4.9 of the Draft EIS.
385	68	68.62	Pima County	Bernal/Connolly	3-CUL	p. 853 Visual Analysis, also shows high resources numbers and density, so visual impacts should reflect this.	The comment accurately reflects the analysis provided in section 4.9 of the Draft EIS.
386	68	68.63	Pima County	Bernal/Connolly	3-CUL	p. 855, Direct impacts on cultural resources also determined this way and should give good estimates of effect.	The comment accurately reflects the analysis provided in section 4.9 of the Draft EIS.
387	68	68.64	Pima County	Bernal/Connolly	3-CUL	p. 861-862, Substations and Substation Expansions: on p. 862, line 3, Valencia Site is shown to be within the footprint of the Del Bac substation expansion. The HPTP should take this into account and address such impacts.	As stated in section 4.9 in the Draft EIS, measures to avoid, minimize, and/or mitigate any adverse effects on historic properties would be developed by BLM in consultation with the Section 106 consulting parties. As stated in chapter 2 of the Draft EIS, the HPTP would be prepared pursuant to the PA.
555	79	79.8	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	3-CUL	In addition, the Comparison of Alternatives discussion presented in Section 2.10 does not include some of the information on cultural resources that is presented in Chapters 3 and 4. The only information discussed in section 2.10 for each alternative was the number of known cultural resources, listed properties, trails, and the number of forecast cultural resources. The Comparison Summary, Table 2-11 provided numbers for estimated NRHP eligible resources and Impact Intensity but this information should have also been included in the discussion of each alternative to help inform on the best route with regards to cultural resources. Other information presented in Chapter 3, but not used in the Comparison of Alternatives, is the number of features digitized off of historic maps. As currently presented, Chapter 2 does not contain much information on the archaeological sensitivity analysis that is presented in Chapters 3 and 4 and we wonder why so much time was devoted to this complex analysis.	Tables 2-11, 2-12, 2-13, and 2-14 in chapter 2 of the Draft EIS (now tables 2-15, 2-16, 2-17, and 2-18 in the EIS) have been revised to include more summary detail. Please note that chapter 2 is a description of the proposed Project and its alternatives, and the summary of impacts tables are necessarily brief. Chapter 3 describes the affected environment, and chapter 4 presents the analysis of the environmental consequences. Both chapters 3 and 4 are much richer in detail concerning the actual resources and the potential impacts.
556	79	79.9	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	3-CUL	Given the large number of alternatives and general paucity of cultural resource information in the project area, Class II survey along each alternative, or in areas predicted to have a high number of cultural resources based on current data, would have provided more specific information on the estimated number of cultural resources that have the potential to be impacted.	We agree that a Class II inventory would provide more specific information, but BLM determined that due to the availability of the predictive model for southern New Mexico and the high percentage of previous inventory for the upgrade (approximately half of the undertaking), Class II inventory would not be necessary for the NEPA analysis. Cultural resources are just one of the resources considered in the selection of the Agency Preferred Alternative and when considered in the larger context, most often do not drive the decision-making. Other resources that are more difficult to mitigate, or physical circumstances, tend to be the major factors in the NEPA decision. Additional information on trial crossings based on inventory done for SunZia and reconnaissance done by BLM has been added to the EIS (see appendix F).
557	79	79.10	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	3-CUL	Field visits to proposed crossings of the Butterfield Trail would also provide information on whether proposed transmission lines will cross intact segments of the Trail. Class II survey data and visits to Butterfield Trail crossing would be more meaningful information that could assist in the evaluation of alternatives.	BLM determined that this additional information would not be necessary for the evaluation of the alternatives. BLM will attempt to avoid as many crossings of the Butterfield Trail as possible, and the Agency Preferred Alternative would achieve that objective, as opposed to the other alternatives. Wherever the trail is crossed, in accordance with the PA for the project and the resulting HPTP, measures would be taken to avoid, minimize, and mitigate any adverse effect to that segment of trail, provided that that particular segment is determined to be a historic property.
558	79	79.11	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	3-CUL	Page 148, Table 2-11, Comparison Summary for Subroute 1: Afton Substation to Hidalgo Substation (Continued). In the row Cultural Resources, Agency Preferred Alterative column, the table states that the impacts are the "Same as subroute 4. 1." This should be "Same as subroute 1.1."	Chapter 2 of the EIS has been revised based on this comment.
559	79	79.12	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	3-CUL	Pages 339-340, Figures 3.9-Ia and 3.9-Ib. Archaeology Southwest's Cultural Resource Priority Areas are indicated as a hatched area but not labeled with the name of the area. The name should be provided on the Figure to make it easier for the reader.	Figures in the EIS were not modified; the priority area names are available in the Project Record.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
560	79	79.13	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	3-CUL	Page 364, Line 13, Table 3.9-14. It is unclear how the numbers presented in this table were generated. It was my understanding from reading the Sensitivity Measures discussion on page 337 and Section 3.9.9, pages 355-360, that the table presented the numbers of known cultural resources and their sensitivity level. Based on my reading of these pages, it would seem Low Sensitivity (l) sites are sites that have been determined not eligible. Table 3.9-14 lists 38 sites with low sensitivity in Route group 1. However, on page 356, the text says that there are 20 not eligible sites. Additionally, high sensitivity sites (5) include listed sites, historic towns, NHT, NHLs and cemeteries or gravesites. On page 356, the text discusses one NHL that is listed, three historic trails and 2 Cultural Resource Priority Areas (CRPA). Table 3.9-14 lists 9 sites as being high sensitivity. Perhaps there some discussion needs to preface the Table to explain how these numbers were generated and how they are different from what was previous]y presented in the discussion in Section 3.9.9.	Section 3.9 of the EIS has been revised based on this comment.
561	79	79.14	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	3-CUL	Page 366, Line 40, Page 367, Table 3.9-15, Page 368, Line 4 and Table 3.9-16. Need to change "New Mexico State Register of Historic Places" to "New Mexico State Register of Cultural Properties."	Section 3.9 of the EIS has been revised based on this comment.
562	79	79.15	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	3-CUL	Pages 823-825, Tables 4.9-1. 4.9-2 and 4.9-3 and Pages 834-836, Tables 4.9-5, 4.9-6 and 4.9- 7 should include totals at the bottom of each column to get a better understanding of the number of cultural resources, etc. that will be impacted for each Subroute.	Tables in section 4.9 of the EIS have been revised based on this comment.
693	82	82.112	SunZia	Wray	3-CUL	Section 4.9.1 Index of Total Potential Effect (New Mexico) oversimplifies the total number of eligible site acres by ignoring unevaluated sites which may be eligible for the National Register of Historic Places ("NRHP"). For example, of 710 Archaic sites in the sample, 191 were recommended or determined eligible, while 28 were recommended or determined not eligible. This leaves a total of 491 Archaic sites, which should all be treated as eligible, or at the very least be taken into consideration as a third category within the predictive model. This applies to all site type categories, particularly Protohistoric sites which are rare, and are more likely to be eligible by today's recording standards.	The predictive model did not provide eligibility information, but this information was gathered subsequently so that site sensitivity could be taken into consideration. We agree that eligible or not eligible oversimplifies site sensitivity in general, and that is why the sensitivity categories developed during the SunZia EIS were adopted for the Southline Project. Although we could have treated unevaluated sites as eligible, or could have provided another category for those sites, we feel that when using predictive modeling, many assumptions are made, and the ultimate result is an educated guess as to how many sites, eligible or not, would be encountered. For NEPA, predictive modeling based on previously recorded sites and surveys is common, and BLM's predictive model provided an additional technique for prediction. Ultimately, the Class III inventory will identify all of the historic properties that could be affected by the undertaking, regardless of what was predicted using modeling.
694	82	82.113	SunZia	Wray	3-CUL	Unfortunately, this oversimplification is incorrectly carried forward in the Draft EIS for determining sensitivity areas and we request that it be corrected.	BLM does not agree that there has been an oversimplification, nor that it has any real bearing on the results of the prediction of site sensitivity in the analysis area. Expanding the analysis as the commenter suggests will not change the outcome of the selection of the Agency Preferred Alternative. This does not need to be corrected.
20	8	8.5		Anderson	19-VIS	I note that the Proponent Alternative from Wilcox AZ to Afton NM: 3. It would move any "adverse visual impact" from the vicinity of I-10 to the rarely used border highway. Seems it would be more attractive for all concerned.	This information was stated and acknowledged in sections 3.10 and 4.10 (Visual Resources) of the Draft EIS.
25	9	9.5		Cotignola	19-VIS	Plus they will discover the low land taxes & they will discover Southern Luna Counties many many mountain views	The potential for Project related employment and changes in social and economic conditions was discussed in sections 3.15 and 4.15; visual impacts were analyzed in sections 3.10 and 4.10 of the Draft EIS. The potential cumulative effects of the proposed Project, along with other past, present, and reasonably foreseeable actions, were described in section 4.21 of the Draft EIS.
144	27	27.3	New Mexico State University's Unmanned Aircraft Systems Flight Test Center	Zaklan	19-VIS	3. How will you be documenting the building of the lines from a visual perspective?	This information was stated and acknowledged in sections 3.10 and 4.10 (Visual Resources) of the Draft EIS, which provides a comprehensive analysis of existing conditions and potential impacts of the proposed facilities, including impacts from construction and operation. Visual simulations were also included in appendix K of the Draft EIS. Based on feedback from the public and cooperating agencies, new simulations have been included in the Final EIS.
197	38	38.14	Hearing	Yordani	19-VIS	And then I'm concerned about how much of an eyesore there will be for those looking at the towers. And as a city and a county are we able to stop something like this? And then how much of any health and environmental impact on the surrounding community? And will we be just fine without it?	Potential visual impacts were described in sections 3.10 and 4.10 of the Draft EIS. Potential impacts to public health and safety were considered in sections 3.16 and 4.16 of the Draft EIS. County and city authorizations, such as Conditional Use Permits, were described in chapter 2 of the Draft EIS.
239	46	46.2		Hamel	19-VIS	We would have every sunrise, sunset, and moonrise ruined by these 170ft poles on the proposed routes.	The potential visual impact of the proposed towers was stated and acknowledged in sections 3.10 and 4.10 (Visual Resources) of the Draft EIS. Visual simulations were also included in appendix K of the Draft EIS. Based on feedback from the public and cooperating agencies, new simulations have been included in the Final EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
267	49	49.18	Cascabel Working Group	Meader	19-VIS	Tumamoc Hill. While the routing of the upgraded line around Tumamoc Hill in Tucson will be on the margins of the property rather than direction across it, the impact will still be significant, especially visually. This remains a concern. The project should work directly and closely with Tumamoc Hill personnel to further minimize and reduce impacts in any way possible.	As discussed in section 5.4 of the Draft EIS, BLM and Western conducted several Tumamoc Hill outreach meetings and Section 106 meetings in Tucson, Arizona. Alternatives in the EIS (TH1 and TH3) were developed as a result of this outreach, and the Agency Preferred Alternative in the EIS was designed, in consultation with stakeholders, to go around rather than through Tumamoc Hill. Additional vantage points from within and around Tumamoc Hill are presented in the EIS (see sections 3.10 and 4.10 and appendix K).
283	58	58.3	National Park Service	Trenchik/Montano	19-VIS	Visual Resources Ch 3 (3.10.2) –page 374, line 31. Federal lands include federal lands with viewsheds that may be affected by the project, even if the project doesn't cross their property. For example "In addition, the project may affect the viewsheds of protected federal lands mandated to provide visitor/recreational experiences in undisturbed natural areas, including national parklands (Saguaro National Park) and wilderness areas."	This information was stated and acknowledged in section 3.10 of the Draft EIS.
291	60	60.6		Wood	19-VIS	Lastly, The eyesore the new higher poles will be	The potential visual impact of the proposed towers was stated and acknowledged in sections 3.10 and 4.10 (Visual Resources) of the Draft EIS.
337	68	68.14	Pima County	Bernal/Connolly	19-VIS	visual impacts, especially where the alignments are near or within residential areas and natural preserves	The potential visual impacts of upgrading the existing towers with taller monopoles, including potential impacts on residential areas and natural preserves, were discussed in sections 3.10 and 4.10 (Visual Resources) of the Draft EIS. As noted in chapters 1 and 2 of the Draft EIS, the existing Western line has been in place since 1951.
351	68	68.28	Pima County	Bernal/Connolly	19-VIS	Impacts on Viewsheds (Scenic Quality) "Additional changes to scenic quality would occur from the introduction of upgraded transmission structures, including monopole and lattice-type structures along the existing transmission line. There are 2.4 miles of Subroute 4.1 which cross Class B scenery (5 percent of the Subroute), and 46.0 miles which cross Class C scenery (95 percent of the Subroute). Impacts from those changes to scenic quality in Class B and C would be minor to moderate (Draft EIS, Volume 2, Page 891)." Brief descriptions of the referenced scenic quality Classes and the methodology applied in determining 'minor to moderate' impacts would have been helpful, given the stretches of land impacted. Simulated views in Figures B-34, 50, 66, 68, 72, 78, and 90 reveal the significant height difference of the transmission line poles and lattice structures. The impacts on scenic quality could be considered 'low' or 'moderate' from a great distance but not at distances from which the referenced figures were photographed.	Descriptions of the scenic quality and sensitivity along subroute 4.1 (and all alternative subroutes) were included in section 3.10 of the Draft EIS. Sections 3.10 and 4.10 in the EIS have been revised to include descriptions of the referenced scenic quality classes and clarify methodology. As noted, visual simulations in appendix K of the Draft EIS were developed to disclose the potential visual changes that would occur if the existing Western line is upgraded. Additionally, based on feedback from the public and cooperating agencies, new simulations have been included in the Final EIS. Tower height was also a consideration in the visual resources analysis.
375	68	68.52	Pima County	Bernal/Connolly	19-VIS	p. 428, Chapter 3, in the discussion of visual effects, Tumamoc Hill is considered a "Class A" resource, an important cultural and visual resource.	The importance of Tumamoc Hill has been acknowledged by BLM and Western since early in the process. As discussed in section 5.4 of the Draft EIS, BLM and Western conducted several Tumamoc Hill outreach meetings and webinars in Tucson, Arizona. Alternatives in the Draft EIS (TH1 and TH3) were developed as a result of this outreach, and the Agency Preferred Alternative in the Draft EIS was designed, in consultation with stakeholders, to go around rather than through Tumamoc Hill. The potential visual and cultural impacts of the proposed Project, including potential impacts to Tumamoc Hill, were described in sections 4.11 and 4.9 of the Draft EIS, respectively.
434	68	68.111	Pima County	Bernal/Connolly	19-VIS	One of the primary concerns identified by Development Services in previous comments was visual impacts. The photo simulations now provided help to clarify the mass and appearance of the smaller preferred monopoles and provide some impression of impacts on a few representative viewsheds.	The comment accurately reflects the analysis provided in sections 3.10 and 4.10 and appendix K of the Draft EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
452	72	72.5	Mountain View Ranch		19-VIS	In connection with the foregoing, the California Public Utilities Commission ("CPUC") recently applied the concept of "overburdening" in a proceeding involving Southern California Edison Company "SCE"). In its Decision No. 13-07-018, issued July 16, 2013, the CPUC granted the Petition of the City of Chino Hills ("Chino Hills") for Modification of Decision No. 09-12-044. In the earlier decision, the CPUC had authorized SCE to construct a double-circuit 500 kV transmission line on towers 195-198 feet tall in a 150' right-of-way already occupied by SCE electric transmission facilities. In that regard, SCE's existing facilities 1 were to be removed from the aforesaid right-of-way; and, in fact, some of the removal of existing facilities and construction of new facilities had already occurred in the Chino Hills' area as of the time the CPUC reconsidered its earlier decision. On further consideration, the CPUC concurred with Chino Hills' argument that the previously authorized replacement facilities would have a "significant and unavoidable impact" on the residential viewscape in question, and particularly those who lived along the right-of-way. In addition, the CPUC proved to be sympathetic to Chino Hills' argument that the visual impact in question would unfairly impose on the affected residents of Chino Hills "too large a burden for the new transmission infrastructure that is being installed to benefit all Californians." Further, the CPUC concluded that the transmission supporting structure, which would "dwarf ' adjacent homes did not comport with the community values of Chino Hills and affected residents. Moreover, the CPUC recognized that the previously approved facilities could result in a diminution in property values and a reduction in local tax revenues to the detriment of affected residents and Chino Hills itself. footnote#1: The existing facilities were a 220 kV line, which had been erected in the 1940s on 75' lattice towers.	Western will review all of its land rights before construction of upgrade facilities occurs. Where necessary, Western would acquire additional land rights in accordance with Federal law for those easements determined to be insufficient. The potential visual impacts of the Upgrade Section of the proposed Project are analyzed in sections 3.10 and 4.10 of the Draft EIS.
456	72	72.8	Mountain View Ranch		19-VIS	As Currently Proposed, the "Upgrade" Portion of The Project Would Have a Substantial Adverse Impacts on Mountain View and Other Nearby Residential Subdivisions. I . Visual Impact. At page 890, lines I 3-14, the DEIS states as follows: "Visual contrast in the Upgrade Section would result from the introduction of taller transmission structures. Visual contrast to the Upgrade Section was determined to be low to moderate" [emphasis added]	The comment accurately reflects the analysis provided in sections 3.10 and 4.10 and appendix K of the Draft EIS. Section 4.10 of the Final EIS has been revised to acknowledge that while impacts are anticipated to be low to moderate and not significant at a landscape level, individual perspectives on the visual impact of the proposed Project may be different.
457	72	72.9	Mountain View Ranch		19-VIS	Further, at page 1096, lines 24-29, the DEIS states that "Other past and present actions in the CEAA have converted larger portions of the Upgrade Section analysis area to residential, commercial, and industrial development associated largely with the city of Tucson and surrounding lands. Because the proposed Upgrade Section would be located along existing transmission corridors, visual effects are likely to blend in with existing development and associated visual impacts and not substantially contribute to cumulative effects in concert with these other developments." [emphasis added] However, (i) the "comparison of typical existing and proposed structure types" depicted in Figure 2-12 to the DEIS indicates that the physical contrast between the existing 115 kV single circuit "H" frame structure and the proposed 230 kV double-circuit monopole structure is quite dramatic, with the latter physically and visually overwhelming or "dwarfing" the former.4 Further, the photographs set forth at Figure B-59 (KOP 43-04) of the DEIS effectively refute the above-quoted suggestions that (i) "visual effects are likely to blend in with existing development and associated visual impacts," and (ii) the visual contrast with existing residential development will be "low to moderate."5 With all due respect to the preparers of the DEIS, these observations and conclusions are simply incorrect with respect to that portion of Mountain View located south of Interstate 10 and the residential subdivisions located immediately to its west and south of Interstate 10. Physical Impact. In the Executive Summary portion of the DEIS, the following statements appear m connection with a discussion of the Project's right-of-way requirements: "The anticipated ROW width for the Upgrade Section 230-kV transmission line is 150 feet. . . In certain areas of the Upgrade Section, development and constraints may not allow for the expansion of the existing 100-foot ROW." [DEIS Executive Summary, page xvii, lines 5-1O] footnotes: 4 A copy of Figure 2-12 is attached hereto as Appendix "E." 5 A copy of Figure B-59 (KOP U3-04) is attached herto as Appendix "F." In that regard, the Sonoita Ranch housing development depicted in those photographs, is sim ilar to and near Mountain View.	The comment accurately reflects the analysis provided in sections 3.10 and 4.10 and appendix K of the Draft EIS. Section 4.10 of the Final EIS has been revised to acknowledge that while impacts are anticipated to be low to moderate and not significant at a landscape level, individual perspectives on the visual impact of the proposed Project may be different.
474	74	74.4	U.S. Forest Service	White	19-VIS	I will reiterate what I submitted earlier here, and some may benefit national historic trails as well as the Continental Divide Trail: Although the transmission line will cross the trail on existing utility corridors (under the preferred alternative), the difference in scale of the structures will be noticeable, and the length of time trail users are under transmission lines and exposed to the noise and foreground visual impacts will be longer. Therefore all possible mitigation measures should be implemented to minimize experiential and visual impacts, such as installing towers that oxidize to a natural patina, and spacing towers for maximum possible distance from the trail and/ or matching structure spans.	These are Project design features considered in table 2-7 in the Draft EIS (now table 2-8 in the Final EIS), and accurately reflect the analysis provided in section 4.10 of the Draft EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
475	74	74.5	U.S. Forest Service	White	19-VIS	Weather conditions and time of day can make a huge difference in the visual impact of these structures. I drove I-10 recently into a storm that made the backdrop very dark, with sunlight from the west illuminating all the existing transmission lines that parallel the freeway. They appeared as a veritable forest of white towers against the dark sky.	Sections 3.10 and 4.10 of the EIS have been revised to include a description of how light conditions (as affected by weather) can affect scenic quality.
504	76	76.24	Arizona State Land Department	Ojeda	19-VIS	Generally speaking, the existing conditions appear to have been based on existing VRI data. Please clarify whether the VRI data covered all lands within the project area, including state lands. If so, please explain whether or not there was also a project-level analysis of existing conditions throughout the project corridors, and the methodology and results of that analysis.	Section 3.10 of the EIS has been revised to provide clarity on the VRI data used in the analysis.
506	76	76.26	Arizona State Land Department	Ojeda	19-VIS	Considering the total length of all of the alternatives, more KOP/simulations may be warranted to fully illustrate the potential impacts to the resource.	As discussed in section 3.10.2 of the Draft EIS, KOPs considered in the analysis were identified based on comments from the public during scoping, as well as using feedback from cooperating agencies. The KOPs and simulations considered in appendices I and K of the Draft EIS are sufficient for the analysis as they are illustrative of all landscape types, alternatives routes, and transmission tower structure options. The EIS has been revised to include additional simulations (see appendix K) based on public and agency comments.
639	82	82.58	SunZia	Wray	19-VIS	Section 3.10.1, page 373 – This section states multiple widths for the visual study area. Given that all alternatives should be consistently studied regardless of jurisdiction, we request the analysis use one study area that would result in a consistent affected environment and environmental consequence section.	All alternatives analyzed in detail are considered equally in the Draft and Final EISs. The rationale for the difference in the analysis area between the New Build Section and Upgrade Section is described in sections 3.10 and 4.10 of the Draft EIS and is based on the appropriate level of analysis, in keeping with BLM methods for evaluation.
640	82	82.59	SunZia	Wray	19-VIS	Key Observation Points ("KOPs") are used for compliance or to document typical impacts to viewers. Landscape or scenic-quality impacts are based on changes to the landscape regardless of where the landscape is viewed from. The BLM needs to understand these changes to keep their Visual Resource Inventory ("VRI") updated; also, scenic-quality impacts are used to make determinations regarding the preferred route regardless of jurisdiction. This distance of 10–18 miles for the viewshed seems arbitrary and is not consistent with the distances associated with the visual study areas. Using such a vast distance implies that there would be impacts to views 10 to 18 miles away. Even if there were views at such a distance, the dominance and contrast would be low to non-existent. Distance or Influence zones from other similar and permitted (i.e., already vetted) 345 kV or 500 kV projects should be used as the benchmark for effects analysis. The viewshed should be conducted in a manner that is consistent with the study area for visual resources.	Section 4.10.2 of the Draft EIS stated, "The methodology used for the impact analysis of the visual resources is three-tiered. The first level of analysis is a discussion of the changes to the landscape in the areas of analysis resulting from the actions prescribed under each alternative. The second level of analysis is an assessment of impacts resulting from those same actions as seen from KOPs along the potential project routes. The third level of analysis is an assessment of whether the proposed changes to the landscape would meet BLM's objectives for management of visual resources where the potential project routes crossed BLM-managed lands." The viewshed in the Draft EIS was delineated out to 10 miles, not 18 miles, which is consistent with recent research on visibility of transmission facilities in western landscapes by Argonne National Laboratory (ANL). Methods used for the visual resource analysis (see sections 3.10 and 4.10 in the Draft EIS), including KOP selection, are based on BLM visual resource methodology. Using other projects as a benchmark for the effects analysis may not be appropriate for a project of this scale, within this geography, and in addition is typically not a vetted process for BLM visual resource management studies.
641	82	82.60	SunZia	Wray	19-VIS	Section 3.10.8, page 376 – The area of exposure, i.e., 10 miles on either side of the centerline, does not seem to correlate with the analysis area set forth in section 3.10.1. This inconsistency in methodology makes this section confusing, as the study area for determining visual impacts seems to be based on several distances without criteria associated with the project description.	The area of exposure used in the Draft EIS (see section 3.10) is based on BLM VRM guidance as well as viewshed mapping to ensure that the analysis is comprehensive. The viewshed in the Draft EIS was delineated out to 10 miles, not 18 miles, which is consistent with recent research on visibility of transmission facilities in western landscapes by ANL. Clarification of the viewshed buffer is included in the EIS (see sections 3.10 and 4.10).
642	82	82.61	SunZia	Wray	19-VIS	Further, this viewshed implies that wherever the project can be seen in these zones, impacts may occur; otherwise why else would a viewshed be conducted in terms of a visual analysis? Areas of visual effect and distance zones should be reconciled based on actual potential effects of the project description (i.e., towers, ancillary facilities, and access roads) and described as such.	The viewshed analysis, as described in sections 3.10 and 4.10 in the Draft EIS, is conducted to establish the boundary of the area of potential effects (APE). The APE does not constitute impact, but simply defines the boundary within which impacts are determined and analyzed.
643	82	82.62	SunZia	Wray	19-VIS	Sections 3.10.7–3.10.15, page 376 – The inventory section provides what is included in the inventory, but does not explicitly state what the methods are based on (i.e., BLM methods, other 345 kV projects, Project Description, etc.).	Sections 3.10 and 4.10 (Visual Resources) in the EIS have been revised to clarify methodology. Section 3.10.7 of the EIS has been revised to reference the BLM guidance, and section 4.10.2 of the EIS specifically discusses methodology and assumptions.
644	82	82.63	SunZia	Wray	19-VIS	New terms and concepts that are cited but have not been defined to this point in the Draft EIS should be defined.	Sections 3.10 and 4.10 (Visual Resources) in the Draft EIS do not introduce new terms needing specific definitions for clarity.
645	82	82.64	SunZia	Wray	19-VIS	Studies for visual resources should be replicable, but this section does not seem to provide a holistic approach based on the goals of the NEPA and federal guidance regarding visual resource analysis. Please explain the methodology used and how it complies with federal guidance on visual resource analysis.	Sections 3.10 and 4.10 (Visual Resources) in the EIS have been revised to clarify that the analysis was conducted in keeping with BLM VRM methodology and regulatory compliance.
646	82	82.65	SunZia	Wray	19-VIS	The analysis states that the criteria to establish the area of exposure and viewshed are based on transmission line spans of 1,000 feet. Although this is important in defining areas of effect for visual resources, other components are just as important, including typical height of tower(s), width of access roads, and other temporary and permanent ancillary features. We request that these metrics be used in this analysis in order to better predict the Southline Project's visual impacts.	Sections 3.10 and 4.10 (Visual Resources) in the EIS have been revised to clarify that the analysis was conducted in keeping with BLM VRM methodology and regulatory compliance.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
647	82	82.66	SunZia	Wray	19-VIS	Additionally, using the terms for "area of exposure" versus "viewshed" does not define what the affected environment should be for visual resources. NEPA language should be used so the visual resource inventory, and later, impact analysis, is consistent with other resources studies in this Draft EIS. While using the area of exposure to help define and identify KOPs for the project is appropriate, we request that other criteria be used as well, most specifically, the BLM's 10 environmental factors for assessing contrast as well as specific criteria as identified in the Visual Resource Management ("VRM") Manual 8431.	Sections 3.10 and 4.10 (Visual Resources) in the EIS have been revised to clarify that the analysis was conducted in keeping with BLM VRM methodology and regulatory compliance.
648	82	82.67	SunZia	Wray	19-VIS	Additionally, KOPs should be identified not just where the project may be seen (i.e., area of exposure), but where sensitive landscapes (i.e., scenic quality units) or sensitive viewers are located. We request the Draft EIS disclose where impacts are, in addition to resources that would not be impacted.	Methods used in the Draft EIS (see sections 3.10 and 4.10) for the visual resource analysis are based on BLM visual resource methodology. As stated in section 3.10.11 of the Draft EIS, "Selection of KOPs occurred within the proposed area of public exposure and relates to locations of visually sensitive publics or visually sensitive locations."
649	82	82.68	SunZia	Wray	19-VIS	The KOP analysis should include KOPs regardless of whether they are exposed to the transmission line or not.	Methods used in the Draft EIS (see sections 3.10 and 4.10) for the visual resource analysis are based on BLM visual resource methodology.
650	82	82.69	SunZia	Wray	19-VIS	Section 3.10, pages 372–386 – The methodology seems to be a hybrid of the BLM inventory system for planning-level decisions. VRI concepts such as scenic quality, sensitivity level rating units ("SLRUs"), and distance zones are being used to inventory all land for the project, which may not be appropriate for the detailed project level inventory. While the BLM VRI should be used to provide context from a planning perspective and potential plan amendments, the scale of the VRI is not appropriate for a linear ROW project such as Southline. For example, the scenic quality rating units ("SQRUs") are too large to assess effects to scenic quality based on the relatively narrow size of the project ROW. In this regard, where appropriate, we request that the Draft EIS use project-level data to define the affected environment.	Methods used in the Draft EIS (see sections 3.10 and 4.10) for the visual resource analysis are based on BLM visual resource methodology. The assessment of visual contrast was based on the BLM's 10 environmental factors, as described on page 867 of the Draft EIS. The analysis of impacts to scenic quality was described at the Project level for each alternative subroute in chapter 4 of the Draft EIS.
651	82	82.70	SunZia	Wray	19-VIS	Also, the methodology discussion seems to mix planning-level elements with project-level elements, making the inventory section hard to understand and reducing the defensibility of the project. For example, the maps associated with this section depict distance zones prepared from the centerline for the project using 0–5 miles and 5–15 miles. These distance zones are being depicted as VRI, however, the BLM's distance zones are developed from sensitive viewing locations, not a specific project. Therefore, when a KOP is described within the 0–5 mile distance zone, this may not be accurate based on the BLM's VRI. This analysis needs to be updated to be project specific.	Methods used in the Draft EIS (see sections 3.10 and 4.10) for the visual resource analysis are based on BLM visual resource methodology.
652	82	82.71	SunZia	Wray	19-VIS	Also, the maps within this chapter do not illustrate the SQRUs crossed by the project which is important for context.	Methods used in the Draft EIS (see sections 3.10 and 4.10) for the visual resource analysis are based on BLM visual resource methodology. Maps to support the analysis in section 3.10 of the EIS include scenic quality rating units crossed by the project.
653	82	82.72	SunZia	Wray	19-VIS	In regard to the items above, we request that a set of maps should be included in this section that clearly depict the BLM's VRI including SQRUs, SLRUs, distance zones, and Visual Resource Inventory Classes.	Methods used in the Draft EIS (see sections 3.10 and 4.10) for the visual resource analysis are based on BLM visual resource methodology. Maps to support the analysis in section 3.10 of the EIS include BLM VRI information.
654	82	82.73	SunZia	Wray	19-VIS	USFS data should be mapped where the project would affect USFS lands.	Maps to support the analysis in sections 3.10 and 4.10 of the EIS have been revised to include more detailed geographic context and to support the analysis.
655	82	82.74	SunZia	Wray	19-VIS	In addition to these planning-level maps and information, project-level information should be mapped including viewshed, KOPs and the visual-sensitive land uses that KOPs were derived from, and project-level scenic quality units, as appropriate.	Maps and data presented in the Draft EIS included viewshed, KOPs, visual sensitive lands, and scenic quality rating units.
656	82	82.75	SunZia	Wray	19-VIS	KOP information, without the underlying land use, is ambiguous and does not provide the context to understand the affected environment and KOP selection.	Methods used in the Draft EIS (see sections 3.10 and 4.10) for the visual resource analysis are based on BLM visual resource methodology. Sections 3.10 and 4.10 of the EIS have been revised to consider land use in terms of the visual resources.
657	82	82.76	SunZia	Wray	19-VIS	Section 3.10.10, pages 33–37 – The relationship between concern level and BLM SLRUs is not evident and is hard to follow and needs to be modified to correct this issue. Concern levels seem to be associated with sensitive receptors, while SLRUs are associated with concern for the landscape, not a viewer's viewshed. This inconsistency creates confusion and implies that if a residence (or other high concern viewer) happens to fall within a low BLM SLRU, the occupant's concern for change would be low (or at least lower). A viewer's sensitivity (or concern) for changes in the landscape remains the same no matter what BLM VRI unit it falls within, compared to existing conditions.	Methods used in the Draft EIS (see sections 3.10 and 4.10) for the visual resource analysis are based on BLM visual resource methodology. Sensitivity level is not solely derived from the existing RMPs, but rather from a combination of existing "planning level" designation, combined with "project level" determination.
658	82	82.77	SunZia	Wray	19-VIS	Contrast resulting from the project may change, but sensitivity or concern remains the same. The Draft EIS should describe what the SLRU data, as well as the sensitive receptor data (i.e., concern level), means in terms of inventory and potential impacts.	Methods used in the Draft EIS (see sections 3.10 and 4.10) for the visual resource analysis are based on BLM visual resource methodology.
659	82	82.78	SunZia	Wray	19-VIS	Section 3.10 – Deming Valley SLRU has residential viewers defined as being of moderate sensitivity. Residential viewers should have a high sensitivity regardless of the planning level SLRU. The analysis should be corrected by identifying and disclosing the impacts to these residential viewers.	Methods used in the Draft EIS (see sections 3.10 and 4.10) for the visual resource analysis are based on BLM visual resource methodology. Section 4.10 of the EIS has been revised to include a clear description of sensitivity from residences.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
660	82	82.79	SunZia	Wray	19-VIS	Planning level SLRU should be separated explicitly from viewing receptor concern level	Methods used in the Draft EIS (see sections 3.10 and 4.10) for the visual resource analysis are based on BLM visual resource methodology. Sections 3.10 and 4.10 in the EIS have been revised to discuss planning level sensitivity level rating unit separately. Impacts to specific receptors associated with each alternative subroute were described in section 4.10.3 of the Draft EIS.
661	82	82.80	SunZia	Wray	19-VIS	Section 4.10.1, pages 866–867 – The Draft EIS states, "impacts based on existing condition." Impacts for visual resources are looking at the change on the landscape and on viewers' viewshed, in context with the landscape character for scenic quality and concern level for viewers. Contrast is merely a measurement of change in the landscape, but the other context of the resources being evaluated is what the impacts are based on.	The section quoted in the Draft EIS states that impacts are based on the change to the existing conditions. Section 4.10 of the Draft EIS provides sufficient clarification of both contrast and impacts in keeping with BLM guidance on VRM and NEPA.
662	82	82.81	SunZia	Wray	19-VIS	Section 4.10.2, page 866 – Similar to the comment above, contrast is a measurement of change. Impact is landscape change or contrast (witnessed or inherent landscape features) in conjunction with the context of sensitive resources. Contrast by itself does not constitute an impact. For example, a high-contrast condition may occur within 100 feet of a house. However, due to topography in the area, the high contrast may not be visible, and therefore impacts to the residential viewers would be nominal. However, if the SQRU is in a pristine state for the location in which the project is proposed, but it is a C-class landscape, impacts may only be low/moderate-to-moderate. If that landscape is designated as an A-class landscape, then impacts on scenic quality may be high.	The section quoted defines that impacts are based on the change to the existing conditions. Sections 3.10 and 4.10 of the EIS have been revised to clarify how impacts described in terms of contrast are in keeping with BLM guidance on VRM and NEPA.
663	82	82.82	SunZia	Wray	19-VIS	Section 4.10.2, page 866 – The term "impact" should be taken out of compliance methods and narratives and compliance with a VRM Class should only be based on contrast. There would be impacts to viewers and impacts to scenery but compliance is purely an administrative function to manage the landscape and inform the public of the level of mitigation being imposed.	The term "impact" in section 4.10 of the Draft EIS is used appropriately.
664	82	82.83	SunZia	Wray	19-VIS	Section 4.10.2, page 868 – This section states that there are two kinds of viewers: common and sensitive. Based on the text, sensitive viewers are defined as views from residences. "Common Views", a new term introduced thus far, should be defined.	The term "common views" in section 4.10 of the Draft EIS is considered understandable to the reader as used in this context.
665	82	82.84	SunZia	Wray	19-VIS	Please explain why if a view is designated as "common", then why would it be considered a KOP.	Viewer sensitivity is also considered in the analysis as discussed in the Draft EIS (see section 4.10). In this case, common landscape is in a location where many viewers would be exposed to change.
666	82	82.85	SunZia	Wray	19-VIS	Visual Contrast Rating ("VCR") forms should be used to demonstrate compliance with BLM VRM Classes (VRM HB 8431).	The VCR forms are included in appendix J, and information is presented within the analysis in sections 3.10 and 4.10 (Visual Resources) of the Draft EIS.
667	82	82.86	SunZia	Wray	19-VIS	How are impacts to viewers and scenic quality defined? Please revise the text to provide an explanation.	Sections 3.10 and 4.10 of the EIS have been revised to clarify the terms "viewers" and "scenic quality," as appropriate.
668	82	82.87	SunZia	Wray	19-VIS	Section 4.10.2, page 868 – The visual elements associated with "highly rural" to "high density urban landscape" are not described; please define. The two aforementioned terms are land-use definitions, and not standard visual resource-related definitions.	Terms used to describe community composition are used in sections 3.10 and 4.10 (Visual Resources) of the EIS. These terms are descriptors intended to articulate population characteristics within the area and are not technical descriptors based solely on visual resources.
669	82	82.88	SunZia	Wray	19-VIS	Section 4.10.2, page 869 – Earlier in the affected environment section, the analysis area was based on whether the line was new or the line would be upgraded. This resulted in two study areas with varying boundaries. However, line 7 states that a 10-mile buffer was analyzed around all project elements. This is inconsistent with the text in the affected environment section and implies a different inventory area, as compared to the impact area. We request that the inventory area be consistent across all alternatives studied and all land ownership jurisdictions.	All alternatives analyzed in detail were considered equally in the Draft and Final EIS. The rationale for the difference in the analysis area between the New Build Section and Upgrade Section is described in sections 3.10 and 4.10 of the Draft EIS and has been clarified in section 3.10.9 of the EIS.
670	82	82.89	SunZia	Wray	19-VIS	Section 4.10.2, page 869 – We request that the criteria be expressly defined, otherwise terminology is arbitrary (i.e., highly sensitive, aesthetic importance, and miles of project visibility). These criteria make it appear as though impacts were evaluated against them, but they are not identified in the affected environment section.	The criteria established and implemented in the visual resources analysis are based upon and in keeping with BLM Manual 8400 series.
671	82	82.90	SunZia	Wray	19-VIS	Does the project with high contrast that is seen for several miles constitute a significant impact? How will this be measured using KOPs?	In the Draft EIS, the usage of "high" impacts or contrast is in keeping with BLM VRM guidance and specifically pertains to visual resources, whereas the usage of "significant" has a different connotation within the reporting.
672	82	82.91	SunZia	Wray	19-VIS	High impacts and significant impacts are similar. The difference between high and significant impacts is not clear and requires clarification.	In the Draft EIS, the usage of "high" impacts or contrast is in keeping with BLM VRM guidance and specifically pertains to visual resources, whereas the usage of "significant" has a different connotation within the reporting.
673	82	82.92	SunZia	Wray	19-VIS	Section 4.10.2 – Results – Mitigation planning is absent from the Draft EIS discussion of impacts. Without a discussion on mitigation planning the public cannot understand how impacts would be minimized or avoided.	In the Draft EIS, the potential impacts of the proposed Project on the cultural, physical, and human environment, along with a description of mitigation measures and other measures proposed to reduce potential impacts, have been considered in the EIS. Mitigation measures are included in the EIS (see section 2.4.6).
674	82	82.93	SunZia	Wray	19-VIS	Initial versus residual impacts are not discussed, please include an explanation or such a discussion.	Residual impacts are also discussed in chapter 4.10 of the EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
675	82	82.94	SunZia	Wray	19-VIS	How will miles of mitigation be compared across all alternatives?	Mitigation is not based entirely on Project length (miles), but rather on minimizing potential impacts where they are expected occur. BLM and Western will work with landowners to carefully micro-site the Project, as appropriate. Mitigation measures for all resources are included in the EIS (see section 2.4.6).
676	82	82.95	SunZia	Wray	19-VIS	Impact results are largely deficient, in regard to describing what the impact will be from a visual standpoint. Most impacts are only defined as high, moderate, or low, but the Draft EIS does not explain if the impact is due to access roads, puller-tensioner sites, laydown areas, a transmission tower, or all of the components of the Southline Project; please correlate the level of impact to the project component that is causing the impact.	Section 4.10 (Visual Resources) in the EIS has been revised to better clarify the potential impacts of the proposed Project in terms of impacts to the existing environment from the introduction of the proposed Project. In addition, each visual contrast rating sheet includes a "proposed activity description" (see appendix I of the EIS).
677	82	82.96	SunZia	Wray	19-VIS	We request that this section be revised to provide a full explanation of the visual impacts to viewers and the landscape, what mitigation is applied, and how the mitigation would reduce the impact.	Sections 3.10 and 4.10 of the EIS have been revised to better clarify the potential impacts of the proposed transmission line on the cultural, physical, and human environment, including visual resources (sections 3.10 and 4.10). Mitigation measures for all resources are included in the EIS (see section 2.4.6).
678	82	82.97	SunZia	Wray	19-VIS	For areas where the Southline Project would not comply with VRM classes, we request that the Draft EIS explain what KOP has views of the VRM class and which VCR sheet documents the non-compliance.	Descriptions of compliance with VRM designations are included for each alternative under consideration in section 4.10 of the Draft EIS. The complete set of visual contrast rating sheets in appendix I includes a description of compliance/non-compliance for each KOP. Sections 3.10 and 4.10 (Visual Resources) in the EIS have been revised based on this comment.
679	82	82.98	SunZia	Wray	19-VIS	The mitigation documented on the VCR sheet should be discussed in the body of the Draft EIS.	Mitigation in the visual contrast rating sheets was included in the body of the Draft EIS. Sections 3.10 and 4.10 of the EIS have been revised to better clarify the potential impacts of the proposed transmission line in terms of visual resources (sections 3.10 and 4.10). Mitigation measures from the visual contrast rating sheets have been included in table 2-8 of the EIS and are considered in the impact analysis.
680	82	82.99	SunZia	Wray	19-VIS	We recommend that the Draft EIS be supplemented to address the confusing nature of how these impacts were evaluated by actually disclosing impacts and the rationale for the conclusions reached. Then, the Draft EIS should be republished and an additional 30-day comment period be provided to allow public review and comment on this important resource section.	Please note that the EIS reflects consideration of all comments received during the public comment period. The EIS includes responses to comments received during the public comment process and provides revised EIS text based on those comments. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.
682	82	82.101	SunZia	Wray	19-VIS	Section 3.13, page 493 – The text states that opportunities for solitude and/or primitive recreation are based on hearing a project or seeing a project or other man-made structures/disturbance. Given this, the visual resource assessment should include views from wilderness character units to ascertain opportunities preserved or lost for solitude and/or primitive recreation.	The "visual influence" is captured during the wilderness characteristics inventory under the "naturalness" assessment. While visual influence is considered, it is not the basis of the wilderness character. There are many wilderness areas (designated) from which one can see transmission lines, but those instances are not in and of themselves characteristics that negate a wilderness designation, or the potential for wilderness characteristics. In the Draft EIS, see sections 3.12 and 4.12 for a discussion of special designations (designated wilderness areas) and sections 3.13 and 4.13 for the wilderness characteristics inventory.
1	1	1.1	–	Hitchcock	7-LAND	It looks as though the route this line will follow is the I-10 route, but I am not quite sure if that is correct? If it is correct, does it jeopardize in any way the electromagnetic free area that Ft Huachuca and its surrounding electronic ranges contain? If it does, MOVE IT FARTHER NORTH around any close contact with Sierra Vista, Ft Huachuca or its electronic ranges. Run it from Wilcox straight west to Tucson! It would be truly inconsiderate to put financial decisions over the protection of our Nation.	The proposed Project and alternatives were described in chapter 2 of the Draft EIS. BLM and Western have coordinated closely with the DOD, Ft. Huachuca, and BSETR to minimize impacts to the BSETR mission and to select the Agency Preferred Alternative. These potential impacts are described in sections 3.11.3 and 4.11.3 of the EIS.
28	11	11	–	Howell	7-LAND	1. How do you deal with leakage from lines or electrical appliances, tv, ratio, etc. 2. How is livestock affected? Also humans?	Information on the potential effects of electromagnetic fields from the proposed transmission line was described in sections 3.16 and 4.16 of the Draft EIS. Section 4.11.2 of the EIS has been revised to consider how EMF may affect livestock.
64	25	25.2	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Table 2-11 (Subroute 1), page 151. Local Alternative Segments DN1 -- needs the following bullet added: "-Crosses MTR VR-263"	Table 2-11 (now table 2-15 in chapter 2 of the EIS) has been revised based on this comment.
65	25	25.3	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Table 2-11 (Subroute 1), page 151. Local Alternative Segments D -- needs the following bullet added: "-Crosses MTR VR-263"	Table 2-11 (now table 2-15 in chapter 2 of the EIS) has been revised based on this comment.
66	25	25.4	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Table 2-12 (Subroute 2), page 162. Subroute 2.1 - Proponent Preferred -- needs the following corrections: first MTR bullet should be changed to read, "- Crosses military training routes (MTRs) VR-259, VR-260, VR-263, and VR-1233"; second MTR bullet, "- Crosses MTRs VR-260 and VR-267" should be deleted. (VR-267 is not crossed by the project.)	Table 2-12 (now table 2-16 in chapter 2 of the EIS) has been revised based on this comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
67	25	25.5	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Table 2-12 (Subroute 2), page 162. Subroute 2.2 - Proponent Alternative -- needs the following corrections: MTR bullet should be changed to read, "- Crosses MTRs VR-259 and VR-260". (VR-267 is not crossed by the project.)	Table 2-12 (now table 2-16 in chapter 2 of the EIS) has been revised based on this comment.
68	25	25.6	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Table 2-12 (Subroute 2), page 162. Local Alternative Segments LD3a -- needs the following bullet corrected to read: "- Crosses MTRs VR-263 and VR-1233"	Table 2-12 (now table 2-16 in chapter 2 of the EIS) has been revised based on this comment.
69	25	25.7	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Table 2-12 (Subroute 2), page 162. Local Alternative Segments LD3b -- needs the following bullet deleted: "-Crosses MTR VR-1233"	Table 2-12 (now table 2-16 in chapter 2 of the EIS) has been revised based on this comment.
70	25	25.8	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Table 2-12 (Subroute 2), page 162. Local Alternative Segments LD4 -- needs the following bullet added: "- Crosses MTRs VR-260, VR-263, and VR-1233"	Table 2-12 (now table 2-16 in chapter 2 of the EIS) has been revised based on this comment.
71	25	25.9	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Table 2-12 (Subroute 2), page 162. Local Alternative Segments LD4-Option 5 -- needs the following bullet added: "- Crosses MTRs VR-260, VR-263, and VR-1233"	Table 2-12 (now table 2-16 in chapter 2 of the EIS) has been revised based on this comment.
72	25	25.10	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Table 2-12 (Subroute 2), page 162. Local Alternative Segments WC1 -- needs the following bullet added: "-Crosses MTR VR-259"	Table 2-12 (now table 2-16 in chapter 2 of the EIS) has been revised based on this comment.
73	25	25.11	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Table 2-13 (Subroute 3), page 172. Subroute 3.1 - Proponent Preferred (Upgrade) -- needs the following bullet added: "- Crosses military training route (MTR) VR-259"	Table 2-13 (now table 2-17 in chapter 2 of the EIS) has been revised based on this comment.
74	25	25.12	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Chapter 3, contents, page Xlvii, lines 24-25. The following figures need to be inserted into the list: "Figure 3.11-4. Military Training Routes and Airspace Restrictions in the New Build Section ..... 463" and "Figure 3.11-5. Military Training Routes and Airspace Restrictions in the Upgrade Section..... 464"	The table of contents in the EIS has been revised based on this comment.
75	25	25.13	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 466, line 43. The following sentences should be inserted here: "...miles left and right of the route. Nautical miles have been converted to statute miles for the purposes of this analysis. FAA Sectional charts only display the MTR centerline, not the actual MTR leg widths. See figure 3.11-4 and 3.11-5 for actual route points and leg widths. MTRs are subdivided into Instrument MTRs, Visual MTRs, and Slow-..."	Section 3.11.3 in the EIS has been revised based on this comment.
76	25	25.14	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 467, lines 12-14. The following sentence is confusing and inaccurate since page 461, lines 25-27 includes MTRs in the analysis area. It should be deleted: "Although airspace restrictions are present in the vicinity of the proposed Project and alternatives, the military analysis area does not overlap with these areas."	Section 3.11.3 in the EIS has been revised based on this comment.
77	25	25.15	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Sections 3.11.3 and 4.11.3, Military Operations, page 467, Tables 3.11-14.; 3.11-15; 3.11-16; 3.11-17; 4.11-16; and 4.11-17. Two things. First, this table and other tables included below inaccurately display the "Length of Analysis Area Crossed by MTR". For example, look at Table 3.11-14, Proposed Route – P2, VR-263, with a value of "0.05" miles. That equals only 264 feet. I believe the original calculations may have only accounted for just the (very thin) MTR centerline and not the actual width of affected MTR legs. Secondly, some of the subroutes are mis-labeled and are shown in the wrong Route Groups. The following changes should be made, as listed below.	Sections 3.11.3 and 4.11.3 in the EIS have been revised based on this comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
78	25	25.16	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 467, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. The P2-subroute 1.1 segment crosses 19.3 miles of VR-263, not 0.05 miles.	Section 3.11.3 in the EIS has been revised based on this comment.
79	25	25.17	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 467, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. The P4a-subroute 1.1 segment crosses 8.7 miles of VR-263, not zero miles.	Section 3.11.3 in the EIS has been revised based on this comment.
80	25	25.18	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 467, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. In accordance with Table 2-8, p. 86, the "P4b-subroute 1.1" is actually in Group 2, not Group 1, and should be labeled "subroute 2.1", not 1.1. Also, the P4b-subroute 2.1 segment crosses 11.4 miles of VR-263, not zero miles. The P4b-subroute 2.1 segment also crosses 8.4 miles of VR-1233, not zero miles.	Section 3.11.3 in the EIS has been revised based on this comment.
81	25	25.19	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. In accordance with Table 2-8, p. 86, the "P6b-subroute 1.1" is actually in Group 2, not Group 1, and should be labeled "subroute 2.1", not 1.1. Also, the P6b-subroute 2.1 segment crosses 5.9 miles of VR-260, not 0.04 miles.	Section 3.11.3 in the EIS has been revised based on this comment.
82	25	25.20	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section . In accordance with Table 2-8, p. 86, the "P7-subroute 1.1" is actually in Group 2, not Group 1, and should be labeled "subroute 2.1", not 1.1. Also, the P7-subroute 2.1 segment crosses 6.6 miles of VR-259, not 0.05 miles. The P7-subroute 2.1 segment also crosses 13.4 miles of VR-260, not 0.47 miles.	Section 3.11.3 in the EIS has been revised based on this comment.
83	25	25.21	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. In accordance with Table 2-8, p. 86, the "P8-subroute 1.1" is actually in Group 2, not Group 1, and should be labeled "subroute 2.1", not 1.1. Also, the P8-subroute 2.1 segment crosses 0.5 miles of VR-259, not zero miles.	Section 3.11.3 in the EIS has been revised based on this comment.
84	25	25.22	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. The Local Alternative DN1 segment crosses 6.8 miles of VR-263, not 0.05 miles.	Section 3.11.3 in the EIS has been revised based on this comment.
85	25	25.23	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. The Local Alternative D segment crosses 7.3 miles of VR-263, not zero miles.	Section 3.11 in the EIS has been revised based on this comment.
86	25	25.24	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. The S7 - subroute 1.2 segment crosses 34.1 miles of VR-263, not 0.05 miles.	Section 3.11.3 in the EIS has been revised based on this comment.
87	25	25.25	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. The S8 -subroute 1.2 segment crosses 14.6 miles of VR-263, not zero miles.	Section 3.11.3 in the EIS has been revised based on this comment.
88	25	25.26	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. The F -subroute 2.2 segment crosses 5.9 miles of VR-260, not 0.04 miles.	Section 3.11.3 in the EIS has been revised based on this comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
89	25	25.27	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. The Local Alternative LD3a segment crosses 19.9 miles of VR-263, not zero miles. The Local Alternative LD3a segment also crosses 22.3 miles of VR-1233, not 0.09 miles.	Section 3.11.3 in the EIS has been revised based on this comment.
90	25	25.28	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. The Local Alternative LD4 segment crosses 5.5 miles of VR-260, not 0.04 miles. There is a typo with the first listed VR-1233 which should be changed to "VR-263" with a height AGL of "100" feet, not 300 feet; and which the Local Alternative LD4 segment crosses "44.6" miles of VR-263, not 0.06 miles. The second listed VR-1233 should remain listed, but the Local Alternative LD4 segment crosses 35.5 miles of VR-1233, not 0.05 miles.	Section 3.11.3 in the EIS has been revised based on this comment.
91	25	25.29	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. The Local Alternative LD4-Option 5 segment is missing from this table and should be included with the following MTR crossing data: LD4-Option 5 crosses VR-260 with its height AGL of 300 feet a total of 5.1 miles. It also crosses VR-263 with its height AGL of 100 feet at total of 3.0 miles. It also crosses VR-1233 with its height AGL of 300 feet a total of 4.9 miles.	Section 3.11.3 in the EIS has been revised based on this comment.
92	25	25.30	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. The Local Alternative WC1 segment crosses 1.3 miles of VR-259, not zero miles.	Section 3.11.3 in the EIS has been revised based on this comment.
93	25	25.31	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. The three Substations all cross about 0.27 miles of the correctly listed MTRs, not zero miles.	Section 3.11.3 in the EIS has been revised based on this comment.
94	25	25.32	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 468, Table 3.11-14. MTRs that Cross the Analysis Area - New Build Section. I could not verify the accuracy of the data regarding the listed staging areas, because I could not find the proposed locations of the staging areas within the DEIS. Also, I found that both this table and Table 3.11-16 seem to list a lot of the same designated staging areas, even though the two tables probably should list only the ones affecting the respective New Build and Upgrade sections. For example, why is staging area Gb listed on the New Build table, when Gb is only in the Upgrade section?	Section 3.11.3 in the EIS has been revised based on this comment.
95	25	25.33	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 469, Table 3.11-15. Military Operations Areas in the Vicinity of the New Build Section. If you consider that Tombstone C MOA starts at 14,500 feet AMSL, then this airspace would probably not be affected by the Southline Transmission project. On the other hand, Tombstone A and Tombstone B MOAs both start at 500 feet AGL and possible affects must be more closely examined. Perhaps, the distance to the nearest route (segment name) should be changed as follows: "Tombstone MOAs (A and B) -- 3.2 miles (S7) -- 0"	Section 3.11.3 in the EIS has been revised based on this comment.
96	25	25.34	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 469, line 11-15. The sentence phrase " The Army National Guard trains helicopter pilots near the Tortolita Substation. Military training flights occur between 1,000" should be removed and the rest of these lines clarified and corrected to read as follows: "The Jackal Low MOA overlies Graham County in southwestern Arizona. The lowest altitude of operation is 100 feet AGL and the highest is 10,999 feet above mean sea level (amsl). The Jackal Low MOA is always active Monday through Friday from 7 a.m. to 6 p.m.. It is active by Notice to Airmen (NOTAM) 6 p.m. to 10 p.m. Monday to Friday and intermittently on weekends."	Section 3.11.3 in the EIS has been revised based on this comment.
97	25	25.35	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 470, Table 3.11-16. MTRs that Cross the Analysis Area - Upgrade Section. In accordance with Table 2-8, p. 87, the "Ga - subroute 2.2" is actually in Group 2, not Group 3. Also, the Ga segment crosses 1.3 miles of VR-259, not zero miles.	Section 3.11.3 in the EIS has been revised based on this comment.
98	25	25.36	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 470, Table 3.11-16. MTRs that Cross the Analysis Area - Upgrade Section. In accordance with Table 2-8, p. 87, the "Gb - subroute 2.2" is actually in Group 2, not Group 3. Also, the Gb segment crosses 1.0 miles of VR-259, not zero miles.	Section 3.11.3 in the EIS has been revised based on this comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
99	25	25.37	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 470, Table 3.11-16. MTRs that Cross the Analysis Area - Upgrade Section. In accordance with Table 2-8, p. 87, the "Gc - subroute 2.2" is actually in Group 2, not Group 3. Also, the Gc segment crosses 7.4 miles of VR-259, not 0.07 miles. The Gc segment does not cross VR-1233 at all. All three typos (though different crossing distances?) referring to VR-1233 should be deleted.	Section 3.11.3 in the EIS has been revised based on this comment.
100	25	25.38	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 470, Table 3.11-16. MTRs that Cross the Analysis Area - Upgrade Section. I could not verify the accuracy of the data regarding the listed staging areas, because I could not find the proposed locations of the staging areas within the DEIS. Also, I found that both this table and Table 3.11-14 seem to list a lot of the same designated staging areas, even though the two tables probably should list only the ones affecting the respective New Build and Upgrade sections.	Section 3.11.3 in the EIS has been revised based on this comment.
101	25	25.39	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 470, line 14. If you consider that Tombstone C MOA starts at 14,500 feet AMSL, then this airspace would probably not be affected by the Southline Transmission project. On the other hand, Tombstone A and Tombstone B MOAs both start at 500 feet AGL and possible affects must be more closely examined. Perhaps the distance to the nearest route (segment name) should be changed as follows: "Tombstone A MOA -- 12.7 miles (U1a) -- 0"	Section 3.11.3 in the EIS has been revised based on this comment.
102	25	25.40	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 3.11.3, Military Operations, page 476, line 8-16. Numerous typographical errors here; namely, should be Arizona Air National Guard, not Army National Guard; seven MOAs, not five; three low- level MTRs, not one. The entire paragraph should be replaced with this one: "The 162nd Wing of the Arizona Air National Guard is located at the Tucson International Airport in Tucson. The 162nd Wing is the largest Air National Guard wing in the United States with three fighter squadrons, a reconnaissance group, and the Air National Guard/Air Force Reserve Test Center. The mission of the 162nd Wing of the Arizona Air National Guard is to provide fighter training programs and tactical reconnaissance. The 162nd Wing provides F-16 training for pilots through academic, simulator, and flight training. The 162nd Wing has scheduling responsibility and operational control of the Special Use Airspace for seven MOAs (including the Outlaw, Jackal, and Jackal Low MOAs located north of Tucson, the Morenci and Reserve MOAs located northeast of Tucson, and the Ruby and Fuzzy MOAs located south of Tucson), three low-level MTRs and one Air-to-Air Refueling Anchor. The 162nd Wing also regularly uses the Goldwater Range Complex and the Sells MOA."	Section 3.11.3 in the EIS has been revised based on this comment.
103	25	25.41	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 939, line 4. Should be changed to read as follows: "Segment P2 and P4a of Subroute 1.1 would cross MTR VR-263 ..."	Section 4.11.3 in the EIS has been revised based on this comment.
104	25	25.42	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 939, line 7. Should be changed to read as follows: "Segment P2 and P4a of Subroute 1.1 would cross MTR VR-263. ..."	Section 4.11.3 in the EIS has been revised based on this comment.
105	25	25.43	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Militaary Operations, page 939, line 9. Typos should be fixed to read as follows: " ... would be required at MTR VR-263 in order to prevent impacts to MTR VR-263. No other military installations..."	Section 4.11.3 in the EIS has been revised based on this comment.
106	25	25.44	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 939, Table 4.11-16. Route Group 1 Military Uses Resource Inventory Data. The P2 segment actually crosses 19.3 miles of MTR VRs, not 0.1 miles.	Section 4.11.3 in the EIS has been revised based on this comment.
107	25	25.45	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 939, Table 4.11-16. Route Group 1 Military Uses Resource Inventory Data. The P4a segment actually crosses 8.7 miles of MTR VRs, not zero miles.	Section 4.11.3 in the EIS has been revised based on this comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
108	25	25.46	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 939, Table 4.11-16. Route Group 1 Military Uses Resource Inventory Data. The S7 segment actually crosses 34.1 miles of MTR VRs, not 0.1 miles.	Section 4.11.3 in the EIS has been revised based on this comment.
109	25	25.47	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 939, Table 4.11-16. Route Group 1 Military Uses Resource Inventory Data. The S8 segment actually crosses 14.6 miles of MTR VRs, not zero miles.	Section 4.11.3 in the EIS has been revised based on this comment.
110	25	25.48	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 939, Table 4.11-16. Route Group 1 Military Uses Resource Inventory Data. The DN1 segment actually crosses 6.8 miles of MTR VRs, not 0.1 miles.	Section 4.11.3 in the EIS has been revised based on this comment.
111	25	25.49	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 939, Table 4.11-16. Route Group 1 Military Uses Resource Inventory Data. The D segment actually crosses 7.3 miles of MTR VRs, not zero miles.	Section 4.11.3 in the EIS has been revised based on this comment.
112	25	25.50	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 940, line 3. Should be changed to read as follows: "MTR VR-263 would be crossed by segment S7 and S8 of Subroute 1.2. Construction ... "	Section 4.11.3 in the EIS has been revised based on this comment.
113	25	25.51	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 940, line 6. Should be changed to read as follows: "MTR VR-263 would be crossed by segment S7 and S8 of Subroute 1.2. At the intersection ... "	Section 4.11.3 in the EIS has been revised based on this comment.
114	25	25.52	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 940, line 9. Should be changed to read as follows: "... VR-263. Unmitigated, segment S7 and S8 would result in moderate impacts to MTR VR-263 due to the potential ..."	Section 4.11.3 in the EIS has been revised based on this comment.
115	25	25.53	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 940, line 17-18. Should be changed to read as follows: "Local alternatives A, B, and C do not intersect with any military facilities or MTR VRs. However, local alternatives DN1 and D would cross MTR VR-263. Construction impacts would be as described above ..."	Section 4.11.3 in the EIS has been revised based on this comment.
116	25	25.54	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 940, line 21-23. Should be changed to read as follows: "Local alternatives A, B, and C do not intersect with any military facilities or MTR VRs. However, local alternatives DN1 and D would cross MTR VR-263. At the intersections of local alternatives DN1 and D with MTR VR-263, the minimum flight altitude is 100 feet AGL. ... "	Section 4.11.3 in the EIS has been revised based on this comment.
117	25	25.55	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 940, line 25. Should be changed to read as follows: "... Unmitigated, DN-1 and D would result in moderate impacts to MTR VR-263 due to the potential for ..."	Section 4.11.3 in the EIS has been revised based on this comment.
118	25	25.56	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 940, line 31-32. Should be changed to read as follows: "Segment P7 of Subroute 2.1 would cross the Willcox Playa, which is managed by the BSETR and is a possible site for test operations. Segments P4b, P6b, P7, and P8 would cross MTRs VR-259, VR-260, VR-263, and VR-1233 (Table 4.11-17). Construction ... "	Section 4.11.3 in the EIS has been revised based on this comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
119	25	25.57	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, line 4-6. Should be changed to read as follows: "... the BSETR. Where subroute 2.1 intersects with MTR VR-259 (segments P7 and P8), VR-260 (segments P6b and P7), and VR-1233 (segment P4b), the minimum flight altitudes are 700 feet AGL (VR-259) and 300 feet AGL (VR-260, VR-1233), respectively. This is well above the proposed structure height of 90 to 170 feet, as described in section 2.4.2. On the other hand, wherever subroute 2.1 (segment P4b) intersects with MTR VR-263, the minimum flight altitude is 100 feet AGL. Therefore, the optional structure height of 90 feet (as described in section 2.4.2) would be required at MTR VR-263 in order to prevent impacts to MTR VR-263. Unmitigated, segment P4b would result in moderate impacts to MRT VR-263 due to the potential for airspace limitations at 100 feet AGL. Impacts for operation and maintenance ..."	Section 4.11.3 in the EIS has been revised based on this comment. BLM and Western will work with the Arizona Air National Guard (Tucson) during Project micro-siting.
120	25	25.58	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, Table 4.11-17. Route Group 2 Military Uses Resource Inventory Data. The P4b segment actually crosses 14.0 miles of MTR VRs, not zero miles.	Section 4.11.3 in the EIS has been revised based on this comment.
121	25	25.59	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, Table 4.11-17. Route Group 2 Military Uses Resource Inventory Data. The P6b segment actually crosses 5.9 miles of MTR VRs, not 0.1 miles.	Section 4.11.3 in the EIS has been revised based on this comment.
122	25	25.60	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, Table 4.11-17. Route Group 2 Military Uses Resource Inventory Data. The P7 segment actually crosses 13.4 miles of MTR VRs, not 0.5 miles.	Section 4.11.3 in the EIS has been revised based on this comment.
123	25	25.61	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, Table 4.11-17. Route Group 2 Military Uses Resource Inventory Data. The P8 segment actually crosses 0.5 miles of MTR VRs, not zero miles.	Section 4.11.3 in the EIS has been revised based on this comment.
124	25	25.62	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, Table 4.11-17. Route Group 2 Military Uses Resource Inventory Data. The F segment actually crosses 5.9 miles of MTR VRs, not zero miles. Also its foonote "* Value greater than zero but less than 0.1" should be deleted.	Section 4.11.3 in the EIS has been revised based on this comment.
125	25	25.63	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, Table 4.11-17. Route Group 2 Military Uses Resource Inventory Data. The Ga segment actually crosses 1.3 miles of MTR VRs, not zero miles.	Section 4.11.3 in the EIS has been revised based on this comment.
126	25	25.64	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, Table 4.11-17. Route Group 2 Military Uses Resource Inventory Data. The Gb segment actually crosses 1.0 miles of MTR VRs, not zero miles.	Section 4.11.3 in the EIS has been revised based on this comment.
127	25	25.65	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, Table 4.11-17. Route Group 2 Military Uses Resource Inventory Data. The Gc segment actually crosses 7.4 miles of MTR VRs, not 0.1 miles.	Section 4.11.3 in the EIS has been revised based on this comment.
128	25	25.66	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, Table 4.11-17. Route Group 2 Military Uses Resource Inventory Data. The LD3a segment actually crosses 26.8 miles of MTR VRs, not 0.1 miles.	Section 4.11.3 in the EIS has been revised based on this comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
129	25	25.67	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, Table 4.11-17. Route Group 2 Military Uses Resource Inventory Data. The LD4 segment actually crosses 51.5 miles of MTR VRs, not 0.1 miles.	Section 4.11.3 in the EIS has been revised based on this comment.
130	25	25.68	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, Table 4.11-17. Route Group 2 Military Uses Resource Inventory Data. The LD4-Option 5 segment actually crosses 5.1 miles of MTR VRs, not zero miles.	Section 4.11.3 in the EIS has been revised based on this comment.
131	25	25.69	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, Table 4.11-17. Route Group 2 Military Uses Resource Inventory Data. The WC1 segment actually crosses 1.3 miles of MTR VRs, not zero miles.	Section 4.11.3 in the EIS has been revised based on this comment.
132	25	25.70	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 941, Table 4.11-17. Route Group 2 Military Uses Resource Inventory Data. The footnote "* Value greater than zero but less than 0.1" should be deleted.	Section 4.11.3 in the EIS has been revised based on this comment.
133	25	25.71	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 942, line 3-7. For consistency delete: "These would result in minor impacts for subroute 2.2 as it 4 would occur below the MTRs, which are used for aerial training, electronics, and communications testing." Then change the remaining lines to read as follows: "Temporary ground disturbance would occur during construction activities where segments F, Ga, Gb and Gc would cross MTRs VR-259 and VR-260. Construction impacts would be as described above in "Impacts Common to All Action Alternatives."	Section 4.11.3 in the EIS has been revised based on this comment.
134	25	25.72	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 942, line 9. Should be changed to read as follows: "Segments F, Ga, Gb and GC of Subroute 2.2 would cross MTRs VR-259 and VR-260. Where VR-259 would..."	Section 4.11.3 in the EIS has been revised based on this comment.
135	25	25.73	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 942, line 18-19. Should be completely reworded as follows: "Local alternatives LD3a, LD4, LD4-Option 5, and WC1 intersect one or more of the following MTRs: VR-259, VR-260, VR-263, and VR-1233. LD3a intersects both VR-263 and VR-1233. Both LD4 and LD4-Option 5 intersect VR-260, VR-263, and VR-1233. LD4 would also intersect with the Morenci MOA. WC1 intersects only VR-259. Construction impacts would be as described above in "Impacts Common to All Action Alternatives."	Section 4.11.3 in the EIS has been revised based on this comment.
136	25	25.74	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 942, line 22-24. Should be completely reworded as follows: "Local alternatives LD3a, LD4, LD4-Option 5, and WC1 intersect one or more of the following MTRs: VR-259, VR-260, VR-263, and VR-1233. LD3a intersects both VR-263 and VR-1233. Both LD4 and LD4-Option 5 intersect VR-260, VR-263, and VR-1233. WC1 intersects only VR-259. Where LD3a, LD4, LD4-Option 5, and WC1 do not intersect with VR-263, but only intersect with VR-259, VR-260, and/or VR-1233, the minimum flight altitudes are 700 feet AGL (VR-259)and 300 feet AGL (VR-260, VR-1233), respectively. This is well above the proposed structure height of 90 to 170 feet, as described in section 2.4.2. On the other hand, wherever LD3a, LD4, and LD4-Option 5 intersect with MTR VR-263, the minimum flight altitude is 100 feet AGL. Therefore, the optional structure height of 90 feet (as described in section 2.4.2) would be required at MTR VR-263 in order to prevent impacts to MTR VR-263. Unmitigated, segments LD3a, LD4, and LD-Option 5 would result in moderate impacts to MRT VR-263 due to the potential for airspace limitations at 100 feet AGL. LD4 would also cross the Morenci MOA. The Morenci MOA occurs at ... "	Section 4.11.3 in the EIS has been revised based on this comment.
137	25	25.75	Arizona Air National Guard (Tucson) 162nd Wing Airspace Manager	Stine	7-LAND	Section 4.11.3, Military Operations, page 946, line 8-10. Should be completely reworded as follows: "Use the optional structure height of 90 feet in areas intersecting the MTR VR-263, which has a 100 feet AGL flight altitude. Additionally, do not erect any structures exceeding 200 feet in height in areas intersecting MTRs VR-260 and VR-1233. Towers crossing the MTRs should also have anti-collision lighting to the maximum extent possible in order to make the hazard of powerlines more apparent to pilots flying low altitude at night. These measures would mitigate impacts to military training and airspace usage, as well as contribute to the safe conduct of our missions."	Section 4.11.3 in the EIS has been revised based on this comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
329	68	68.6	Pima County	Bernal/Connolly	7-LAND	Typical of County regulatory authorities and infrastructure concerns with such projects, permits will be required for air quality control and right-of-way intrusions, and any potential conflicts with wastewater conveyance systems must be avoided. Furthermore, as per the Pima County Zoning Code, §18.07.040(8)(5), there are permitting requirements and design standards for power substations with an input voltage of 115 kV or greater. We understand the new substations are not proposed to be constructed; however, the expansion of existing substations, depending upon the extent of such expansions, may require modification of existing approvals, including the Board of Supervisors' modification of an existing substation permit.	Compliance with Pima County permitting requirements is discussed in sections 3.11.1 and 4.11.1 of the Draft EIS.
169	32	32.15	EPA	Jansky/Weeks	7-LAND	Farmlands. Chapter 4; page 935. The Agency Preferred Alternative will have adverse impacts to Farmland of Statewide Importance, Farmland of Unique Importance, and Prime Farmland. The impacts are not designated as significant by BLM because they do not comprise greater than 10% loss of prime or unique farmlands. Regardless of the 10% significance level established by BLM, any impacts to prime or unique farmlands require consultation with the National Resource Conservation Service (NRCS). Recommendation: The FEIS should have consultation documents between BLM and NRCS for prime and unique farmlands. The documents should indicate if the impacts to prime farmland soils are below de minimus levels and require no further consultation, or that further consultation and mitigation of impacts in necessary.	BLM coordinated with the NRCS regarding potential impacts to prime and unique farmlands; this coordination is available in the Project Record and referenced in section 4.11.2 of the EIS.
180	36	36.2	Hearing	No ID Speaker	7-LAND	I didn't see an overlay on the map in Doña County for the unmanned vehicle area for the university. Has that been considered?	BLM and Western received comments from NMSU's Unmanned Aircraft Systems Flight Test Center. As a result, sections 3.11.1 and 4.11.1 (Land Use) of the EIS have been revised to include information on the Unmanned Aircraft Systems Flight Test Center.
186	38	38.3	Hearing	No ID Speaker	7-LAND	How is that going to impact our airport (referring to the Benson Airport)	The potential impact of the proposed transmission line on transportation was analyzed in section 4.18 of the Draft EIS. The Benson Municipal Airport is located more than 1 mile from the nearest proposed Project route and would not be affected by the proposed Project.
227	42	42.1	U.S. International Boundary and Water Commission	Anaya	7-LAND	Portions of the Proponent (Proposed Upgrade) Alternative are located near the United States/Mexico international boundary and may require further consultation with the USIBWC. Projects located on or near the international boundary which may affect international boundary monuments or drainage flows into either country must be reviewed by the USIBWC. The USIBWC has a duty to access, maintain, and utilize the international boundary monuments along the United States/Mexico land boundary. The USIBWC is charged with these duties through treaties and international agreements between the United States and Mexico. We require that the proposed work, and related facilities not affect the permanence (disturb the foundations) of existing boundary monuments nor impede access for their maintenance. In addition, any proposed construction must allow for line-of-sight visibility between each of the boundary monuments.	Sections 2.4.6, 3.7 (Water Resources), and 3.11.1 (Land Use) in chapter 3 of the EIS have been revised to describe requirements of the U.S. International Boundary and Water Commission.
269	51	51.1	City of Benson	Brooks	7-LAND	I am very concerned about the 60 cycle noise emitted by this line in the San Pedro Valley. Fort Huachuca Intelligence gathering was chosen because of the lack of electronic noise emissions in the United States. Although the Forts listening bands world wide are in the KHz / MHz / and GHz bands there is magnetics and harmonics transmitted by the large electro magnetic fields put out by this line. Has studies been done to show this line in no way would effect the extremely sensitive and important intelligence gathering operations by the world listening antenna's of Fort Huachuca. I hope you have consulted with them on this.	BLM and Western have coordinated closely with the DOD, Ft. Huachuca, and BSETR to minimize potential impacts to the BSETR mission; the Agency Preferred Alternative also considers this coordination. These potential impacts were described in sections 3.11.3 and 4.11.3 of the Draft EIS. As discussed in section 2.9.1 of the Draft EIS, upgrading the existing Western line in the same location would keep the location of potential interference in an area that the military is already accounting for in its operations.
308	65	65.1	Department of Defense	Brashier	7-LAND	No additional comments were received from DoD. As we discussed at the Cooperating Agency meeting, the comments submitted by DoD in the previous round included detailed comments from LtCol David Stine, AZANG, 162 FW Airspace Manager, OSS/OSOA/162 OG Chief of Wing Scheduling, OSS/OSOS. These comments had been approved by the Clearinghouse and service headquarters, but were not incorporated into the draft by BLM. LtCol Stine has worked directly with your team and sent an email to BLM with the attached comments.	Sections 3.11.3 and 4.11.3 in the EIS have been revised to address LtCol David Stine's comments.
235.2	68	68.2	Pima County	Bernal/Connolly	7-LAND	Chief among our concerns is that the 'Rebuild' alignment crosses through or is adjacent to several County-owned preserves, including Cienega Creek Natural Preserve, Bar V Ranch, Tucson Mountain Park, Tumamoc Hill and Los Morteros;	Sections 3.11.1 and 4.11.1 (Land Use) in the EIS have been revised to include more information on county-owned preserves. However, it is worth noting that the existing Western line, ROW, and access points have been in existence since the lines were constructed in 1951, prior to the designation of the county-owned preserves.
332	68	68.9	Pima County	Bernal/Connolly	7-LAND	increased illegal access to and use of County-owned and leased properties that have been preserved for purposes of conservation and resource protection;	Sections 3.11.1 and 4.11.1 in the EIS have been revised based on this comment. However, it is worth noting that the existing Western line, ROW, and access points have been in existence since the lines were constructed in 1951, prior to the designation of the county-owned preserves.
340	68	68.17	Pima County	Bernal/Connolly	7-LAND	That segment of the preferred route that crosses through T15S,R14E, Section 31 and parts of Section 32 (Exhibit A) is an impediment to completing undertakings which are critically important to the region's economic health and affects the Federal Aviation Authority's (FAA) and the U.S. Air Force's federal interests.	Based on comments by Pima County regarding lands south of the Tucson International Airport, a new approximately 6-mile-long route variation (U3aPC) is analyzed in the EIS. Additionally, U3aPC is part of the revised Agency Preferred Alternative in the EIS, as described in section 2.10.5 of the EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
346	68	68.23	Pima County	Bernal/Connolly	7-LAND	This route has 13 segments, U3b through U4, that stretch roughly 48.4 miles of which, 29.8 miles are on private land, 17.9 miles on State-owned land, and the remainder on County and Bureau of Reclamation lands (Draft EIS, Volume 2, Table 4.11-7, Page 919). Along the stretch of these segments, five "land types" have been identified (Draft EIS, Volume 2, Table 4.11-14, Page 933): (1) Total Representative ROW Acreage; (2) Farmland of Statewide Importance (FSI); (3) Farmland of Unique Importance (FUI); (4) Prime Farmland if Irrigated (PFI); and (5) Prime Farmland if Meeting Other Conditions (PFOC). It is not clear as to how these "land types" have attained their categorization, as a glossary of terms to define them does not exist as part of the draft EIS. The draft EIS determines 874.9 acres of land within "Total Representative ROW Acreage" (Draft EIS, Volume 2, Table 4.11-14, Page 933) with 25.1 acres of FUI, the latter amounting to approximately three percent of the former. It is not empirically conclusive that lands categorized under FSI, FUI, PFI, and PFOC are subsets of TRRA, as PFOC lands in Segment U3h, exceed TRRA lands by over 100 acres.	Sections 3.11.2 and 4.11.2 in the EIS have been revised based on this comment.
347	68	68.24	Pima County	Bernal/Connolly	7-LAND	The Draft EIS states that "[T]he construction of the transmission line would result in a minor direct effect by eliminating farmland from production, if it cannot be avoided" (Draft EIS, Volume 2, Page 932). An empirical explanation of this conclusion from BLM and other project proponents is essential for the County to review and either agree or disagree. Also, while it is good to know that "[A]dditional efforts to avoid farmlands would be available during completion of the final design," some mention of these stated efforts, earlier than the 'final design' stage is greatly desired in order for Pima County to assess their potential validity and effectiveness. Also, while stating that "[N]o direct or indirect effects of rangelands are expected to occur during the Project operation," such can be reassuring only with the provision of verifiable data.	Sections 3.11.2 and 4.11.2 in the EIS have been revised to clarify potential impacts to farmlands and range lands and the basis for the potential impacts.
348	68	68.25	Pima County	Bernal/Connolly	7-LAND	This route has 10 segments, MA1 through TH3b (Draft EIS, Volume 2, Table 4.11-7, Page 920), and raises very similar issues and concerns as those mentioned in "Proponent Preferred Route (Subroute 4.1)" above. Such as, the absence of empirical data when stating that "[O]nly three of the local alternatives – TH3a, TH3b, and TH3-Option C – would result in minor direct effects to Farmlands of Unique Importance." Also, inadequate explanation when stating that "[M]inimal acres of rangeland in the ROW would be directly affected by the construction of the transmission line under any of these local alternatives" is not convincing, especially, without a 'glossary of terms' to define 'minimal' or 'minor direct effects', among other terms.	Sections 3.11.2 and 4.11.2 in the EIS have been revised based on this comment.
376	68	68.53	Pima County	Bernal/Connolly	7-LAND	p. 441, Chapter 3, lines 8-22: a brief discussion of the Pima County Comprehensive Plan refers to a "supplement" regarding environmental planning, calling it the "2012 SDCP." The document is not further named, and only briefly described in terms of environmental planning. This refers to the 2012 issuance of the Multi-species Conservation Plan, an integral part of the Sonoran Desert Conservation Plan. The discussion should correctly recognize the documents it cites in the DEIS and correctly place the MSCP in the appropriate context of the SDCP.With reference to other local planning documents discussed in the DEIS, it is worth noting that both the City of Tucson and Pima County are developing new comprehensive plans that will be in effect most likely before the proposed Southline project goes to construction, if it is approved. The discussion should refer to the up-to-date planning documents and Southline should be certain that the transmission line plans meet the requirements and the intent of these new planning documents.	Sections 3.11.2 and 4.11.2 in the EIS have been revised based on this comment.
377	68	68.54	Pima County	Bernal/Connolly	7-LAND	p. 451, Chapter 3, Land Ownership, lines 4-20: This discussion incorrectly identifies the acreage in Pima County ownership that is intersected by Southline Transmission Line. The DEIS lists only the Cienega Creek Natural Preserve; does not list Empirita Ranch, Valencia Site, or Tumamoc Hill. Table 3.11-6 incorrectly reports the acreage. The discussion and table should be corrected.	Section 3.11.1 and table 3.11-6, as well as section 4.11.1, in the EIS have been revised based on this comment.
378	68	68.55	Pima County	Bernal/Connolly	7-LAND	p. 487, Chapter 3, lines 30-33 incorrectly list land management at Tumamoc Hill as, "Pima County and Arizona College of Science". The management listing needs to be corrected.	Section 3.12 in the EIS has been revised based on this comment.
449	72	72.1	Mountain View Ranch		7-LAND	The Plat for development of Mountain View was approved by the Board of Supervisors of Pima County, Arizona, on October 17, 2000; and, marketing and development of Mountain View has since been in progress. In that regard, Lots 1-132 of Mountain View are located directly adjacent to the south side of Interstate 10 and just east of State Highway 83; and, Lots 133-362 are located on the north side of Interstate 10. Mountain View is located in picturesque rolling Arizona-Sonora Desert terrain, with spectacular views of surrounding mountain ranges, as the name of the subdivision correctly suggests. In that regard, attached as Appendix "A" are copies of photographs taken by one of the principals of Developer/Investor on or about July 3, 2014 which illustrate (i) the view shed from various lots in Mountain View, and (ii) the viewshed from Sonoita Ranch, a single-family residential community immediately to the west of State Highway 83. Attached as Appendix "B" is a copy of the approved Plat map for Mountain View, which identifies the location of Lots 1- 132 in relation to Interstate 10 and State Highway 83.	As discussed in section 1.1 of the Draft EIS, the existing Western line was constructed in 1951; thus, the line and ROW predate the Mountain View Ranch Subdivision by more than 50 years. Planned residential development projects, such as the Mountain View Residential Development, are considered in section 4.21 in terms of the cumulative effects of the proposed Project.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
450	72	72.2	Mountain View Ranch		7-LAND	Based upon Developer/Investor's review of the March 2014 Draft Environmental Impact Statement/Draft Resource Management Plan Amendment (collectively "DEIS") for the Southline Transmission Line Project ("Project"), it appears that both the Project Proponents' Preferred Route and the Agency's Preferred Alternative Route contemplate use of the Western Area Power Administration's ("WAPA") existing transmission system easement which transects that portion of Mountain View located south of Interstate 10, a few miles west of the Pantano Substation. The easement in question is 100' feet width, and it transects portions of Lots 8, 9, 10, 11, 12, 27,28, 30, 33, 36, 39, 40, 41, 42, 43, 92, 95, 96, 104, 105, 106, 107 and 113 in the part of Mountain View located south of Interstate 10. Thus, and as discussed in Section II below, the Project would have direct and substantial adverse impacts upon current and future residents of Mountain View, prospective purchasers of homes in Mountain View and Developer/Investor.	The proposed Project and alternatives were described in chapter 2 of the Draft EIS. As described in chapter 2 of the Draft EIS, the proposed Project (Proponent Preferred, and Agency Preferred Alternative) includes use of Western's existing ROW. As discussed in section 1.1 of the Draft EIS, the existing Western line was constructed in 1951; thus, the line and ROW predate the Mountain View Ranch Subdivision by more than 50 years. Planned residential development projects, such as the Mountain View Residential Development, are considered in section 4.21 in the Draft EIS in terms of the cumulative effects of the proposed Project.
485	76	76.5	Arizona State Land Department	Ojeda	7-LAND	Generally speaking, it appears that the DEIS does not discuss remnant parcels as an issue of concern.	Sections 3.11.1 and 4.11.1 in the EIS have been revised to include information regarding remnant parcels.
492	76	76.12	Arizona State Land Department	Ojeda	7-LAND	Generally speaking the construction/upgrade of new access roads may create opportunities for unauthorized OHV use, which could adversely affect State Trust Land. This indirect and cumulative effect should be addressed in detail.	Sections 3.11.1 and 4.11.1 in the EIS have been revised based on this comment.
493	76	76.13	Arizona State Land Department	Ojeda	7-LAND	Generally speaking it is unclear if the proposed alignment and ultimate location of associated roads, substations, and pole locations...take into consideration the creation of remnant parcels (location, size, shape or other characteristics of a parcel relative to its future economic value.	Sections 3.11.1 and 4.11.1 in the EIS have been revised to include information regarding remnant parcels.
508	76	76.28	Arizona State Land Department	Ojeda	7-LAND	Please update this section to include impacts to (acreage) ASLD Agricultural and Range land uses.	Sections 3.11.1 and 4.11.1 in the EIS have been revised based on this comment.
510	76	76.30	Arizona State Land Department	Ojeda	7-LAND	Please provide information regarding ASLD's Marana, Rincon Posta Que Mada, Marana and Houghton Road Corridor Conceptual Plans (background to be emailed seperately) and reference ARS 37-331.03 (conceptual planning). Please contact Tim Bolton, in the Southern Arizona Office for further information.	Sections 3.11.1 and 4.11.1 in the EIS have been revised based on this comment.
610	82	82.29	SunZia	Wray	7-LAND	Also, existing substations would be expanded along the path of the Upgrade Section and within the Tucson metropolitan area, apparently requiring significant, although undisclosed levels of impact to surrounding land uses. The Southline Draft EIS is not complete until these impacts are fully analyzed and fully disclosed to the public.	Sections 3.11.1 and 4.11.1 in the EIS have been revised to clarify how potential impacts to surrounding land uses have been considered, including the proposed expansion of existing substations. Additional detail on the location and type of expansions at the existing substations has been included in section 2.4.2 of the EIS. As discussed in the Draft EIS, impacts to land use are not considered significant.
611	82	82.30	SunZia	Wray	7-LAND	This is especially critical for the 30 single-family residences in the Drexel subdivision that are likely to be impacted by Southline's ROW requirements. We request the Draft EIS be supplemented to correct this deficiency by significantly expanding the disclosure of likely effects from these expansions.	Sections 3.11.1 and 4.11.1 in the EIS have been revised to clarify how potential impacts to surrounding land uses have been considered, including residential development along Western's existing ROW. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared. Comments on the Draft EIS have been addressed in the EIS.
634	82	82.53	SunZia	Wray	7-LAND	Section 3.11 Land Use (Affected Environment) oversimplifies existing land uses by grouping development categories (e.g., Developed, low-intensity; Developed, medium- intensity; Developed, high-intensity) in terms of gross acreages for the New Build Section and the Upgrade Section without any further detailed descriptions.	Section 3.11.1 of the EIS has been revised to clarify how development categories were derived.
635	82	82.54	SunZia	Wray	7-LAND	This oversimplification is carried forward in Section 4.11 Land Use (Environmental Consequences) – Impacts Common to All Alternatives, which describes potential impacts to all development categories as being minor and temporary. The assignment of minor impacts does not appear substantiated, given that the Upgrade Section requires a new 150-foot wide ROW overlapping a distance of 25 feet of the existing ROW, and is routed through the historic Tumamoc Hill area, Tohono O'odham tribal lands, Tucson Mountain Park, and residential areas in Tucson where condemnation of multiple residential properties would be necessary, albeit such impacts are not disclosed in this Draft EIS.	As described in section 2.4.3 in the Draft EIS, only an additional 50 feet of ROW would be required, not an additional 150 feet. This section of the EIS has been revised for added clarity. As further clarified in chapter 2 of the Final EIS, no new ROW is anticipated between the Del Bac and Rattlesnake substations. Section 4.11.1 of the EIS has been revised to clarify how development categories were derived and how impacts were characterized.
707	82	82.126	SunZia	Wray	7-LAND	Land Use: Section 3.11 Land Use (Affected Environment) oversimplifies existing land uses by grouping development categories (e.g., Developed, low-intensity; Developed, medium-intensity; Developed, high-intensity) in terms of gross acreages for the New Build Section and the Upgrade	Section 3.11.1 of the EIS has been revised to clarify how development categories were derived.
708	82	82.127	SunZia	Wray	7-LAND	Section without any further detailed descriptions. This oversimplification is carried forward in Section 4.11 Land Use (Environmental Consequences) –Impacts Common to All Alternatives, which describes potential impacts to all development categories as being minor and temporary.	As described in section 2.4.3 in the Draft EIS, only an additional 50 feet of ROW would be required, not an additional 150 feet. This section of the EIS has been revised for added clarity. As further clarified in chapter 2 of the Final EIS, no new ROW is anticipated between the Del Bac and Rattlesnake substations. Section 4.11.1 of the EIS has been revised to clarify how development categories were derived and how impacts were characterized.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
709	82	82.128	SunZia	Wray	7-LAND	The assignment of minor impacts is unsubstantiated, given that the Upgrade Section requires a 150 foot right-of-way overlapping a distance of 25 feet of the existing right-of-way, and is routed through the historic Tumamoc Hill area, Tohono O'odham tribal lands, Tucson Mountain Park, and residential areas in Tucson where condemnation of multiple residential properties would be necessary. We request that these impacts be properly disclosed in a supplemental Draft EIS so that the public can be made aware of such possibilities. The Draft EIS should be supplemented to address the unclear nature of these impacts by actually disclosing impacts and the rationale for the conclusions. Then, the Draft EIS should be republished and an additional 30-day comment period be provided to allow public review and comment on the same.	Sections 3.11.1 and 4.11.1 in the EIS have been revised to clarify how potential impacts to surrounding land uses have been considered, including impacts to Tumamoc Hill, Tohono O'odham Nation lands, Tucson Mountain Park, and residential areas in urban Tucson. As described in section 2.4.3 in the Draft EIS, only an additional 50 feet of ROW would be required, not an additional 150 feet. And in some cases, such as between Del Bac and Rattlesnake substations, the additional 50 feet would not be obtained. This section of the EIS has been revised for added clarity. Section 4.11.1 of the EIS has been revised to clarify how development categories were derived and how impacts were characterized. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.
729	82	82.148	SunZia	Wray	7-LAND	The following comments, although resource specific to Land Use and Environmental Justice, are exemplary of the inadequate detail provided by all 20 resource reports, which the Draft EIS heavily relied upon to evaluate and disclose environmental impacts. These comments are cursory in nature as our requests for an extension to the comment period were denied. Detailed comments on the remaining resource reports are not provided in this letter due to time constraints. However it is apparent that the level of detail to support an informed and reasoned analysis regarding the context and intensity of impacts is inadequate in most of the resource reports.	The Southline Transmission Line Resource Reports cited in the Draft EIS are some of many valuable reference documents used in the analysis. Data used in the Draft EIS were available to the public, upon request to the BLM or Western Project points of contact listed on the BLM website (http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html). Though data and conclusions in the Southline Transmission Line Resource Reports contributed to the analysis, they were not determinative of the conclusions made in the EIS.
730	82	82.149	SunZia	Wray	7-LAND	Southline Transmission Project Resource Report 7: Land Use. The land use report was reviewed to ascertain the level of detail that was used to determine and disclose impacts that could result from the construction and operation of the Southline Project as reported in the Draft EIS. Although more detailed maps were included in the resource report, which allows a reviewer to better understand locational information regarding the alignment of the proposed study corridor and representative right-of-way, the level of detail is still inadequate and appears to be a cursory desktop review relying on National Land Cover Database ("NLCD") GIS data.	The Southline Transmission Line Resource Reports cited in the Draft EIS are some of many valuable reference documents used in the analysis. Data used in the Draft EIS were available to the public, upon request to the BLM or Western Project points of contact listed on the BLM website (http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html). Though data and conclusions in the Southline Transmission Line Resource Reports contributed to the analysis, they were not determinative of the conclusions made in the EIS.
731	82	82.150	SunZia	Wray	7-LAND	It does not appear that any field survey work was conducted, or that efforts were made to confirm that the data provided a meaningful tool for understanding and identifying potential impacts.	The comment accurately reflects the analysis provided in sections 3.11 and 4.11; no field visits were made to field validate data; however, the best available data were used for the Draft EIS.
732	82	82.151	SunZia	Wray	7-LAND	Although, the NLCD is the most ubiquitous information available on a landscape scale, it is most useful for landscape scale policy and planning. It lacks the sufficient site specific information to evaluate context and intensity of localized impacts that could result from the Southline Project. The NLCD should have been accompanied by field verification of real property that could potentially be affected by the Southline Project.	No field visits were made to field validate data; however, the best available data were used for the Draft EIS.
733	82	82.152	SunZia	Wray	7-LAND	Furthermore, Section 7.2.1 of the Land Use Resource Report identifies the area of analysis for the Upgrade Section as 150 feet wide. This is misleading as it is inconsistent with the total right-of-way impact in the Upgrade Section, which requires an additional 125-foot right-of-way to allow for the construction of a new double- circuit 230 kV line to mitigate the removal of Western's existing 115 kV line.	The Southline Transmission Line Resource Reports cited in the Draft EIS are some of many valuable reference documents used in the analysis. Data used in the Draft EIS were available to the public, upon request to the BLM or Western Project points of contact listed on the BLM website (http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html). Though data and conclusions in the Southline Transmission Line Resource Reports contributed to the analysis, they were not determinative of the conclusions made in the EIS. As described in section 2.4.3 in the Draft EIS, only an additional 50 feet of ROW would be required, not an additional 150 feet. In some cases, such as between Del Bac and Rattlesnake substations, the additional 50 feet would not be obtained. This section of the EIS has been revised for added clarity.
520	76	76.40	Arizona State Land Department	Ojeda	7-LAND	Vol 1 of 4, Page 457, Line 18-21; The DEIS states, "Both the NMSLO and the ASLD indicated that additional information might be available by researching hard-copy office files or conducting field trips to confirm the status of range improvement projects. These efforts have not been undertaken." Please contact ASLD Natural Resources Division to verify that this statement is still accurate.	Additional coordination with NMSLO and ASLD was completed as a result of this comment and information included in section 4.11.2 of the EIS.
16	8	8.1		Anderson	12-SD	Is there any conflict overlap with proposed Organ Mountain/Desert Peaks Monument Proposal	At the time of the publication of the Draft EIS, the Organ Mountains–Desert Peaks National Monument was proposed for designation and analyzed as a reasonably foreseeable action in section 4.20. Sections 3.12 and 4.12 of the EIS have been revised and now reflect designation of the Organ Mountain–Desert Peaks National Monument by presidential proclamation on May 21, 2014. The Agency Preferred Alternative in the EIS would not be located within the National Monument.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
18	8	8.3		Anderson	12-SD	I note that the Proponent Alternative from Wilcox AZ to Afton NM: 1. Lies along the border, probably close enough to fall outside of the proposed Morgan Mountain/Desert Peaks Monument area, except for the northward jog to the (existing) Afton Substation.	At the time of the publication of the Draft EIS, the Organ Mountains–Desert Peaks National Monument was proposed for designation and analyzed as a reasonably foreseeable action in section 4.20. Sections 3.12 and 4.12 of the EIS have been revised and now reflect designation of the Organ Mountain–Desert Peaks National Monument by presidential proclamation on May 21, 2014. The Agency Preferred Alternative in the EIS would not be located within the National Monument.
281	58	58.1	National Park Service	Trenchik	12-SD	The NPS supports the Department of the Interior's efforts to be "smart from the start" in permitting renewable energy projects and related transmission infrastructure. The NPS encourages the Bureau of Land Management (BLM) to make every effort to ensure that transmission lines are constructed and operated in an environmentally responsible manner that serve the public interest, protect cultural and natural resources, and protect our treasured landscapes. While the NPS supports the development and modernization of our nation's energy grid, we maintain that it can and should be done using the least environmentally impactful methods. Addressing impact topics that effect NPS lands and NPS administered sites helps us provide the utmost protection of resources and the visitor experience.	The potential impact of the proposed transmission line on NPS lands and administered sites was analyzed in the Visual Resources (sections 3.10 and 4.10) and Land Use (sections 3.11.1 and 4.11.1) of the Draft EIS.
282	58	58.2	National Park Service	Trenchik/Montano	12-SD	Ch 2, Framework Plans. Page 42, Line 24. Request opportunity to review/comment on the following draft "Framework" plans when they are available – Noxious Weed Management Plan; Reclamation, Vegetation and Monitoring Plan; Plant and Wildlife Species Conservation Measures; and Avian Protection Plan.	Section 2.4.1 of the EIS has been revised to clarify that agencies like the NPS would incorporated into the development of Framework Plans, as appropriate.
529	78	78.2	Coalition For Sonoran Desert Protection	Campbell	12-SD	Impacts to Pima County's Conservation Lands System (CLS) On p. 948 (Impacts Common to All Action Alternatives – Construction), the DEIS states, "Potential impacts from construction activities that would be common to all action alternatives include direct ground disturbance and temporary increases in ambient noise levels in areas where the transmission line, substations, and ancillary facilities intersect with special designations…Increases in ambient noise levels, the presence of equipment, and dust would be temporary and would decrease with the completion of construction activities. Impacts to special designations during construction would be minor since the activities would be short-term in nature, and would not occur within special designations…Substation expansions that may occur within County special designations would be constructed in areas that are already in operation and have been previously disturbed."	Chapter 2 of the EIS has been revised to include additional information on substation expansion areas that was not available when the Draft EIS was prepared. Section 4.12 in chapter 4 of the EIS has been revised to clarify the potential impacts of the proposed Project on Pima County CLS.
530	78	78.3	Coalition For Sonoran Desert Protection	Campbell	12-SD	Furthermore, on p. 948-949 (Impacts Common to All Action Alternatives – Operation and Maintenance), the DEIS states, "Potential indirect impacts could include changes to the natural, historic, cultural, or visual character of some special designations. Other impacts could include increased access to areas due to the presence of access roads. This could lead to increased use of areas by OHV users, which could conflict with management objectives for some special designations."	This information was discussed in section 4.12 of the Draft EIS and includes Pima County CLS. Section 4.12 in chapter 4 of the EIS has been revised to clarify the potential impacts of the proposed Project on Pima County CLS.
531	78	78.4	Coalition For Sonoran Desert Protection	Campbell	12-SD	Lastly, on p. 954 (Subroute 3.1-Construction-Proponent Preferred), the DEIS states, "The impacts to Pima County special designations would be negligible since subroute 3.1 would occur in areas that already contain utilities, including existing Western lines. Further, the transmission line would span the important Biological Core and Important Riparian Areas and no towers would be constructed within the specially designated areas. The impact would be negligible to the Multiple Use areas since transmission lines are an allowable use for this designation, and existing Western lines are already in operation for all portions of subroute 3.1."	This information was discussed in section 4.12 of the Draft EIS and includes Pima County CLS. Section 4.12 in chapter 4 of the EIS has been revised to clarify the potential impacts of the proposed Project on Pima County CLS.
532	78	78.5	Coalition For Sonoran Desert Protection	Campbell	12-SD	The described impacts to other subroutes under consideration in Pima County reference the above paragraphs, along with other similar paragraphs for other subroutes addressed earlier in the DEIS (that also state that impacts will be "negligible"). In the spirit of brevity, we are not going to cite every paragraph that describes proposed impacts and mitigation for the large number of subroutes being considered. However, the three instances cited above provide a representative example of what is presented and proposed in the DEIS.	This information was discussed in section 4.12 of the Draft EIS and includes Pima County CLS. Section 4.12 in chapter 4 of the EIS has been revised to clarify the potential impacts of the proposed Project on Pima County CLS.
533	78	78.6	Coalition For Sonoran Desert Protection	Campbell	12-SD	We strongly disagree with the assertion that the Southline Transmission Line Project would cause "negligible" impacts to Pima County's CLS.	Section 4.12 in chapter 4 of the EIS has been revised to clarify the potential impacts of the proposed Project on Pima County CLS.
534	78	78.7	Coalition For Sonoran Desert Protection	Campbell	12-SD	The "Impacts Common to All Alternatives" for both construction and operation and maintenance describe significant potential impacts related to ground disturbance, increases to ambient noise levels, increased future access due to the presence of access roads, and the potential for increased use by OHV users.	This comment does not raise questions about the analysis or provide additional information for consideration. This information is stated and acknowledged in section 4.12 of the EIS. None of the potential impacts described in chapter 4 of the Draft EIS, or summarized in tables 2-11, 2-12, 2-13, or 2-14, in the Draft EIS (now tables 2-15, 2-16, 2-17, and 2-18 in the EIS) would be characterized as significant impacts resulting from the proposed Southline Transmission Line Project.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
270	52	52.1	New Mexico Wilderness Alliance	Calman	21-WILD	The DEIS says that a desk-top LWC inventory was done on a two-mile wide corridor along the proposed routes of the transmission line. It says that they established boundaries of potential units via satellite and GIS data, but they haven't done on-the-ground inventory for the naturalness and solitude criteria yet. It then says that this on-the-ground inventory of the units will be available in the Final EIS. Our concern is that if data is only made available when the Final is published, it means the actual inventory will never be available for public comment. So, is this really true, and if so, is there a reason that it's not being made available? It's our understanding that BLM Manual 6310 and BLM directives state that the inventories need to be made available to the public at the earliest possible time. I assume you'd need the inventories completed before making a final decision and issuing an FEIS.	The inventory herein is available for the public. No decision on the proposed Project would be made by BLM until at least 30 days after publication of the NOA for the Final EIS. Additionally, these inventories would later be incorporated in BLM's RMP when the respective RMP undergoes a revision or update; the public would have a chance to participate in that process, as directed by BLM and CEQ regulations.
681	82	82.100	SunZia	Wray	21-WILD	Wilderness. Section 3.13, page 492 – We request that wilderness characteristic units be developed for the Draft EIS. Because of this deficiency, impacts and, thus mitigation, cannot be determined, preventing sound analysis upon which an informed decision can be based.	Wilderness inventory units (WIUs) were described in sections 3.13 and 4.13 of the Draft EIS. Sections 3.13 and 4.13 of the EIS include an updated analysis that considers all four criteria (size, naturalness, opportunity, and other opportunities) and the results of fieldwork.
683	82	82.102	SunZia	Wray	21-WILD	In addition, impacts to wilderness character should be based on the project visual influence on the wilderness character unit. Contrast and KOPs should be used for this assessment.	BLM Manual 6310 does not require visual contrast rating sheets to ascertain a WIU's visual character. As discussed in sections 3.13 and 3.14, the "visual influence" is captured during the wilderness characteristics inventory under the "naturalness" assessment. While visual influence is considered, it is not the basis of the wilderness character as this comment indicates. There are many wilderness areas (designated) from which one can see transmission lines, but those instances are not in and of themselves characteristics that negate a wilderness designation, or in our case, potential for wilderness characteristics.
684	82	82.103	SunZia	Wray	21-WILD	Section 3.13.1, page 493 – According to VRM HB 6310, a wilderness characteristic study area should contain the entire wilderness character unit that is bisected or interferes with the project. In this manner, direct, indirect, and cumulative effects take into account the acreage of an entire unit. The impact is related to how many acres lose wilderness characteristics based on the 4 criteria (size, naturalness, opportunity, etc.).	Wilderness inventory units (WIUs) were described in sections 3.13 and 4.13 of the Draft EIS. Sections 3.13 and 4.13 of the EIS have been revised to include an updated analysis that considers all four criteria (size, naturalness, opportunity, and other opportunities) and the results of fieldwork.
685	82	82.104	SunZia	Wray	21-WILD	Cumulative effects should examine past, present, and reasonably foreseeable future actions measured against the acreage of wilderness characteristics.	The cumulative effects analysis for wilderness characteristics in section 4.21.4 has been revised in the EIS based on this comment, where spatial data are available for those actions considered in the analysis.
509	76	76.29	Arizona State Land Department	Ojeda	11-REC	Generally speaking, the DEIS should clarify ASLD's recreational permit process. Please refer to http://www.azland.gov/programs/natural/recreation_permit.htm	Section 3.14 in the EIS was updated to add information on the ASLD recreational permit process.
3	3	3.1	Westside Development Neighborhood Association	Zeeger	13-SOCI	The green line route will have an effect on all the neighbors along this route starting at Starr Pass and Coati Ave moving south along San Joaquin Ave to Kennedy Park. How will this be addressed?	The potential impact of the proposed transmission line and alternatives in terms of land use, social and economic consideration, and environmental justice was analyzed in chapter 4 of the Draft EIS (section 4.11, Land Use, and section 4.15, Socioeconomics and Environmental Justice). Section 4.15.3 of the Draft EIS discussed potential effects on property values from construction and operation in the Upgrade Section.
21	9	9.1		Cotignola	13-SOCI	We see that yous have plans to build a substation in Deming. Question #1 – What does that mean for Deming and the Rest of Southern Luna County New Mexico if anything at all	The potential impact of the proposed transmission line and alternatives in terms of land use, social and economic consideration, and environmental justice was analyzed in section 4.15 in chapter 4 of the Draft EIS. As discussed in section 4.15, the proposed alternatives could provide significant long-term benefits by increasing the ability of the grid to meet demand growth in the region.
23	9	9.3		Cotignola	13-SOCI	I'm sure that in time the Columbus Port of Entry will create growth & development North of it ok in fact that its job. But its our opinion we believe that on both of these roads & highways it would create job plus it would bring or attract growths South of Deming in Southern Luna County New Mexico which is very much needed. babe ruth once said if you build it they will come and if you build it come they will	The potential for Project related employment and changes in social and economic conditions was discussed in sections 3.15 and 4.15 of the Draft EIS.
24	9	9.4		Cotignola	13-SOCI	Plus I know a little bit about land location. If the South – West water is not the attraction for land buyers / home buyers & developer. in the South-West its mountain view like the Organ Mountain are for Las Cruces. Sometime land buyers & home developer will soon discover Southern Luna Counties Low land prices like I did.	The potential for Project related employment and changes in social and economic condition, including property value, was discussed in sections 3.15 and 4.15 of the Draft EIS. Additionally, information on potential visual impacts were discussed in sections 3.10 and 4.10 (Visual Resources) of the Draft EIS.
26	10	10		Skinner	13-SOCI	Concerned about transmission lines running to close to Village of Columbus residents	The location of proposed Project and alternatives, including proximity to Columbus, New Mexico, was described in chapter 2 of the Draft EIS. Additionally, the potential impact of the proposed transmission line and alternatives in terms of land use, social and economic consideration, and environmental justice was analyzed in chapter 4 of the Draft EIS (section 4.11, Land Use, and section 4.15, Socioeconomics and Environmental Justice). Finally, the Agency Preferred Alternative in the EIS does not include the route (subroutes 1.2 and 2.2) running close to Columbus, New Mexico.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
29	12	12		Harris	13-SOCI	1. Proposed will affect existing homes in the Akela area build around an air-park runway. 2. Proposed will affect exiting areas with housing north of Deming. 3. Proposed may result in increased cost in dealing with private land owners. 4. Alterative along US MEX border will be mainly across BLM and NM State trust land and affect very few homes and private property.	The potential impact of the proposed transmission line and alternatives in terms of effects on property values was discussed in section 4.15 of the Draft EIS. As discussed in chapter 2 (see section 2.7.1), the proposed route near Akela would parallel an existing EPEC 345-kV transmission line and would comply with FAA requirements. Tables 2-11, 2-12, 2-13, and 2-14 in the Draft EIS (now tables 2-15, 2-16, 2-17, and 2-18 in the EIS) compared impacts of alternatives, including surface ownership and social and economic impacts.
195	38	38.12	Hearing	No ID Speaker	13-SOCI	Who is to gain monetarily and how much profit and what is going to be left in the area after you exit?	Southline Transmission Line, LLC (Southline), is the Project sponsor, as described in section 1.1 of the Draft EIS. Southline is an independent, private entity (a subsidiary of Hunt Power) and would profit from this proposed Project. The amount of profit is unknown.
196	38	38.13	Hearing	Yordani	13-SOCI	What are the benefits come out of this for our surrounding area? I guess his answer was our power hook-ups.	The potential for Project related employment and changes in social and economic conditions, such as employment and tax benefits, was discussed in sections 3.15 and 4.15. As discussed in section 1.3.1 of the Draft EIS, the Project includes multiple proposed interconnections with existing substations and has been designed to improve the electric transmission infrastructure in southern New Mexico and southern Arizona, including the Benson area, in order to strengthen the existing system.
243	46	46.6		Hamel	13-SOCI	I don't want those towers + lines negatively impacting the value of our ranch. And it will be a negative impact on our values.	Your opposition to the Project is noted and included here and in the Project Record. The potential impact of the proposed transmission line and alternatives in terms of effects on property values was discussed in section 4.15 of the Draft EIS.
258		49.9	Cascabel Working Group	Meader	13-SOCI	Section 2.4.3 Project Construction Activities, Upgrade of Existing Western Transmission Line, page 98. This section notes that the desired method of replacing the 115-kV line will be to build the new 230-kV lines next to it while leaving the old line in service, and then the old line will be removed once the new lines are in place. This requires the initial acquisition of an additional 125 feet of right-of-way for a 200-foot width with the final right-of-way increased by 50 feet to 150 feet. The line itself will be moved 100 feet from its present alignment. While this method seems acceptable in open country, it will likely raise strong objections where the line crosses private property, at least around Benson and through the J-6 Ranch and Mescal communities. If this route is chosen, as seems likely, it is strongly recommend that Southline not attempt to use this method to replace the line in these areas but that the old line first be taken out of service. The J-6 Ranch and Mescal residents have voiced the strongest objections to the project, and if their wishes are going to be overridden, the impact upon their properties should be minimized.	Section 2.4.3 of the Draft EIS described the upgrade of the existing Western 115-kV line. As described in this section in the Draft EIS, only an additional 50 feet of ROW would be required, not an additional 125 feet. The area through Tucson between Del Bac and Rattlesnake substations is not conducive to the parallel construction technique described; thus, outages on the line would need to be taken in order to tear out and rebuild on the existing 100-foot ROW. This section of the EIS has been revised for added clarity and to include information on the potential use outages on the line.
259	49	49.10	Cascabel Working Group	Meader	13-SOCI	Also, the increased height of the new poles may increase property owner objections because the poles are visible from greater distances. The width of the new poles and lines will be similar or less than the current width, the one difference being the addition of a second set of lines, so width seems a less objectionable parameter. The DEIS states that the height of the new poles can vary from 100-140 feet in height, with the distance between them varying from 700-1100 feet. I assume that the shorter pole heights would be used when the poles are closer together. It may be worth considering a minimal pole spacing to accommodate the lowest possible pole height. Current pole spacing through the J-6 and Mescal communities is 700 feet. Property owners should be asked whether this spacing and pole height would be more acceptable, with the new poles being placed in the same locations as the old ones, unless a property owner would like the locations changed. The issue here is lessening the objections, if possible, of those residents who are going to strongly object to this routing no matter what Southline does to lessen the impact.	As discussed in section 2.4.3 in the Draft EIS, the width of the structures and new conductors would be larger than the existing structures and conductors. Section 2.4.2 of the EIS has been revised to clarify that Western would work with private landowners during the micro-siting of the proposed line to minimize impacts.
288	60	60.3		Wood	13-SOCI	Destruction of property/vegetation (mine) during construction,	The potential impact of the proposed transmission line on property in terms of vegetation was described in chapter 4 of the Draft EIS. See section 4.8.1 for impacts to vegetation, section 4.15 for property value, and section 4.11 for land use (in the Draft EIS). See table 2-7 for design features for environmental protection in the Draft EIS (now table 2-8 in the EIS).
289	60	60.4		Wood	13-SOCI	Placement of new poles. I don't want them on my side of existing line and to be sure my neighbor opposite the line doesn't want them on his side	Section 2.4.2 of the EIS has been revised to clarify that Western would work with private landowners during the micro-siting of the proposed line to minimize impacts.
290	60	60.5		Wood	13-SOCI	Decreases usable/buildable property due to increased ROW easement.	Section 2.4.2 of the EIS has been revised to clarify that Western will work with private landowners during the micro-siting of the proposed line to minimize impacts, such as clarifying that some uses would not be allowed. The potential impact of the proposed transmission line on property in terms of land use was described in section 4.11.1 and in terms of property value in section 4.15 of the Draft EIS.
338	68	68.15	Pima County	Bernal/Connolly	13-SOCI	economic development locally and within the region	The potential for Project related employment and changes in social and economic conditions was discussed in sections 3.15 and 4.15 of the Draft EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
343	68	68.20	Pima County	Bernal/Connolly	13-SOCI	The recognition of this area as an economic lynchpin was initiated with Pima County's investment of $6 million to purchase the undeveloped areas of Section 31 in order to protect Raytheon Plant operations from encroachment. Subsequently, this area has been targeted for expansion of Aerospace, Defense, and Technology employment and is a critical component for an industrial corridor from Nogales Highway to I-10. Section 31 is also an integral part of those lands south of Tucson International Airport that the Joint Planning Advisory Council which includes the Pima, Maricopa, and Central Arizona Associations of Governments has identified as the ideal location for the Import Distribution Center for the State of Arizona for goods coming into the United States from Mexico and Asia. The Arizona Commerce Authority has referred several potential tenants to the Business Park who would require between 500 to 1,000 acres for their operations. TESLA, one of the pending, potential tenants, is currently examining the feasibility of locating a $5B battery development and manufacturing facility to this site. Development of a significant employment center is an important socioeconomic factor for this region which currently suffers from high unemployment. Investments and partnerships supporting federal needs and interests of the FAA Tucson Airport Authority, US Air Force, National Guard Bureau, and Raytheon have led to the relocation of 4 miles of the Hughes Access Road at a cost approximating $12M, in addition to the development of the Aerospace, Defense, Technology Research and Business Park (see Exhibit B).	Section 4.15 in the EIS has been revised to include additional information on the economic importance of this area.
470	73	73.4	Sonoita Hills Community Association		13-SOCI	As was the situation in the Chino Hills case, the proposed Upgrade Section structures in the Mountain View Ranch Subdivision and .surrounding single-family residential community area(s) would be "located right outside the residents' backdoors . . . [and would] transform the open space along the right-of-way to an eye sore." [See Decision No. 13-07-018 at pages 11-12] In addition, we believe that the proposed replacement facilities would destroy the property value of those who reside along the 100' right-of-way herein question.	As discussed in section 1.1 of the Draft EIS, the existing Western line was constructed in 1951; thus, the line and ROW predate the Mountain View Ranch Subdivision by more than 50 years. The potential impact of the proposed transmission line on property in terms of land use is described in section 4.11.1 and in terms of property value in section 4.15 of the Draft EIS.
710	82	82.129	SunZia	Wray	13-SOCI	Environmental Justice The impact analysis for the environmental justice population is deficient in two ways. First, the impact indicator and determination of significant impacts for environmental justice populations do not meet the context and intensity requirements for evaluation in a NEPA document. For example, as stated in the Draft EIS Section 4.15.2, the impact indicator for Environmental Justice Populations is "...anticipated high and disproportionate adverse socioeconomic or environmental effects on environmental justice communities relative to effects across the analysis area as a whole", whereas, the determination of significant impacts are stated in the Draft EIS as "(h)igh and disproportionate adverse effects on environmental justice communities." This does not explain the range or scale of impacts, for environmental justice populations, and therefore no meaningful comparison between alternatives can be made.	Sections 3.15 and 4.15 in the EIS have been revised to clarify indicators and determinations of significance for environmental justice; however, no high or disproportionate impacts to environmental justice communities are anticipated.
711	82	82.130	SunZia	Wray	13-SOCI	Second, the analysis area of environmental justice populations is too narrow in the Upgrade Section. To make a meaningful evaluation of disproportionately affected environmental justice populations, the reference-area comparison should contain a geographic boundary that is indicative of the overall population of the urbanized areas around Tucson. This will more accurately reflect the relative disproportionate effects on environmental justice populations.	The analysis area in the Draft EIS (sections 3.15 and 4.15) was identified based on the area most likely to bear environmental effects. As stated in section 4.15 of the Draft EIS, no high or disproportionate impacts to environmental justice communities are anticipated.
712	82	82.131	SunZia	Wray	13-SOCI	The determination in Section 4.15.2, pages 1020–1021 is that "In the Upgrade Section, 26 of the 38 Census tracts that could be crossed by any of the action alternatives can be defined as potential environmental justice communities..., few, if any, of these adverse effects would be "high" and, given the prevalence of low-income and minority residents throughout the area, disproportionate impacts on these groups are likely inevitable from any feasible transmission line alignment." Given that the majority of census tracts crossed by the Southline Project are defined as environmental justice populations, the land-use impacts that are related to condemnation and recreation that have not been disclosed in the Draft EIS (see Specific Resource Areas of Concern-Land Use, in this comment letter) would likely disproportionately affect environmental justice populations resulting in high impacts. The analysis needs to be corrected in order to fully disclose the level of impact on environmental justice populations. The Draft EIS should be supplemented to address the unclear nature of these impacts by actually disclosing impacts and the rationale for the conclusions. Then, the Draft EIS should be republished and an additional 30-day comment period be provided to allow public review and comment on the same.	Sections 3.11.1 and 4.11.1 (Land Use) and sections 3.15 and 4.15 (Socioeconomics and Environmental Justice) in the EIS have been revised to clarify the relationship between land use and environmental justice communities; however, no high or disproportionate impacts to environmental justice communities are anticipated.
728	82	82.147	SunZia	Wray	13-SOCI	Additionally, the non-disclosure of potentially significant environmental impacts to Land Use and Environmental Justice population through Tucson resulting from the construction and operation of the Upgrade Section should have instigated a search for alternatives that would have less impact on these important environmental resources.	The proposed Project and alternatives were described in chapter 2 of the Draft EIS. As noted in section 2.6 of the Draft EIS, alternatives were developed based on environmental concerns expressed during scoping, including the potential for major environmental impacts; consideration of the BLM and DOE NEPA guidelines, including recommendation to evaluate or dismiss; and review of all route alternatives and rationale by cooperating agencies and the ID team. Section 2.9 of the Draft EIS describes other alternatives that were dismissed from consideration. Further, no other alternatives were identified that would meet the goals of the Project (i.e., interconnections with existing substation) and were otherwise reasonable.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
736	82	82.155	SunZia	Wray	13-SOCI	Southline Transmission Project Resource Report 11: Socioeconomics and Environmental Justice. This report was reviewed to ascertain the level of detail that was used to determine and disclose impacts that could result from the construction and operation of the Southline Project as reported in the Draft EIS. The analysis of determination of potential environmental justice populations does not meet the CEQ guidance provided in Environmental Justice; Guidance Under the National Environmental Policy Act (CEQ 1997).	The Southline Transmission Line Resource Reports cited in the Draft EIS are some of many valuable reference documents used in the analysis. Data used in the Draft EIS were available to the public, upon request to the BLM or Western Project points of contact listed on the BLM website (http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html). Though data and conclusions in the Southline Transmission Line Resource Reports contributed to the analysis, they were not determinative of the conclusions made in the EIS.
737	82	82.156	SunZia	Wray	13-SOCI	The analysis provided in the resource report confuses the suggested method for determining the presence of environmental justice populations. As quoted, CEQ guidance in the resource report Section 11.2.1: "minority populations should be identified where either (a) the minority population of the affected area exceeds 50 percent or (b) the population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographical analysis." The analysis disregards the operation and significance of the conjunction 'or' and relies only on one criterion for the determination of environmental justice populations within the area of analysis for the Southline Project. For example: CH2M Hill 2013, page 11-28); CH2M Hill 2013, page 11-30); (CH2M Hill 2013, page 11-39); (CH2M Hill 2013, page 11-40). This is an egregious oversight and disregards potential environmental justice populations that are likely present by the data shown in Tables 11-12, 11-13, 11-22 and 11-23 of the resource report. CEQ guidance suggests that if either of the conditions (i.e., environmental justice populations greater than 50% or percentage of the affected area is meaningfully greater than the environmental justice population percentage in the reference area) is satisfied, then environmental justice populations are present. The use of only one condition for determination is inadequate and therefore the conclusions are incomplete.	The Southline Transmission Line Resource Reports cited in the Draft EIS are some of many valuable reference documents used in the analysis. Data used in the Draft EIS were available to the public, upon request to the BLM or Western Project points of contact listed on the BLM website (http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html). Though data and conclusions in the Southline Transmission Line Resource Reports contributed to the analysis, they were not determinative of the conclusions made in the EIS.
738	82	82.157	SunZia	Wray	13-SOCI	A detailed analysis and rationale for determining a meaningfully greater proportion of environmental justice populations within the area of analysis when compared to an appropriate unit of geographical analysis is absent from the resource report and Draft EIS. The results of this additional analysis would likely constitute significant disproportionate impacts to environmental justice populations as a result of the construction and operation of the Southline Project, particularly in the Upgrade Section, and potentially within the new build section as well.	Sections 3.15 and 4.15 in the EIS have been revised to clarify indicators and determinations of significance for environmental justice.
739	82	82.158	SunZia	Wray	13-SOCI	Additionally the results should be evaluated for high and adverse impacts. The further identification of the presence of environmental justice populations within the areas of analyses should be further evaluated in terms of context and intensity when compared to the location of environmental impacts identified for the Southline Project. For example, where environmental justice populations are identified for visual impacts, land use/condemnation, health and hazardous materials, system outages, socioeconomic impacts, etc., they should be evaluated for a determination of disproportionality to environmental justice populations when compared to the geographical area of analysis (reference area). These results should then be compared to the other alternatives examined in detail by the Draft EIS. However, since no alternatives in the Upgrade Section avoid environmental justice populations or communities, disproportionate impacts to these populations (potentially significant) are unavoidable. We request that this analysis be corrected and the remaining resource reports be evaluated and corrected should errors be found.	Sections 3.15 and 4.15 in the EIS have been revised to clarify indicators and determinations of significance for environmental justice. The Southline Transmission Line Resource Reports cited in the Draft EIS are some of many valuable reference documents used in the analysis. Data used in the Draft EIS were available to the public, upon request to the BLM or Western Project points of contact listed on the BLM website (http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html). Though data and conclusions in the Southline Transmission Line Resource Reports contributed to the analysis, they were not determinative of the conclusions made in the EIS.
740	82	82.159	SunZia	Wray	13-SOCI	The level of analysis outlined herein should have been done in connection with the Draft EIS, but, having failed to do so, the BLM and Western are now required to supplement the Draft EIS and re-publish it for public review and comment. The lack of sufficient identification and analysis of impacts to environmental justice populations cannot be cured between the Draft and Final EIS.	Please note that the EIS reflects consideration of all comments received during the public comment period on the Draft EIS. The EIS includes responses to comments received during the public comment process (chapter 8 of the EIS) and provides revised EIS text based on those comments. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
779	83	83.12	Audubon Arizona	Supplee	13-SOCI	Economic Values of Ecotourism. We wish to emphasize the economic values of watchable wildlife, particularly bird watching, to the communities of the San Pedro River and its tributaries, as well as Willcox. The Willcox Playa and associated environs represent well-known ecotourism hot-spots and birders in particular come from all over the world to bird this region. Ecotourism is especially important for the dispersed rural communities in Cochise, Pima and Pinal counties. Willcox hosts a major birding festival focused upon the wintering Sandhill Crane (Grus canadensis) population that attracts hundreds of visitors every year. If ecotourism were reduced because of direct, indirect and cumulative impacts of the transmission line, there would be direct economic impacts to the various communities, from Winkelman to Benson and Willcox, that are not assessed in the DEIS. In a 2006 study, the Outdoor Industry Foundation reported that all outdoor wildlife-related recreational activities generated $730 billion annually for the United States economy, and of that, watchable wildlife generated $43 billion annually. They reported 66 million Americans participated in wildlife viewing, which supported 466,000 jobs. Estimated economic returns included retail sales averaging $8.8 billion, trip related expenditures of $8.5 billion, and state and federal tax receipts of $2.7 billion. The report is available at http://www.outdoorindustryfoundation.org./ Although much of this economic impact is due to outdoor recreation, other visitors may come to these areas for sight-seeing, for family gatherings, for educational benefits and for many other values not captured by the category of outdoor recreation. According to a 2011 study by the National Fish and Wildlife Foundation, http://www.nfwf.org/Content/ContentFolders/NationalFishandWildlifeFoundation/HomePage/ConservationSpotlights/TheEconomicValueofOutdoorRecreation.pdf, a minimum estimate of the combined value of outdoor recreation, nature conservation and historic preservation shows that over 9.4 million jobs were created while $107 billion was generated by local, state and federal tax revenues. The most recent economic analysis using US Fish and Wildlife Service data calculated for each Arizona county states that ecotourism is worth over $1.5 billion dollars to Arizona each year - over $300 million in Pima County, over $95 million in Pinal County, and over $25 million in Cochise County each year. http://tucsonaudubon.org/images/stories/conservation/AZ_County_Impacts_-_Southwick.pdf. This analysis revealed that Arizona created 15,058 full and part-time jobs and accounted for salaries and wages of $429,391,051, or nearly $430 million in total household income. Arizona engendered over $57 million in state taxes (state sales taxes of $46,756,837 and state income taxes of $10,821,828) and federal income taxes of $75,544,307. Home owners near parks and protected areas are repeatedly seen to have property values more than 20% higher than similar properties elsewhere. This information should be included in the economic analysis section of the DEIS.	Section 3.15.9 (Tourism and Recreation) in chapter 3 of the EIS has been revised to include additional information on the economic value of ecotourism. Further, potential impacts to eco-tourism were a consideration in the decision to include route variations P7a, P7b, P7c, and P7d in the EIS.
27	11	11		Howell	16-PHS	1. How do you deal with leakage from lines or electrical appliances, tv, ratio, etc. 2. How is livestock affected? Also humans?	Information on concerns about EMF and the potential effects on humans from electromagnetic fields from the proposed transmission line was described in sections 3.16 and 4.16 of the Draft EIS. Sections 3.11.2 and 4.11.2 of the EIS have been revised to consider how EMF may affect livestock.
165	32	32.11	EPA	Jansky/Weeks	16-PHS	Public Health and Safety. Chapters 3 and 4. Valley Fever (coccidioidomycosis) has a high prevalence rate in Arizona. Of the 150,000 valley fever infections diagnosed each year in the US, 60% occur in Arizona. Since the Arizona Department of Health Services made it a reportable disease in 1997, the rate of new Valley Fever cases has more than quadrupled over the last decade from 36 cases per 100,000 population in 1999, to 155 cases per 100,000 in 2009. More than 90% of the reported cases occur within a narrow 200 mile corridor generally following Interstate 1O; stretching from Northwest Maricopa County to Green Valley in the southern part of Pima County. This area includes the major metropolitan areas of Phoenix and Tucson. Recommendation: The Final EIS should consider that workers contracting Valley Fever is a possibility, and describe any additional mitigation or prevention measures that may be used.	Sections 3.16 and 4.16 in the EIS have been revised to address potential impacts to construction workers for Valley Fever.
209	38	38.26	Hearing	No ID Speaker	16-PHS	What' s the physical impact? If it's going through our property and we 're right there by it, what' s the physical impact on humans?	Information on concerns about electrocutions and the potential effects on humans from EMFs from the proposed transmission line was described in sections 3.16 and 4.16 of the Draft EIS.
223	41	41.8	Hearing	No ID Speaker	16-PHS	On that same topic, the – the handout you have about the electromagnetic fields, it says that if you are 300 feet from the edge well, if you're a hundred feet from the edge of the right-of-way you're at 20. What would that be the equivalent of? So if you had a house, how close would you put it to that.	Information on concerns about the potential effects on humans from EMFs from the proposed transmission line was described in sections 3.16 and 4.16 of the Draft EIS. As noted in the Draft EIS, EMFs emitted by the proposed Project would not exceed exposure guidelines proposed by the ICNIRP, the IEEE, and the ACGIH.
286	60	60.1		Wood	16-PHS	I am concerned about the following. A) Health hazard to me and my family and others who live near the transmission line due to double voltage and double wires.	Information on concerns about electrocutions and the potential effects on humans from EMFs from the proposed transmission line were described in sections 3.16 and 4.16 of the Draft EIS. As noted in the Draft EIS, EMFs emitted by the proposed Project would not exceed exposure guidelines proposed by the ICNIRP, the IEEE, and the ACGIH.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
349	68	68.26	Pima County	Bernal/Connolly	16-PHS	The Draft EIS states that "[A]ll future or planned land uses in Pima and Pinal counties, Arizona, would be required to conform to the terms and conditions of the proposed Project and alternatives where applicable, if a ROW is granted by the BLM." Given the binding nature of this requirement, a detailed study on the economic, environmental, and social impacts of high voltage transmission lines (HVTL) on adjacent and abutting properties is greatly desired. It is understood that the project proposes to share existing transmission line rights-of-way in certain areas but there are no data provided on what impacts doubling the Kilo Volts on these lines will have on adjacent property, given that almost 30 miles of the ROW occurs on private land.	Information on concerns about electrocutions and the potential effects on humans from electromagnetic fields from the proposed transmission line were described in sections 3.16 and 4.16 of the Draft EIS. As noted in the Draft EIS, EMFs emitted by the proposed Project would not exceed exposure guidelines proposed by the ICNIRP, the IEEE, and the ACGIH.
431	68	68.108	Pima County	Bernal/Connolly	17-TRANS	The Pima County Department of Transportation has reviewed the proposed Southline Transmission Project regarding the proposed high voltage upgrade and rebuild of transmission lines through Pima County, as indicated on their submittal document. Any work adjacent to or within Pima County right of way should be coordinated with the Department of Transportation. Please contact Robert Johnson (520) 724-6461 or Ted Roberts (520) 724-6367, who coordinate utilities with County right of way.	Sections 3.18 and 4.18 of the EIS have been revised to include information that proposed Project work adjacent to or within Pima County ROW would be coordinated with the Pima County Department of Transportation.
432	68	68.109	Pima County	Bernal/Connolly	17-TRANS	Pima County has established and adheres to certain roadway development standards and regulations to preserve and protect natural cultural resources to prevent and reduce air pollution and to insure safe public transportation facilities. Pima County objects to and does not support any request within public right of way unless there are appropriate conditions of the right of way application approval. The conditions of the approval should preserve and protect natural and cultural resources (plant survey and preservation plan cultural resources survey), prevent the reduce air pollution (paved roadway) and insure safe public transportation facilities (provisions for drai9nage and appropriate roadways design, width, horizontal and vertical alignment).	Sections 3.18 and 4.18 of the EIS have been revised to include information on roadway development standards in Pima County, per Pima County Department of Transportation guidelines.
142	27	27.1	New Mexico State University's Unmanned Aircraft Systems Flight Test Center	Zaklan	17-TRANS	I am the New Mexico State University's Unmanned Aircraft Systems Flight Test Center (UAS FTC) Deputy Director, and it was suggested that this might interfere with our conducting of UAS test flights. I do not believe that this is the case, however, in the interest of safety of flight for these UAS and our manned aircraft assets, I thought I would get in touch and research some basic information. I have noted that it will be a 345 KV line or group of lines going from Afton, NM to Apache, AZ	Sections 3.11.1 and 4.11.1 (Land Use) of the EIS have been revised to include information on NMSU's Unmanned Aircraft Systems Flight Test Center. The proposed Project and alternatives were described in chapter 2 of the Draft EIS.
146	27	27.5	New Mexico State University's Unmanned Aircraft Systems Flight Test Center	Zaklan	17-TRANS	NMSU's UAS FTC was the first UAS FTC in the national airspace system (NAS) and began in 2007. We have performed some research with EPRI on distribution lines. We currently have many UAS assets and are continuing to work with the FAA on the concept of operations and safe flight of UAS for civil applications in the NAS. If you would like, NMSU UAS FTC would be happy to discuss and work with you using UAS to support your efforts in the terrain mapping of the line, recording the building of the line, and developing UAS procedures for performing inspections.	Thank you for your comment and offer of assistance. Sections 3.11.1 and 4.11.1 (Land Use) of the EIS have been revised to include information on NMSU's Unmanned Aircraft Systems Flight Test Center.
147	27	27.6	New Mexico State University's Unmanned Aircraft Systems Flight Test Center	Zaklan	17-TRANS	I have attached a handout of the NMSU Unmanned Aircraft Systems Flight Test Center. The gray shaded area is our FAA approved flight area, but additional space can be attained if needed. At the meeting, I mentioned that UAS might be an asset in you environmental impact assessment. Also UAS would be a very good tool for the design and planning for the pipeline. Advances in UAS and sensors have mapping down to 4 cm and provide excellent accuracy	Thank you for your comment and offer of assistance. Sections 3.11.1 and 4.11.1 (Land Use) of the EIS have been revised to include information on NMSU's Unmanned Aircraft Systems Flight Test Center.
148	27	27.7	New Mexico State University's Unmanned Aircraft Systems Flight Test Center	Zaklan	17-TRANS	The southline as proposed will have not have any impact on the New Mexico State University Unmanned Aircraft Systems Flight Test Center.	Sections 3.11.1 and 4.11.1 (Land Use) of the EIS have been revised to include information on NMSU's Unmanned Aircraft Systems Flight Test Center.
433	68	68.110	Pima County	Bernal/Connolly	17-TRANS	Scenic Route requirements of the Chapter 18.77.040.E5 apply for roadways designated Scenic per the Pima County Major Streets and Scenic Routes Plan.	Sections 3.18 and 4.18 of the EIS have been revised to include information on scenic route requirements in Pima County, per the Pima County Major Streets and Scenic Routes Plan.
264	49	49.15	Cascabel Working Group	Meader	18-TRAIL	Section 3.9.6, Analysis Area Conditions, Historic Trails and National Historic Trail Corridor, Pages 350-352. Although this is not a deficiency in the DEIS, it may be of interest because of the various trails mentioned in this section. In 1856–57 the Department of the Interior built or routed the Yuma–El Paso Wagon Road (the Lynch Wagon Road) across the area that the Southline Project traverses. The Southline will cross it at some location(s). Finding this route would be nearly impossible today, but I am attaching a map that shows the route from El Paso to central Arizona. A portion of the route is still used today by ranchers along the Tres Alamos Wash northwest of Croton Springs on the Willcox Playa.	Sections 3.9 and 4.9 of the EIS have been revised to include information on the Yuma–El Paso Wagon Road.
471	74	74.1	U.S. Forest Service	White	18-TRAIL	I am pleased to see much of my previous recommendations incorporated into the DEIS. One error remains regarding the Arizona Trail on Pg. F-9, line 13: "At this time, a CMP has ye to be developed for the Arizona Trail, and there is no lead agency identified."	Appendix F in the EIS has been revised to correct this information.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
472	74	74.2	U.S. Forest Service	White	18-TRAIL	As the assigned administering agency for the Arizona Trail, the U.S. Forest Service is the lead agency in the development of the CMP. This should be corrected in Appendix F and anywhere else it may occur in the DEIS.	Appendix F in the EIS has been revised to correct this information.
473	74	74.3	U.S. Forest Service	White	18-TRAIL	As I had difficulty downloading the documents into a searchable format, I was unable to locate the mitigation measures related to the project design criteria to see if my recommendations were incorporated.	Project design features previously provided were included in table 2-7 in the Draft EIS (now table 2-8 in the EIS).
476	74	74.6	U.S. Forest Service	White	18-TRAIL	Construction of additional roads crossing the trail and disturbance of the trail tread should be avoided. National Scenic Trails are intended to be in a non-motorized setting and mitigation should include measures to prevent motor vehicles of any kind from accessing the ANST or CDT during or after construction, or coming within a quarter mile of the ANST on routes created by the project, after it is completed. The primitive roads south of I-10, including those following utility corridors, are very popular with off-highway vehicles. Some of these motorized recreationists are very persistent and monitoring may be needed to ensure closed and rehabilitated project access roads are not reopened, leading to access to the ANST.	As stated in chapter 2 of the Draft EIS, the proposed Project would be designed, as feasible, to use existing access roads with minimal improvement to minimize creation of additional access routes. The intent is to do no more than is necessary to get equipment in and out safely and to prevent erosion and damage to vegetation. Post-construction monitoring of OHV users is the responsibility of the landowner or manager.
477	74	74.7	U.S. Forest Service	White	18-TRAIL	My recommendation about the State Land Department ROW for the Arizona Trail, held by Pima County, was incorporated and I would like to add that the time of year of construction will make a big difference for trail users. Most through hikers and riders will be passing through in Feb – April and Oct – Nov. The trail is used more lightly during the summer months. It is very popular with day hikers and riders and this activity occurs more during the cooler season.	Impacts to trail users would be minor and limited to conductor stringing operations since the trail crossing would be mid-span (see table 2-14 (now table 2-18 in the EIS) and section 4.12 in the Draft EIS). Any trail impacts would be brief (a few hours at most) and directed toward the safety of trail users.
478	74	74.8	U.S. Forest Service	White	18-TRAIL	All possible measures should be taken to provide a reasonable detour during the time construction is occurring in the area of the Arizona Trail. These considerations also apply to the Continental Divide Trail, although day use in the affected sections is probably minimal.	This is a Project design feature in table 2-7 in the Draft EIS (now table 2-8 in the EIS).
687	82	82.106	SunZia	Wray	18-TRAIL	National Historic and Scenic Trails Comment 106. Appendix F, page F-10 – Per BLM guidance (see HB 6250 and 6280), trail organizations associated with each trail should be brought into the process for national trails analysis. For Southline, these public organizations include Continental Divide Trail Society, Continental Divide Trail Coalition, Anza Trail Foundation, Anza Trail Coalition of Arizona, and the Arizona Trail Association. To be fully compliant with the guidance, meetings to inform these relevant organizations should occur. Please describe planned actions for complying with BLM's guidance on this issue.	Members of the public, including trail organizations, were afforded the opportunity to review the analysis in the Draft EIS. Members of the public did provide comments on National Historic and Scenic Trails. Additionally, the National Park Service is charged with managing trails and is also involved in this process as a cooperating agency. The EIS addresses all comments received during the public comment period (chapter 8). The EIS includes responses to comments received during the public comment process and provides revised EIS text based on those comments. As the Project continues, BLM will continue to work with these trail groups in addressing trail impacts from the Project. These groups will be instrumental in assisting BLM with many aspects of compliance with Section 106 (historic trails) and the BLM Manuals 6250 and 6280. BLM also coordinates with the Oregon-California Trails Association (OCTA), Southern Trails Chapter.
688	82	82.107	SunZia	Wray	18-TRAIL	Appendix F, pages F-10 – One mile on either side of the centerline is not consistent with the visual resource study. As stated in the visual resource assessment, a 10-mile buffer was used to assess visual impacts. If visual impacts were identified to that distance, the trail's visual values would be impacted, and therefore the analysis using a 2-mile buffer is inadequate.	The analysis area in the Draft EIS was identified based on the area most likely to bear environmental effects. Please note that the analysis area in the Draft EIS (appendix F) is consistent with the analysis area used for the same analysis in the SunZia Southwest Transmission Line Final EIS (see appendix L).
689	82	82.108	SunZia	Wray	18-TRAIL	The public trail organizations know the trail resources and should be consulted regarding the appropriate analysis area in conjunction with the relevant agencies and trail administrators.	The public trail organizations and the trail administrators and relevant agencies were consulted on the proposed Project. Members of the public, including trail organizations, were afforded the opportunity to review the analysis in the Draft EIS. Members of the public did provide comments on National Historic and Scenic Trails. The EIS addresses all comments received during the public comment period. The EIS includes responses to comments received during the public comment process (chapter 8) and provides revised EIS text based on those comments.
690	82	82.109	SunZia	Wray	18-TRAIL	Appendix F, pages F-18 – Mitigation planning and residual impacts – the terminology in this section is not consistent with other sections in the Draft EIS; please conform or explain this inconsistency.	Appendix F in the EIS has been revised for consistency.
573	80	80.11		Magruder	9-NEPA	5. Compared with the SunZia project. The SunZia Project is a proposed and competing alternative to the Southline Project. There is a reasonable probability only one of these projects will eventually be constructed. As both can meet similar east-west transmission requirements, comparison of their critical characteristics will be important considerations for all non-federal decision makers in the cities, counties and both Arizona and New Mexico/El Paso in addition to the various federal decisions makers required by NEPA to issue a Record of Decision (ROD). Briefly below, some of the critical performance characteristics of these two systems are discussed below.	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project. A comparison of the potential impacts from the not yet constructed SunZia project is beyond the scope of analysis for this EIS, except where addressed as a reasonably foreseeable action in the cumulative effects analysis (see section 4.21). The SunZia project was subject to its own detailed EIS, and the commenter's concerns were best directed at that process for appropriate consideration.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
580	80	80.18		Magruder	9-NEPA	6. Conclusion. It is concluded that the proposed Southline Transmission Project Alternative uses the best approach for ROWs, increases necessary additional power needs for customers in Southern Arizona and New Mexico/El Paso, significantly increases reliability for all these customers, can resolve the issues involving the Apache Power Plant with an interconnection at the Apache Substation, and removes any possible constraints on the transmission lines to El Paso, Texas. Two Alternatives should be in either a Supplemental EIS or the Final EIS, to include (1) Impacts of re-locating the "Bowie" natural gas power plant near the Apache Power Plant and (2) Comparison of the impacts of the Southline versus the SunZia Projects in Southern Arizona and New Mexico. 7. Recommendation. It is recommended that the Southline Project final EIS or a Supplemental EIS include two new Alternatives for the impacts for relocating the "Bowie" natural gas plant at the Apache Power Plant and to compare the Southline and SunZia Projects impacts on Southern Arizona and New Mexico/El Paso customers.	The not yet constructed SunZia project, and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline Project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project. A comparison with the potential impacts from the not yet constructed SunZia project is beyond the scope of analysis for this EIS, except where addressed as a reasonably foreseeable action in the cumulative effects analysis (see section 4.21). The SunZia project was subject to its own detailed EIS, and the commenter's concerns were best directed at that process for appropriate consideration. Please note that the EIS reflects consideration of all comments received during the public comment period. The EIS includes responses to comments received during the public comment process and provides revised EIS text based on those comments. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared. Considering relocation of the Bowie natural gas plant is out of the scope of the current analysis and does not meet the agencies' purpose and need, as described in chapter 1.
6	5	5.2	Town of Marana	Spencer	9-NEPA	I read the Draft EIS and I urge you to locate your transmission lines so they do not cross through or near wetlands and sandhill crane wintering areas. I am one of the thousands of people who visit Willcox Playa, AZ and Bosque del Apache, NM annually to view the cranes, snow geese, hawks, eagles, and waterfowl.	In coordination with the Arizona Game and Fish Department, the EIS has been revised to consider additional minor route variations (P7a, P7b, P7c, and P7d) near Willcox Playa. AGFD has provided mitigation measures to improve wildlife habitat and thus offset impacts to wildlife habitat and management goals and objectives in their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8 and include funding the relocation of Crane Lake, funding riparian emergent wetlands, and funding the management of non-native vegetation.
7	5	5.3	Town of Marana	Spencer	9-NEPA	Mitigating by using "line marking devices" should not be your first option- avoidance of these sites should be the priority.	Additional mitigation for vegetation and wildlife was provided by the FWS and is considered in the EIS; relevant sections (executive summary, as well as sections 2.4.6, 3.8, and 4.8) of the EIS have been updated to clarify proposed vs. committed mitigation. In addition, and in coordination with the AGFD, chapter 2 of the EIS has been revised to consider additional minor route variations (P7a, P7b, P7c, and P7d) near Willcox Playa. AGFD has also provided mitigation measures to offset impacts to wildlife habitat in their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8; P7 remains included in the Agency Preferred Alternative.
8	5	5.4	Town of Marana	Spencer	9-NEPA	I read that the Forest Service did not like one of the alternate routes around the Willcox Playa because of fire hazard management, but that is not an acceptable reason to route the line near important bird areas like the Lordsburg and Willcox Playas.	Alternatives considered but eliminated from detailed analysis are discussed in section 2.9 of the Draft EIS. Chapter 2 of the EIS has been revised to consider minor route variations (P7a, P7b, P7c, and P7d) near Willcox Playa. AGFD has provided mitigation measures to offset impacts to wildlife habitat and management goals and objectives in their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
10	5	5.6	Town of Marana	Spencer	9-NEPA	The cumulative effects of habitat loss, disruption of migratory routes, and potential electrocutions of birds creates an increasingly serious threat to our birds.	The anticipated cumulative effects of the proposed Southline Project, along with other reasonably foreseeable projects in terms of potential avian impacts, were described in section 4.21 of the Draft EIS.
11	5	5.7	Town of Marana	Spencer	9-NEPA	I strongly urge you to avoid the Lordsburg and Willcox Playas and to take great care to avoid affecting burrowing owls.	Mitigation for burrowing owls can be found in chapter 2 of the EIS (see table 2-8). The potential impact of the proposed transmission line on wildlife was analyzed in section 4.8 of the Draft EIS.
17	8	8.2		Anderson	9-NEPA	What if any, is the connection with the Sunzia	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline Project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project. A comparison of the potential impacts from the not yet constructed SunZia project is beyond the scope of analysis for this EIS, except where addressed as a reasonably foreseeable action in the cumulative effects analysis (see section 4.21). The SunZia project was subject to its own detailed EIS, and the commenter's concerns were best directed at that process for appropriate consideration.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
19	8	8.4		Anderson	9-NEPA	I note that the Proponent Alternative from Wilcox AZ to Afton NM: 2. Might alleviate the need for building one or both of the two substations which are shown as the Agency Preferred Alternative – one could perhaps just upgrade the existing Afton substation if necessary.	The proposed Project and alternatives are described in chapter 2 of the Draft EIS. As discussed in section 2.4.2 of the Draft EIS, the proposed Project would involve the interconnection with and upgrades of 14 existing substations and the potential construction of one new 345-kV substation facility proposed for Luna County, New Mexico (referred to as "Midpoint Substation").
22	9	9.2		Cotignola	9-NEPA	Question #2 – by building this doesn't that mean that elic power poles & power lines in time can then run & be built south of Deming off of Hwy #11 & Hwy OR County Road #C010 South 10 to Columbus, NM	The potential impacts of reasonably foreseeable actions, such as future transmission line projects, are acknowledged and described in section 4.21 of the Draft EIS.
33	15	15	BIA		9-NEPA	Page 19: The appropriate BIA law/regulation associated with our federal action is 25 CFR Part 169.	Table 1-5 in chapter 1 of the EIS has been revised based on this comment.
34	15	15	BIA		9-NEPA	Page 23,line 35: Should have included Tribal Historic Preservation Officer (THPO) .	Section 1.7 in chapter 1 of the EIS has been revised based on this comment.
35	15	15	BIA		9-NEPA	Page 24, line(s) land 2: Should include THPOs also.	Section 1.7 in chapter 1 of the EIS has been revised based on this comment.
36	15	15	BIA		9-NEPA	Page 25, line 8: Actually negotiating with the San Xavier District of the Nation Requires BIA action to renew existing easement(s) and issue new ROW for the additional 50 feet. There is no mention of the BIA action (that BIA is a fellow action agency) other than the table on page 19.	Chapter 1 of the EIS has been revised based on this comment, and clarifies what the BIA's role is and BIA's decision to be made.
37	15	16	BIA		9-NEPA	Page 28, lines 5-9: Was there specific outreach to the Nation? No mention of meetings with the Nation or the District specifically.	Information on all outreach with Native American Tribes, including the Tohono O'odham Nation and San Xavier District, is discussed in section 5.5, chapter 5, of the Draft EIS.
38	15	16	BIA		9-NEPA	Page 48, lines 26-31: It is anticipated that final acquisition of the additional 50 feet through allotments would/could be done at a later date? It would appear that a BIA decision document synchronous with the Bureau of Land Management (BLM)/Western Area Power Administration (WAPA) Record of Decision (ROD) is not expressly required as discussed in previous teleconferences?	Chapter 1 of the EIS has been revised to clarify what the BIA's role is and BIA's decision to be made and the status of the ROW lease negotiations between Western, BIA, and the Tohono O'odham Nation.
39	15	16	BIA		9-NEPA	Page 49, lines 20-25: Can the BIA expect that if needed, Southline/WAPA will conduct archaeological surveys and Pima pineapple surveys across San Xavier when the time comes?	Table 2-8 (previously table 2-7 in the Draft EIS) regarding project design features and mitigation in chapter 2 of the EIS has been revised to indicate that archaeological surveys and species specific surveys for the Pima pineapple cactus on the San Xavier would be conducted for the additional 50 feet of ROW. The existing ROW has been the subject of archaeological and Pima pineapple cactus surveys over the years (see sections 3.8 and 4.8 of the EIS).
40	15	16	BIA		9-NEPA	Page 93, line 11: No construction yards are proposed to be located on the San Xavier Reservation? BIA would need to be informed as to location and dimension so that it could be accommodated in the ROW.	Chapter 2 of the EIS has been revised to include more detailed maps indicating where potential staging areas (construction yards) would potentially be located. Additionally, chapter 1 of the EIS has been revised to clarify what the BIA's role is and BIA's decision to be made, including approval of any staging areas, if needed.
47	15	15.15	BIA		9-NEPA	The BIA Western Region Realty staff continues to work with WAPA and the San Xavier District, along with the individual land owners, to see the ROW renewal and eventual 50- foot acquisition through to completion. At this time we see no issues that would jeopardize the projected completion date of BLM/WAPAs FEIS/ROD.	Thank you for your comment.
48	16	16.1		Kestler	9-NEPA	Thank you for not crossing Tumamoc Hill. This is an important concern for me	Thank you for your comment.
49	16	16.2		Kestler	9-NEPA	Please limit access to 150 feet - more is unnecessary	The proposed Project and alternatives were described in chapter 2 of the Draft EIS, including the proposed width of the Western ROW.
51	16	16.4		Kestler	9-NEPA	Please keep building minimal in all areas and, as much as possible reuse existing lines, poles, etc.	The proposed Project and alternatives, as well as project design features, were described in chapter 2 of the Draft EIS.
52	17	17.1	City of Tucson	Dent/Romero	9-NEPA	We appreciate avoiding Tumamoc hill with the preferred alignment. Neighbors in A-mountain neighborhood (south of Tumamoc hill & Sentinel Peak) have concerns about disruption of project.	As described in chapter 2 of the Draft EIS, there are several options for alternatives around Tumamoc Hill. Alternatives considered in detail in the Draft EIS were described in chapter 2. The potential environmental impacts of all alternatives considered in detail were described in chapter 4 of the Draft EIS.
53	17	17.2	City of Tucson	Dent/Romero	9-NEPA	Councilor Regina Romero would appreciate additional dialogue with neighbors, and consideration of mitigation below powerline. This could include discussions regarding possible natural resource park, walking paths, and trails below the lines. Assistance with funding for these mitigation efforts may be appreciated by neighbors seeking area improvements.	Post-construction ROW uses such as those suggested by Councilor Romero are generally compatible with the operation and maintenance of a transmission line, as long as access to structures is preserved and nothing is constructed in the ROW that would reduce conductor-to-ground clearance. Reduced ground clearance would pose a safety hazard to maintenance workers and the public and violate NERC requirements; accordingly, certain restrictions on landowner activities would be included in the ROW agreements. Landowners retain ownership and all other rights to their properties, so permission to develop portions of the ROW for the uses identified by Councilor Romero would need to be negotiated with each affected ROW landowner. Since such activities are not part of Southline's proposed Project or the agencies' Federal actions, they are beyond the scope of this EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
57	21	21.1	–	Stogsdill	9-NEPA	I'm just wondering if your high line is gonna come through congruent with that existing feed line for our area or if you're planning on going to the uh, to some other parcel to route this high line of yours.	BLM provided the requested data on May 30, 2014. The proposed Project and alternatives were described in chapter 2, along with maps of the proposed Project and alternatives, in the Draft EIS.
60	24	24.1	Rafter JL Ranch	Miller	9-NEPA	I do not have a problem with power lines as everyone needs power. I do have a problem with what may come with them, such as solar power plants or alternative power projects, which would take a grazer's grazing leases away for alternative energy. This is why I would prefer the southern route (proponent alternative) down by HWY 9 in New Mexico. This would take the power lines far enough away that they would not be a problem for us from alternative power in the future. If this would be a problem to take the southern route, I would prefer the northern most route (Agency Preferred Alternative)I although this is closer to us and could be a problem with alternative energy in the future.	Previous and pending solar applications were analyzed as a reasonably foreseeable action in section 4.21 of the Draft EIS. Section 4.21 of the EIS has been revised to address the potential reduction in grazing leases from future solar development. Please note that projects, including solar or other generation, proposed on BLM lands would undergo a separate NEPA evaluation, including opportunities for public comment.
62	24	24.2	Rafter JL Ranch	Miller	9-NEPA	There hav already been proposals for solar power to come on to State Land that we lease and we do not want to have problems like that in the future.	Previous and pending solar applications were analyzed as a reasonably foreseeable action in section 4.21 of the Draft EIS. Section 4.21 of the EIS has been revised to address the potential reduction in grazing leases from future solar development. Specific concerns regarding solar projects on state lands should be directed to the State agencies (Arizona State Land Department and New Mexico State Land Office).
138	26	26.1	–	Hatch	9-NEPA	Several of my neighbors were at the meeting and brought to me the distressing news that the route for the proposed Southline Transmission Project high-voltage power line is (despite local input) all but decided to be ran over lands that are in their natural state and home to a HUGE variety of both permanent and migratory endangered fauna and flora – as opposed to a previously "proposed" route that would put this hideous and destructive monstrosity of a high-voltage power line down in the bottom of Sulpher Springs Valley – where the land has already been utterly destroyed by un-successful attempts at farming and is currently criss-crossed by existing power lines.	As discussed in section 1.2.1 of the Draft EIS, BLM and Western will base their respective decisions on the analysis in the EIS. The proposed Project and alternatives are described in chapter 2 of the EIS. The potential effects of the proposed Project on vegetation and wildlife were discussed in sections 3.8 and 4.8 (Biological Resources) of the Draft EIS, including the potential effects from Agency Preferred Alternative on the east side of Willcox Playa.
139	26	26.2	–	Hatch	9-NEPA	Much to my dismay, all of the "maps" I was able to find were pretty much useless in terms of being able to see exactly the routes proposed through our area – because Interstate 10 was (deliberately..??) not marked for reference at all and because no matter how much you magnify the "maps," you can't see the names of ANY local streets or landmarks that would provide useful reference to the exact location of the proposed route	Maps in the EIS have been revised to include more detailed locational information.
140	26	26.3	–	Hatch	9-NEPA	I hereby unequivocally state (as I did at the first Willcox hearing) that ANY proposed route that passes to the East of Interstate 10 (which runs North and South through the Willcox area) is TOTALLY UNACCEPTABLE, due to the catastrophic and permanent damage that would be done to local and migratory endangered species, not to mention the impact of 170 foot tall UGLY metal high-voltage power towers on a view that is currently wild, beautiful and unencumbered. Especially when there is (was..??) a viable alternative route West of Interstate 10 through already irrevocably destroyed and / or poorly developed and abandoned areas	The potential environmental impacts of the proposed Project and alternatives were analyzed in chapter 4 of the Draft EIS, including impacts to wildlife and vegetation (section 4.8) and visual resources (4.11).
143	27	27.2	New Mexico State University's Unmanned Aircraft Systems Flight Test Center	Zaklan	9-NEPA	1. What route specifically will it follow, a map would be wonderful? 2. What will the altitude/height will the towers be at?	The proposed Project and alternatives were described in chapter 2 of the Draft EIS, including maps of the proposed Project and alternatives.
145	27	27.4	New Mexico State University's Unmanned Aircraft Systems Flight Test Center	Zaklan	9-NEPA	4. What is your plan for inspection of the transmission lines once it is complete?	The proposed Project and alternatives, including proposed plans for operation and maintenance, were described in chapter 2 of the Draft EIS.
149	28	28.1	–	Balch	9-NEPA	we own property in Arizona outside of Willcox. Our parcel number is 20316065. I'm just wondering how close this is going to run to our property	BLM provided the requested data on May 14, 2014. The proposed Project and alternatives, including proposed plans for operation and maintenance, were described in chapter 2 of the Draft EIS.
153	31	31.2	Wild Heart Ranch	Lannon	9-NEPA	I appreciate also that they were willing to meet early on with community and environmental groups and to actually listen to them.	Thank you for your comment.
155	32	32.1	EPA	Jansky/Weeks	9-NEPA	EPA rates the DEIS as "EC-2" i.e., EPA has "environmen tal concern s and requests additional information" in the Final EIS (FEIS). The EPA's Rating System Criteria can be found at http:/www .epa.gov/compliance/nepa/comments /ratings.htm l. The "EC" rat ing is based on the potential for adverse impacts to protected species, public health and safety, historic, cultural , or archeological resources, and waters of the U.S. (WUS). The "2" indicates the DEIS does not contain sufficient information to fully assess protected species, noise, public health and safety, prime farm lands, historic, cultural , or archeological resources and WUS. We have enclosed detailed comments which clarify our concerns. Responses to comments should be placed in a dedicated section of the FEIS and should include the specific location where the revision, if any, was made	The EIS has been revised accordingly, and responses to the EPA's detailed comments are provided below.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
156	32	32.2	EPA	Jansky/Weeks	9-NEPA	Alternatives Clarification. Chapter 2; page 117. The potential alignments of the transmission lines in this project are divided into routes, subroutes, segments, and nodes; from largest to smallest respectively. Many of the route segments have multiple nodes which share the same name. For instance, there are 3 nodes of segment LD4 and 2 nodes of segment LD3a. When the existing environment or environmental consequences are being described it is difficult to determine which node is being discussed.	Chapters 3 and 4 of the EIS have been revised to provide more specificity regarding the location of impacts, where appropriate. Additionally, maps in the EIS have been revised to include more detailed locational information.
157	32	32.3	EPA	Jansky/Weeks	9-NEPA	Alternatives Clarification. Also, when describing effects scale is important. Air resources can be affected over many miles or counties, whereas cultural resources may be limited to an exact location. Stating an effect occurs in route segment "P2", when "P2" is over 20 miles long, does not let the reader know exactly where the effect is taking place. This makes it difficult to perform a comparative analysis of every alternative. Recommendation: When describing the environment or effect of the project, consider the scale, and be as exact as necessary in stating the location where the effect is taking place	The potential impact analysis in chapter 4 of the EIS has been revised to include more information, where appropriate, on the scale of impacts.
158	32	32.4	EPA	Jansky/Weeks	9-NEPA	Alternatives Clarification. There is a selection of an environmentally preferred alternative and a listing of the route segments that comprise this alternative. There is also a brief description of why the alternative is more environmentally preferred. Missing from the document is a rationale, e.g. cost, as to why this alternative was not chosen. Recommendation: In cases where the environmentally preferred alternative differs from the Agency Preferred Alternative, explain why the environmentally preferred alternative was not chosen.	Chapter 2 of the Final EIS has been revised to provide more rationale on the selection of the Agency Preferred Alternative and its relationship to the Environmentally Preferred Alternative.
171	32	32.17	EPA	Jansky/Weeks	9-NEPA	Chapter 4; page 1067. The DEIS provides a list of reasonably foreseeable future projects for the upgrade section in Table 421-1 (p. I 067). The DEIS lists the Electrical District 5 - Palo Verde Hub Project, 109 miles in Maricopa and Pinal counties, but does not list the Electrical District 2 to Saguaro #2 Transmission Line Rebuild Project. Recommendation: The FEIS should update the list of reasonably foreseeable projects used in the cumulative effects analysis to include the proposed Electrical District 2 to Saguaro #2 Transmission Line Rebuild Project.	Section 4.21 in chapter 4 of the EIS has been revised to include the proposed Electrical District 2 to Saguaro #2 Transmission Line Rebuild Project as a reasonably foreseeable action.
172	32	32.18	EPA	Jansky/Weeks	9-NEPA	Consultation and Coordination. Chapter 5; page 1126. Coordination with several local, state, and national agencies concerning environmental laws and executive orders is ongoing. Without specifics, and the available opinions of the agencies BLM is tasked with consulting, it is difficult to assess the potential environmental effects of the DEIS. Recommendation: EPA asks that BLM not release the Record of Decision (ROD) until all applicable permits and coordination has been finalized.	The EIS reflects the additional input received from cooperating agencies and the various Federal, State, and local agencies with whom the agencies are coordinating since the Draft EIS was completed, including the comments on and responses to comments on the Draft EIS. Coordination with these entities will continue beyond the EIS and ROD. Permitting entities require detailed project information in order to issue their permits, and in some cases permits are not obtained until filed for by the construction contractor. Southline would need an agency decision, either selection of a proposed Project route if the ROW application is authorized, and/or a decision on Western's participation in the proposed Project, before it could apply for most project permits. Section 1.5.4 of the EIS has been revised to clarify the timing of proposed Project permits.
178	35	35.1	Hearing-USACE	Gatewood	9-NEPA	For the preferred alternative, has there been one major issue that has been identified that has, say, put the preferred alternative in jeopardy?	The Agency Preferred Alternative, and rationale for selection in the Draft EIS, was described in section 2.10.5 of the Draft EIS. Potential avian conflicts at Willcox Playa continue to be a concern for wildlife agencies and the public. As a result, BLM and Western, in coordination with AGFD, developed mitigation measures along segment P7 to offset impacts to wildlife habitat and management goals and objectives in their Willcox Playa Wildlife Area. The mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
179	36	36.1	Hearing	Anderson	9-NEPA	I'm just curious as to what's the purpose of the substation on the border that happens to tack on to the alternative route? If you go with the agency-preferred alternative, would you then be building two substations or just one?	The proposed Project and alternatives were described in chapter 2 of the Draft EIS. The proposed Midpoint South Substation is one of two alternatives for a new proposed substation in New Mexico. See section 2.4.2 of the Draft EIS for a description of substation alternatives, which indicates that only one Midpoint Substation would be constructed.
184	38	38.1	Hearing	No ID Speaker	9-NEPA	Would you show us just where Benson is and J-6 and Nogales. It said Nogales for some reason. Yeah, I didn 't understand the map. Where it says Nogales, why is it Nogales? It's not going down to Nogales. Do you have another map that would show a specific area?	The proposed Project and alternatives were described in chapter 2 of the Draft EIS. The proposed Nogales Substation was described in section 2.4.2 of the Draft EIS. Maps in the EIS have been revised to include more detailed locational information.
185	38	38.2	Hearing	No ID Speaker	9-NEPA	What is the length of that red one? (referring to Alternative H north of Benson)	As described in table 2-8 in chapter 2 of the Draft EIS (now table 2-7 in the EIS), alternative H measures 19.3 miles.
187	38	38.4	Hearing	No ID Speaker	9-NEPA	I missed a lot when you went over the -- This is rebuild, this is new, this is rebuild. So at some point in the evening maybe that could be resaid.	The proposed Project and alternatives were described in chapter 2 of the Draft EIS. Maps in the EIS have been revised to include more detailed locational information.
188	38	38.5	Hearing	No ID Speaker	9-NEPA	It's a matter of language . You're talking substations . We're talking towns and communities. So I don't know where some of these substations are. So it doesn't really make sense to me.	Maps in the EIS have been revised to include more detailed locational information and distinguish between towns and substations.

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189	38	38.6	Hearing	No ID Speaker	9-NEPA	Were you just replacing some poles on that line like last week? (referring to the existing Western line)	Western has an ongoing maintenance program on all of its transmission lines, and replacement of deteriorated poles that fail testing is part of that program. Even though the proposed Project would replace the existing line, it is not certain the proposed Project would be built, and if it is approved, construction is still a few years away. Maintenance of Western's existing line was considered in section 4.21 of the Draft EIS in terms of anticipated cumulative effects.
190	38	38.7	Hearing-Defenders of Wildlife	Sargent	9-NEPA	Can you compare and contrast the purpose and need for Southline versus the purpose and need for SunZia? Could you speak to what the difference in purpose and need is, you know, according to the proponents.	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline Project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project. BLM and Western's purpose and need were described in section 1.2 of the Draft EIS. Southline's objectives in developing the proposed Project were described in section 1.3 of the Draft EIS.
191	38	38.8	Hearing-Defenders of Wildlife	Sargent	9-NEPA	But has BLM looked at any sort of cumulative impact of both lines? (referring to Southline and SunZia)	The cumulative effects of the proposed Southline Project along with other reasonably foreseeable projects, including the not yet constructed SunZia project, in the analysis area were described in section 4.21 of the Draft EIS.
192	38	38.9	Hearing	No ID Speaker	9-NEPA	So there's two different projects. We could have another power line going through another area? (referring to Southline and SunZia)	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline Project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project.
193	38	38.10	Hearing	No ID Speaker	9-NEPA	What do you find when you look at the cumulative impacts?	The cumulative effects of the proposed Southline Project along with other reasonably foreseeable projects in the analysis area were described in section 4.21 of the Draft EIS; these are described in the same section of the Final EIS.
194	38	38.11	Hearing	No ID Speaker	9-NEPA	What is the source of the electrical generation and where it starts in Afton?	Section 1.3.1 of the EIS has been revised to clarify that the proposed Project would be a transmission-only project. Southline would not purchase power from generators or sell power to others. The proposed Project, as described in chapter 2 of the Draft EIS, would interconnect with up to 14 existing stations where new or existing power generation resources could interconnect to and utilize the capacity Southline would add to the system.
198	38	38.15	Hearing-Cascabel Working Group	Meader	9-NEPA	One of my big questions was: You're bringing two 345-kilovolt volt lines into the Apache generating station and then you're leaving with just two 230-kilovolt lines . If you're generating a lot of power in New Mexico, how do you accommodate that power past the Apache generating station when you're cutting the transmission capacity in half? And I don't know if that's a question to be answered here .	Section 1.3.1 of the EIS has been revised to clarify that the proposed Project would be a transmission-only project. The calculation of transfer capacity is complex and is not determined solely by the number or voltage of lines entering or exiting a substation. Transfer capability is determined through technical studies that evaluate how a project interacts with the existing system in various conditions. Physical properties, including voltage level and many other factors, are inputs in these studies, but overall capability is determined by the proposed Project's relationship to the overall system. Southline WECC Path Rating studies indicate that the Project can support approximately 1,000 MW in the east-to-west direction across both the New Build 345-kV and Upgrade 230-kV sections, and approximately 400 MW in the west-to-east direction across both the Upgrade 230-kV and New Build 345-kV sections.
199	38	38.16	Hearing-Cascabel Working Group	Meader	9-NEPA	The other question I had is, you can't build a project because it's a good idea. You have to build it because you can make money. And my question was : How many or what level of power purchase agreements do you have to have beforehand to get financing for the project and to justify building the project? It seems a little risky just to go ahead and build this without having some generation all lined up and without utilities having agreed to purchase that. Those are the two big points that I wanted to make . They are more questions than comments I think.	Section 1.3.1 of the EIS has been revised to clarify that the proposed Project would be a transmission-only project; Southline would not purchase power from generators or sell power to others. Instead, power generators or utilities needing transmission capacity would apply for capacity on the Southline Project and pay Southline for the ability to move their power on the line. The proposed Project, as described in chapter 2, would interconnect with up to 14 existing stations where new or existing power generation resources could interconnect to and utilize the capacity Southline would add to the system.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
200	38	38.17	Hearing	Cook	9-NEPA	I'm not sure it's going to be used that effectively. I wanted some interaction. I have some maps here that show where it's going to go in relation to Benson .It appears that one of the routes is going to go pretty much through Benson. I have to guess, but here I am on page 21 of 32. And I can see the legend below and there 's nothing that shows where the proposed line is going to go. I have to assume it's the white and green segmented line . So that appears to go right through our golf course and just north of the interstate. So it looks like I can't have any questions answered; is that the problem with speaking right now?	The commenter is not referring to maps published in the Draft EIS. Commenter was provided with the opportunity to ask questions during public hearing in Benson, Arizona. As described in section 2.7 of the Draft EIS, there are two alternatives near the Town of Benson – upgrading the existing Western line through Benson (segment U2) and an alternative north of the Benson Municipal Airport (local alternative H).
201	38	38.18	Hearing	Cook	9-NEPA	The second one or comment sort of is: It appears that there's a segmented white and green line that's going farther north of Benson and then beyond the airport north of the airport and then coming south following along the railroad tracks and then beyond J-6 crossing, apparently, the freeway. When we get to that portion, I understand that we have very huge power lines much farther north probably around nine or ten miles north of Ocotillo Road, and they present much less of a sight disturbance for us. I wonder why you didn't choose that one but you chose the two that are closer to Benson and more unappealing to us	The commenter is not referring to maps published in the Draft EIS. The proposed Project and alternatives, including Alternatives Considered but Eliminated from Further Analysis (section 2.9) and the Agency Preferred Alternative (section 2.10.5), were described in chapter 2 of the Draft EIS. A description of the rationale for identifying the Agency Preferred Alternative in the Final EIS is included in section 2.10.5.
203	38	38.20	Hearing	Cook	9-NEPA	The following green line was where the one proposed – I guess your main proposal is. The one that you call H, Alternative H, is your second choice. Now the one that I was referring to that is where the real tall poles, they are even off the map. I'm wondering why you're going so close to our city instead of going so out – when you can go out of the way and there would be much less visually imposing to everybody or to most people. And if, once you get that far, you can – it follows along the north end of these mountains and north of Wilcox also and it's out of everybody's way almost. If you follow up Ocotillo Road, that's got to be this one with Benson there. And you count the section lines, one, two, three, four, five, six, seven, it's more like eight, nine, ten, or eleven sections north and it crosses north of Tres Alamos Wash, and it's a huge power line that goes around the south end, south side of the Rincons over here and on the south side of where the Mt. Graham, those mountains, whatever they are. They are out of the way. It's mostly ranch land. You have fewer people to complain about it. It's much less visually imposing . Why are you proposing putting it here rather than out of sight out of mind?	The commenter is not referring to maps published in the Draft EIS. The proposed Project and alternatives, including Alternatives Considered but Eliminated from Further Analysis (section 2.9) and the Agency Preferred Alternative (section 2.10.5), were described in chapter 2 of the Draft EIS. The comment refers to local alternative BE1, an alternative eliminated from further analysis in the Draft EIS (see section 2.9).
204	38	38.21	Hearing	No ID Speaker	9-NEPA	When I started listening to what you were doing, I think maybe part of the dilemma here or the not understanding is that the confusion is that a year ago we had the SunZia lines and they were much bigger, much more impactful . And then how many of you here think that this has to do with SunZia, that it might be the stuff going up to San Manuel and that? Or do we all understand that this is the existing line already? So that was my commenting. Because at first I thought, Well this isn't what we were talking about last time . This is totally different. So maybe that's part of the confusion here.	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline Project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project. The cumulative effects of the proposed Southline Project along with other reasonably foreseeable projects, including the not yet constructed SunZia project, in the analysis area were described in section 4.21 of the Draft EIS.
205	38	38.22	Hearing	Cook	9-NEPA	The Alternative H, is it a viable alternative or is your mind made up to rebuild or upgrade the existing green line?	The Final EIS includes the Agency Preferred Alternative. While the preferred alternative is presented, the final route will be determined in the ROD. Until that decision document is signed, any alternative segment could be selected in the ROD
206	38	38.23	Hearing	Kephart	9-NEPA	I'm from Dragoon, and the existing line crosses my property. You said something about needing an additional 50 feet. Is that the road, the service road, you'll be using? Do you know if the line, not the road?	The proposed Project and alternatives were described in chapter 2 of the Draft EIS. As described in chapter 2 of the Draft EIS, where possible, the new 230-kV line would be built 50 feet away from the edge of the existing 100-foot ROW, parallel to the existing line. Once the old line is removed, the old 100-foot ROW plus the additional 50 feet would equal the new ROW, with the new line ending up offset 25 feet from the center of the new 150-foot ROW. The existing access road would be used along the Upgrade Section; no new access in the existing Western ROW or added ROW is anticipated.
207	38	38.24	Hearing	No ID Speaker	9-NEPA	Would there be lights on the towers?	As described in section 2.4.2 of the Draft EIS, aircraft warning lighting may be required for the conductor on certain spans, in accordance with FAA guidelines. Lighting would typically be required near airports or where low-level military flight paths would cross the proposed Project.
208	38	38.25	Hearing	Lindberg	9-NEPA	Is there a slide that you would show that – to show the two different pole arrangements that are on that board?	Diagrams of structure types were available as figures 2.3 through 2.12 in the Draft EIS.
210	39	39.1	Hearing	Haenichen	9-NEPA	I'm with the Arizona Governor's Energy Policy Office, and I'm also on the Transmission Line and Siting Committee . I was wondering if there was any rough idea about when this thing might hit the committee	Southline Transmission, LLC, would be responsible for submittal of the application for a Certificate of Environmental Compatibility. BLM and Western are not responsible for ACC submissions.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
211	39	39.2	Hearing	Moffatt/Pima County	9-NEPA	Since you did the 2012 study, Pima County, in cooperation with the airport and the Air Force and a number of entities, have started to relocate Hughes Access Road south of the Raytheon Plant and develop the corridor across Old Vail connection as an industrial corridor. Now, this – the existing line crosses the – the Summit, which is a community and then crosses Old Vail connection and then across airport property. And it crosses a section of land that is being prepared for industrial development. So one of our preferences, because it pretty much bisects that section of land, is to be able to reroute the line along Old Vail connection, avoid Summit, but also avoid this property, go approximately a mile west and intersect another utility corridor that goes east of the Santa Rita district. So that would be helpful to the airport, to Pima County. And I notice we weren't doing this project, so we didn't have those comments included in your report at that time . But this is a major economic development project for the area, so we'd like to have that considered.	Based on comments by Pima County regarding lands south of the Tucson International Airport, a new approximately 6-mile-long route variation (U3aPC) is analyzed in the EIS. The Agency Preferred Alternative in the EIS has changed since the Draft EIS and now includes route variation U3aPC. BLM and Western continue to coordinate with Pima County.
212	39	39.3	Hearing	Terpering/AZGFD	9-NEPA	I'm Kristin Terpening with Arizona Game and Fish Department. And I was hoping someone can explain to me what went into the decision to align the route on the west side of the Wilcox Playa since it seems to be outside of the Buffalo Soldier Range that I know the DOD needs to consider. Is there someone who can explain that?	The Agency Preferred Alternative, and rationale for selection in the Draft, was described in section 2.10.5 of the Draft EIS. Details on further coordination with AGFD regarding impacts to wildlife habitat in the Willcox Playa area and selection of the Agency Preferred Alternative have been added to chapter 5 of the EIS.
213	39	39.4	Hearing	Mayro/City of Tucson	9-NEPA	I'm Linda Mayro with Pima County. And thank you for considering Tumamoc Hill . Pima County owns the west half of Tumamoc Hill for conservation purposes. And I notice, although it is realigned, it still impacts the National Historic Landmark and our property. It's not in the public right-of-way. So we would consider this, not as desirable perhaps , as the alternative that may go along the east side. But I will put that in comments for you.	As described in chapter 2 of the Draft EIS, there are several options for alternatives around Tumamoc Hill. Alternatives considered in detail in the EIS are described in section 2.7. The Agency Preferred Alternative, and rationale for selection, was described in section 2.10.5 of the Draft EIS.
214	40	40.1	Hearing	No ID Speaker	9-NEPA	What is the process of extending the right-of-way from the existing 100 to 150 when you need it?	The proposed Project and alternatives, including upgrading Western's existing lines and expanding the ROW (see section 2.4.3), were described in chapter 2 of the Draft EIS.
215	40	40.2	Hearing	No ID Speaker	9-NEPA	So there's another major power transmission line that is being proposed along, not the same, but similar location, the SunZia Project, and I was wondering if you could address the relationship . Are they serving some of the same purposes and needs ? So then in the Draft EIS are you looking at the cumulative impacts of both?	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline Project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project. The cumulative effects of the proposed Southline Project along with other reasonably foreseeable projects, including the not yet constructed SunZia project, in the analysis area were described in section of the Draft EIS.
216	41	41.1	Hearing	No ID Speaker	9-NEPA	What is this going to do? Is it going to go through the City of Willcox?	The potential impact of the proposed transmission line on the physical and human environment, along with a description of mitigation measures and other measures proposed to reduce potential impacts, was analyzed in chapter 4 of the Draft EIS. The location of the proposed Project and alternatives was described in chapter 2 of the Draft EIS; there are several Project alternatives in and around the Willcox area. The Agency Preferred Alternative in the Final EIS is discussed in section 2.10.5.
217	41	41.2	Hearing	No ID Speaker	9-NEPA	Where are the power sources coming from? I've heard Apache. Is that the only power source that this electric line will be providing?	Section 1.3.1 of the EIS has been revised to clarify that the proposed Project would be a transmission-only project. Southline would not purchase power from generators or sell power to others. Instead, power generators or utilities needing transmission capacity would apply for capacity on the Southline Project and pay Southline for the ability to move their power on the line. The proposed Project, as described in chapter 2, would interconnect with up to 14 existing stations where new or existing power generation resources could interconnect to and utilize the capacity Southline would add to the system.
218	41	41.3	Hearing	No ID Speaker	9-NEPA	Then am I to understand that there's no actual power source that you're going to be connected to and, at this time, that you have an actual contract that this is who we 're going to have electricity coming from?	Section 1.3.1 of the EIS has been revised to clarify that the proposed Project would be a transmission-only project. Southline would not purchase power from generators or sell power to others. Instead, power generators or utilities needing transmission capacity would apply for capacity on the Southline Project and pay Southline for the ability to move their power on the line. The proposed Project, as described in chapter 2, would interconnect with up to 14 existing stations where new or existing power generation resources could interconnect to and utilize the capacity Southline would add to the system.
220	41	41.5	Hearing	No ID Speaker	9-NEPA	The other question in the areas where you're looking at non-corridor routes, could you describe in general why those areas were selected and are following existing corridors and what the tradeoffs were in positioning your preferred alternative there.	The proposed Project and alternatives, including routing considerations, were described in chapter 2 of the Draft EIS. The Agency Preferred Alternative, and rationale for selection in the Draft EIS, was described in section 2.10.5 of the Draft EIS. As discussed in section 1.2.1 of the Draft EIS, BLM and Western will base their respective decisions on the analysis in the EIS. The Final EIS includes the Agency Preferred Alternative. While the preferred alternative is presented, the final route will be determined in the ROD. Until that decision document is signed, any alternative segment could be selected in the ROD.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
221	41	41.6	Hearing	No ID Speaker	9-NEPA	So I know that there's still some concern over part of the SunZia-proposed route and the preferred alternative there. Does this give anymore support to that by adding, "this is in a dual corridor," or are these two totally separate discussions?	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline Project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project. Additionally, as discussed in section 2.10.5 in the EIS, BLM and Western selected the Agency Preferred Alternative to maximize use of existing and proposed linear ROWs by paralleling existing infrastructure and transmission lines.
222	41	41.7	Hearing	No ID Speaker	9-NEPA	So you said that the new poles will be the single pole with three lines on each side of it. And how much taller are they than the existing poles? And how does that affect how far down the electro magnetic field would reach the ground or how wide the corridor between -- where that goes? And are they -- are they allowed to be kept -- or strung further apart than the existing poles? Are they stronger and therefore able to be fewer of them along the line?	The proposed Project and alternatives, including structure heights, spacing, and dimensions, were described in chapter 2 of the Draft EIS (see section 2.4.2, Project Components). Diagrams of structure types are available as figures 2-3 through 2-12 in the Draft EIS. The potential impact of the proposed transmission line on human health and safety, including impacts from electromagnetic fields, is analyzed in section 4.16 of the Draft EIS.
224	41	41.9	Hearing	Shaver	9-NEPA	I was just going to comment because I'm from Willcox as well and the -- the map with the playa showing the line going east and south from the playa, there is already a line there. It's a 230 line, and so that -- that corridor they are talking about, that 's not brand new. So it would just widen that I assume, widen that right-of-way and wouldn't probably be taller than the existing Southwest Transco line, would it? I mean it would probably be about the same.	The proposed Project and alternatives, including structure heights, were described in chapter 2 of the Draft EIS. Diagrams of structure types were available as figures 2-3 through 2-12 in the Draft EIS. The proposed Project would parallel the existing SWTC line on the east side of Willcox Playa and as proposed, the structure would be taller. The Agency Preferred Alternative, as described in section 2.10.5 of the Final EIS, would parallel the existing SWTC line.
225	41	41.10	Hearing	Shaver	9-NEPA	Some of you might have thought that that was going to be a new line, but that's already there, so it wouldn't be a new line . And it seems to me that the -- the path using the existing right-of-ways would be less noticeable to those of us who are in the area. Because it would -- it would definitely widen it, and unfortunately for those whose land it crosses, it might widen that right-of-way that you can't build upon. However, following that existing route would minimize the impact, I would think, to our local area. Just kind of a comment.	The proposed Project and alternatives, including structure heights, were described in chapter 2 of the Draft EIS. Diagrams of structure types were available as figures 2-3 through 2-12 in the Draft EIS. Additionally, information on visual resources can be found in sections 3.10 and 4.10 of the Draft EIS.
226	41	41.11	Hearing	Graham	9-NEPA	Jim Graham from Cochise. What's the procedure for compensation for landowners for widening the easement?	The ROW easement acquisition process was described in section 1.9 of the Draft EIS.
228	42	42.2	U.S. International Boundary and Water Commission	Anaya	9-NEPA	If the Proponent Alternative, or any combination of alternatives, include portions on or adjacent to the international boundary , it is required that engineering drawings be submitted to the USIBWC for review and approval prior to beginning any construction near the international boundary. These drawings must show the location of each component in relation to the international boundary and the boundary monuments. The USIBWC requires that all structures be off-set from the international boundary by a minimum of two feet, maintain a clear line-of-sight between any affected boundary monuments, and maintain a 10-foot radius off-set around the international monuments.	Chapter 2, as well as sections 3.7 (Water Resources) and 3.11 (Land Use) in chapter 3 have been revised to describe requirements of the U.S. International Boundary and Water Commission.
230	42	42.4	U.S. International Boundary and Water Commission	Anaya	9-NEPA	Once the proposed project is better defined, we recommend that project specific details be submitted for review and comment by both Sections of the IBWC.	Chapter 2, as well as sections 3.7 (Water Resources) and 3.11 (Land Use) in chapter 3 of the EIS, has been revised to describe requirements of the U.S. International Boundary and Water Commission.
231	43	43.1		Davis	9-NEPA	As a Dona Ana county resident I am against the Southline Transmission Line project.	Statement of preference.
232	43	43.2		Davis	9-NEPA	Having seen your work in the past there is NO regards for environmental impact even though you claim to have had studies which of course have shown NO impact, nor will studies for this project. Impossible! Your construction has no regard for wildlife, flora or fauna, you plow through whatever is in your path and no least intrusive effort is made although such claims are present. Claims for regeneration afterwards are not met. I suggest either use existing lines or negate the effort. As a side topic and as a power user, based on any past related work, this leads to no decrease in our rates	The proposed Project and alternatives, including the no action alternative, were described in chapter 2 of the Draft EIS. The potential impact of the proposed transmission line on the physical and human environment, along with a description of project design features, mitigation measures and other efforts proposed to reduce potential impacts, was analyzed in chapter 4 of the Draft EIS. These potential impacts were also summarized and compared in tables 2-11, 2-12, 2-13, and 2-14 in the Draft EIS (now tables 2-15, 2-16, 2-17, and 2-18 in the EIS). As described in chapter 5 of the Final EIS, the BLM and Western invited over 50 local, State, and Federal agencies to participate as cooperating agencies, demonstrating the agencies' commitment to adequately analyzing impacts to the physical and human environment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
233	43	43.3		Davis	9-NEPA	I will ask for you to preserve the environment but this will of course fall on deaf ears as the decision was made long ago. Asking for input is only a formality, any impact studies will be false in pointing to no impact or disregarded.	As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline Project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project. As described in chapter 5 of the Final EIS, the BLM and Western invited over 50 local, State, and Federal agencies to participate as cooperating agencies, demonstrating the agencies' commitment to adequately analyzing impacts to the physical and human environment. BLM's decisions to be made are outlined in table 1-1. The Final EIS includes the Agency Preferred Alternative. While the preferred alternative is presented, the final route will be determined in the ROD. Until that decision document is signed, any alternative segment could be selected in the ROD. The NEPA process, including publication of the Draft EIS, is designed to disclose potential impacts to the public, as well as solicit and include feedback from the public in the analysis.
237	45	45.3		Foley	9-NEPA	Line placement adjacent to or through these areas should be avoided to the maximum extent possible, and the line should be buried where appropriate. Public access to power line maintenance roads should be restricted so as to prevent the proliferation of unauthorized roads and trails.	Section 2.9 (Alternatives Considered but Eliminated from Further Analysis) of the EIS now includes a section on alternative construction methods, such as burying the proposed transmission line.
238	46	46.1		Hamel	9-NEPA	My husband and I have been following the Line Project. We own a small ranch that is located in the middle of a section of this project. I've enclosed 2 maps to show the 2 routes we do not approve of a the route that we would be in favor of. We chose this location because of the 360 degrees beauty of the scenery. The routes proposed will literally ruin our views from every window in our home. We paid a lot of money to have all lines buried on our ranch.	The potential impact of the proposed transmission line in terms of visual resources, as well as property values, was analyzed in chapter 4 of the Draft EIS.
241	46	46.4		Hamel	9-NEPA	On the maps enclosed you can see where Ive indicated our location. The proposed routes to the east + West are the 2 rts. We really do not want. We know you will choose a route in the end. We ask that you choose the 3rd proposed RTE that crosses the I-10 + goes North of us and West up + around us. It will still negatively impact us but to a much lesser degree.	Statement of preference.
242	46	46.5		Hamel	9-NEPA	I wish all these lines could be buried. It would make things so much better.	Section 2.9 (Alternatives Considered but Eliminated from Further Analysis) of the EIS now includes a section on alternative construction methods, such as burying the proposed transmission line.
244	46	46.7		Hamel	9-NEPA	As I reread this, Ive come back to add that studying the rest of the route thru town and around the drylake will really ruin the views everywhere thru this valley. Our community is very special we re developing vinyards for wines. We already get lots of tourists for the beauty of this land. This line will ruin it for everyone.	The potential impact of the proposed transmission line in terms of visual resources was analyzed in section 4.10 of the Draft EIS. Additional visual simulations around the Willcox area have been added to appendix K of the EIS.
246	47	47.2	Riley, Carlock, and Applewhite	Loftland	9-NEPA	There were 19 resource reports prepared by the applicant's consultant, CH2M Hill, and ultimately cited to and relied upon in the DEIS by the BLM. 1 These resource reports were not made available on the BLM's project website, or made readily available for public review; thus, we request that the comment period on the DEIS be extended for an additional 30 days after we have received a copy of the above-listed 10 resource reports, and after all 19 resources reports have been made "readily available" for public review.	The Southline Transmission Line Resource Reports cited in the Draft EIS are one of many valuable reference documents used in the analysis. Data used in the Draft EIS were available for the full 90-day comment period, upon proper request. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.
247	47	47.3	Riley, Carlock, and Applewhite	Loftland	9-NEPA	The NOA implies that all supporting documentation, including the resource reports relied upon in the DEIS, would be available online? However, the resource reports are not available. Consequently, inquiries were made with the BLM offices identified above, where hardcopies of the DEIS are located, to determine if there was location for one to review, analyze, and acquire copies of the resource reports; but we were unable to locate any hardcopies of the resource reports, or identify a location where there were readily available for review.the DEIS for the Southline Project As you are no doubt aware, if the BLM references and relies upon materials outside the DEIS, it must do the following: Ensure that the analysis and assumptions in the materials are accurate and can be relied upon in the DEIS. Cite specific page numbers or relevant identifying information to each piece of material referenced and relied upon in the DEIS. Ensure that the materials are made readily available for public review.	The Southline Transmission Line Resource Reports cited in the Draft EIS are one of many reference documents used in the analysis. Data requested by the public were made readily available as soon as a data request was received by the BLM or Western Project contact listed on the Project website. The literature cited style in the Draft EIS was based on Government Printing Office (GPO) publication standards.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
248	47	47.4	Riley, Carlock, and Applewhite	Loftland	9-NEPA	In summary, we request that the BLM provide copies of the resource reports listed on page 1 on this letter. We would prefer an electronic copy (CD or DVD). We likewise request that the comment period be extended to allow us the opportunity to meaningfully consider the resource reports, upon which the analysis in the DEIS is based, before submitting a substantive comment on the DEIS. A minimally appropriate extension would be 30 days after we have received the resource reports. Finally, it would be appropriate for the BLM to clarify to the public that, notwithstanding the NOA, the resource reports, which are supporting materials, are not available online; likewise, the BLM should clarify how other members of the public can acquire copies of the resource reports.	The Southline Transmission Line Resource Reports cited in the Draft EIS are one of many reference documents used in the analysis. Data requested by the public were made readily available as soon as a data request was received by the BLM or Western Project contact listed on the Project website. The length of the public comment period was not extended beyond the original 90-day period.
250	49	49.1	Cascabel Working Group	Meader	9-NEPA	Attached are comments on the Southline Transmission Project from the Cascabel Working Group. I am also attaching four supplementary documents to support these primary comments. These include two examples of No Action Alternative discussions from other EIS's and documentation on two additional renewable energy projects that have been proposed for the project area. I am sending a large scanned map separately because the file size is so large (the Leach Wagon Road). This is not a necessary part of our submission but may interest the EIS contractor given the other historic roads and trails that the DEIS discusses.	Noted.
251	49	49.2	Cascabel Working Group	Meader	9-NEPA	We are concerned about any project that affects the lower San Pedro Valley watershed and the people who live within it, hence our desire to offer comments. Our comments are ordered by section and page in the following discussion. One significant deficiency in the DEIS is the apparent lack of discussion of detailed mitigation strategies, especially regarding impacts upon birds at Willcox Playa. The great strength of the project is its co-location with existing corridors to the maximum extent possible and the reuse of existing right-of-way.	Additional mitigation for vegetation and wildlife was provided by the FWS and is considered in the EIS. Relevant sections (executive summary, as well as sections 2.4.6, 3.8, and 4.8) of the EIS have been updated to clarify proposed vs. committed mitigation. In coordination with the AGFD, the EIS has been revised to consider minor route variations east of the Willcox Playa (P7a, P7b, P7c, and P7d). The AGFD has provided mitigation measures to offset impacts to wildlife habitat and management goals and objectives in their Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
252	49	49.3	Cascabel Working Group	Meader	9-NEPA	Executive Summary. The Executive Summary does not provide a synopsis of the project proponent's objectives. This would seem to be an important component of an executive summary.	The executive summary in the EIS has been revised based on this comment.
253	49	49.4	Cascabel Working Group	Meader	9-NEPA	Executive Summary page xv, line 8. The Governor's Consistency Review is stated for only the state of New Mexico. While Arizona would not undertake a Governor's Consistency Review for resource management plan amendments, would Arizona's Governor not undertake a consistency review for the Final Environmental Impact Statement?	Per the BLM Land Use Planning Handbook (H-1601-1), proposed plan amendments must undergo a 60-day Governor's consistency review prior to final approval. The Arizona Governor would not review the Final EIS.
254	49	49.5	Cascabel Working Group	Meader	9-NEPA	Section 1.3.2 Mitigate Existing Congestion, page 10. References to the need to alleviate transmission congestion on Path 47 in southwestern New Mexico are confusing, as congestion is measured in several ways. The Western Electricity Coordinating Council (WECC) does so in four ways (WECC 2009) 1. Actual flow grouping. For each path, sum the magnitude of all individual U75 and U90 actual flow metrics for all seasons and heavy- and light-load hours. This summed number represents the path-usage ranking number for the path. 2. Actual flow grouping. For each path, identify the highest U75 actual flow metric calculated for each season and heavy- and light-load hours. This maximum number represents the path- usage ranking number for the path. 3. Net Schedule grouping. For each path, sum the magnitude of all individual U75 and U90 net schedule metrics for all seasons and for heavy- and light-load hours. (It was felt this schedule ranking method might produce ranking results similar to the actual flow ranking Method #1.) This summed number represents the path-usage ranking number for the path. 4. Maximum directional schedule grouping. For each path, identify the highest U75, U90 and U99 directional schedule metrics calculated for all seasons and for heavy- and light-load hours. This maximum number represents the path-usage ranking number for the path. By the first three methods, Path 47 is one of these least congested transmission paths in the West. Only by method 4 is the path seriously congested, that is, in terms of west-to-east scheduling. In terms of the path's ability to carry power at peak load, again, the path is uncongested. No physical problems exist in the actual delivery of power. As a 2011 WECC report states2, "Path 47 was not congested in the 2020 expected future study case, or any other cases in the 2010 Study Program." What is at issue here is that El Paso Electric has scheduled all of the west-to-east capacity on Path 47 for its use. The actual physical capacity of the path is not fully used, however. Whether or not this capacity needs to be increased depends largely upon El Paso Electric's future plans for new generation, which the DEIS does not assess. This issue is discussed more fully below.	The proposed Project addresses various regional needs, including Path 47 congestion. As discussed in sections 1.1.1 and 1.3 of the Draft EIS, the purpose of the Project is to improve reliability in southern New Mexico and southern Arizona, mitigate existing congestion, increase the ability to meet the increasing demand for electricity, and facilitate generation and public policy goals by increasing the capacity of the existing electric transmission grid. Thus, the benefits of the proposed Project are broader than just addressing Path 47 congestion. Section 1.3.2 of the EIS has been revised to provide additional clarification on congestion. Please note that Southline is working with WECC to determine the path rating for this proposed Project.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
255	49	49.6	Cascabel Working Group	Meader	9-NEPA	Section 1.3.3, Increase the Ability to Meet Electrical Demand Growth, page 11. One criticism of the Southline Project's objectives is that the use of the project is not directly tied to the projected needs and plans of regional utilities. These needs have not been quantified, nor has the project been proposed and sized according to them. The justification of the project is very general. Assessing these plans seems more critical for the new-build section, as replacing the line in the upgrade section appears necessary given the age and technology of the current line. All regional utilities that might use the new lines have developed integrated resource plans for the next 15 years or more that state how much new generation capacity is needed to meet growth in demand and where those facilities would potentially be sited. The siting of this generation will determine where new transmission capacity needs to be built to access and deliver the power to customers. El Paso Electric has traditionally used the high-capacity lines in southwestern New Mexico (Path 47) to draw power from the Palo Verde nuclear generating station and power plants in the Four Corners area. It is EPE's scheduling of these lines to capacity that has created the apparent congestion on them. The degree to which this scheduling congestion needs to be eliminated is determined by where EPE intends to construct the power facilities needed to meet future projected demand. The company's integrated resource plan3 shows that EPE intends to build nearly 2,500 megawatts of new natural gas capacity by 2031 adjacent to existing facilities in the El Paso area and does not intend to draw increased power from far-distant westerly sources. This brings into question the need to build two new 345-kV lines across this region.	Section 1.3.3 of the Draft EIS discusses the significant growth in southern New Mexico and southern Arizona, which will be accompanied by increased electrical demand. How regional utilities will meet future load growth depends on the availability and cost of various resources, including both transmission and generation. Section 1.3.3 of the EIS has been revised to provide additional clarification on congestion.
256	49	49.7	Cascabel Working Group	Meader	9-NEPA	The other question is whether Arizona utilities intend to build or access new generation in southeastern Arizona or southwestern New Mexico to meet future power needs and whether they will need this new transmission capacity to access the power. Essentially all new conventional generation is slated to be natural gas and sited close to the population centers where it is needed, not far distant from them as has been the practice in the past. Again, this planned siting of new energy facilities brings into question the need to build so much new transmission capacity out of southwestern New Mexico. While the solar energy resources of southwestern New Mexico are highly rated, any area to which this energy might be exported in the Southwest has extremely abundant high-quality solar resources. None of these areas should ever need to import solar energy from such distant sources no matter how rich those sources are. This makes the Southline's use for solar development very uncertain. Southwestern New Mexico's solar resources seem likely to be developed far more slowly than anticipated, if they are ever fully developed at all, which brings into question building so much new capacity to support such development, especially with the SunZia Project targeting the same resources for export. The reduction in transmission capacity by 50% from the upgrade section to the new-build section will seriously limit the amount of eastward transmission of power through the lines. The capacity of the 230-kV lines effectively determines the capacity of the transmission project as a whole, which would leave the 345-kV lines underutilized when the 230-kV section of the project is fully subscribed. This would result in an inefficient use of transmission capacity. Not tying the project specifically to future utility needs and plans in the region and not having the commitment of these utilities to use the project is risky. No attempt has been made to assess these needs and plans and to coordinate the project's use with them. Such an assessment seems essential.	Sections 1.3.1, 1.3.2, and 1.3.3 of the EIS have been revised to provide additional information on congestion, capacity, and the overall objectives of Southline Transmission, LLC. Transmission capacity would not be reduced by 50% from the New Build to the Upgrade sections. The calculation of transfer capacity is complex, and is not determined solely by the number or voltage of lines entering or exiting a substation. Transfer capability is determined through technical studies that evaluate how a project interacts with the existing system in various conditions. Physical properties, including voltage level and many other factors, are inputs in these studies, but overall capability is determined by the project's relationship to the overall system. Southline WECC Path Rating studies indicate the Project can support approximately 1,000 MW in the east-to-west direction across both the New Build 345-kV and Upgrade 230-kV sections, and approximately 400 MW in the west-to-east direction across both the Upgrade 230-kV and New Build 345-kV sections.
257	49	49.8	Cascabel Working Group	Meader	9-NEPA	Conflict with SunZia. While the BLM, WAPA, and both the SunZia and Southline projects have denied that the purpose of the two projects overlaps or conflicts, nevertheless, both will be competing for the same new generation sources in southwestern New Mexico, both will relieve transmission congestion in a similar way in the new-build area, and both would facilitate solar energy development in much the same way. No attempt has been made by either project or either environmental impact statement to assess the degree of overlap in the function of the two projects, that is, how much one may fulfill the function and purpose of the other. Neither can afford to compete with the other for generation sources and the sale of transmission capacity in this area, and they will be doing so. This weakens the financially viability and utilization of both. Not realistically assessing the relationship between the two ignores the physical and economic reality they face and is a major oversight.	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). A comparison of the potential impacts from the not yet constructed SunZia project is beyond the scope of analysis for this EIS, except where addressed as a reasonably foreseeable action in the cumulative effects analysis (see section 4.21 of the Draft EIS). An assessment of the economic viability of the proposed Project is not within the scope of Western's or BLM's jurisdiction or authority, and is outside the scope of the NEPA process. Regulation of utilities is an authority exercised by States; neither of the agencies has any authority over the actions of public or private utilities. Section 1.4 of the Draft EIS included a discussion of electric transmission regulation and planning.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
260	49	49.11	Cascabel Working Group	Meader	9-NEPA	Section 2.5, No Action Alternative, Page 112. This is a very weak discussion (or non-discussion) of the No Action Alternative. The discussion of the upgrade portion of the project is adequate and explains what will happen if Southline is not approved, but no discussion of not building the new-build portion is provided. The discussion merely states that the project won't be built and the right-of-way will not be granted. These new lines would be built to meet a foreseeable need. What are the consequences of not meeting that need with this project? More importantly, what are the alternative ways or likely actions that will be used to meet them? Are there potential environmental effects of not building the lines? Public Service Company of New Mexico and, most importantly, the El Paso Electric Company will have considered congestion on Path 47 independently from the SunZia and Southline projects. They will have strategies and plans to address this for themselves without these new merchant transmission projects being built. The discussion of the No Action alternative should include a summary of these alternatives if at all possible. In addition, how might not building the project affect solar energy development? Could SunZia benefit by shifting solar transmission use to that project? I am attaching examples of discussions of the No Action Alternative for the Sunrise Powerlink and Devers 2 projects for reference. They are not applicable to the Southline in several ways, but they may be useful references	As described in section 1.2 of the Draft EIS, the agencies' needs are to address Southline's application for a ROW grant across BLM land and their request to upgrade part of Western's system. Western also needs to make decisions about the nature of its participation in and financing of the proposed Project. WECC is the regional entity responsible for coordinating and promoting bulk electric system reliability in the Western Interconnection (see section 1.4.3 of the Draft EIS). The Draft EIS discusses the no action alternative in chapters 2 and 4. How other entities other entities may be affected commercially by the no action alternative, as well as the commercial and regulatory merits of merchant transmission development, is beyond the scope of a NEPA analysis. The proposed Project intersects the service areas of multiple load serving entities. While each of these load serving entities would consider a range of scenarios by which they could address foreseeable need, the proposed Project would expand their options for meeting customer needs.
261	49	49.12	Cascabel Working Group	Meader	9-NEPA	Section 2.10.6 Environmentally Preferred Alternative, Willcox Playa, pages 143-144. Skirting the Willcox Playa with the project raises perhaps the greatest environmental concern because of abundant birds, especially the daily foraging for food by sandhill cranes in surrounding agricultural fields. This section notes the different between the environmentally preferred alternative and the Agency Preferred Alternative and that the environmentally preferred alternative was not chosen for routing around the playa. The DEIS states the follows: "Routing north (WC1) and west of Willcox Playa (Gb and 10 Gc), it would avoid avian impacts and issues along the southeast side of Willcox Playa (at Proponent 11 Preferred segment P7) and follow the I-10 corridor (WC1)." No reason or explanation is given for not selecting the environmentally preferred alternative. The routing selection will increase the impact upon the birds that use the playa. What were the agency reasons for making this choice? Because this issue is so sensitive, this should be carefully explained.	Chapter 2 of the EIS includes more information on how the Agency Preferred Alternative was selected. Additionally, local route variations have been included in the EIS (P7a, P7b, P7c, P7d, and U3aPC) in response to public and agency comments and concerns about impacts near the Tucson International Airport and Willcox Playa. BLM and Western have worked in coordination with AGFD on development of mitigation measures to offset impacts to wildlife habitat in their Willcox Playa area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
262	49	49.13	Cascabel Working Group	Meader	9-NEPA	If the line must go around the playa, the west-side route clearly seems to be the less damaging for birds. First, the line parallels the playa shore for 7.5 miles vs. 11.7 miles. Second, most birds would appear to leave the playa to feed on agricultural fields to the south and southeast, whereas very few agricultural fields occur to the west. The bird traffic into the lines on the east side could be an order of magnitude greater or more. The new 345-kV lines are going to be large and tall with double the number of cables. The steel lattice towers will stand 140' high compared to the existing 230-kilovolt line and poles, which are to remain in place and are probably 80+ feet high. The three transmission cables in the existing line are oriented horizontal with respect to each other, whereas the two sets of three cables for the 345-kilovolt lines will be vertical. This means that birds will have to fly through three layers of cables with the new lines, increasing the potential for collisions. Routing the project to minimize this potential is important. The best west-side alternative route would appear to follow the south side of I-10 through Willcox. I am assuming that the BLM did not choose this because of potential objections from Willcox residents. The other option is to take the lines well north of Willcox, placing them adjacent to TEP's 345-kilovolt lines before turning south, which may be less objectionable. It is strongly recommended that one of these alternatives be chosen.	Additionally, minor route variations have been included in the EIS in response to public and agency comments and concerns about impacts to Willcox Playa. BLM and Western have worked in coordination with AGFD on development of mitigation measures to offset impacts to wildlife habitat in the Willcox Playa area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
263	49	49.14	Cascabel Working Group	Meader	9-NEPA	Migratory Birds, New Build section, Route Group 2 – Hidalgo Substation to Apache Substation 29, Willcox Playa and Twin Lakes, Pages 326-329. Section 3.11.1 Land Use, State, Willcox Playa Wildlife Area, Page 439. The EIS provides no in-depth mitigation plan for the impact upon birds around the Willcox Playa other than the use of line-marking devices. The discussion of Tumamoc Hill does address impacts somewhat by explaining the routing around the hill. A lack of inclusion of detailed mitigation strategies in the draft EIS seems a deficiency. The SunZia Environmental Impact Statement contains a major section on mitigation measures.	Additional mitigation for vegetation and wildlife habitat was provided by the FWS and AGFD and is considered in the EIS. Relevant sections (executive summary, as well as sections 2.4.6, 3.8, and 4.8) of the EIS have been updated to clarify proposed vs. committed mitigation.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
265	49	49.16	Cascabel Working Group	Meader	9-NEPA	Table 4-21.1, List of Projects Considered in the Cumulative Impact Analysis, New Build Section, Reasonably Foreseeable Future Actions, Page 1062. Two projects are missing from this list and from the analysis: (1) enXco Development's (now EDF Renewable Energy's) proposed 600-megawatt Afton solar CPS/trough project, and (2) Torch Renewable Energy's 30-megawatt solar photovoltaic project proposed for Allen Flat near Torch's Red Horse 2 wind farm in northwest Cochise County. I am attaching Appendix B from the BLM's Draft Solar PEIS that lists enXco's proposed project.4 I cannot determine whether this project is still being considered. I am also including Torch Renewable Energy's application to Cochise County for its solar project. While Torch's application does not state the size of the project, Unisource Energy's 2014 Integrated Resource Plan5 indicates that it is 30 megawatts (USE intends to purchase the power).	Section 4.21 of the EIS has been revised to include these additional renewable energy projects.
275	56	56.2	Southwest Power Group	Crane	9-NEPA	As I indicated during our conversation, we are requesting that the comment period for the Southline Project be extended 30 days to allow us, and other interested members of the public, the opportunity to review, analyze, and provide comments on the reports relied upon by the BLM in the Southline Project Draft EIS. We previously attempted to secure copies of these reports by contacting the various BLM offices the Notice of Availability for the Southline Project Draft EIS stated would have "supporting documents." However, we were shocked to learn that, despite the requirements of 43 C.F.R. § 46.135 and 40 C.F.R. § 1502.21, the resource reports were not at these locations, or readily available for review by the public.	The Southline Transmission Line Resource Reports cited in the Draft EIS are one of many valuable reference documents used in the analysis. Additionally, the reports are supporting information for the EIS, and are not part of the formal review of the EIS; therefore, the agencies were under no obligation to extend the comment period to accommodate review of these documents. Data requested by the public were made readily available as soon as a data request was received by the BLM or Western Project contact listed on the Project website. The length of the public comment period was not extended beyond the original 90-day period.
276	56	56.3	Southwest Power Group	Crane	9-NEPA	I am disappointed that BLM has decided to restrict public access to these important technical resource reports on which the agency has relied in preparation of its Draft EIS. My experience with NEPA had led me to believe that the lead federal agency assumes an obligation to make such materials reasonably available for review during a document comment period such as the one currently under way. I do not believe BLM has made the supporting documents to this Draft EIS reasonably available to the public. Despite the indication in your Notice of Availability of the Draft EIS that such materials were both available and accessible by way of BLM's website specifically established for this NEPA process, our attempts to obtain them have only been met with frustration and undue delays. By not providing these technical resource reports on a timely basis to the public for their review and comment, particularly given BLM's indicated reliance on them for conclusions in the Draft EIS, the agency may well have compromised the intent of NEPA regarding public participation. At your suggestion we visited "Galileo Project, LLC" located at 4700 S McClintock Drive, Suite 100 in Tempe, AZ. We were able to obtain a DVD of the reports and noted that two reports ("Report 15: Vegetation (CH2M Hill 2013a)" and "Report 15: Vegetation (CH2M Hill 2013g)") may incorporate a duplication.	The Southline Transmission Line Resource Reports cited in the draft EIS are some of many valuable reference documents used in the analysis. Data used in the draft EIS were available to the public, upon request to the BLM or Western Project points of contact listed on the BLM website (http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html). Though data and conclusions in the Southline Transmission Line Resource Reports contributed to the analysis, they were not determinative of the conclusions made in the EIS. Data requested by the public were made readily available as soon as a data request was received by the BLM or Western Project contact listed on the Project website. The length of the public comment period was not extended beyond the original 90-day period.
277	56	56.4	Southwest Power Group	Crane	9-NEPA	It is our understanding that CH2M Hill is consultant to the Applicant. Can you confirm that this is indeed correct?	CH2M Hill was retained by the proponent, Southline Transmission, LLC. Chapter 5 of the EIS includes a discussion of the first-party consultant to the Project.
279	56	56.6	Southwest Power Group	Crane	9-NEPA	Once again, given the need to include review of these technical reports as part of providing comments on the Draft EIS, I request that the BLM extend the comment period by an additional 30 days	The Southline Transmission Line Resource Reports cited in the draft EIS are some of many valuable reference documents used in the analysis. Additionally, the reports are supporting information for the EIS, and are not part of the formal review of the EIS therefore, the agencies were under no obligation to extend the comment period to accommodate review of these documents. Data used in the draft EIS were available to the public, upon request to the BLM or Western Project points of contact listed on the BLM website (http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html). Though data and conclusions in the Southline Transmission Line Resource Reports contributed to the analysis, they were not determinative of the conclusions made in the EIS. Data requested by the public were made readily available as soon as a data request was received by the BLM or Western Project contact listed on the Project website. The length of the public comment period was not extended beyond the original 90-day period.
292	60	60.7		Wood	9-NEPA	Please spare the residents of Benson and the folks who live on either side of Benson who will be affected by this project and use alternative route "H" to the north of Benson.	The Final EIS includes the Agency Preferred Alternative. While the preferred alternative is presented, the final route will be determined in the ROD. Until that decision document is signed, any alternative segment could be selected in the ROD. Until that time, all action alternatives described in section 2.6 of the EIS are considered equally, including alternative H, which was described in section 2.7 of the Draft EIS.
300	63	63.1	Friends of Aravaipa Region	Else	9-NEPA	Our interest in the Southline Project is based upon promoting infrastructure improvements that avoid impacts to sensitive environmental lands. Since there are two major electrical infrastructure projects being proposed for siting in southern Arizona at this time, and since both of these projects would compete for generation resources in the overlapping region of southern New Mexico and southern Arizona, FAR is commenting on both projects	Thank you for your comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
301	63	63.2	Friends of Aravaipa Region	Else	9-NEPA	Comment #1- Lack of analysis on the competing and overlapping purposes of the proposed Southline and SunZia projects in the southern portions of New Mexico and Arizona. Although the Western Area Power Administration (Western) must certify that the project is in the public interest (page 8, line 27), there is no analysis in this DEIS of the competitive effect of the proposed SunZia project on transmission demand from generators in the region that are or will be powered by natural gas and renewable resources. Conversely, the SunZia EIS ignored the effect of Southline's competition for generation resources. Western's need to ensure action in the public interest and the BLM's mandate to minimize impacts by considering alternatives to a proposed action require that competing project proposals recognize and analyze the overlap in project purpose. The BLM has avoided making any realistic comparative analysis between the two projects in both of the planning processes, and instead, has left the two projects to compete as a horse race through the regulatory process. This lax approach does not serve the public interest or the BLM' s directives to minimize environmental impacts. This lack of analysis becomes increasingly problematic in light of third-party evidence submitted to the BLM during the SunZia planning process that the Group 1 route segment of the SunZia project (Eastern terminus to the Midpoint substation) is not economically feasible to construct and operate under market conditions projected for the stated construction timetable, thus creating the high probability that both the Southline and SunZia projects would originate and terminate in the same general regions, and closely parallel each other for approximately 100 miles. With a new requirement that SunZia bury portions of the Group 1 route near White Sands Missile Range, the economic feasibility of the so-called wind-first route segment has now become even less attainable in the reasonably foreseeable future. The BLM has not acknowledged this highly probable scenario. With this comment, the high probability of overlap between the two projects is herein reported to the BLM as part of the Southline planning process. The oversight agency has now been informed of this probability by FAR and other organizations during official comment periods and in Information Quality Act submissions on at least twelve occasions. The actual effects of a constructed infrastructure corridor will be obvious. Ignoring the obvious overlap of purpose during the planning process significantly reduces the credibility of the cumulative effects analysis of both projects, and demonstrates the need to take additional measures to ensure that the BLM does not arbitrarily dismiss relevant information during a public process mandated by the National Environmental Policy Act.	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). A comparison of the potential impacts from the not yet constructed SunZia project is beyond the scope of analysis for this EIS, except where addressed as a reasonably foreseeable action in the cumulative effects analysis (see section 4.21). The SunZia project was subject to its own detailed EIS, and the commenter's concerns were best directed at that process for appropriate consideration.
302	63	63.3	Friends of Aravaipa Region	Else	9-NEPA	Comment #2- Lack of comparison of the Southline and SunZia projects with regard to the BLM's mandate to co-locate new infrastructure projects with existing linear infrastructure to the highest degree practical. With the two projects overlapping to such a high degree, it is imperative that the common oversight agency (the BLM) present the public and the decision maker with this comparison of co-location, taking into account all analyzed route alternatives of both projects. Although comparisons between the two projects were initiated during the Southline scoping process, this DEIS reflects that comparisons were terminated, apparently at the request of SunZia in their Information Quality Act letter to the BLM of June 1, 2012 (web reference follows): http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information _Resources_ Management/data_ quality.Par.38272.File.dat/SunZia%20Comment%20on%20Southline%20No.%202%20%286-1-12%29.pdf While the Southline proposal has presented a realistic energy development scenario, SunZia has not. In fact, the BLM has claimed that 81% to 94% of SunZia's resultant energy development would be renewable, and has used this assumption as the basis for its analysis of cumulative effects. SunZia's misleading "apples-to-oranges" argument in their above-referenced letter to the common oversight agency should not preclude the highly relevant comparison of environmental impacts between the two proposed projects.	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). A comparison of the potential impacts from the not yet constructed SunZia project is beyond the scope of analysis for this EIS, except where addressed as a reasonably foreseeable action in the cumulative effects analysis (see section 4.21). The SunZia project was subject to its own detailed EIS, and the commenter's concerns were best directed at that process for appropriate consideration. Additionally, two alternatives considered in detail in the Draft EIS (as described in section 2.7) include local alternatives DN1 and LD4, which would parallel the selected alternative for the SunZia project. It is outside the scope of authority for BLM or Western to provide oversight to the electrical grid. WECC is the regional entity responsible for coordinating and promoting bulk electric system reliability in the Western Interconnection (see section 1.4.3 of the Draft EIS).
303	63	63.4	Friends of Aravaipa Region	Else	9-NEPA	Comment #3- Current preferred routing around the Willcox Playa. With great concerns regarding the impacts on wildlife in the Willcox Playa region, we incorporate by reference the submitted comments of the Cascabel Working Group. There was no reason provided in the DEIS about why the environmentally preferred alternative was not adopted near the Willcox Playa. This is unacceptable in a region of such high environmental value.	Route variations have been included in the EIS (P7a, P7b, P7c, P7d, and U3aPC) in response to public and agency comments and concerns about impacts to Willcox Playa. BLM and Western, in coordination with AGFD, developed additional mitigation measures to offset impacts to wildlife habitat in the Willcox Playa area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
304	64	64.1	Aravaipa Property Owners Association	Choate	9-NEPA	Our interest in the Southline Project is based upon promoting infrastructure improvements that avoid impacts to sensitive environmental lands. Since there are two major electrical infrastructure projects being proposed for siting in southern Arizona at this time, and since both of these projects would compete for generation resources in the overlapping region of southern New Mexico and southern Arizona, APOA is commenting on both projects.	Thank you for your comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
305	64	64.2	Aravaipa Property Owners Association	Choate	9-NEPA	(1) Lack of analysis on the competing and overlapping purposes of the proposed Southline and SunZia projects in the southern portions of New Mexico and Arizona. Although the Western Area Power Administration (Western) must certify that the project is in the public interest, there is no analysis in this DEIS of the competitive effect of the proposed SunZia project on transmission demand from generators in the region that are or will be powered by natural gas and renewable resources. Conversely, the SunZia EIS ignored the effect of Southline's competition for generation resources. Western's need to ensure action in the public interest and the BLM's mandate to minimize impacts by considering alternatives to a proposed action require that competing project proposals recognize and analyze the overlap in project purpose. The actual effects of a constructed infrastructure corridor will be obvious. Ignoring the obvious overlap of purpose during the planning process significantly reduces the credibility of the cumulative effects analysis of both projects, and demonstrates the need to take additional measures to ensure that the BLM does not arbitrarily dismiss relevant information during a public process mandated by the National Environmental Policy Act.	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)) as its own request. A comparison of the competing and overlapping purposes, and/or potential impacts from the not yet constructed SunZia project is beyond the scope of analysis for this EIS, except where addressed as a reasonably foreseeable action in the cumulative effects analysis (see section 4.21). The SunZia project was subject to its own detailed EIS, and the commenter's concerns were best directed at that process for appropriate consideration. Future generation projects that are not reasonably foreseeable are too speculative to include in the analysis in the EIS.
306	64	64.3	Aravaipa Property Owners Association	Choate	9-NEPA	(2) Lack of comparison of the Southline and SunZia projects with regard to the BLM's mandate to co-locate new infrastructure projects with existing linear infrastructure to the highest degree practical. With the two projects overlapping to such a high degree, it is imperative that the common oversight agency (the BLM) present the public and the decision maker with this comparison of co-location, taking into account all analyzed route alternatives of both projects. Although comparisons between the two projects were initiated during the Southline scoping process, this DEIS reflects that comparisons were terminated, apparently at the request of SunZia. While the Southline proposal has presented a realistic energy development scenario, SunZia has not. In fact, SunZia has claimed that 81% to 94% of its resultant energy development would be renewable, and has used this assumption as the basis for its analysis of cumulative effects.	The not yet constructed SunZia project, and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). A comparison of the competing and overlapping purposes, and/or potential impacts from the not yet constructed SunZia project, is beyond the scope of analysis for this EIS, except where addressed as a reasonably foreseeable action in the cumulative effects analysis (see section 4.21). The SunZia project was subject to its own detailed EIS, and the commenter's concerns were best directed at that process for appropriate consideration. Additionally, two alternatives considered in detail in the Draft EIS (as described in section 2.7) include local alternatives DN1 and LD4, which would parallel the selected alternative for the SunZia project.
307	64	64.4	Aravaipa Property Owners Association	Choate	9-NEPA	(3) Current preferred routing around the Willcox Playa. With great concerns regarding the impacts on wildlife in the Willcox Playa region, we incorporate by reference the submitted comments of the Cascabel Working Group. There was no reason provided in the DEIS about why the environmentally preferred alternative was not adopted near the Willcox Playa. This is unacceptable in a region of such high environmental value.	Route variations have been included in the Final EIS (P7a, P7b, P7c, P7d, and U3aPC) in response to public and agency comments and concerns about impacts to Willcox Playa. BLM and Western, in coordination with AGFD, developed mitigation measures to offset impacts to wildlife habitat in the Willcox Playa area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
310	66	66.2	Volunteer Ecologists	Reichenbacher	9-NEPA	We strongly feel that the Southline Transmission proponents should route the powerline well around Tumamoc Hill. The DEIS (Vol. 1, p. 129) identifies local alternatives TH I A, TH I B, or TH 1C. We urge the proponents to consider these in the strongest terms possi ble. While the alternative routes may affect other Tumamoc globeberry populations , none are the type population for a genus and species and none are now known to be in danger of extinction.	The EIS includes the Agency Preferred Alternative; see section 2.10.5 of the EIS for a description of the Agency Preferred Alternative and the change between Draft and Final EIS. All action alternatives described in section 2.6 of the EIS are considered equally, including local alternatives TH1a, TH1b, and TH1c, which are described in section 2.7 of the Draft EIS.
311	66	66.3	Volunteer Ecologists	Reichenbacher	9-NEPA	If the current preferred alternative is implemented as currently proposed, we would like to offer our services in working with the construction team to ensure that none of the Tumamoc globeberry plants on Tumamoc Hill are affected.	Thank you for the comment and offer of assistance. Chapter 2 (see table 2-8), as well as sections 3.8 and 4.8 of the EIS, has been revised to include additional considerations for Tumamoc globeberry.
312	67	67.1	Arizona Game and Fish Department	Ritter/Francis	9-NEPA	The Department is very interested in working with the BLM, Western, and Southline on developing appropriate mitigation for the Southline Transmission Line Project and requests continued involvement with effectiveness monitoring and adaptive management of that project as necessary. As published in 40 CFR §1508.20, mitigation includes (a) avoiding, (b) minimizing, (c) rectifying, (d) reducing or eliminating, and (e) compensating for environmental impacts.	The EIS has been revised to include additional mitigation, as proposed by the AGFD and FWS, as well as public comments on the Draft EIS (see table 2-8 and chapter 5 in the EIS). The BO and amendment are included in appendix M.
313	67	67.2	Arizona Game and Fish Department	Ritter/Francis	9-NEPA	The primary issues of concern for the Department relate to the Agency Preferred Alternative where it, from the Arizona-New Mexico state line to the Apache substation. Although the preferred route avoids many sensitive resources, it does not avoid the Arizona Game and Fish Department's Willcox Playa Wildlife Area, and more specifically, the sandhill crane roost (Crane Lake) within the Wildlife Area. The Environmentally Preferred Alternative (EPA) described in the DEIS for the Arizona portion is clearly the alternative route posing the least impact to wildlife and habitat, and is therefore the route the Department recommends the BLM and Western select for the Final EIS. The impacts analysis presented in Table 2-12 of the DEIS indicates the Agency Preferred Alternative (APA) poses more impacts to wildlife and habitat than does Proponent Alternative 1 or 2. The Department was unable to compare the APA to the EPA since it was not included in Table 2-12. Additionally, under the APA column of Table 2-12 (page 160), it incorrectly states that Segment P7 is adjacent to the Willcox Playa Wildlife Area; it actually crosses the Wildlife Area and would therefore require Commission approval for a right-of-way.	Route variations have been included in the Final EIS (P7a, P7b, P7c, and P7d) in response to public and agency comments and concerns about impacts to Willcox Playa. BLM and Western, in coordination with AGFD, developed mitigation measures to offset impacts to wildlife habitat and management goals and objectives in the AGFD Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
314	67	67.3	Arizona Game and Fish Department	Ritter/Francis	9-NEPA	The Department is planning enhancement of several wetlands and ponds within the Wildlife Area, most of which are in close proximity to Kansas Settlement Road. Between October and March, Sandhill cranes fly between roosting and feeding sites several times a day. Travel routes vary depending upon a number of variables, including weather patterns, roost conditions, and availability of forage. Within the Sulphur Springs Valley, cranes typically travel between roost sites such as Crane Lake and Whitewater Draw to the many grain fields in the area. To minimize strike hazards for the cranes, the Project would best be sited away from roost and agricultural fields to the maximum extent possible. We recommend investigating a new route alternative that would avoid the Willcox Playa Wildlife Area and move the line out of the crane's daily roost to forage to roost commute. Given our plans to enhance habitat on the Wildlife Area for waterfowl and other wildlife, relocating the Project along Kansas Settlement Road to avoid Crane Lake would only present a new bird strike hazard. Please consider the reroute depicted on the attached map (Attachment A), which follows an existing pipeline and existing roadways. Although this suggested route is adjacent to some agricultural fields, it is farther away from known roost sites and would likely be at a location within the crane's flight paths where the birds are of sufficient altitude that a strike would be very unlikely. This reroute has not yet been assessed in the field and would require the same degree of analysis as all the routes presented in the DEIS. We therefore request further discussion and collaboration with BLM, Western, and Southline on a possible reroute of the Project to avoid the Wildlife Area.	Minor route variations have been included in the EIS in response to public and agency comments and concerns about impacts to Willcox Playa (P7a, P7b, P7c, and P7d). BLM and Western, in coordination with AGFD, developed mitigation measures to offset impacts to wildlife habitat and management goals and objectives in the AGFD Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
315	67	67.4	Arizona Game and Fish Department	Ritter/Francis	9-NEPA	Segment LD4 of the APA would not follow existing facilities and is located in an area currently devoid of any utility infrastructure. It appears the decision to make this segment part of the APA was based upon locating the Southline project adjacent to the proposed, yet currently un permitted, SunZia Transmission Line Project. Making the decision to locate the Southline Project along Segment LD4 in an undeveloped landscape under the guise of co-locating it adjacent to another even larger, yet un-permitted and un-built transmission line is premature and misleading. Therefore, the Department recommends following I-10 which has a "disturbance corridor" and not spread development out to undisturbed habitats.	The comment accurately reflects the description of local alternative LD4. The Final EIS includes the Agency Preferred Alternative. While the preferred alternative is presented, the final route will be determined in the ROD. Until that time, all action alternatives described in section 2.6 of the EIS are considered equally and could be selected in the ROD.
317	67	67.6	Arizona Game and Fish Department	Ritter/Francis	9-NEPA	Also, the Cumulative Impacts section should include the Red Horse Wind and Solar project which is currently being constructed in Allen Flat. Additionally, an assessment on the increased ground water withdraws for additional solar and natural gas fired power plants should be evaluated for their impacts on current activities in the area (e.g. farming, conservation, rural wells, etc.).	Section 4.21 in the EIS has been revised based on this comment, to include the Red Horse Solar and Wind Project. The cumulative effects of past, present, and future actions in the analysis area are considered in section 4.21, including potential impacts to groundwater.
318	67	67.7	Arizona Game and Fish Department	Ritter/Francis	9-NEPA	The DEIS describes residual and cumulative impacts on birds from the Southline project as "increased" due to mortalities from collisions with the transmission line, and it states that any Sandhill crane mortality would be a significant impact. The DEIS claims that with mitigation, impacts on Sandhill cranes would be minor/negligible to moderate and long-term (pg. 764). This mitigation would be accomplished by placing bird diverters, or line marking devices, on the new powerline. The Department disagrees with the effectiveness of this mitigation. Wright et al. (2009) found significant crane mortality from powerline collisions near night roosts in Nebraska. There would be a similar effect at Crane Lake since cranes often come to roost after dark (per. comm. George Hayes; Morkill and Anderson 1991). Various studies list the effectiveness of line marking devices in reducing avian powerline collisions 10-89%; however, they also list high winds and darkness as two factors responsible for many of those collisions. When considering Sandhill cranes in the Willcox Playa area, both windy conditions and night flights apply to their use of Crane Lake. Therefore, in addition to the proposed installation of flight markers, we recommend investigating the use of Bird Strike Indicators (BSis) in select locations as part of adaptive management. BSis would document bird strike frequency and be used in determining whether additional mitigation measures would be necessary. If BSis are not feasible, the Department suggests bird mortality surveys along the line to determine mitigation effectiveness, adjusting visibility markers in areas where most collisions occur. A minimum of two years is recommended, concentrating on November through February when cranes are present.	Minor route variations have been included in the EIS in response to public and agency comments and concerns about impacts to Willcox Playa (P7a, P7b, P7c, and P7d). BLM and Western, in coordination with AGFD, developed mitigation measures to offset impacts to wildlife habitat in the Willcox Playa area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
319	67	67.8	Arizona Game and Fish Department	Ritter/Francis	9-NEPA	In areas where the Project coincides with desert tortoise habitat, we recommend the use of monopole towers. Self-supporting lattice structures provide readily accessible nest substrate and hunting perches for ravens which can have a significant impact on tortoise populations. Reducing these opportunities would minimize impacts to desert tortoises.The DEIS states it will require preconstruction surveys for desert tortoise, Gila monster, and Tucson shovel-nosed snake. The Department also recommends conducting surveys for other sensitive species (e.g. ornate box turtles, Western burrowing owl, Texas horned lizard, kit fox, etc.).	As described in chapter 2 of the Draft EIS, both monopole and lattice structures are being considered for the New Build Section of the Project, while monopoles are proposed for the Upgrade Section. Survey of sensitive species like kit fox, ornate box turtles, etc., have been added as Project design features to chapter 2 of the EIS (see table 2-8). In summary, because desert tortoise habitat is only found in the Upgrade Section, monopoles would be used, as described in chapter 2 of the EIS.
320	67	67.9	Arizona Game and Fish Department	Ritter/Francis	9-NEPA	The Project will result in roads through previously undisturbed habitats. In areas where new access roads would be created, include dip and roll (Zeedyk) design to handle water while drastically reducing erosion potential. Enhancing water-harvesting capabilities of dirt access roads would create water and potentially forage for small birds, herps, and mammals.	Use of water bars as a design feature was included in table 2-7 in the Draft EIS (now table 2-8 in the EIS). Details of the use of water bars and/or rolling dip cross drains would be described in the Stormwater Pollution Prevention Plan.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
321	67	67.10	Arizona Game and Fish Department	Ritter/Francis	9-NEPA	Compensation Strategies for Impacts For those impacts that cannot be minimized, the Department recommends the following compensation strategies: Cranes 1. Providing adequate funding to ensure sufficient water availability at Crane Lake, Whitewater Draw. 2. Remove invasive tamarisk from in and around the Willcox Playa WA and plant native replacement species. 3. Creating new wetlands and roost sites. 4. Funding for long-term food resources. Grasslands 1. Grassland restoration through mesquite or creosote removal within the Sulphur Springs Valley or Playa de los Pinos. 2. The purchase of private lands or conservation easements to exclude development and protect grasslands. Roads 1. Establish an endowment fund to decommission superfluous dirt roads (for every mile of new access roads, a mile of superfluous road would be restored). Fund would have to cover the costs of identifying those superfluous roads, and all the work involved in identification, public hearings/meetings, landowner meetings, and all the restoration work and monitoring (with contingency actions in place).	Based on feedback from the public and cooperating agencies on the Draft EIS, new route variations (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize impacts to wildlife at the Willcox Playa. BLM and Western, in coordination with AGFD, developed mitigation measures to offset impacts to wildlife habitat in the Willcox Playa area, which includes compensatory mitigation. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8. Additional mitigation for vegetation and wildlife, as provided in the BO and amendment from FWS (see appendix M of the EIS for the final BO and amendment), is included in section 2.4.6 of the EIS and considered in the analysis in chapter 4. If during final Project design it is determined that impacts that could not be mitigated through PCEMs and conservation measures in the BO and amendment, then compensatory mitigation would be considered.
322	67	67.11	Arizona Game and Fish Department	Ritter/Francis	9-NEPA	Wildlife Water Catchment in Dial Canyon 1. Construction of one or more wildlife watering facilities in areas just outside or adjacent to the Southline. a. The APA passes right next to a Department water catchment in Dial Canyon. We recently invested over $30,000 in renovations to this wildlife water.	Catchment 368 is located approximately 0.20 mile from LD4 and over 3 miles from the Agency Preferred Alternative (LD4-Option 5); no direct impacts to the catchment are anticipated. This catchment has been included as a present project in the cumulative effects section of the EIS (see section 4.21 of the EIS).
323	67	67.12	Arizona Game and Fish Department	Ritter/Francis	9-NEPA	Plan of Development The Department requests involvement in development of the Project Plan of Development (POD). Numerous opportunities exist for a broad range of wildlife and habitat enhancements across many areas of the Project area. We strongly recommend incorporation of adaptive management in the Plan of Development (POD). For example, specific thresholds for percent weed cover within the project ROW would allow for timely actions to be taken. For example, once a pre-determined threshold is reached, it would trigger a specific management action. The Department requests the following Framework Plans be made available with opportunity for comment prior to finalization of the Plan of Development (POD): • Access Road Plan • Plant and Wildlife Species Conservation Measures Plan • Erosion, Dust Control, and Air Quality Plan • Noxious Weed Management Plan • Reclamation, Vegetation, and Monitoring Plan • Avian Protection Plan • Decommissioning Plan Additionally, the Department requests review and involvement in the development of the Bird and Bat Conservation Strategy. We have wildlife management authority in the state of Arizona and should be included in any wildlife conservation strategies that are being developed. USFWS should be involved as well. We suggest including in the environmental training for construction crews that wildlife collisions on construction sites may include small reptiles, amphibians, and mammals not readily visible. Snakes and especially lizards are often attracted to roadways (including dirt roads) and may become casualties during the construction and operation phases of the project if drivers ignore project speed limits or are otherwise non-vigilant about watching for all wildlife when driving project roadways.	A draft POD is available with the EIS for review (see appendix N) and for the Department to provide feedback on. Section 2.4.1 of the EIS has been revised to clarify that agencies like the AGFD would be incorporated into the development of Framework Plans, as appropriate.
324	68	68.1	Pima County	Bernal/Connolly	9-NEPA	As stated in Mr. Huckelberry's letter to you, dated July 2, 2012 (attached), Pima County has several concerns with the proposed Southline Transmission Line Project, a portion of which, commonly known as the 'Rebuild', aims to upgrade and rebuild the existing Western Area Power Administration (WAPA) transmission structures and construct a new transmission line to connect the existing WAPA line and Tucson Electric Power Company's Vail Substation. This 'Rebuild' component of the overall WAPA project will double the existing voltage on the transmission lines from 115 kV to 230 kV, necessitating upgrades to several substations. The overall objective should remain, as much as possible, to locate, upgrade and rebuild the power stations as well as ancillary facilities including staging areas and access roads within the existing WAPA right-of-way and other previously impacted areas.	As discussed in the Draft EIS, the proposed ROW widths have been requested to allow for the movement and operation of construction and maintenance equipment and to allow for sufficient clearance between conductors and the ROW edge, as required by the National Electric Safety Code. Southline is also requesting ROWs for ancillary Project facilities and for access to the transmission line. In certain areas of the Upgrade Section, development and constraints may not allow for the expansion of the existing 100-foot ROW. Additional detail on the location and type of expansions at the existing substations has been included in section 2.4.2 of the EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
326	68	68.3	Pima County	Bernal/Connolly	9-NEPA	The DEIS makes no mention of mitigation or compensation for the Rebuild's impacts. These lands were secured for conservation and open space purposes due to their exceptional cultural and natural resource values. The County intends to rely on most of these preserves as mitigation lands for our forthcoming Section 10 Incidental Take Permit from the U.S. Fish and Wildlife Service. We recommend Southline mitigate unavoidable natural resource impacts by protecting lands elsewhere in the Conservation Lands System.	Additional mitigation for vegetation and wildlife was provided by the FWS and is considered in the EIS. Relevant sections (executive summary, as well as sections 2.4.6, 3.8, and 4.8) of the EIS have been updated to clarify proposed vs. committed mitigation. Chapter 2 (see table 2-8), as well as sections 3.8.1 and 4.8.1 of the EIS, has been revised to include additional consideration for Pima County Conservation Lands. Disturbance within Pima County Conservation Lands would primarily occur within the Western ROW for the existing line.
327	68	68.4	Pima County	Bernal/Connolly	9-NEPA	Pima County proposes a minor modification to the route of the current WAPA line and the proposed Southline Transmission Line upgrade (see attached Exhibit B, Pima County Strategic Planning). The proposed re-route would re-locate the WAPA and Southline Transmission lines to the west along the northern edge of the Old Vail Connection intersecting with a Unisource utility easement on the east edge ofthe San Xavier District ofthe Tohono O'odham Nation then north to reconnect with the existing WAPA line. This area has been targeted for expansion of Aerospace, Defense, and Technology employment and is a critical component for an industrial corridor from Nogales Highway to I-10.	Based on comments by and coordination with Pima County regarding lands south of the Tucson International Airport, a new approximately 6-mile-long route variation (U3aPC) is analyzed in the EIS. Route variation U3aPC is also now part of the Agency Preferred Alternative, as described in section 2.10.5 of the EIS.
328	68	68.5	Pima County	Bernal/Connolly	9-NEPA	The segment of preferred route would be an impediment to completing the undertakings which are critically important to the region's economic health and affects the Federal Aviation Authority's and the U.S. Air Force's federal interests. Pima County has had preliminary discussions with the San Xavier District regarding the potential re-route and we would welcome the opportunity to partner with BLM,Unisource, WAPA and the Southline Transmission Line proponents to obtain necessary approvals to accomplish this relocation.	Thank you for your comments and willingness to work with Western and the BLM. Based on comments by Pima County regarding lands south of the Tucson International Airport, a new approximately 6-mile-long route variation (U3aPC) is analyzed in the EIS. Route variation U3aPC is also now part of the Agency Preferred Alternative, as described in section 2.10.5 of the EIS.
334	68	68.11	Pima County	Bernal/Connolly	9-NEPA	development of FERC vegetative management plans that are sensitive to and retain our unique desert vegetation species;	As described in chapter 2 of the Draft EIS, a Reclamation, Vegetation, and Monitoring Plan will be prepared, along with several other Framework Plans.
339	68	68.16	Pima County	Bernal/Connolly	9-NEPA	Manabendra Changkakoti of our Office of Sustainability and Conservation (520.724.9952; Manabendra .Changkakoti@pi ma. gov) is coordinating the County's involvement with the Southline Transmission Line Project. Please contact him should you have questions, need additional information, or wish to discuss any of the points raised herein	Noted.
341	68	68.18	Pima County	Bernal/Connolly	9-NEPA	Pima County proposes a minor modification to the route of the current WAPA line and the proposed Southline Transmission Line upgrade as shown in Exhibit This proposed re-route would re-locate the WAPA and Southline Transmission lines to the west along the northern edge of Old Vail Connection intersecting with a Unisource utility easement on the east edge of the San Xavier District of the Tohono O'odham Nation then north to reconnect with the existing WAPA line.	Based on comments by and coordination with Pima County regarding lands south of the Tucson International Airport, a new approximately 6-mile-long route variation (U3aPC) is analyzed in the EIS. Route variation U3aPC is also now part of the Agency Preferred Alternative, as described in section 2.10.5 of the EIS.
342	68	68.19	Pima County	Bernal/Connolly	9-NEPA	Pima County has had preliminary discussions with the San Xavier District regarding the potential re-route and we would welcome the opportunity to partner with BLM, Unisource, WAPA and the Southline Transmission Line proponents to obtain necessary approvals to accomplish this relocation.	Thank you for your comments and willingness to work with Western and the BLM. Based on comments by Pima County regarding lands south of the Tucson International Airport, a new approximately 6-mile-long route variation (U3aPC) is analyzed in the EIS. Route variation U3aPC is also now part of the Agency Preferred Alternative, as described in section 2.10.5 of the EIS.
344	68	68.21	Pima County	Bernal/Connolly	9-NEPA	There are multiple major projects, some of which are in close proximity to the existing WAPA line and proposed Southline upgrade that bisects Section 31. The status of these major projects follows (see Exhibit C): 1. Hughes Access Road Relocation – The FAA will be concluding the Environmental Assessment for this undertaking later in 2014. Construction is expected to start in early 2015 with completion expected by the end of 2015. Pima County will be purchasing Right-of-Way from the Tucson Airport Authority. 2. FAA – Tucson International Airport Parallel Runway Expansion project. The Airport's 5 year master plan update has been approved by the FAA and monies have been appropriated to begin an EIS to initiate the project. 3. USAF – the Tucson International Airport Runway Project necessitates a land swap and relocation of munitions storage bunkers on USAF Plan 44 (Raytheon). The FAA will initiate the Environmental Impact Statement (EIS) in April, 2015. This action will pertain to Parcels F & G on the map. 4. USAF Plant 44 Buffer – In order to rectify some safety arc issues and allow for space for relocation of the above munitions storage buffers as well as possible expansion, additional buffer space will be acquired from the Tucson Airport Authority by Pima County (Parcel H). 5. To rectify limited Munitions Storage Area issues on the 162nd Fighter Wing base on the northern, more populated end of the airport, the east end of Parcel H will be set aside for a new Munitions Storage Area. The lead federal agency for Steps 4 & 5 of the EIS will be the USAF in conjunction with the National Guard Bureau and Pima County.	Section 4.21 in the EIS has been revised based on this comment, to include the projects mentioned both in table 4.21-1 and the analysis of resources in section 4.21.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
345	68	68.22	Pima County	Bernal/Connolly	9-NEPA	Pima County Zoning Code requires a Conditional Use Permit for electrical transmission in certain zoning districts. The Draft EIS states consistency with this requirement but appears to lack the empirical information to back up this assertion.	Section 3.11.1 of the Draft EIS notes that a Conditional Use Permit would be required under certain conditions. Table 4.11-1 of the EIS has been revised to indicate that a Conditional Use Permit would be acquired, as appropriate, to ensure consistency.
350	68	68.27	Pima County	Bernal/Connolly	9-NEPA	Portions of segments U3e and U3f of Subroute 4.1 go through the Tumamoc Hill property; and, segments TH1 Option and TH1a of Route Group 4, Local Alternative are in close proximity, to the north and west of Tumamoc Hill. More detailed comments are provided in other sections of this report.	The comment accurately reflects the description of alternatives in chapter 2 of the Draft EIS.
352	68	68.29	Pima County	Bernal/Connolly	9-NEPA	We recommend subroute 4 local alternative sections TH3- Option A or B to avoid impacts to Tumamoc Hill and Tucson Mountain Park and to greatly reduce impacts to natural resources.	Statement of preference.
354	68	68.31	Pima County	Bernal/Connolly	9-NEPA	The Southline Transmission project proposed to rebuild and upgrade the existing WAPA route through Pima County. The DEIS documents impacts to the Conservation Lands System and to the Priority Conservation Areas for several species, yet mitigation actions for unavoidable impacts to these lands and species are not proposed or are inadequate to mitigate for impacts.	Chapter 2 (see table 2-8), as well as sections 3.8 and 4.8 of the EIS, has been revised to include additional clarification for mitigation for Pima County Conservation Lands. However, the area to be crossed is in an existing ROW for an existing Western line, and the additional impacts from the upgrade of the existing transmission line would occur within that ROW and disturbance area. Little disturbance outside the ROW would be expected to occur in CLS areas. Any additional ROW, if acquired, would be for protective clearance from development at the edge of the ROW and to ensure safe clearance for conductors. If during Project design it is determined that Project facilities would have impacts outside of the existing ROW, compensation for those additional impacts would be considered.
358	68	68.35	Pima County	Bernal/Connolly	9-NEPA	p.xviii Section 4.4 Route Group 4: Pantano Substation to Saguaro Substation Noted that the discussion identifies 10 Local Alternatives, 9 of which intended to avoid Tumamoc Hill. Agency Preferred Alternative includes Local Alternatives TH1a and TH1-OPTION	The comment accurately reflects the description of alternatives in the Draft EIS.
360	68	68.37	Pima County	Bernal/Connolly	9-NEPA	p. xxv in Section 7.8, Lines 15-18: Noted that no resource management plan amendment is needed for Southline upgrade section.	The comment accurately reflects the description of alternatives in the Draft EIS.
361	68	68.38	Pima County	Bernal/Connolly	9-NEPA	p. xxxiv in Section 9, Decisions to be Made section includes a list of land owners/managers that omits Pima County -- please note that while Pima County is a subdivision of the State, it is a separate land owner/manager (the section does mention that County requirements need to be followed).	The executive summary in the EIS has been revised based on this comment.
364	68	68.41	Pima County	Bernal/Connolly	9-NEPA	pp. 68-69, Chapter 2, Access Roads, lines 38 and 4-5: discussion says existing roads will be used "when feasible" with various rights of way widths listed, e.g., 16-24 feet and 30 feet; clams to cause "minimal disturbance" are not supported in the discussion -- how will disturbance be minimized?	The referenced section in the Draft EIS in chapter 2 did describe how roads will be designed to minimize disturbance. Strategies would include, as stated on page 69 of the Draft EIS, use of existing roads, either paved or unpaved, minimizing grading to areas where needed to maintain access, etc.
367	68	68.44	Pima County	Bernal/Connolly	9-NEPA	p. 113 Chapter 2, Section 2.6 Action Alternatives:	Noted.
368	68	68.45	Pima County	Bernal/Connolly	9-NEPA	p. 128 Proponent Preferred Route Subroute 4.1 is 100% within the existing Western right of way through Pima County. Of the subroutes developed to avoid Tumamoc Hill, the Proponent and Agency Preferred Alternative includes Subroute 4.1, TH1A, TH1B, and TH1-OPTION.	The comment accurately reflects the description of alternatives in the Draft EIS.
369	68	68.46	Pima County	Bernal/Connolly	9-NEPA	p.129, Local Alternatives: Local alternatives, including 9 selected to avoid or minimize impacts on Tumamoc Hill were developed by Western and Southline. Local alternatives were developed using input from stakeholders.	The comment accurately reflects the description of alternatives in the Draft EIS.
370	68	68.47	Pima County	Bernal/Connolly	9-NEPA	p. 331, Chapter 3, Cultural Resources 3.9 and 4.9: The Agency Preferred Alternative avoids Tumamoc Hill with several Local Alternatives TH1a, TH1-OPTION, rerouting to the west by using Starr Pass, Greasewood, and Anklam Roads to avoid crossing the Hill in the existing Western right of way.	The comment accurately reflects the description of alternatives and the discussion in section 3.9 in the Draft EIS.
388	68	68.65	Pima County	Bernal/Connolly	9-NEPA	Item 1. Section – Executive Summary: ES. 1 Introduction. Page, Line - xiii, 19. Comment: The project will impact areas within Pima County. Pima County should be consulted and included on the preparation of future editions of the EIS. Resolution: Pima County should be a participating agency for further edits, review, etc. of the Environmental Impact Analysis.	As discussed in section 5.4 of the Draft EIS, Pima County was invited to be a cooperating agency.
435	68	68.112	Pima County	Bernal/Connolly	9-NEPA	Staff notes and supports efforts to modify the alignment to the extent that this will reduce direct impacts to historic Tumamoc Hill.	Noted.
436	68	68.113	Pima County	Bernal/Connolly	9-NEPA	Generally, modifications to existing permits or new permits as may be required for electrical substations over 115KV would be coordinated by Development Services Department.	Section 4.11.1 (see table 4.11-1) of the EIS has been revised to provide clarification regarding this comment.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
438	69	69.2	Nature Conservancy	Marshall	9-NEPA	We submitted comments during the scoping phase of this project and appreciate the opportunity to provide brief follow-up comments. Overall, we appreciate the approach taken by BLM to upgrade existing transmission lines where possible, thereby reducing environmental conflicts and minimizing new impacts to areas that currently do not support infrastructure. Our comments are limited to a concern about the preferred alternative identified in Route Group 2 from the Hidalgo Substation to the Apache Substation in southeastern Arizona and on the role of mitigation for offsetting unavoidable and permanent impacts.	Noted.
439	69	69.3	Nature Conservancy	Marshall	9-NEPA	We are concerned about the alternatives that pass along the eastern and southern margins of Willcox Playa. As the DEIS describes, the Playa is a unique feature that maintains seasonal water and supports a large wintering population of Sandhill Cranes, as well as other migratory species dependent on surface water.	Route variations have been included in the EIS (P7a, P7b, P7c, P7d, and U3aPC) in response to public and agency comments and concerns about impacts to Willcox Playa. BLM and Western, in coordination with AGFD, developed mitigation measures to offset impacts to wildlife habitat and management goals and objectives in the Willcox Playa Wildlife Area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
441	69	69.5	Nature Conservancy	Marshall	9-NEPA	Generally, BLM did a thorough job of assessing impacts in the DEIS due to construction and we commend the identification of Best Management Practices and other measures in the DEIS draft Plan of Development as a means of minimizing impacts. However, no measures were identified to offset unavoidable, permanent habitat losses to wildlife throughout the route but especially in new sections proposed and those related to cumulative impacts. If unavoidable, permanent direct and indirect impacts to habitat and species as well as cumulative impacts are not offset, then it is inescapable that the environmental baseline for the region's natural resources will be adversely affected. A diminished environmental baseline raises the prospect of additional species' listings under the Endangered Species Act and the considerable costs, regulatory burdens, and uncertainty that follow.	Additional mitigation for vegetation and wildlife was provided by the FWS and AGFD and is considered in the EIS. Relevant sections (executive summary, as well as sections 2.4.6, 3.8, and 4.8) of the EIS have been updated to clarify proposed vs. committed mitigation.
442	69	69.6	Nature Conservancy	Marshall	9-NEPA	We believe this is an opportunity to apply regional mitigation strategies as described in Order No. 3330 issued by the Secretary of the Interior in 2013 cited in chapter 2 of the DEIS. While we recognize that this approach is still in development, we believe the Southline project fits the purpose and need under which the secretarial order was issued and note that similar strategies are being developed by BLM and partner agencies for Solar Energy Zones in Arizona	Additional mitigation for vegetation and wildlife was provided by the FWS and AGFD and is considered in the EIS. Relevant sections (executive summary, as well as sections 2.4.6, 3.8, and 4.8) of the EIS have been updated to clarify proposed vs. committed mitigation.
451	72	72.3	Mountain View Ranch		9-NEPA	The Proposed "Upgrade" Would Improperly and Impermissibly "Overburden" the Right-Of-Way Granted In the 100' Easement Used by WAPA. WAPA currently operates and maintains a 115 kV single-circuit system in the 100' easement which transects the south portion of Mountain View, with the electric conductors and insulators affixed to "H" shaped wooden supporting structures that are 75' feet in height. The "Upgrade" portion of the Project proposes to replace these facilities with a double-circuit 230 kV system using steel monopole structures 134' (average) in height. In essence, the Project would more than quadruple the electric transmission capacity within the 100' easement, using supporting structures which are at least 59' or 79% greater in height than the existing facilities. Developer/Investor submits that such proposed usage of the 100' easement here in question far exceeds that usage contemplated at the time the 100' easement was granted. As a consequence, the usage contemplated and proposed by the Project would "overburden" both the easement and real property transected by the easement, as well as property directly adjacent thereto or nearby. Such "overburdening" is particularly inappropriate and impermissible when the real properties in question are both currently being used and planned for single-family residential purposes. In that regard, attached as Appendix "C" are copies of two "Contract and Grant of Easement" documents, which together constitute the 100' electric easement used by WAPA for its existing 115 kV single-circuit system that transects Mountain View south of Interstate 10. In Section 1 of each document, the grant of right-of-way in question is for "an electric transmission line," not lines. This limitation is repeated thereafter in each document by references (i) in Section 1 to "said lin," and (ii) in Sections 2, 3, 4 and 5 to "said transmission line." [emphasis added] Clearly, the use of two (2) or more transmission lines with multiple circuits was not contemplated or intended by the grantors of the easement here in question. Nor, presumably was it contemplated by the grantee (United States Department of Interior, Bureau of Reclamation), a sophisticated power transmitting entity, which prepared the easement documents.	Western will review all of its land rights before construction of upgrade facilities occurs. Where necessary, Western will acquire additional land rights in accordance with Federal law for those easements determined to be insufficient.
452	72	72.4	Mountain View Ranch		9-NEPA	The DEIS appears to give no consideration to the concept of "overburdening," and its application to circumstances such as those that would be presented by the presence of the proposed "Upgrade" facilities across single-family residential subdivisions such as Mountain View Ranch and other subdivisions to the west of Mountain View and south of Interstate 10.	Western will review all of its land rights before construction of upgrade facilities occurs. Where necessary, Western will acquire additional land rights in accordance with Federal law for those easements determined to be insufficient.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
454	72	72.6	Mountain View Ranch		9-NEPA	Comment 6. Accordingly, against this background, the CPUC concluded that that portion of the new transmission system project there in question should be undergrounded, and the costs of such undergrounding spread among all ratepayers who would benefit from the new transmission facilities when completed.2 Succinctly stated, "Infrastructure necessary to fulfill the state's energy goals should not disproportionately burden one community for the benefit of the larger population. "3 When examined within the context of the concept of "overburdening," the similarities between the Chino Hills fact situation and the impact of the proposed Upgrade Facilities on Mountain View and the single-family residential subdivisions located to its west and south of Interstate 10 are quite striking. For example, the proposed Upgrade facilities are intended to serve an alleged "need" which far transcends the current and future requirements for service of Mountain View and other nearby residential communities. In addition, the proposed Upgrade facilities would more than quadruple the electric transmission capacity of WAPA's existing system, just as SCE's proposed double-circuit 500 kV system would more than quadruple the transmission capacity of its then existing 220 kV system. In this instance, the replacement 134' steel monopole towers would almost double the existing 75' supporting structures. In the SCE situation, the increase in tower height was more than doubled, but the 150' right-of-way there was 50% wider than the 100' right-of-way which transects Mountain View and other adjacent single-family residential communities. Thus, the "overburdening" concept is both applicable and appropriate for application in the present situation. Footnotes: 2 Decision No. 13-07-018 at page 21. SCE has since complied with Decision No. 13-07-018, a copy of which is attached as Appendix D. 3 Supra.	Western will review all of its land rights before construction of upgrade facilities occurs. Where necessary, Western will acquire additional land rights in accordance with Federal law for those easements determined to be insufficient.
455	72	72.7	Mountain View Ranch		9-NEPA	In view of the foregoing, Developer/Investor submits that both the Proponent's Preferred Route and the Agency's Preferred Alternative Route should be realigned so as to pass south of Mountain View and the other single-family residential communities located to the west of Mountain View, south of Interstate 10 and west of State Highway 83. In that regard, it appears that at one point in time the Proponent was considering a "potential routing option" that would have crossed State Highway 83 (from east to west) several miles south of Interstate 10 and Mountain View. [See Figure 2-1b (Figure 2-7 Viable Opportunities with Constraints Upgrade Section), page 36 to DEIS]. That "potential routing option" should be reconsidered and adopted at this time.	This potential routing option was considered by BLM and Western (see discussion of TU1 in section 2.9 in the Draft EIS, Alternatives Considered but Eliminated from Further Analysis). As noted, the presence of existing power lines entering and exiting the substation on this alternative would require additional line crossovers that severely compromise future lines from entering and/or exiting the substation and potential future expansion of facility. Rather than resolve, minimize, or reduce resource conflicts, this route substantially complicates the power system in the area.
458	72	72.10	Mountain View Ranch		9-NEPA	As previously discussed in Sections I and II(A) above, WAPA's existing 115 kV single-circuit system is located in a 100' easement which transects that portion of Mountain View located south of Interstate 10. Thus, because of both existing and planned development, as well as the 100' width limitation in the easement itself, there are both developmental and legal constraints upon use of the easement for purposes of constructing, operating and maintaining the contemplated Upgrade Section facilities in this area.	Western will review all of its land rights before construction of upgrade facilities occurs. Where necessary, Western will acquire additional land rights in accordance with Federal law for those easements determined to be insufficient.
459	72	72.11	Mountain View Ranch		9-NEPA	In that regard, the DEIS appears to state that in such circumstances the manner of construction contemplated would be the "tear-down and rebuild-in-place method."6 Assuming solely for discussion purposes that the Project should proceed with the Upgrade Section alignment in this area currently contemplated by both the Project Proponent's Preferred Route and the Agency's Preferred Alternative Route, use of this construction method would clearly have a physical impact on residents of Mountain View and the residential subdivisions to the west of it, in terms of dust, noise, increased transportation and unsightly visual impacts, to name a few. Footnote: 6 DEIS Executive Summary, page xvi, line 43 -page xvii, line I.	The comment accurately reflects the description of alternatives in the Draft EIS. The potential impact of the proposed transmission line on air quality (dust), noise, transportation, and visual impacts was described in chapter 4 of the Draft EIS. As discussed in chapter 4 and summarized in tables 2-11, 2-12, 2-13, and 2-14 of the Draft EIS (now tables 2-15, 2-16, 2-17, and 2-18 in the EIS), with respect to impacts to air quality (dust), noise, and transportation, impacts would be temporary.
460	72	72.12	Mountain View Ranch		9-NEPA	In addition, to the extent that WAPA might find that it was in fact necessary to increase the existing right-of-way beyond 100', WAPA would be legally required to provide just and reasonable compensation to impacted landowners, including severance damages.	The ROW easement acquisition process is described in section 1.9 of the Draft EIS. If Western needs to expand the existing ROW, it would seek to negotiate a fair and reasonable settlement and provide just and reasonable compensation to impacted landowners, including severance damages.
461	72	72.13	Mountain View Ranch		9-NEPA	Realignment to Avoid Substantial Adverse Impact Thus, for the reasons discussed in Sections II(B)(I) and II(B)(2) above, as well as the "overburdening" discussion set forth in Section II(A), Developer/Investors submit that both the Project Proponent's Preferred Route and the Agency's Preferred Alternative Route should be realigned so as to pass south of Mountain View and the other single-family residential communities located to the west of Mountain View south of Interstate 10. In so doing, the aforementioned adverse impacts could be avoided.	The potential routing option was also considered by the BLM and Western; see a discussion of TU1 in section 2.9 in the Draft EIS (Alternatives Considered but Eliminated from Further Analysis). As noted in section 2.9 of the Draft EIS, the existing lines and substation would complicate the use of the reroute because of the need for additional line crossovers and would severely compromise future lines from entering or exiting this substation or any future expansion of it. This route does not resolve, minimize, or reduce resource conflicts, and it substantially complicates the power system in the area. Western will review all of its land rights before construction of upgrade facilities occurs. Where necessary, Western will acquire additional land rights in accordance with Federal law for those easements determined to be insufficient.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
462	72	72.14	Mountain View Ranch		9-NEPA	If the Project Is Ultimately Approved and Constructed, the Proponent (and Any Successor-In-Interest) Should Be Required to Utilize the Best Available Technology and Materials to Minimize the Visual Impact of the Electric Transmission Supporting Structures and Conductors. As indicated in the discussion set forth in the preceding sections of these Comments, Developer/Investor believes that the alignment for the Upgrade Section of the Project currently contemplated by both the Project Proponent's Preferred Route and the Agency's Preferred Alternative Route should be adjusted so as to pass south of Mountain View and those single family residential communities located on the south side of Interstate 10 and west of State Highway 83.	Table 2-7 in the Draft EIS (now table 2-8 in the EIS) included non-reflective paint as a Project design feature to minimize the potential visual impacts. The potential routing option was also considered by the BLM and Western; see a discussion of TU1 in section 2.9 in the Draft EIS (Alternatives Considered but Eliminated from Further Analysis). As noted in section 2.9 of the Draft EIS, the existing lines and substation would complicate the use of the reroute because of the need for additional line crossovers and would severely compromise future lines from entering or exiting this substation or any future expansion of it. This route does not resolve, minimize, or reduce resource conflicts, and it substantially complicates the power system in the area.
463	72	72.15	Mountain View Ranch		9-NEPA	However, in the event the project is ultimately approved and constructed, the Proponent (and any successor-in-interest) should be required to utilize the best available technology and materials to minimize the visual impact of the electric transmission supporting structures and conductors. In that regard, it is Developer/Investor's current understanding that there are three (3) types of finish currently available for steel monopole supporting structures similar to those contemplated for the Upgrade Section of the Project. These types of finish are (i) dull galvanized (light gray); (ii) weathering steel (dark brown/rust) and (iii) tainted (epoxy paint). With respect to the electrical conductors, the DEIS indicates that the Project Proponent proposes to ". . . incorporate nonspecular conductors into the Project design to decrease reflectivity and visibility of Project features." [DEIS at page 901, lines 33-34] [emphasis added] Developer/Investor submits that that same design objective should govern the selection and use of finishes for Project supporting structures; and, compliance with such design criteria should be an express condition in applicable approvals for the Project, including a Certificate of Environmental Compatibility ("CEC") from the Arizona Power Plant and Transmission Line Siting Committee ("Siting Committee") and the Arizona Corporation Commission ("ACC"). Footnote: 7 In making this suggestion, Developer/Investor does not intend to suggest that it believes that the Project otherwise qualifies for a CEC for the Project in any form or alignment. That determination is for the Siting Committee and the ACC to make following evidentiary hearings and consideration of various issues, including whether or not there is in fact a "need" for the Project	Southline Transmission, LLC, would be responsible for submittal of the application for a Certificate of Environmental Compatibility. BLM and Western are not responsible for ACC submissions.
464	72	72.16	Mountain View Ranch		9-NEPA	Developer/Investor appreciates the opportunity to submit the preceding Comments on the March 2014 DEIS for the Project. As discussed in Section II(A) above, Developer/Investor submits that use of the 100' electric easement which transects Mountain View south of Interstate 10 for purposes of constructing, operating and maintaining the contemplated Upgrade facilities would constitute an inappropriate and impermissible "overburdening" of both (i) the right-of way which is the subject of those easements and the usage of the same therein contemplated and (ii) residential property adjacent to and nearby the right-of-way.	Western will review all of its land rights before construction of upgrade facilities occurs. Where necessary, Western will acquire additional land rights in accordance with Federal law for those easements determined to be insufficient.
465	72	72.17	Mountain View Ranch		9-NEPA	In addition, as discussed in Section II(B) above, construction, operation and maintenance of Upgrade facilities in the aforesaid 100' easement would have substantial adverse impacts on current and future residents in Mountain View, prospective homebuyers and Developer/Intervenor, as well as residents of other single-family residential communities located south of Interstate I 0 and west of State Highway 83. Accordingly, the alignment for the Upgrade Section of the Project should be adjusted so as to pass south of this area.	As discussed in section 1.1 of the Draft EIS, the existing Western line was constructed in 1951; thus, the line and ROW predate the Mountain View Ranch Subdivision by more than 50 years. The potential impact of the proposed transmission line on property in terms of land use was described in section 4.11.1 and in terms of property value in section 4.15 of the Draft EIS.
466	72	72.18	Mountain View Ranch		9-NEPA	Finally, any applicable approval of the Project should require the use of the best available technology and materials to mitigate and minimize the visual impact of supporting structures and electrical conductors for the Upgrade facilities.	Table 2-7 in the Draft EIS (now table 2-8 in the EIS) includes non-reflective paint as a Project design feature to minimize the potential visual impacts.
467	73	73.1	Sonoita Hills Community Association		9-NEPA	By means of this letter, Sonoita Hills adopts the Comments on the March 2014 Draft Environmental Impact Statement on the Southline Transmission Line Project, which Comments are contemporaneously being submitted by Mountain View Ranch Development Joint Venture, LLC and Mountain View Ranch Investment Joint Venture, LLC.	Thank you for your comments.
468	73	73.2	Sonoita Hills Community Association		9-NEPA	In the aforesaid Comments, there is a reference to and comparison with the circumstances surrounding the July 16, 2013 issuance of Decision No . 13-07-018 by the California Public Utilities Commission ("CPUC"), and the circumstances surrounding the proposed Upgrade Section of the Southline Transmission Line Project as it would impact the Mountain View Ranch Subdivision and other nearby single-family residential communities.	A decision of the California Public Utilities Commission (CPUC) regarding the proposed Upgrade Section of the Southline Transmission Line Project and possible impacts it may have on the Mountain View Ranch Subdivision or other residential communities in Arizona or New Mexico (the location of the project) has no bearing on the EIS process and is beyond the scope of this document.
469	73	73.3	Sonoita Hills Community Association		9-NEPA	In that regard , Sonoita Hills would additionally note the similarity in circumstances between residents of Chino Hills and Mountain View Ranch Subdivision homeowners and property owners who were aware of the existence of 75' tall electric transmission system supporting structures (constructed in the 1940s) at the time they purchased their respective properties, but had no reason to anticipate such structures would thereafter be proposed to be replaced by structures approaching or more than double the height of the pre-existing structures and with additional electrical conductors.	Western will review all of its land rights before construction of upgrade facilities occurs. Where necessary, Western will acquire additional land rights in accordance with Federal law for those easements determined to be insufficient.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
480	75	75.2		Sheehan	9-NEPA	I would also ask that public access to the power lines maintenance roads be restricted to reduce the number of off-road vehicles making trails and damaging vital desert landscapes. Thank you for your consideration.	As discussed in chapter 2 of the Draft EIS, "the proposed Project would be designed, as feasible, to use existing access roads with minimal improvement." Southline would work with landowners to determine what reasonable and legal road restrictions, such as gates, should be put in place.
481	76	76.1	Arizona State Land Department	Ojeda	9-NEPA	Generally speaking, ASLD is recognized by the Bureau of Land Management(BLM) and Western Area Power Administration (WAPA) as a cooperating agency (CA) however the memorandum of agreement is not attached to the DEIS. Further, cooperating agencies may have jurisdiction by law and/or special expertise and it appears that the text does not indicate which of these criteria apply to the cooperating agencies listed. The information is relevant in that the cooperating agency eligibility status defines the role, responsibility, and authority of the agency in the EIS process.	The memorandum of agreement between the BLM and Western, and each cooperating agency, is available in the Project Record. As noted in section 5.4 of the Draft EIS, the ASLD is a cooperating agency.
482	76	76.2	Arizona State Land Department	Ojeda	9-NEPA	Generally speaking, it appears that the DEIS identifies typical transmission structures that could be used for the proposed Project however it difficult to discern how the structure types vary in their resource impacts.	Estimated temporary and permanent disturbance impacts are generally characterized assuming the maximum extent of physical impact, such as for a lattice tower. Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-8. Relevant sections of chapter 4 have been updated to indicate differences in impact types from different structure types, as appropriate.
483	76	76.3	Arizona State Land Department	Ojeda	9-NEPA	Generally speaking, it appears that the DEIS does not provide detailed information on the location of new and expanded access roads and affected jurisdiction to evaluate the level of impact to ranchers and other trust beneficiaries.	As a final route has not been selected and the Project has not yet been designed and micro-sited, the location of needed access roads has not yet been determined. However, for the purposes of analysis in the Draft and Final EIS, assumptions on road type and land status are included in the analysis. Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 of the EIS. As stated in the Draft EIS, once design is finalized, all access roads would be surveyed, appropriate ROW would be acquired, and ROW would be mapped and incorporated into the Access Road Plan and Management Plan.
484	76	76.4	Arizona State Land Department	Ojeda	9-NEPA	Generally speaking, it appears that the specific locations of project features are generally not provided in the DEIS, nor are the land jurisdictions identified. As such, the potential for creation of remnant parcels on Arizona State Trust land cannot be determined.	Surface ownership (land jurisdiction) was depicted on figures 2-16 and 2-18 in the Draft EIS. Estimated mileage and disturbance by land managing agency were also presented in table 2-8 in the Draft EIS (now table 2-7 in the EIS). The potential for creation of remnant parcels is addressed in section 4.11.1 of the EIS. As a final route has not been selected and the Project has not yet been designed and micro-sited, the location of staging areas and temporary workspaces are not yet known. However, for the purposes of analysis in the Draft and Final EIS, assumptions on feature location and land status are included in the analysis. Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS).
486	76	76.6	Arizona State Land Department	Ojeda	9-NEPA	Generally speaking, it appears that the location of new and expanded access roads are not detailed in the DEIS and so it is impossible to evaluate the site-specific impacts on resources and whether slopes would exceed 25 percent.	As a final route has not been selected and the Project has not yet been designed and micro-sited, the location of needed access roads has not yet been determined. However, for the purposes of analysis in the Draft and Final EIS, assumptions on road type and land status are included in the analysis. Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS).
487	76	76.7	Arizona State Land Department	Ojeda	9-NEPA	Generally speaking, it appears that the DEIS does not provide an evaluation of impacts by jurisdiction, including impacts to Arizona State Trust land	Tables 2-11, 2-12, 2-13, and 2-14 in the Draft EIS (now tables 2-15, 2-16, 2-17, and 2-18 in the EIS) included a comparison of potential impacts by alternatives, as well as information regarding jurisdiction and impacts to State Trust lands.
488	76	76.8	Arizona State Land Department	Ojeda	9-NEPA	ASLD conceptual plans should be discussed in the DEIS. For additional information please contact Tim Bolton, Planning and Engineerig Section at 520-209-4263.	Sections 3.11 and 4.11 of the EIS have been revised to include information on ASLD conceptual planning.
489	76	76.9	Arizona State Land Department	Ojeda	9-NEPA	Generally speaking all potential access roads should be identified by land jurisdiction.	As a final route has not been selected and the Project has not yet been designed and micro-sited, the location of needed access roads has not yet been determined. However, for the purposes of analysis in the Draft and Final EIS, assumptions on road type and land status are included in the analysis. Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS).
490	76	76.10	Arizona State Land Department	Ojeda	9-NEPA	It is unclear whether the project crosses and or potentially impacts existing non-federal land use plans that apply to land included in the proposed project area. Applicable non-federal plans should also be disclosed given that the proposed project crosses a substantial amount of non-federal land. For additional information please contact Tim Bolton, Planning and Engineering Section at 520-209-4263.	Section 1.5 in the Draft EIS included a discussion of relevant policies, plans, and programs. Local jurisdiction planning needs are discussed in this section. In addition, all relevant land use planning policies and plans were included in section 3.10 (Land Use) of the Draft EIS.
491	76	76.11	Arizona State Land Department	Ojeda	9-NEPA	Generally speaking the DEIS siting constraints does not appear to have considered present and future use of the various Arizona State Trust Land.	Section 4.21 of the Draft EIS included an analysis of known past, present, and future actions, including those proposed on Arizona State Trust lands.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
494	76	76.14	Arizona State Land Department	Ojeda	9-NEPA	The proposed access road width both new and improved is excessive. A blanket approval for this size of road is not a best practices standard. The Arizona State Land Department will require a narrower roadway width in areas sensitive to excessive disturbance.	As a final route has not been selected and the Project has not yet been designed and micro-sited, the location of needed access roads has not yet been determined. However, for the purposes of analysis in the Draft and Final EIS, assumptions on road type, road width, and land status are included in the analysis. Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS).
495	76	76.15	Arizona State Land Department	Ojeda	9-NEPA	The DEIS should include ASLD's mission statement: "To manage State Trust lands and resources to enhance value and optimize economic return for the Trust beneficiaries, consistent with sound stewardship, conservation, and business management principles supporting socioeconomic goals for citizens here today and generations to come. To manage and provide support for resource conservation programs for the well-being of the public and the State's natural environment." http://www.azland.gov/support/missiongoals.htm	Chapter 5 of the EIS (see Agency Consultation and Coordination) has been revised to direct readers to the respective websites of cooperating agencies to find agency mission statements.
496	76	76.16	Arizona State Land Department	Ojeda	9-NEPA	ASLD right-of-entry permits are included in Table 1-5, but permits and restrictions associated with recreational use of State Trust land merit more discussion.	Information on ASLD's Recreation Permitting Program has been added to section 3.14.2 of the EIS.
497	76	76.17	Arizona State Land Department	Ojeda	9-NEPA	The issuance of a Certificate of Environmental Compatibility via the Arizona Corporation Commission should be reiterated in the "Decisions to be Made."	The Arizona Corporation Commission (ACC) does not have jurisdiction over Western—an agency of the U.S. Government—as it relates to this Project. Western is not required to obtain Certificates of Environmental Compatibility from the ACC on projects involving the upgrade of existing Federal facilities.
498	76	76.18	Arizona State Land Department	Ojeda	9-NEPA	The total length for each sub route is provided, but not by jurisdiction. Text descriptions and tables pertaining to alternatives are also missing details on land jurisdiction.	Tables 2-11, 2-12, 2-13, and 2-14 in the Draft EIS (now tables 2-15, 2-16, 2-17, and 2-18 in the EIS) included a comparison of potential impacts by alternatives, as well as information regarding jurisdiction and impacts to State Trust lands.
499	76	76.19	Arizona State Land Department	Ojeda	9-NEPA	Detailed information regarding location i.e. land ownership and jurisdiction of Temporary Work Area preparation sites are not specified.	As a final route has not been selected and the Project has not yet been designed or micro-sited, the location of needed construction yards and laydown areas has not yet been determined. However, for the purposes of analysis in the Draft and Final EIS, assumptions for disturbance are included in the analysis. Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS).
500	76	76.20	Arizona State Land Department	Ojeda	9-NEPA	Access road locations, specifications, and jurisdictions should be disclosed as soon as possible so the Department may analyze impacts to Trust Lands.	As a final route has not been selected and the Project has not yet been designed or micro-sited, the location of needed access roads has not yet been determined. However, for the purposes of analysis in the Draft and Final EIS, assumptions on road type, road width, and land status are included in the analysis. Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS). As the proposed Project is designed, coordination with all landowners, including the ASLD, will occur so they will eventually have this information.
501	76	76.21	Arizona State Land Department	Ojeda	9-NEPA	The location of helicopter fly yards is not detailed. Impacts to resources, including cultural resources can also result from temporary use of land by helicopters.	As a final route has not been selected and the Project has not yet been designed or micro-sited, the location of needed access roads has not yet been determined. However, for the purposes of analysis in the Draft and Final EIS, assumptions on road type, road width, and land status are included in the analysis. Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS).
502	76	76.22	Arizona State Land Department	Ojeda	9-NEPA	The text does not mention whether a fire plan is being prepared as part of the POD.	Section 2.4.1 of the Draft EIS stated that a Fire Protection Plan is a Framework Plan prepared as part of the preparation of the POD.
503	76	76.23	Arizona State Land Department	Ojeda	9-NEPA	When specific geographic or resource features are mentioned as part of the "Transmission Line Route Alternatives", the applicable land jurisdiction tied to the feature is seldom provided which makes it very difficult to assess impacts to Arizona State Trust land.	Section 2.7 of the EIS has been revised to include relevant information regarding land status to these alternative descriptions.
505	76	76.25	Arizona State Land Department	Ojeda	9-NEPA	Because all project features (including access roads, regeneration stations etc.) have not been fully described and their specifications provided it is difficult to verify the ground disturbance estimates in Table 2-8.	Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS).
507	76	76.27	Arizona State Land Department	Ojeda	9-NEPA	The DEIS states, "Permanent ROWs for access roads to structure sites are also being requested in order to conduct maintenance throughout Project operation." Please expand on the term "Permanent." For information pertaining to ROW terms/timeframes, please contact Ruben Ojeda, ASLD Right of Way Section at 602.542.2648.	Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS).
511	76	76.31	Arizona State Land Department	Ojeda	9-NEPA	The DEIS states, "Southline and its construction contractor would develop a Reclamation, Vegetation, and Monitoring Plan that would guide restoration and vegetation activities for all disturbed lands associated with construction of the Project and its eventual termination and decommissioning. The plan would address all land disturbances, regardless of ownership. It would be developed in consultation with appropriate agencies and landowners and would be provided to these entities for review and concurrence." Considering the term "would" in this statement it's unclear if the proponent will develop one or all of these plans. Please clarify.	Framework Plans, including the Reclamation, Vegetation, and Monitoring Plan, were described in section 2.4.1 of the Draft EIS. The POD and associated Framework Plans would be the responsibility of Southline.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
512	76	76.32	Arizona State Land Department	Ojeda	9-NEPA	The DEIS states, "Special status plants, including the Pima pineapple cactus, would be avoided. Where avoidance is not possible, special status plants would be conserved by relocating plants and/or reseeding, replacing topsoil with existing topsoil that was removed, and regarding in compliance with local ordinances (Pima County). Measures to conserve special status plants would be implemented through the Reclamation, Vegetation, and Monitoring Plan." Please verify the Special Species status of the Pima Pineapple Cactus as it appears this plant's status is listed as "Endangered" (see http://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/PimaPineappleCactus/NR_PPC_5year_review.p df). Will conservation methods include the purchase of PPC mitigation/conservation bank credits?	The Pima pineapple cactus was discussed in sections 3.8 and 4.8 of the Draft EIS.
513	76	76.33	Arizona State Land Department	Ojeda	9-NEPA	Vol 1 of 4, Page 111, Line 40-41;The DEIS states, "A process for requesting and obtaining variances would be included in the final POD, and would include preparation of a Variance Plan. The Variance Plan would detail how requests would be tracked, approved, or not approved, as well as how it would be ensured that the requests have been covered by the analysis in the EIS." For recordation purposes, the Department may require copies of all requests.	As noted in section 2.4.1 of the EIS, the POD and associated Framework Plans are a requirement of the BLM, and the final POD would need to be approved by the BLM and Western. These plans would incorporate appropriate Federal, State, and local agency guidance and regulation. A draft NEPA POD is included in appendix N of this EIS.
514	76	76.34	Arizona State Land Department	Ojeda	9-NEPA	Vol 1 of 4, Page 112, Line 5-7;The DEIS states, "When the variance requested is outside an area covered within the EIS and addressed in the ROW grant, approval from the authorized officer would be required. In these cases, additional environmental analysis may be required." ASLD needs to be notified and or consulted of any variance request that meets this criterion.	Section 2.4.7 of the EIS has been revised to clarify that the POD and variance process are under the authority of the BLM and Western, and that variances requested on lands not managed by the BLM would require coordination with those agencies and landowners, such as ASLD, separately from the Federal variance process.
515	76	76.35	Arizona State Land Department	Ojeda	9-NEPA	Vol 1 of 4, Page 79, No line # mentioned;The DEIS states, "If the Arizona National Scenic Trail must be temporarily closed during construction, an alternate trail route (detour) would be provided during the closure. If it is necessary for trail users to leave the trail during the temporary closure, trail users would need to obtain permission from the ASLD." If a detour is necessary and the detour is to be on Arizona State Land then, additional detail will be necessary to ensure disturbance is contained to one authorized route and not a series of newly created trails. Also, reiterating the Departments recreational permit in this section would be helpful.	Sections 3.14 and 4.14 (Recreation) in the EIS includes additional permitting and restrictions associated with recreational use of State Trust land, including detour needs for Arizona National Scenic Trail closures.
516	76	76.36	Arizona State Land Department	Ojeda	9-NEPA	Vol 1 of 4; Page 63-64, No line # mentioned; Please provide the ASLD ROW number(s) for the existing substations (Adams Tap, Pantano and Tortolita) located on Arizona State Trust Land.	As a final footprint for proposed substation expansion areas has not been selected, the affected ASLD ROW numbers are not known as of this publication date.
517	76	76.37	Arizona State Land Department	Ojeda	9-NEPA	Vol 1 of 4 page 140, Line 26-27; Please provide landownership percentage for both ASLD and NMSLO.	As a final route has not been selected and the Project has not yet been designed and micro-sited, the total acreage of surface ownership is an estimate only. Assumptions on land status are included in the analysis in the Draft EIS. As stated in the Draft EIS, once design is finalized, all access roads would be surveyed, appropriate ROW would be acquired, and ROW would be mapped and incorporated into the Access Road Plan and Management Plan.
518	76	76.38	Arizona State Land Department	Ojeda	9-NEPA	Vol 1 of 4, Page 512, Line 15; Please provide the ASLD ROW number for the 115 acres of State Land within the Willlcox Playa Wildlife Area.	As a final footprint for proposed Project has not been selected, the affected ASLD ROW numbers are not known as of this publication date.
519	76	76.39	Arizona State Land Department	Ojeda	9-NEPA	Vol 1 of 4, Page 485, Line 16; Please provide the ASLD ROW number for the 115 acres of State Land within the Willlcox Playa Wildlife Area.	As a final footprint for proposed Project has not been selected, the affected ASLD ROW numbers are not known as of this publication date.
521	76	76.41	Arizona State Land Department	Ojeda	9-NEPA	Vol 1 of 4, Page 439, Line 15 - 16; Please provide the ASLD ROW number for the 115 acres of State Land within the Willlcox Playa Wildlife Area.	As a final footprint for proposed Project has not been selected, the affected ASLD ROW numbers are not known as of this publication date.
522	76	76.42	Arizona State Land Department	Ojeda	9-NEPA	Vol 2 of 4, Page 628, no line # mentioned; It is unclear how the proponent will notify the ASLD and or its leaseholders of any required blasting.	As discussed in section 2.4.1 of the Draft EIS, a Blasting Plan would be prepared as one of several Framework Plans associated with the POD. Section 2.4.1 of the EIS has been revised to clarify that as part of the development of the Blasting Plan, Southline would work with agencies like ASLD to develop notification procedures, etc.
523	76	76.43	Arizona State Land Department	Ojeda	9-NEPA	Vol 3 of 4; Page F-18, no line # mentioned; It is not clear whether the Applicant has committed to implementing both standard mitigation measures as well as selective mitigation measures as part of the project. If yes, then should they also be listed as "design features?" Would additional mitigation measures be required by the BLM/Western and other agencies to address residual impacts?	Relevant sections (executive summary, as well as sections 2.4.6, 3.8, and 4.8) of the EIS have been updated to clarify proposed vs. committed mitigation.
524	76	76.44	Arizona State Land Department	Ojeda	9-NEPA	In POD, Page 8-2, Table 8-1; In order to legally access Arizona State Trust Lands a Right of Way applicaton or a Right of Entry instrument must be issued by the Department. Please contact Ruben Ojeda, Rights of Way Section for further information related to access upon State Trust Lands.	Noted. Thank you for your comment.
526	77	77.1		Linderg	9-NEPA	For the safety and general well being of the residents of Benson, AZ and the folks who live on either side who will be affected by the project, please seriously take into account the following. In order to avoid; A) Destruction of property and vegetation (mine) during construction of higher replacement structures (poles if you wish) with double the wires and double the voltage and B) The hazards associated therewith and C) Conflict of placement of new structures to one side or the other of existing structures where the lines fall on property line, as in my case and D) Increased easement ROW reducing usable property (also mine) of landowners, and E) The eyesore this represents to the community, I strongly suggest you take alternate route H to the North of Benson. It appears that lines already exsist on part if not all of proposed alternate H.	The potential impact of the proposed transmission line on land use and property, including residential properties, vegetation, public health and safety, and visual resources, was described in chapter 4 of the Draft EIS. The proposed Project, including Project design features and best management practices, was described in chapter 2 of the Draft EIS. The Agency Preferred Alternative in the EIS has been modified since the Draft EIS (see section 2.10.5 of the EIS); however, alternative H is not part of the Agency Preferred Alternative.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
527	77	77.2		Linderg	9-NEPA	No doubt the population of Benson has increased since 1952 increasing the afforementioned problems associated with using the exsisting line location through Benson. Common sense says avoid populated areas as much as possible. Alternate H is the best solution.	Changes in population in the Benson area were described in section 3.15 of the Draft EIS. As discussed in section 1.2.1 of the Draft EIS, BLM and Western will base their respective decisions on the analysis in the EIS. The Final EIS includes the Agency Preferred Alternative. While the preferred alternative is presented, the final route will be determined in the ROD. Until that decision document is signed, any alternative segment could be selected in the ROD. Until that time, all action alternatives described in section 2.6 of the EIS are considered equally.
528	78	78.1	Coalition For Sonoran Desert Protection	Campbell	9-NEPA	Proposed Mitigation for Impacts to the Sonoran Desert Conservation Plan The proposed Southline Transmission Line Project has numerous potential and serious impacts to lands under the umbrella of Pima County's Sonoran Desert Conservation Plan (SDCP), including the Conservation Lands System (CLS), critical Sonoran Desert wildlife habitat, threatened wildlife linkages, and rare riparian areas. We disagree with the contention in the DEIS that most of these impacts do not warrant adequate and appropriate mitigation. If these impacts cannot be avoided first and foremost, the Southline Transmission Line Project should be required to fully mitigate for all of its impacts. Where appropriate, local mitigation policies, such as those for Pima County's CLS, should be adhered to fully.	Chapter 2 (see table 2-8), as well as sections 3.8.1 and 4.8.1, of the EIS has been revised to include additional consideration for Pima County Conservation Lands. Disturbance within Pima County Conservation Lands would primarily occur within the Western ROW for the existing line.
545	78	78.18	Coalition For Sonoran Desert Protection	Campbell	9-NEPA	We also encourage further analysis and consideration of burying the transmission line in critical wildlife corridors if this would produce fewer disturbances than what is currently proposed. This would, of course, have to also involve active restoration of ground disturbance activities after the project is complete.	Section 2.9 (Alternatives Considered but Eliminated from Further Analysis) of the EIS has been revised to include a section on alternative construction methods, such as burying the proposed transmission line. Burying a transmission line causes more physical disturbance than aboveground lines and causes greater impacts to critical wildlife corridors. Additionally, the cost of burying the transmission line would be prohibitively expensive and financially infeasible.
548	79	79.1	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	9-NEPA	It appears that the BLM did an excellent job engaging the public in order to identify proposed transmission line routes and utilizing this information to develop alternatives.	Thank you for your comment.
549	79	79.2	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	9-NEPA	However, there were almost too many alternatives to review and compare, making it difficult to evaluate them and the often the text and figures and tables did not correspond one-to-one. For instance, Figure 2-16, which provides an overview of the transmission line route and substation alternatives considered in detail does not list segments PI , P2, P3, P4a or P7. These segments instead are simply labeled as the agency preferred/proponent preferred alternatives on the Figure although in the text of the document they are referred to as P I, P2, etc.	The length and complexity of the proposed Project and alternatives make presentation of information clearly and simply a challenge. The BLM and Western rely on agency and public input on the Draft EIS to provide suggestions; these comments are considered herein. Maps in the EIS now include more detailed locational information.
550	79	79.3	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	9-NEPA	Not including the labels on the Figure makes it harder for the reader to review the DEIS/Draft RMPA The BLM may want to consider whether there is a simpler way to present the different alternatives or whether the Figures can be revised to better reflect the text.	Maps in the EIS now include more detailed locational information.
554	79	79.7	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	9-NEPA	Furthermore, it appears that an amendment to the Mimbres Resource Management Plan (MRMP) would not be required under the Agency Preferred Alternative, although this was not particularly clear, depending on which section I read. For example, on page 145, the draft EIS/draft RMPA states that no plan amendment wou ld be required for the Agency Preferred Alternative. Yet, on page 1059, Lines 31-41, the draft EIS/draft RMPA states that under Route Group 2 Local Alternatives, segments LD2 and LD3a cross VRM Class II BLM-managed lands and the proposed plan amendment would reclassify 86.1 acres of VRM Class II land s to VRM Class III lands. Upon examination of the different Figures provided, it appears that only one portion of LD3a would intersect with VRM Class II lands, but not the portion that is part of the Agency Preferred Alternative. This information really cannot be gleaned from the text; one has to rely on the figures showing the transmission line routes.	As stated in the EIS (see section 2.10.8), no amendment to the Mimbres RMP would be required for the Agency Preferred Alternative. Section 2.10.8 in chapter 2 of the EIS has been revised for clarity.
567	80	80.5		Magruder	9-NEPA	Rights-of-Way (ROW). In general, the preferred proponent alternative makes extensive re-use of the existing transmission line ROW, and thus meets the "first law of transmission siting," that is, to use what exists before creating a new ROW. This approach creates considerably less environmental impacts and is strongly supported. The minor proposed changes from the existing ROWs and the new ROWs in New Mexico have acceptable environmental impacts.	The comment accurately reflects the analysis provided in the Draft EIS.
581	81	81.1	U.S. Bureau of Reclamation	Taylor	9-NEPA	I am writing to ask if there is a possibility of your granting the Bureau of Reclamation an extension to provide comments on this DEIS. I am still checking with staff here on whether or not we will actually have comments. I realize this is short notice, but if it is possible, we'd appreciate the opportunity to provide comments.	The length of the public comment period was not extended beyond the original 90-day period. BLM and Western note that Reclamation did not ultimately provide any comments.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
582	82	82.1	SunZia	Wray	9-NEPA	As written, the Purpose and Need Statement for the BLM is too conclusory, and does not adequately explain the need to be addressed by the proposed action. Rather, it is merely a recitation of the BLM's general obligations under the FLPMA.	Chapter 1 in the EIS has been revised to clarify the BLM's multiple-use mandate under the FLPMA and provide information on the BLM's mission, which provides context for the BLM's purpose and need.
583	82	82.2	SunZia	Wray	9-NEPA	As written, the BLM should consider as part of its alternatives all possible uses of the right-of-way, and not simply consider alternative configurations of the transmission line. Stated differently, the Purpose and Need Statement is so broad, it does not meaningfully justify limiting the alternatives analysis or provide a basis for eliminating any alternatives.	As described in section 2.9 of the Draft EIS, BLM and Western were aware of, and involved in, Southline's extensive pre-NEPA routing efforts and are knowledgeable regarding why other routes were eliminated. After further review of constraints and other routing possibilities, the agencies did not identify any viable major new routes that had not been previously reviewed by Southline; they did, however, identify local alternatives and route variations around particular resource issues. Chapter 1 in the EIS has been revised to clarify the BLM's multiple-use mandate under the FLPMA and provide information on the BLM's mission, which provides context for the BLM's purpose and need. BLM and Western developed alternatives in collaboration with the cooperating agencies listed in chapter 5. Alternatives were derived based on the issues presented during scoping, as well as on internal agency (BLM and Western) and cooperating agency feedback.
584	82	82.3	SunZia	Wray	9-NEPA	The Purpose and Need Statement for Western is misleading, as it implies the upgrades to the Saguaro–Tucson and Tucson–Apache 115 kV transmission lines under consideration will be identical whether Western participates in Southline or upgrades the lines themselves. If Western upgrades these lines it is likely that the nature of the upgrades will be starkly different than the upgrades proposed by the Southline Project. The Purpose and Need Statement should disclose that if Western does not participate in the Southline Project, the nature and extent of the upgrades to these lines will differ, including an identification as to how such upgrades will differ, as reflected by Western's "FY14 Ten-Year Appropriated Capital Program" (dated October 23, 2013).	Sections 1.2.2 and 2.5 have been revised in the EIS to indicate the difference in timing between the proposed Project and Western's plans in the FY14 Ten-Year Appropriated Capital Program. The no action alternative was analyzed in detail in chapter 4 of the Draft EIS.
585	82	82.4	SunZia	Wray	9-NEPA	Failure to Make the Resource Reports Readily Available for Review for the Entire Comment Period violates NEPA. Notably absent from the Draft EIS, and the appendices thereto, are the 20 resource reports completed by Southline's consultant, CH2M Hill. These resource reports were incorporated by reference in the introduction for each resource identified in Chapter 3, Affected Environment. For example, on page 189, Section 3.2 Air Quality, "The information provided in the following subsections is taken from a report titled 'Southline Transmission Project Resource Report 01: Air Quality and Climate Change' (CH2M Hill 2013a). The contents of that report are used herein without specific reference."	The Southline Transmission Line Resource Reports cited in the Draft EIS were one of many valuable reference documents used in the analysis. Additionally, the reports are supporting information for the EIS, and are not part of the formal review of the EIS; therefore, the agencies were under no obligation to extend the comment period to accommodate review of these documents. Data used in the Draft EIS were available for the full 90-day comment period, upon proper request. The literature cited style in the Draft EIS was based on Government Printing Office (GPO) publication standards.
586	82	82.5	SunZia	Wray	9-NEPA	If the BLM or Western references and relies upon materials outside the Draft EIS, it must do the following1: • Ensure that the analysis and assumptions in the materials are accurate and can be relied upon in the Draft EIS. Footnote: 1 See e.g., 43 C.F.R. § 46.135; 40 C.F.R. § 1502.21 ("No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment.")	The Southline Transmission Line Resource Reports cited in the Draft EIS were one of many reference documents used in the analysis. Data requested by the public were made readily available as soon as a data request was received. The literature cited style in the Draft EIS was based on Government Printing Office (GPO) publication standards.
588	82	82.7	SunZia	Wray	9-NEPA	Ensure that the materials are made readily available for public review.	The Southline Transmission Line Resource Reports cited in the Draft EIS were one of many valuable reference documents used in the analysis. Data requested by the public were made readily available as soon as a data request was received.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
589	82	82.8	SunZia	Wray	9-NEPA	Accordingly, we request that BLM and Western correct the Draft EIS to meet these three criteria. The following 20 resource reports are not readily available for public review, notwithstanding the fact that their review is necessary for public vetting and to provide a complete evaluation and understanding of the analytical conclusions on the potential environmental impacts associated with the construction and operation of the Southline Project included in the Draft EIS: • CH2M Hill. 2013a. Southline Transmission Project Resource Report 01: Air Quality and Climate Change (V2 Report). April 22, 2013. • CH2M Hill. 2013b. Southline Transmission Project Resource Report 08: Noise (V2 Report). April 22, 2013. • CH2M Hill. 2013c. Southline Transmission Project Resource Report 04: Geology and Minerals (V2 Report). April 2, 2013. • CH2M Hill. 2013d. Southline Transmission Project Resource Report 12: Soils (V2 Report). March 28, 2013. • CH2M Hill. 2013e. Southline Transmission Project Resource Report 09: Paleontology (V2 Report). March 28, 2013. • CH2M Hill. 2013f. Southline Transmission Project Resource Report 17: Water Resources (V2 Report). March 28, 2013. • CH2M Hill. 2013g. Southline Transmission Project Resource Report 15: Vegetation (V2 Report). May 31, 2013. • CH2M Hill. 2013h. Southline Transmission Project Resource Report 18: Wildlife (V2 Report). June 3, 2013. • CH2M Hill. 2013i. Southline Transmission Project Resource Report 02: Cultural Resources (V2 Report). May 28, 2013. • CH2M Hill. 2013j. Draft Southline Transmission Project Resource Report 16: Visual Resources (V2 Report). May 17, 2013. • CH2M Hill. 2013k. Southline Transmission Project Resource Report 07: Land Use (V2 Report). March 28, 2013. • CH2M Hill. 2013l. Southline Transmission Project Resource Report 03: Farmlands and Rangeland. March 27, 2013. • CH2M Hill. 2013m. Southline Transmission Project Resource Report 19: Military Operations (V2 Report). March 28, 2013. • CH2M Hill. 2013n. Southline Transmission Project Resource Report 13: Special Designations. March 28, 2013. • CH2M Hill. 2013o. Southline Transmission Project Resource Report 10: Recreation (V2 Report). March 28, 2013. • CH2M Hill. 2013p. Southline Transmission Project Resource Report 11: Socioeconomics and Environmental Justice (V2 Report). April 22, 2013. • CH2M Hill. 2013q. Southline Transmission Project Resource Report 06: Health and Human Safety (V2 Report). May 16, 2013. • CH2M Hill. 2013r. Southline Transmission Project Resource Report 05: Hazardous Materials and Waste (V2 Report). March 28, 2013. • CH2M Hill. 2013s. Southline Transmission Project Resource Report 14: Transportation (V2 Report). April 2, 2013. • CH2M Hill. 2013t. Southline Transmission Project Resource Report 20: Cumulative (V2 Report). April 10, 2013.	The Southline Transmission Line Resource Reports cited in the Draft EIS were one of many valuable reference documents used in the analysis. Data requested by the public were made readily available as soon as a data request was received.
591	82	82.10	SunZia	Wray	9-NEPA	Additionally, there is serious doubt that the resource reports were appropriate documents to be "incorporated by reference," and instead should have been included in the appendices. Because the resource reports are substantive documents prepared specifically by Southline for the Southline Draft EIS, and form the basis for the baseline upon which impacts are analyzed by the BLM and Western, they should have been included in the appendices. See e.g. Council for Environmental Quality ("CEQ"), Forty Most Asked Questions Concerning CEQ's NEPA Regulations, Question 25, 46 Fed.Reg. 18,026, 18,034 (Mar. 23, 1981)2; 40 C.F.R. § 1502.18 Footnote 2: Specifically, CEQ, in its Forty Most Frequently Asked Questions guidance states the following with respect to use of materials outside of the EIS, and inclusion of the materials in the appedices versus incorporation by referene.	The Southline Transmission Line Resource Reports cited in the Draft EIS were one of many valuable reference documents used in the analysis. Data requested by the public were made readily available as soon as a data request was received.
592	82	82.11	SunZia	Wray	9-NEPA	Appendices were prepared and circulated with the Draft EIS, and since the resource reports are indisputably "material prepared in connection with an environmental impact statement," they should have either been included in the appendices or have been readily available for "the full minimum public comment period," i.e. the 90-day comment period. However, the resource reports were not readily available, as evidenced by the fact that it took SunZia nearly 2 weeks and several contacts with the agency to secure a complete set of the resource reports. Further, the complete set of resource reports were not received by SunZia until 3 days before the close of the comment period.	The Southline Transmission Line Resource Reports cited in the Draft EIS were one of many valuable reference documents used in the analysis. Data used in the Draft EIS were available for the full 90-day comment period, upon proper request.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
593	82	82.12	SunZia	Wray	9-NEPA	The comment period should be re-opened, at the very least, and the resource reports be made readily available by placing all the resource reports in the Draft EIS appendices.	The Southline Transmission Line Resource Reports cited in the Draft EIS were one of many valuable reference documents used in the analysis. Data used in the Draft EIS were available for the full 90-day comment period, upon proper request.
594	82	82.13	SunZia	Wray	9-NEPA	Inclusion of the resource reports in the appendices, and provision of the same to the public for review during the entire comment period, is more than mere formality. The purpose of an EIS is to inform decision-makers and the general public of the environmental consequences of a proposed federal action. NEPA's purpose would be defeated if a critical part of the analysis is omitted from an EIS and its appendices.	The Southline Transmission Line Resource Reports cited in the Draft EIS were one of many valuable reference documents used in the analysis. Data used in the Draft EIS were available for the full 90-day comment period, upon proper request.
595	82	82.14	SunZia	Wray	9-NEPA	At the very least, if incorporation by reference of the resource reports were appropriate, the resource reports should have been described in the body of the EIS, pursuant to 40 C.F.R. § 1502.21, in sufficient detail. The cursory descriptions provided in the Draft EIS did not fulfill the purpose of the EIS because the substance of what was incorporated is an important part of the environmental analysis.	The Southline Transmission Line Resource Reports cited in the Draft EIS were one of many valuable reference documents used in the analysis. The information in chapter 3 and analysis in chapter 4 of the EIS have been revised based on public comments on the Draft EIS. Sufficient detail is provided to disclose the potential effects of the proposed Project.
596	82	82.15	SunZia	Wray	9-NEPA	Summarily, the resource reports have not been made reasonably available for review, and thus the ability to review and comment on the Draft EIS, including the analysis it relies upon, has been unnecessarily constrained and the purpose of NEPA has been defeated. SunZia assumed, based on the language in the NOA, that these reports would be available on the Southline BLM Project website. After discovering the reports were not available on the project website, we contacted each of the BLM offices identified in the NOA as having a hardcopy of the Draft EIS. None of these offices had copies of the resource reports readily available for public review. Finally, we sent a written request for copies of these reports, and after considerable effort we were able to acquire 9 of the 20 resource reports from Galileo Project, LLC, a previously undisclosed BLM and Western contractor, on June 27, 2014. Attached are a series of email communications and a copy of a letter dated June 25, 2014 from Ryley Carlock & Applewhite documenting the extensive efforts required to acquire copies of these resource reports, demonstrating that these reports were not "readily available" for public review during the entire comment period. Because the comment period was scheduled to close on July 10, 2014 and we only received 9 of the 20 reports on June 27, 2014, we requested that the comment period be extended for another 30-day period and that all of the reports be made immediately available for public review. Both requests were denied. With the confirmation that the BLM refused to make the resource reports generally and readily available for public review, on July 3, 2014, we requested copies of the remaining 11 resource reports that we did not pick up from the Tempe, Arizona office of Galileo Project, LLC on June 27, 2014. Due to the BLM and Western's extensive reliance on the data found in the additional 11 resource reports prepared by Southline's consultant, it became critical for us to review this data in order to understand the affected environment and thus the Southline Project's potential environmental impacts described in the Draft EIS. As instructed by Senior National Project Manager Mark Mackiewicz on July 3, 2014, we picked up the additional 11 resource reports from Galileo Project, LLC. These reports were not made available for pick up until July 7, 2014, only 3 days before the comment deadline.	The Southline Transmission Line Resource Reports cited in the Draft EIS were one of many valuable reference documents used in the analysis. Data used in the Draft EIS were available for the full 90-day comment period, upon proper request to the BLM or Western Project contacts listed on the BLM website (http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html). Conclusions in the EIS are independent of data and conclusions in the Southline Transmission Line Resource Reports.
597	82	82.16	SunZia	Wray	9-NEPA	BLM's decision to not provide reasonable access to the resource reports, which describe methodologies, data and analyses specific to the Southline Project, for the entire length of the comment period has resulted in a Draft EIS that cannot be fully publicly reviewed and vetted pursuant to NEPA. BLM has declined to extend the comment period to allow additional time to review these otherwise unavailable resource reports, or post them on the BLM's publicly accessible website for review by potentially affected communities and interested stakeholders. We restate our request that was previously denied that all 20 resource reports be made immediately available for public review, and that the comment period be extended for 30 days to allow review and comment on the same. Despite our limited time to review the resource reports that were not readily available, we were able to draw some general conclusions about the data prepared by the Southline's consultant, CH2M Hill (see Section III. Southline Transmission Project Resource Reports of this letter).	The Southline Transmission Line Resource Reports cited in the draft EIS are some of many valuable reference documents used in the analysis. Data used in the draft EIS were available to the public, upon request to the BLM or Western Project points of contact listed on the BLM website (http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html). Though data and conclusions in the Southline Transmission Line Resource Reports contributed to the analysis, they were not determinative of the conclusions made in the EIS. Data used in the Draft EIS were available for the full 90-day comment period, upon proper request. The length of the public comment period was not extended beyond the original 90-day period.
598	82	82.17	SunZia	Wray	9-NEPA	Section 5.8 of the Draft EIS identifies technical support staff utilized in the preparation of the Draft EIS, but does not disclose their qualifications or specializations that are necessary to ensure a scientific rigor throughout the NEPA process.	Section 5.8 of the EIS includes additional information on the expertise, experience, and professional disciplines of the people primarily responsible for preparing the EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
599	82	82.18	SunZia	Wray	9-NEPA	Furthermore, identification and qualifications of individuals responsible for the 20 resource reports3 that were heavily, and seemingly exclusively, relied upon for resource-specific descriptions of the affected environment (Chapter 3 of the Draft EIS), and their associated environmental consequences (Chapter 4 of the Draft EIS) were not provided. As discussed in the previous section of this letter, CH2M Hill, Southline's consultant, prepared all 20 resource reports that were used to establish the baselines in the Draft EIS. Therefore, CH2M Hill should have been disclosed in the list of preparers. See e.g. Id.; Sierra Club v. Marsh, 714 F. Supp. 538, 550 (D. Me. 1989) amended, 744 F. Supp. 352 (D. Me. 1989) aff'd, 976 F.2d 763 (1st Cir. 1992) ("The federal agencies' reliance on these Booz–Allen reports is a sufficient basis upon which to conclude that those reports are 'significant background papers' and that Booz–Allen should have been listed in section 9 of the EIS.").	The Southline Transmission Line Resource Reports cited in the Draft EIS were one of many valuable reference documents used in the analysis. Although the authors of the Southline Resource Reports are not the preparers of the EIS, the authors of those reports are included in chapter 5 of the EIS.
600	82	82.19	SunZia	Wray	9-NEPA	The Draft EIS relies heavily upon these 20 resource reports. While the agency may consider materials provided by Southline and its consultants, it is under an obligation to independently evaluate the information prior to its use and inclusion in the Draft EIS. See e.g. 40 C.F.R. § 1506.5; Utahns for Better Transp. v. U.S. Dep't of Transp., 305 F.3d 1152 (10th Cir. 2002) as modified on reh'g, 319 F.3d 1207 (10th Cir.2003) (Specifically, the Corps' failure to verify the cost estimates supplied by the project Applicant was a violation of NEPA.); Van Abbema v. Fornell, 807 F.2d 633 (7th Cir. 1986).	The Southline Transmission Line Resource Reports cited in the Draft EIS are one of many valuable reference documents used in the analysis. Information on the independent review process is available in the Project Record. Chapter 5 of the EIS has been revised to include additional information on the authors of the Southline Transmission Line Resource Reports and the independent evaluation process used prior to referencing the reports in the Draft EIS.
601	82	82.20	SunZia	Wray	9-NEPA	Consequently, the list of preparers of each of the 20 resource reports should have been identified and such a list should have been included in the information required by 40 C.F.R. Sec. 1502.17.	Information on the independent review process is available in the Project Record. Although the authors of the Southline Resource Reports are not the preparers of the EIS, the authors of those reports are included in chapter 5 of the EIS.
602	82	82.21	SunZia	Wray	9-NEPA	The Draft EIS likewise should have disclosed what "independent evaluation" the BLM and Western conducted with respect to each of these 20 resource reports. There is grave concern that given the BLM's refusal to make these reports readily available for public review, or to include them in the appendices of the Draft EIS, that a meaningful independent review of these reports was not conducted by BLM and Western.	Information on the independent review process is available in the Project Record. Although the authors of the Southline Resource Reports are not the preparers of the EIS, the authors of those reports are included in chapter 5 of the EIS. Chapter 5 of the EIS has been revised to include the independent evaluation process used prior to referencing the reports in the Draft EIS. Data requested by the public were made readily available as soon as a data request was received.
603	82	82.22	SunZia	Wray	9-NEPA	Furthermore, the fact the Draft EIS did not identify which BLM and Western employees conducted an independent review calls into question what, if any, meaningful independent evaluation was conducted.	Information on the independent review process is available in the Project Record. Although the authors of the Southline Resource Reports are not the preparers of the EIS, the authors of those reports are included in chapter 5 of the EIS.
604	82	82.23	SunZia	Wray	9-NEPA	We request that the Draft EIS be reissued with (1) an updated list of preparers of the resource reports, with the information outlined herein and (2) a description of the independent evaluation the BLM and Western conducted on all 20 resource reports.	Information on the independent review process is available in the Project Record. Chapter 5 of the EIS has been revised to describe the independent evaluation process used prior to referencing the reports in the Draft EIS. Although the authors of the Southline Resource Reports are not the preparers of the EIS, the authors of those reports are included in chapter 5 of the EIS.
605	82	82.24	SunZia	Wray	9-NEPA	We also request that the public be afforded an additional 30 days to review and comment on the resource reports and the efficacy of BLM's and Western's independent evaluation of the information in these reports. This would satisfy the requirements of 40 C.F.R. Sec. 1502.17, and allow the public to understand if there has been a violation of 40 C.F.R. § 1506.5.	The length of the public comment period was not extended beyond the original 90-day period. Data used in the Draft EIS were available for the full 90-day comment period, upon proper request to the BLM or Western Project contacts listed on the BLM website (http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html).
606	82	82.25	SunZia	Wray	9-NEPA	The Analysis of Alternatives Does not Analyze a Reasonable Range of Alternatives. The range of alternatives for the Upgrade Section of the proposed Southline Project has been unnecessarily limited, which is inconsistent with CEQ and BLM regulations. The range of alternatives has been limited, in part, because the Purpose and Need Statement for Western impermissibly narrows the range of reasonable alternatives. Specifically, the Upgrade Section alternatives considered in the Draft EIS have been limited to new transmission lines that could be built adjacent to existing Western transmission lines. Other reasonable alternatives that would be technically feasible have not been addressed in the Draft EIS, and there is no supporting documentation or rationale to conclude that these alternatives should be eliminated.	As described in section 2.9 of the Draft EIS, BLM and Western were aware of, and involved in, Southline's extensive pre-NEPA routing efforts and are knowledgeable regarding why other routes were eliminated. After further review of constraints and other routing possibilities, the agencies did not identify any viable major new routes that had not been previously reviewed by Southline; they did, however, identify local alternatives and route variations around particular resource issues. Alternatives were derived based on the issues presented during scoping, as well as on internal agency (BLM and Western) and cooperating agency feedback. Alternatives analyzed in the Draft EIS represent a full range of reasonable alternatives. Local alternatives in the Upgrade Section considered in detail in the Draft EIS include alternative H near Benson, the Tumamoc Hill alternatives (TH1 and TH3), and MA1 (see sections 2.7.3 and 2.7.4 in the Draft EIS). A route variation is considered in Upgrade Section in the EIS (U3aPC). The purpose and need for Western (see section 1.2.2 in the Draft EIS) did not limit alternatives to new lines that would be built adjacent to existing Western lines.
607	82	82.26	SunZia	Wray	9-NEPA	In order to achieve full compliance with the CEQ and BLM regulations, we request additional analysis of a reasonable range of alternatives to be added to the Upgrade Section.	Alternatives analyzed in the Draft EIS represent a full range of reasonable alternatives. Additional route variations are being considered in the EIS (sections 2.6 and 2.7 of the EIS) in response to comments on the Draft EIS (P7a, P7b, P7c, P7d, and U3aPC).

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
608	82	82.27	SunZia	Wray	9-NEPA	As stated in Section 2.2.1 of the Draft EIS, the "Upgrade Section was designed as double-circuit 230 kV in order to maximize the existing ROW as much as possible." However, the project description requires that the ROW be expanded to 150 feet to accommodate the proposed new system, and would require construction of a new double-circuit 230 kV transmission line in an adjacent ROW that is 125 feet wide, providing a 25-foot-wide overlap. Clearly this plan would not maximize use of Western's existing 100-foot-wide ROW, but would require additional ROW that is larger than the existing ROW.	As described in chapter 2 of the Draft EIS, in locations where possible, the new 230-kV line would be built 50 feet away from the edge of the existing 100-foot ROW, parallel to the existing line, for a total of 150 feet. Only 50 feet of new ROW would be needed, where possible. See also figure 2-15b in the Draft EIS.
609	82	82.28	SunZia	Wray	9-NEPA	The additional ROW would require condemnation and removal of existing homes in the Tucson area (e.g., 30 single-family residences in the Drexel subdivision adjacent to the Western's 100- foot-wide ROW).	This comment is incorrect. Only 50 feet of new ROW would be needed, and that only where possible. It is likely that no additional ROW would be acquired between Del Bac and Rattlesnake substations. See also figure 2-15b in the Draft EIS. Additionally, no homes would be removed as a result of the proposed Project. The ROW easement acquisition process was described in section 1.9 of the Draft EIS. Potential impacts to residential property were analyzed in chapter 4 of the Draft EIS.
612	82	82.31	SunZia	Wray	9-NEPA	As described in Section 2.9 of the Draft EIS, the Routing Study conducted for the Southline Transmission Line Project was conducted by Southline, and thus required independent review by BLM and Western before it could be relied upon. There is no indication such review occurred, nor disclosure of which employees of BLM and Western conducted such independent analysis, as required by 40 C.F.R. § 1506.5. We request the Draft EIS be supplemented to correct this deficiency.	Information on the independent review process is available in the Project Record and described in section 2.6.1 of the Draft EIS (see Alternatives Developed by the Bureau of Land Management and Western Area Power Administration). Section 2.9 of the Draft EIS indicates that BLM and Western were involved in the process used to evaluate Southline's routing process. Specifically, "BLM and Western were aware of, and involved in, Southline's pre-NEPA routing efforts and are knowledgeable as to why other routes were eliminated. After further review of constraints and other routing possibilities, the agencies did not identify any viable major new routes that had not been previously reviewed by Southline; they did, however, identify local alternatives around particular resource issues."
613	82	82.32	SunZia	Wray	9-NEPA	As stated, "Southline's routing process (Southline 2012a) included an extensive screening of route options throughout the routing study area that were ultimately dropped from consideration. Although those routes are not described in this section (2.9) as they were part of Southline's pre- NEPA screening process, it is worth noting that those alternatives were considered and eliminated due to environmental and technical constraints, pre-NEPA stakeholder outreach, and early discussions with BLM and Western, detailed in the project routing report." In the Routing Study, it was noted that "because no additional existing transmission lines offered viable opportunities for upgrading between Apache and Saguaro substations, the study focused on the existing Western and SWTC lines."4 There is no supporting rationale in the Draft EIS to explain why the study area was constricted to exclude viable siting opportunities within the area located east of Tucson and north of Interstate 10 between the Apache and Saguaro substations. We request this supporting rationale be provided in a supplemented Draft EIS for public review. Footnote: 4 SWTC – Southwest Transmission Cooperative	Considering comments on the study area considered by Southline in their pre-NEPA routing efforts is out of the scope of this Project. Information on the independent review process is available in the Project Record and described in section 2.6.1 of the Draft EIS (see Alternatives Developed by the Bureau of Land Management and Western Area Power Administration). Route variations are being considered in the EIS in response to comments on the Draft EIS and to resolve specific concerns near Willcox Playa and south of Tucson International Airport (P7a, P7b, P7c, P7d, and U3aPC).
614	82	82.33	SunZia	Wray	9-NEPA	Other reasonable alternatives to Southline's proposed new transmission lines for the Upgrade Section include viable opportunities that would meet the purpose and need for the Southline Project, although they were not considered in the Draft EIS for the proposed double-circuit 230 kV line(s). Several other routes should be considered for the Southline Project as alternatives in the Upgrade Section, so that reviewers may evaluate their comparative merits. These include, but are not limited, to the following: • existing SWTC 115 kV transmission line corridor in Cochise and Pinal counties between the Apache Power Plant, Winchester Substation, San Manuel Substation, Oracle Substation, and Saguaro Substation	Alternatives in the Draft EIS were derived based on the issues presented during scoping, as well as on internal agency (BLM and Western) and cooperating agency feedback. The alternative proposed here does not meet the objectives of the proposed Project, which is to connect to the existing substations along the Upgrade Section of the project; see section 2.9 of the EIS, which has been revised to clarify this.
615	82	82.34	SunZia	Wray	9-NEPA	Other reasonable alternatives to Southline's proposed new transmission lines for the Upgrade Section include viable opportunities that would meet the purpose and need for the Southline Project, although they were not considered in the Draft EIS for the proposed double-circuit 230 kV line(s). Several other routes should be considered for the Southline Project as alternatives in the Upgrade Section, so that reviewers may evaluate their comparative merits. These include, but are not limited, to the following: *existing Tucson Electric Power ("TEP") 138 kV and Western 230 kV lines located within the Pantano Wash and the Rillito River corridors in Tucson	Alternatives in the Draft EIS were derived based on the issues presented during scoping, as well as on internal agency (BLM and Western) and cooperating agency feedback. Information on the independent review process is available in the Project Record and described in section 2.6.1 of the Draft EIS (see Alternatives Developed by the Bureau of Land Management and Western Area Power Administration).

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
616	82	82.35	SunZia	Wray	9-NEPA	Other reasonable alternatives to Southline's proposed new transmission lines for the Upgrade Section include viable opportunities that would meet the purpose and need for the Southline Project, although they were not considered in the Draft EIS for the proposed double-circuit 230 kV line(s). Several other routes should be considered for the Southline Project as alternatives in the Upgrade Section, so that reviewers may evaluate their comparative merits. These include, but are not limited, to the following: *proposed SunZia Southwest Transmission Project corridor (BLM preferred alternative Subroute 4C2c) between the Winchester Substation and the Saguaro Substation in Cochise, Pima, and Pinal counties	As described in section 2.9 of the Draft EIS, BLM and Western were aware of, and involved in, Southline's extensive pre-NEPA routing efforts and are knowledgeable regarding why other routes were eliminated. After further review of constraints and other routing possibilities, the agencies did not identify any viable major new routes that had not been previously reviewed by Southline; they did, however, identify local alternatives and route variations around particular resource issues. Alternatives in the Draft EIS were derived based on the issues presented during scoping, as well as on internal agency (BLM and Western) and cooperating agency feedback. Section 2.9 (Alternatives Considered but Eliminated from Further Analysis) of the EIS has been revised to describe these proposed alternatives.
617	82	82.36	SunZia	Wray	9-NEPA	These transmission line corridors were not identified as alternatives considered in the Southline Draft EIS, and no rationale for eliminating these alternatives was documented in the Draft EIS.	Alternatives in the Draft EIS were derived based on the issues presented during scoping, as well as on internal agency (BLM and Western) and cooperating agency feedback. Section 2.9 (Alternatives Considered but Eliminated from Further Analysis) of the EIS has been revised to describe the proposed alternatives.
618	82	82.37	SunZia	Wray	9-NEPA	The BLM and Western have an obligation to develop and evaluate a reasonable range of alternatives, and cannot simply rely upon information provided by Southline. See e.g. Van Abbema v. Fornell, 807 F.2d 633 (7th Cir. 1986) (holding that the agency violated NEPA because it failed to adequately consider economics of and alternatives to the proposed action before issuing a permit, and failed to meet its responsibility to verify in reasonable way data on which it relied). Because the Draft EIS is silent about the rationale for eliminating alternatives, one cannot meaningfully understand or react to this impermissible narrowing of the range of alternatives. The Draft EIS should be reissued with such an analysis, and a comment period should be allowed for reaction and comment on the same by the public.	Alternatives in the Draft EIS were derived based on the issues presented during scoping, as well as on internal agency (BLM and Western) and cooperating agency feedback. Alternatives analyzed in the Draft EIS represent a full range of reasonable alternatives, as described in section 2.7. Additional route variations are being considered in the EIS (see sections 2.6 and 2.7 of the EIS). Section 2.9 (Alternatives Considered but Eliminated from Further Analysis) of the EIS has been revised to further describe these proposed alternatives and the rationale for dismissal.
619	82	82.38	SunZia	Wray	9-NEPA	New ROW will be required to accommodate the proposed 230 kV transmission lines parallel to the existing Western 115 kV line, although conflicts with residences or other sensitive land uses would likely occur along any of these alternative routes. No evidence of those alternatives being eliminated for environmental and technical constraints was included in the Draft EIS, and we request that this work be performed in a supplemented Draft EIS	The ROW easement acquisition process was described in section 1.9 of the Draft EIS. Potential impacts to the physical, human, and natural environment were analyzed in chapter 4 of the Draft EIS. Alternatives considered but eliminated from further analysis were described in section 2.9 of the Draft EIS.
620	82	82.39	SunZia	Wray	9-NEPA	The description of the proposed Southline Project component design is provided in Section 2.4.2 of the Draft EIS, and included in Table 2-2, Typical Design Characteristics for the Proposed Upgrade Section 230 kV Transmission Line. The Upgrade Section would require six conductors installed on new tubular steel poles, with typical span lengths between 700 and 1,000 feet, within a 150-foot-wide ROW. As shown in Figure 2-12 (below), the new 230 kV structures would be approximately 134 feet tall, nearly twice as tall as the existing 75-foot 115 kV H-frame wooden poles. The existing 115 kV poles and conductors would be removed following construction of the new 230 kV lines, and the future disposition and use of alternatives for the remaining 75-foot existing Western easement are not disclosed. This is a material omission to the analysis that we request be corrected.	The commenter misunderstands section 2.4.3 of the Draft EIS, which described the upgrade of the existing Western 115-kV line. As described in this section in the Draft EIS, only an additional 50 feet of ROW would be required. This section of the EIS has been revised for added clarity and to include details on the potential use of outages on the line.
621	82	82.40	SunZia	Wray	9-NEPA	The new double-circuit 230 kV transmission line project is defined as an "upgrade" to Western's existing 115 kV transmission line system in order to meet Western's need to adequately operate their electrical system and to qualify for federal funding under the Hoover Act. Yet, Western's "FY14 Ten-Year Appropriated Capital Program" (dated October 23, 2013) reported the dates when such "upgrades" would in fact be needed by Western to adequately operate their electrical system. Note that these segments comprise the proposed Southline Upgrade Section between Apache and Saguaro substations. The upgrade described by Western is a single 230 kV line: Saguaro-Tucson 115-kV Rebuild Phase 1 – FY18 Apache-Tucson 115-kV Rebuild Phase 1 – FY19 Apache-Tucson 115-kV Rebuild Phase 2 – FY20 Apache-Tucson 115-kV Rebuild Phase 4 – FY21 Southline proposes to place a double-circuit 230 kV transmission line in-service between Apache-Tucson-Saguaro substations (thereby replacing Western's existing 115 kV line) during 2016: fully five years in advance of Western's much less extensive upgrade to a single 230 kV line.	Section 2.5 (the no action alternative) has been revised in the EIS to indicate the difference in timing between the proposed Project and Western's plans in the FY14 Ten-Year Appropriated Capital Program.
622	82	82.41	SunZia	Wray	9-NEPA	However, for purposes of environmental analysis, the so-called "Upgrade Section" is a physically complete, separate, and new transmission line. It should not be defined as an "upgrade" of the existing 115 kV line. As evidenced by public comments, members of the public have been misled to interpret the Upgrade Section as a replacement of the existing 115 kV poles within the existing ROW, when in fact a separate and much larger double-circuit 230 kV transmission line project would be constructed using substantially larger and new ROWs.	As described in chapter 2 of the Draft EIS, in the Upgrade Section of the proposed Project, the new 230-kV line would be built 50 feet away from the edge of the existing 100-foot ROW, parallel to the existing line, for a total of 150 feet. Only 50 feet of new ROW would be needed, where possible. See also figure 2-15b of the Draft EIS. Section 1.1.1 of the EIS has been revised to clarify the additional requested ROW; however, please note that some areas would not need additional ROW (i.e., between the existing Del Bac and Rattlesnake substations). The term upgrade is correct for lines that increase voltage, use taller structures, and require more ROW.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
623	82	82.42	SunZia	Wray	9-NEPA	Understandably, there is confusion regarding the Upgrade Section of the Southline Project, and the impacts to property owners. These facts have not been fairly and adequately disclosed to the affected general public	The ROW easement acquisition process was described in section 1.9 of the Draft EIS. Section 1.1.1 of the EIS has been revised to clarify the additional requested ROW. As noted in section 2.4.1 of the EIS, no new ROW is anticipated between the Del Bac and Rattlesnake substations in the Upgrade Section of the proposed Project. Please note that on the whole, a review of the comments received on the Draft EIS did not indicate that commenters were having difficulty understanding the document or the proposed Project.
624	82	82.43	SunZia	Wray	9-NEPA	An alternative upgrade to Western's existing 115 kV transmission lines through the Tucson area could be achieved within the existing ROW, to some degree, in addition to building the new 230 kV lines in either separate, or adjacent ROWs. Separation between the two, 230 kV circuits would provide a higher level of reliability, allowing for the loss of only one of the two circuits in the event of a disruption, failure or corridor outage. We request that this alternative upgrade be analyzed in a supplemental Draft EIS.	Section 2.9 (Alternatives Considered but Eliminated from Further Analysis) of the EIS has been revised to respond to these proposed alternatives.
625	82	82.44	SunZia	Wray	9-NEPA	Finally, alternatives to the construction of new transmission lines that could meet the Southline Project's objectives should be considered. These include, for example, (1) other existing system upgrades, (2) demand side management, and (3) distributed generation. No rationale to support eliminating these alternatives to the proposed installation of new transmission lines was documented in the Southline Draft EIS. We request that this omitted analysis be included in a supplemental Draft EIS.	Alternatives considered but eliminated from detailed analysis were discussed in section 2.9 of the Draft EIS. Section 2.9 (Alternatives Considered but Eliminated from Further Analysis) of the EIS has been revised to describe these proposed alternatives and the rationale for dismissal, much like section 2.3.3 in the SunZia Final EIS.
626	82	82.45	SunZia	Wray	9-NEPA	Summarily, the alternatives analysis does not present a reasonable range of alternatives, nor does it provide justification or disclosure of the reasons for excluding from consideration the other reasonable alternatives outlined herein. As written, these deficiencies cannot be cured between a draft and final EIS. Consequently, the Draft EIS should be reissued as a supplemental Draft EIS, with these deficiencies addressed, followed by an additional public review opportunity and comment period. The failure to do so will likely lead to a fatally-flawed NEPA process.	Alternatives considered but eliminated from detailed analysis were discussed in section 2.9 of the Draft EIS. Chapter 2 of the EIS has been revised to consider additional minor route variations (see sections 2.6 and 2.7 of the EIS), as well as additional alternatives considered but eliminated from detailed analysis. The commenter has not raised any reasonable, viable alternatives that accomplish the substation interconnections that make this proposed Project work. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.
627	82	82.46	SunZia	Wray	9-NEPA	Evaluation and disclosure of environmental impacts are inadequate. The evaluation of impacts that could result from the construction and operation of the Southline Project are inadequate and do not meet the criteria established by the NEPA. The NEPA requires that agencies take a "hard look" at the impacts of the proposed action. A "hard look" is defined as a reasoned analysis containing quantitative or detailed qualitative information. The analyses must be at a level of detail sufficient to support reasoned conclusions by comparing the amount and degree of change (impact) caused by the proposed action and alternatives (40 CFR and BLM NEPA Handbook 2008).	Impacts described in chapter 4 of the Draft EIS are quantified, to the extent possible or where data were available. The impact analysis in Chapter 4 of the EIS has been revised to include more information, where appropriate, on the scale of potential impacts.
628	82	82.47	SunZia	Wray	9-NEPA	The Draft EIS discusses the levels or magnitudes of impacts in Section 4.1.3 Significance and Impact Indicators and "...uses the terms major, moderate, or minor/negligible in describing the intensity of effects." Additionally, the Draft EIS uses both short- and long-term durations to assist in quantifying the context of the proposed Southline Project in relation to the resources analyzed. However, in nearly every resource analysis section, the Draft EIS does not identify what magnitude, duration, or combination thereof, constitutes a Significant Impact5. Are the descriptions of major or high impacts and significant impacts similar? What sets apart major impacts from significant impacts? Footnote: 5 This fundamental problem with determination of significance is pervasive throughout all resource sections except for the Section 4.2 Air Quality where significant impacts are clearly defined.	Section 4.1.3 of the EIS has been revised to provide additional clarity deemed significant and how that is different from those potential impacts considered major.
629	82	82.48	SunZia	Wray	9-NEPA	Additionally, little-to-no information is presented in the form of relative intensity of impacts between alternatives, restricting the comparison of alternatives to only a comparison of acreages affected. We request that the Southline Draft EIS produce clarity on these issues.	Chapter 4 of the EIS provides additional clarity on impacts deemed significant and how that is different from those potential impacts considered major. However, please note that tables 2-11, 2-12, 2-13, and 2-14 in the Draft EIS (now tables 2-15, 2-16, 2-17, and 2-18 in the EIS) included the relative intensity of impacts for all resource topics.
630	82	82.49	SunZia	Wray	9-NEPA	In general, the conclusions of the Draft EIS are not adequately supported by the information presented. Insufficient information is available in the inventory of the affected environment to reasonably connect them to the potential impacts of the Southline Project. It is nearly impossible for someone reviewing the Draft EIS to understand the rationale behind the conclusory statements regarding impacts of the Southline Project on the environment.	Chapter 4 of the EIS has been revised to provide additional clarity on impacts deemed significant and how that is different from those potential impacts considered major. The impact analysis in chapter 4 of the EIS has been revised to include more information, where appropriate, on the scale of potential impacts.
631	82	82.50	SunZia	Wray	9-NEPA	There are no impact maps or data of appropriate scale to illustrate the resources that are impacted, or results showing the intensity or context of site-specific impacts. On the maps that are shown (e.g., Figures 3.8-1, and 4.9-2), the scale and resolution are insufficient to disclose the study corridor boundaries, resource data, specific locations and quantities of physical disturbance, and impacts specific to resources. The generally accepted practice in analysis of environmental resource data for representing resource mapping is to use a scale of 1:24,000. The Southline Draft EIS does not disclose the scale used, but it appears the approximate scale ranges from 1:500,000 to 1:1,000,000.	Maps in the EIS include more detailed locational information, as appropriate.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
632	82	82.51	SunZia	Wray	9-NEPA	The land use resource report prepared by CH2M Hill appears to utilize approximate scales ranging from 1:450,000 to 1:750,000. This does not constitute a "hard look" at potential environmental consequences, as required and described above. We request the mapping scale be modified to a scale that will allow the public an opportunity to fully review and understand the potential environmental impacts of the Southline Project.	The Southline Transmission Line Resource Reports cited in the draft EIS are some of many valuable reference documents used in the analysis. Data used in the draft EIS were available to the public, upon request to the BLM or Western Project points of contact listed on the BLM website (http://www.blm.gov/nm/st/en/prog/more/lands_realty/southline_transmission.html). Though data and conclusions in the Southline Transmission Line Resource Reports contributed to the analysis, they were not determinative of the conclusions made in the EIS. While this supporting information is part of the Administrative Record and publicly available, the NEPA public comment process is focused on the Draft EIS itself.
633	82	82.52	SunZia	Wray	9-NEPA	The following are examples that demonstrate that the Draft EIS conclusions are not adequately supported by the data provided for public review in the document: In Section 3.8 Biology (Affected Environment), there is minimal information on species ranges, or geographic locations of vegetation types, while Section 4.8 Biology (Environmental Consequences) provides no species-specific and very little general information on the potential response of individuals and populations to construction and operation of the Southline Project; and	Chapters 2 and 4 of the EIS provide additional clarity on how potential impact conclusions were derived and the assumptions for the analysis, as appropriate.
636	82	82.55	SunZia	Wray	9-NEPA	We request that the Draft EIS be supplemented to include a meaningful analysis of impacts, including disclosure of what impacts are indeed significant.	Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared. Comments on the Draft EIS have been addressed in the EIS.
637	82	82.56	SunZia	Wray	9-NEPA	The levels of ground disturbance are underestimated. The description of the methodology used to estimate potential temporary and permanent ground disturbance resulting from construction and operation of the Southline Project are insufficient to adequately assess its accuracy. For example, Section 2.4.2– 2.4.3 and Table 2-8 of the Draft EIS discuss access road construction and associated disturbance. However, details regarding assumptions that greatly influence ground disturbance resulting from access road construction (i.e., slope) are not described.	Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS).
638	82	82.57	SunZia	Wray	9-NEPA	Additionally, in order to limit the amount of new road construction for the Southline Project, Access Level D should use existing roads within 600 feet of the Southline Project alternative centerlines, instead of the estimated 700 feet as stated in Section 2.4.2. If the typical span of the New Build section is 1,200 feet, then it would require an equal amount of ground disturbance to build two spur roads at 600 feet. Beyond 600 feet from a Southline Project alternative centerline, construction of a new road from structure-to-structure would typically result in less ground disturbance than building spur roads from existing roads to each structure work area. We request the methodology used to estimate ground disturbance be modified to better estimate the potential temporary and permanent ground disturbance impacts during the construction and operation phases of the Southline Project.	Minimizing impacts from the establishment of new access roads is an important consideration. However, impacts go beyond the single consideration of area of disturbance. The stated 700 feet offset from existing roads is used to be inclusive of other factors in establishment of roads.
686	82	82.105	SunZia	Wray	9-NEPA	The Draft EIS should be supplemented to address the unclear nature of these impacts by actually disclosing impacts and the rationale for the conclusions. Then, the Draft EIS should be republished and an additional 30-day comment period be provided to allow public review and comment on the same.	Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared. Comments on the Draft EIS have been addressed in the EIS.
691	82	82.110	SunZia	Wray	9-NEPA	Initial Impacts, Mitigation Planning, standard and selective mitigation, and residual impacts are used sporadically through all the resources and have no context. This section should be revised using terminology that is consistent with the other sections of the Draft EIS.	Chapters 2 and 4 of the EIS provide additional clarity on how potential impact conclusions were derived and the assumptions for the analysis, as well as the difference between committed vs. proposed mitigation, and potential residual impacts.
692	82	82.111	SunZia	Wray	9-NEPA	The Draft EIS should be supplemented to address the unclear nature of these impacts by actually disclosing impacts and the rationale for the conclusions. Then, the Draft EIS should be republished and an additional 30-day comment period be provided to allow public review and comment on the same.	Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared. Comments on the Draft EIS have been addressed in the EIS.
695	82	82.114	SunZia	Wray	9-NEPA	The Draft EIS should be supplemented to address the unclear nature of these impacts by actually disclosing impacts and the rationale for the conclusions. Then, the Draft EIS should be republished and an additional 30-day comment period be provided to allow public review and comment on the same.	Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared. Comments on the Draft EIS have been addressed in the EIS.
703	82	82.122	SunZia	Wray	9-NEPA	In general, the conclusions of the Draft EIS are not adequately supported by the information presented. Insufficient information is available in the inventory to connect affected habitat to the possible impacts on species.	Chapters 2 and 4 of the EIS provide additional clarity on how potential impact conclusions were derived and the assumptions for the analysis. Additional information on consultation with the FWS has been included in the EIS in section 4.8 and in chapter 5.
705	82	82.124	SunZia	Wray	9-NEPA	Little or no discussion is provided on potential off-site impacts of the Southline Project. We request that this deficiency be corrected. The Draft EIS should be supplemented to address the unclear nature of these impacts by actually disclosing impacts and the rationale for the conclusions. Then, the Draft EIS should be republished and an additional 30-day comment period be provided to allow public review and comment on the same.	Potential direct and indirect impacts, including offsite impacts, of the proposed Project, were analyzed in the Draft EIS. The commenter does not provide additional information for consideration of offsite impacts beyond those described in the Draft EIS. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared. Comments on the Draft EIS have been addressed in the EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
714	82	82.133	SunZia	Wray	9-NEPA	The Draft EIS is silent with respect to whether the Southline Project's owner has begun soliciting potential generation customers that will express their interests or requests for interconnection to the Southline Project. Ostensibly, Southline will, at some point, begin soliciting customers, and have knowledge of the potential interconnections. This is particularly likely given the fact the Southline's eastern terminus begins at substations located adjacent to the Afton natural gas combined-cycle power plant in New Mexico, its midpoint interconnects with the Apache Generating Station in Arizona and terminus at the Saguaro power plant in Arizona. At this time, it is unclear what the make-up of transmission customers for the Southline Project may look like, but sometime between now and before the issuance of the Record of Decision, Southline, and/or Western, will likely become aware of the identity, location, and source of at least some of the transmission customers of the Southline Project. While a transmission project such as Southline does not necessarily have to engage in a "crystal ball inquiry" into identifying the impacts of future interconnections, such projects are required to disclose the types of impacts that are likely to occur as a result of their own proposed project. There is a NEPA regulation that provides guidance on what to do if certain information is unavailable or incomplete, such as the information needed to analyze the effects of the type of generation future customers of the Southline Project may seek to transfer over the Southline Project transmission lines. It is reasonable to assume that Southline will eventually have transmission customers, which could include generation projects with environmental impacts, resulting in cumulative impacts on the total environment. If Southline does not currently have information available regarding these generation interconnectors, then it should comply with 40 C.F.R. § 1502.22 by providing such information in the Draft EIS	Southline has not yet determined how it would solicit transmission customers. When Southline makes that determination, it will make an appropriate filing with the Federal Energy Regulatory Commission. As discussed in section 1.10.3 in the Draft EIS, no proposed generation sources have been identified that would intend to connect to the proposed Project.
715	82	82.134	SunZia	Wray	9-NEPA	One method to do so, which is frequently used by the BLM for oil and gas leasing where the exact location of wells is unknown at the ROW application phase for the pipeline, is through the use of Reasonably Foreseeable Development Scenarios. A "Reasonably Foreseeable Development Scenario" ("RFD") provides the mechanism to analyze basic information in the NEPA document under various alternatives. However, as written, the Southline Project EIS fails to disclose any potential impacts from future generation interconnections, thereby leading to a groundless assumption that there is no potential for cumulative impacts exists that may be associated with future interconnections. Recall, cumulative impacts require the analysis of impacts "on the environment which results from the incremental impact of the action when added to other... reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." 40 CFR § 1508.7	Section 4.21 of the Draft EIS described the cumulative effects of the proposed Project that would result when combined with other past, present, and reasonably foreseeable actions. Speculative future energy projects are not considered in the analysis, either individually or via an RFD. As discussed in section 4.21.2 of the Draft EIS, "reasonably foreseeable" actions are considered where there is an existing decision (i.e., ROD or issued permit), a commitment of resources or funding, or a formal proposal (i.e., a permit request). Actions that are highly probable based on known opportunities or trends (i.e., residential development in urban areas) are also considered. Speculative future developments (i.e., enabling access to unknown renewable energy projects) are not considered.
716	82	82.135	SunZia	Wray	9-NEPA	As written, if the Southline Project identifies an interconnection prior to the issuance of the Record of Decision, and the interconnection is not currently disclosed or identified in the Draft EIS, it would have to prepare a Supplemental EIS as there would be analyzable cumulative impacts not previously considered. If this Draft EIS utilized an RFD, this future duty to supplement such cumulative impacts would have been previously disclosed and analyzed. The Draft EIS should be supplemented to include a form of compliance with 40 C.F.R. § 1502.22, whether through the use of RFDs or another means. This failure cannot be cured in the Final EIS, and warrants re-publication of a supplemental Draft EIS.	Section 4.21 of the Draft EIS described the cumulative effects of the proposed Project that would result when combined with other past, present, and reasonably foreseeable actions. Speculative future energy projects are not considered in the analysis, either individually or via an RFD. As discussed in section 4.21.2 of the Draft EIS, "reasonably foreseeable" actions are considered where there is an existing decision (i.e., ROD or issued permit), a commitment of resources or funding, or a formal proposal (i.e., a permit request). Actions that are highly probable based on known opportunities or trends (i.e., residential development in urban areas) are also considered. Speculative future developments (i.e., enabling access to unknown renewable energy projects) are not considered. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared. Comments on the Draft EIS have been addressed in the EIS.
717	82	82.136	SunZia	Wray	9-NEPA	The Analysis of the Upgrade Section Alternatives fails to consistently disclose and analyze the impacts associated with the expansion of the 12 substations connected with the Upgrade Section of the Southline Project.	Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS), including how potential substation expansion impacts are considered in the analyses. These potential impacts were accounted for in the Draft EIS.
718	82	82.137	SunZia	Wray	9-NEPA	For each substation upgrade, there will be additional temporary and permanent ground disturbances. See Id. Consequently, there will be additional impacts to the environment. The Draft EIS fails to analyze the impacts of the substation expansions for the following resources: • Geology and Mineral Resources • Soil Resources • Biological Resources • Cultural Resources • Socioeconomics and Environmental Justice • Public Health and Safety	Section 2.4.2 of the EIS includes additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS), including how potential substation expansion impacts are considered in the analyses.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
719	82	82.138	SunZia	Wray	9-NEPA	Failure to analyze direct, indirect, and cumulative impacts from a proposed action, which includes the substation expansion associated with the Upgrade Section of the Southline Project, is a NEPA flaw. Consequently, the Draft EIS must be supplemented to include an analysis of the impacts associated with the expansion of the substations on the resources, and re-published for additional public comment.	Section 2.4.2 of the EIS includes additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS), including how potential substation expansion impacts are considered in the analyses. These potential impacts were accounted for in the Draft EIS.
720	82	82.139	SunZia	Wray	9-NEPA	The Impacts Analysis is insufficient because it fails to disclose and analyze the impacts of the Southline Project with sufficient specificity as to the location of the impacts. An agency that fails to take a "hard look" at the impacts of a project, and violates NEPA, if that agency fails to examine, consider, and disclose site-specific factual information regarding the baseline and direct, indirect, and cumulative impacts of the each resource potentially affected by the project. New Mexico ex rel. Richardson v. Bureau of Land Mgmt., 565 F.3d 683, 704 (10th Cir. 2009) citing Citizens' Comm. to Save Our Canyons v. Krueger, 513 F.3d 1169, 1178 (10th Cir. 2008).	Chapter 4 of the EIS provides additional clarity on potential site-specific impacts, as appropriate. Maps in the EIS include more detailed locational information. The commenter has not provided any examples of areas where impact analysis is deficient, or suggested any means to improve the analysis specifically.
721	82	82.140	SunZia	Wray	9-NEPA	The EIS must, in and of itself, meet the requisite level of specificity in terms of geographic scope and unique environmental factors within that geographic scope, depending on the particular project and its stage of development. An agency's failure to conduct an analysis that takes location or site-specific environmental factors into account when considering and disclosing potential environmental impacts of the proposed action results in a fatal NEPA flaw. Here, the impacts analysis for each resource merely identifies the impacts that could occur along the entire segment of each Route Group. The length of each alternative in each Route Group is between approximately 48 and 145 miles long. Consequently, the Draft EIS does not identify where along a 48 to 145 mile segment a particular impact occurs. This renders the impacts analysis almost meaningless, as local stakeholders cannot appreciate if a particular resource is impacted in a particular way in an area which they are concerned about. For example, the Draft EIS represents that the impacts would be less severe with respect to the Upgrade Section, as compared to the new build section of the project, because the right-of-way has been "previously disturbed." See e.g. Draft EIS at pp. 780, 783, 784, 787, 788, 789, and 795. This representation ignores the fact that the Upgrade Section would require a new 150 ROW and likely impact resources that are not currently disturbed by Western's existing line.	Chapter 4 of the EIS provides additional clarity on potential site-specific impacts, as appropriate. Maps in the EIS include more detailed locational information. The commenter has not provided any examples of areas where impact analysis is deficient, or suggested any means to improve the analysis specifically.
722	82	82.141	SunZia	Wray	9-NEPA	Likewise, this representation ignores the fact that the Upgrade Section requires the expansion of 12 substations onto lands previously undisturbed by the existing substations, thereby impacting resources that are currently undisturbed.	Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS), including how potential substation expansion impacts are considered in the analyses.
723	82	82.142	SunZia	Wray	9-NEPA	Without the ability to understand the physical location of the impacts described in the Draft EIS, it is impossible to know whether it includes an analysis of previously undisturbed resources. Consequently, the Draft EIS should be supplemented to include a disclosure of where impacts occur along each Route Group's segment, thereby disclosing to the public, and the decision- maker, the location, nature, and severity of potential impacts.	Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS), including how potential substation expansion impacts are considered in the analyses. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.
724	82	82.143	SunZia	Wray	9-NEPA	The supplement could include additional text disclosing the location of the impacts, or it could include the use of maps which depict the location of impacts along each segment within a Route Group, thereby allowing one reviewing the EIS to understand where each type of impact is likely to occur. This is particularly important, where, as here, the Draft EIS has failed to analyze the impacts associated with the proposed expansion of 12 substations for six categories of resources.	Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.
725	82	82.144	SunZia	Wray	9-NEPA	Southline Transmission Project Routing Report (CH2M Hill 2012). As noted in the comments for the Draft EIS, examination of the routing report fails to adequately consider a reasonable range of alternatives, specifically in the Upgrade Section for the proposed Southline Project (see Section I. C.).	The Southline Transmission Line Routing Report cited in the Draft EIS were one of many reference documents used in the analysis. Conclusions in the EIS are independent of data and conclusions in the Southline Transmission Line Routing Reports.
726	82	82.145	SunZia	Wray	9-NEPA	The Purpose and Need from the Agencies as noted in this comment letter, likewise does not preclude the evaluation of other reasonable alternatives. The only rationale given for restricting the evaluation of alternatives to upgraded sections through the Tucson urban area is stated in Section 1.1.5 Project Siting-Development of the Upgrade Section,	Alternatives in the Draft EIS were developed to meet regional electrical and system needs and Southline's goals and objectives. They were derived based on the issues presented during scoping, as well as on internal agency (BLM and Western) and cooperating agency feedback. Chapter 2 of the EIS has been revised to consider additional route variations (see sections 2.6 and 2.7 of the EIS), as well as additional alternatives considered but eliminated from detailed analysis). The commenter has not raised any reasonable, viable alternatives that accomplish the substation interconnections that make this proposed Project work.
727	82	82.146	SunZia	Wray	9-NEPA	As discussed in detail in the discussion on "Alternatives" in this letter, the alternatives to the Upgrade Section do not constitute an evaluation of a reasonable range of alternatives in comparative form, which is considered the "heart of the environmental impact statement" as noted in the CEQ Regulations Section 1502.14. The Southline Draft EIS unnecessarily limits the alternatives identified to those that only met the narrow "technical needs of the project."	Alternatives in the Draft EIS were developed to meet regional electrical and system needs and Southline's goals and objectives. They were derived based on the issues presented during scoping, as well as on internal agency (BLM and Western) and cooperating agency feedback. Chapter 2 of the EIS has been revised to consider additional route variations (see sections 2.6 and 2.7 of the EIS), as well as additional alternatives considered but eliminated from detailed analysis. The commenter has not raised any reasonable, viable alternatives that accomplish the substation interconnections that make this proposed Project work.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
734	82	82.153	SunZia	Wray	9-NEPA	It is noted in the Draft EIS (Section 2.4.3 Project Construction Activities) that removal and replacement of Western's existing 115 kV facilities and associated line outages would be necessary in dense urban areas, but these locations, or quantifiable impacts associated with these system outages are not discussed or disclosed.	Section 2.4.3 and section 4.1.1 of the EIS have been revised to clarify the lack of potential impacts on resources covered in the EIS from system outages.
735	82	82.154	SunZia	Wray	9-NEPA	In addition, it appears certain locations of existing transmission facilities through Tucson are constrained by residential, commercial and governmental facilities (e.g., schools, community centers and parks) that would require land acquisition through condemnation. Specifics regarding these impacts should be evaluated with regard to context and intensity, as they may represent significant impacts that have not been disclosed. Site-specific analysis should have been completed in the Draft EIS. Having failed to do so, the BLM and Western are now required to supplement the Draft EIS and re-publish it for public review and comment. The lack of sufficient site-specific analysis of impacts cannot be cured between the Draft and Final EIS.	Section 1.1.1 of the EIS has been revised to clarify the additional requested ROW; however, please note that some areas would not need additional ROW (i.e., between the existing Del Bac and Rattlesnake substations). The ROW easement acquisition process was described in section 1.9 of the Draft EIS. Potential impacts to the physical, human, and natural environment were analyzed in chapter 4 of the Draft EIS. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.
741	82	82.160	SunZia	Wray	9-NEPA	For the reasons provided in these comments, the Draft EIS does not adequately disclose or analyze the potentially significant environmental impacts of the proposed action.	The EIS addresses comments received on the Draft EIS. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.
742	82	82.161	SunZia	Wray	9-NEPA	These comments also illustrate that there are new, reasonably-available alternatives that are outside the spectrum of alternatives analyzed in the Draft EIS, which should be analyzed in order to reduce potentially significant environmental impacts.	Alternatives in the Draft EIS were derived based on the issues presented during scoping, as well as on internal agency (BLM and Western) and cooperating agency feedback. Chapter 2 of the EIS considers additional route variations (see sections 2.6 and 2.7 of the EIS), as well as additional alternatives considered but eliminated from detailed analysis. The commenter has not raised any reasonable, viable alternatives that accomplish the substation interconnections that make this proposed Project work.
743	82	82.162	SunZia	Wray	9-NEPA	The identification of additional information, apparent lack of data, and inadequate establishment of meaningful criteria for analyses are of such a magnitude that they should have full public review at a draft stage. Respectfully, these conclusions indicate that the Draft EIS does not meet the purposes of NEPA, and thus should be formally revised and made available for public review and comment in a supplemental or revised Draft EIS.	The EIS addresses comments received on the public Draft EIS. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.
744	82	82.163	SunZia	Wray	9-NEPA	This Draft EIS is deficient in several key areas of investigation. These shortcomings are sufficiently significant to mislead the public attempting to understand, comment on, and react to Southline's proposed project on federal lands,	The Final EIS addresses comments received on the public Draft EIS. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.
745	82	82.164	SunZia	Wray	9-NEPA	BLM and Western Purpose and Need statements are too vague, and impermissibly narrow the scope of alternatives analyzed with respect to the Upgrade Section.	The agency purpose and need statements, as described in sections 1.21 and 1.2.2 of the Draft EIS, accurately describe the agency's objectives. The purpose and need statement is intended to be a statement of the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed Project, per 40 CFR 1502.3. The purpose and need of each agency (BLM and Western), as articulated in the Draft EIS, are determined based on the Federal actions requested. Please note that there is a difference between the agencies' purpose and need statements and the objectives of the applicant (see section 1.3 of the Draft EIS). Alternatives in the Draft EIS were derived based on the issues presented during scoping, as well as on internal agency (BLM and Western) and cooperating agency feedback. Chapter 2 of the EIS has been revised to consider additional minor route variations (see sections 2.6 and 2.7 of the EIS), as well as additional alternatives considered but eliminated from detailed analysis. The commenter has not raised any reasonable, viable alternatives that accomplish the substation interconnections that make this proposed Project work.
746	82	82.165	SunZia	Wray	9-NEPA	Agency reliance on data prepared by Southline and its consultants without evidencing that review, independent verification, and approval of such data was conducted.	Information on the independent review process is available in the Project Record. Chapter 5 of the EIS describes the independent evaluation process used prior to referencing them in the Draft EIS. Although the authors of the Southline Resource Reports are not the preparers of the EIS, the authors of those reports are included in chapter 5 of the EIS.
747	82	82.166	SunZia	Wray	9-NEPA	Resource reports that were prepared by Southline's consultant, relied upon in the Draft EIS as the exclusive source of information prepared in connection with the EIS for establishing the baseline of resources, were not made available for stakeholder review and comment for the entire comment period.	The commenter is incorrect. The Southline Transmission Line Resource Reports cited in the Draft EIS were one of many valuable reference documents used in the analysis. Data used in the Draft EIS were available for the full 90-day comment period, upon proper request.
748	82	82.167	SunZia	Wray	9-NEPA	The analysis of reasonable and feasible alternatives to the proposed action was deficient.	Statement of opinion.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
749	82	82.168	SunZia	Wray	9-NEPA	Evaluation and disclosure of environmental impacts are inadequate because they lack sufficient physical location specificity and fail to, for several resources, include an analysis of impacts associated with the substation expansions connected with the Upgrade Section of the proposed action.	Chapter 4 of the EIS provides additional clarity on potential site-specific impacts, as appropriate. Maps in the EIS include more detailed locational information.
750	82	82.169	SunZia	Wray	9-NEPA	The resource reports provided by Southline's consultant are flawed because they failed to apply the appropriate methods for identifying baselines for each resource, and were not verified through site-specific field observations	The Southline Transmission Line Resource Reports cited in the Draft EIS were one of many valuable reference documents used in the analysis. Data used in the Draft EIS were available for the full 90-day comment period, upon proper request. A field review of data is not required to disclose the potential impacts of the proposed Project.
751	82	82.170	SunZia	Wray	9-NEPA	The resource reports were prepared through a "desktop" level literature review, and lack sufficient safeguards to ensure they accurately reflect the affected environment. If the affected environment is, as it is here, inaccurately characterized, the impacts analysis is inaccurate.	Potential impacts in the Draft EIS have been evaluated based on best available current data, in collaboration with cooperating agencies listed in chapter 5 of the Draft EIS. Information on the independent review process is available in the Project Record. Chapter 5 of the EIS describes the independent evaluation process used prior to referencing them in the Draft EIS. A field review of data is not required to disclose the potential impacts of the proposed Project. The commenter provides no additional data or specific instances where data were incorrect or where better data were available for use in the EIS.
752	82	82.171	SunZia	Wray	9-NEPA	Correcting the deficiencies in the Southline Draft EIS identified in this letter is the duty of the BLM and Western, who are the decision-makers conducting this EIS. In addition to the requested actions detailed in this letter, specific actions include the following as part of a supplemental Draft EIS, as these deficiencies cannot be "cured" between the Draft and Final EIS: • Expand BLM's Purpose and Need that will be addressed by the Southline Project, other than BLM's general obligations under FLMPA.	See chapter 1 of the Draft EIS. The purpose and need of each agency (BLM and Western) are articulated in section 1.2, and are determined based on the Federal actions requested. Please note that there is a difference between the agencies' purpose and need statements and the objectives of the applicant (see section 1.3 of the Draft EIS). The EIS addresses comments received on the public Draft EIS. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.
753	82	82.172	SunZia	Wray	9-NEPA	Explain Western's Purpose and Need that will be addressed by the Southline Project and clarify the discrepancies between Western's described needs to upgrade the Apache-Tucson-Saguaro 115 kV line in Western's "FY14 Ten-Year Appropriated Capital Program" (dated October 23, 2013) and the proposed action submitted by Southline.	Section 2.5 (the no action alternative) has been revised in the EIS to describe the difference in timing between the proposed Project and Western's plans in the FY14 Ten-Year Appropriated Capital Program.
754	82	82.173	SunZia	Wray	9-NEPA	Describe the BLM's and Western's method of reviewing and verifying the accuracy of any data or reports provided by Southline.	Information on the independent review process is available in the Project Record. Chapter 5 of the EIS has been revised to describe the independent evaluation process used prior to referencing the reports in the Draft EIS.
755	82	82.174	SunZia	Wray	9-NEPA	Identify and disclose Southline's consultants and their role in the preparation of the Draft EIS.	Although the authors of the Southline Resource Reports are not the preparers of the EIS, the authors of those reports are included in chapter 5 of the EIS.
756	82	82.175	SunZia	Wray	9-NEPA	This action should include a listing of the preparers of the 20 resource reports, including their name, organization and qualifications for preparing this data upon which the Draft EIS heavily relies,	Although the authors of the Southline Resource Reports are not the preparers of the EIS, the authors of those reports are included in chapter 5 of the EIS.
757	82	82.176	SunZia	Wray	9-NEPA	An identification of the BLM and Western personnel that independently verified the accuracy of the reports.	Information on the independent review process is available in the Project Record. Chapter 5 of the EIS has been revised to describe the independent evaluation process used prior to referencing the reports in the Draft EIS. Agency staff listed in section 5.7 of the Draft EIS was involved in verifying the accuracy of the data and analysis in the Draft EIS, as stated in section 5.7.
758	82	82.177	SunZia	Wray	9-NEPA	Make the resource reports available on the BLM website for public review. BLM's efforts to provide the resource reports on an as-requested basis does not satisfy the BLM's duty to make this information reasonably available for the public, as the resource reports were not "readily" available or accessible for the entire public comment period on the Draft EIS.	The Southline Transmission Line Resource Reports cited in the Draft EIS are one of many valuable reference documents used in the analysis and were made available during the comment period on the Draft EIS by contacting the Project Manager, Mark Mackiewicz. Conclusions in the EIS are independent of data and conclusions in the Southline Transmission Line Resource Reports.
759	82	82.178	SunZia	Wray	9-NEPA	Expand the alternatives studied for the Upgrade Section to include a reasonable range of alternatives, including those identified herein.	Alternatives in the Draft EIS were derived based on the issues presented during scoping, as well as on internal agency (BLM and Western) and cooperating agency feedback. Chapter 2 of the EIS considers additional minor route variations (see sections 2.6 and 2.7 of the EIS), as well as additional alternatives considered but eliminated from detailed analysis. The commenter has not raised any reasonable, viable alternatives that accomplish the substation interconnections that make this proposed Project work.
760	82	82.179	SunZia	Wray	9-NEPA	Additionally, the alternatives' analysis must include a description of all alternatives considered but eliminated from detailed consideration, including a rationale behind the elimination for each alternative.	Alternatives considered but eliminated from detailed analysis were discussed in section 2.9 of the Draft EIS.
761	82	82.180	SunZia	Wray	9-NEPA	Address the specific resource concerns detailed in this letter.	Chapter 4 of the EIS provides additional clarity on potential site-specific impacts, as appropriate. Maps in the EIS include more detailed locational information.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
762	82	82.181	SunZia	Wray	9-NEPA	Perform field verification of the all data that was used in each resource report prepared by Southline.	Potential impacts in the Draft EIS have been evaluated based on best available current data, in collaboration with cooperating agencies listed in chapter 5 of the Draft EIS. Information on the independent review process is available in the Project Record. Chapter 5 of the EIS has been revised to describe the independent evaluation process used prior to referencing the reports in the Draft EIS. A field review of data is not required to disclose the potential impacts of the proposed Project. The commenter provides no additional data or specific instances where data were incorrect or where better data were available for use in the EIS.
763	82	82.182	SunZia	Wray	9-NEPA	Revise the analysis to cover the additional area required for the expansion of the 12 existing Western substations.	Section 2.4.3 of the EIS has been revised to include additional information on the estimates for disturbance presented in table 2-7 (previously table 2-8 in the Draft EIS), including how potential substation expansion impacts are considered in the analyses. These potential impacts were accounted for in the Draft EIS.
764	82	82.183	SunZia	Wray	9-NEPA	Evaluate impacts from acquiring an additional 125-foot ROW for the Upgrade Section.	As described in chapter 2 of the Draft EIS, in locations where possible, the new 230-kV line would be built 50 feet away from the edge of the existing 100-foot ROW, parallel to the existing line, for a total of 150 feet. Only 50 feet of new ROW would be needed, where possible. See also figure 2-15b in the Draft EIS.
765	82	82.184	SunZia	Wray	9-NEPA	Develop an RFD for future generation related to potential interconnection requests.	Section 4.21 of the Draft EIS describes the cumulative effects of the proposed Project that would result when combined with other past, present, and reasonably foreseeable actions. Speculative future energy projects are not considered in the analysis, either individually or via an RFD. Section 4.21 of the EIS has been revised to clarify which future actions are considered speculative and why.
766	82	82.185	SunZia	Wray	9-NEPA	Reevaluate the environmental impacts and disclose this new information in a supplemental Draft EIS for public review and comment	Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.
767	82	82.186	SunZia	Wray	9-NEPA	In order to avoid a fatally-flawed NEPA document , this Draft EIS requires supplementation and republishing for an opportunity for infonned review and comment by the public.	Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.
781	84	84.1		Kestler	9-NEPA	I'm very pleased you will go around Tumacoc and have less environmental impact than existing lines.	Thank you for your comment. The Final EIS includes the Agency Preferred Alternative. While the preferred alternative is presented, the final route will be determined in the ROD. Until that decision document is signed, any alternative segment could be selected in the ROD. Until that time, all action alternatives described in section 2.6 of the EIS are considered equally.
782	84	84.2		Kestler	9-NEPA	Also glad access lines are only 150 feet wide – far superior to Sunzia with I pray will not be approved. Please find the least invasive way to impact Benson and the many miles of conservation easements worth of it.	The Final EIS includes the Agency Preferred Alternative. While the preferred alternative is presented, the final route will be determined in the ROD. Until that decision document is signed, any alternative segment could be selected in the ROD. Until that time, all action alternatives described in section 2.6 of the EIS are considered equally.
784	85	85.1	Fort Sill Apache Tribe	Thompson	9-NEPA	As you may or may not be aware, the proposed route and several substation locations for the Southline are located close to the Fort Sill Apache Tribe's Akela Flats Reservation in Luna County, New Mexico and the Tribe's fee and trust lands in Cochise County, Arizona .	The Fort Sill Apache Tribe's Akela Flats Reservation was discussed in sections 3.11 and 4.11 of the Draft EIS.
785	85	85.2	Fort Sill Apache Tribe	Thompson	9-NEPA	First I want to say that the Tribe did receive appropriate notices during the NEPA and planning process and did participate and attend meetings regarding this proposed project. Unfortunately, at that time of the NEPA reviews and planning meetings, the actual development of the project and selected route of the Southline were in question. As a result, our review was based more on a potential, rather than an actual project. Thus, some of the questions we had regarding the project were not raised by the Tribe.	The Final EIS includes the Agency Preferred Alternative. While the preferred alternative is presented, the final route will be determined in the ROD. Until that decision document is signed, any alternative segment could be selected in the ROD. Until that time, all action alternatives described in section 2.6 of the EIS are considered equally. The proposed Project and alternatives were described in chapter 2 of the Draft EIS.
786	85	85.3	Fort Sill Apache Tribe	Thompson	9-NEPA	In addition, because the Tribe was never formally invited to participate as a cooperating agency and had other matters, including its own NEPA compliance issues on its proposed projects in New Mexico and Arizona, the Tribe has not provided comprehensive comments to the BLM on this proposed project. However, the Tribe has been told by several well connected sources that the project's viability is more certain and that this information, along with the issuance of the "Final EIS" leads us to the conclusion that the project will be moving forward .	As discussed in section 5.4 of the Draft EIS, the Fort Sill Apache were invited to be a cooperating agency. Chapter 5 of the EIS has been revised to indicate that additional outreach with the tribe was completed prior to the publication of the EIS.
787	85	85.4	Fort Sill Apache Tribe	Thompson	9-NEPA	As a result, the Tribe would like to obtain more detailed and concrete information on the actual route footprint of the Southline and the site footprints of the Proposed Midpoint Substation in New Mexico and the Apache Substation in Arizona. From the maps we have reviewed, both of these sites are located close to the Tribe's trust and/or fee lands in New Mexico and Arizona.	BLM sent a letter to the tribe on August 7, 2014 asking for more information on the trust and fee lands in Arizona, and coordination is ongoing.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
788	85	85.5	Fort Sill Apache Tribe	Thompson	9-NEPA	In that regard, we would like to setup a meeting to review the Southline route footprint and the location of the two substations. Please let us know when a meeting can be arranged with the Tribe.	BLM sent a letter to the tribe on August 7, 2014 asking for more information on the trust and fee lands in Arizona, and coordination is ongoing.
789	86	86.1	New Mexico Department of Game and Fish	Wunder	9-NEPA	Our comments pertain only to portions of the new build section located in New Mexico.	Noted.
793	86	86.5	New Mexico Department of Game and Fish	Wunder	9-NEPA	The Department strongly supports the northern Agency Preferred Alternative (Subroute 1.1 and 2.1), and does not support implementation of the southern Proponent Alternative (Subroute 1.2 and 2.2). Within Route Group 2, the Department strongly recommends the selection of Local Alternative LD-3a, which entirely avoids the Lordsburg Playa. When it holds water, Lordsburg Playa is an important wintering area for sandhill cranes and siting of a large transmission line near the playa would cause additional crane mortality.	The Final EIS includes the Agency Preferred Alternative. While the preferred alternative is presented, the final route will be determined in the ROD. Until that decision document is signed, any alternative segment could be selected in the ROD. Until that time, all action alternatives described in Section 2.6 of the EIS are considered equally. The proposed Project and alternatives were described in chapter 2 of the Draft EIS. The biological importance of the Lordsburg Playa is discussed in sections 3.8 and 4.8 in the EIS. The segment referred to in the comment (a portion of LD3a) was included as part of the Agency Preferred Alternative in the Draft EIS (see section 2.10.5). Local alternative LD3a is part of the revised Agency Preferred Alternative in the EIS (see section 2.10.5).
796	86	86.8	New Mexico Department of Game and Fish	Wunder	9-NEPA	The Department also supports selecting Local Alternative DN-1 if SunZia transmission line is approved, because it would allow co-location.	The Final EIS includes the Agency Preferred Alternative. While the preferred alternative is presented, the final route will be determined in the ROD. Until that decision document is signed, any alternative segment could be selected in the ROD. Until that time, all action alternatives described in section 2.6 of the EIS are considered equally.
574	80	80.12		Magruder	9-NEPA	a. Rights-of-Way. The SunZia proposal does not use existing ROW corridors for most of its options, thus it follows the "Last Law of Transmission Line Siting", that is, to use new ROWs and create new environmental impacts. The ROW corridors for Southline varies between 150 and 200 feet while that for SunZia are proposed to be up to 1,700 feet and includes two power line systems instead of one for Southline.	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline Project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project. A comparison of the potential impacts from the not yet constructed SunZia project is beyond the scope of analysis for this EIS, except where addressed as a reasonably foreseeable action in the cumulative effects analysis (see section 4.21). The SunZia project was subject to its own detailed EIS, and the commenter's concerns were best directed at that process for appropriate consideration.
579	80	80.17		Magruder	9-NEPA	The SunZia Alternative including its environmental impacts must be included and compared with the Southline project in the either a Supplemental or the Final EIS.	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline Project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project. A comparison of the potential impacts from the not yet constructed SunZia project is beyond the scope of analysis for this EIS, except where addressed as a reasonably foreseeable action in the cumulative effects analysis (see section 4.21). The SunZia project was subject to its own detailed EIS, and the commenter's concerns were best directed at that process for appropriate consideration. Though portions of the EIS have been revised in response to public and agency comments on the Draft EIS, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
572	80	80.10		Magruder	8-MISC	4. New Alternative: The Southline Project can significantly reduce GHG from the Apache Power Plant. Comment 10. This critical issue was not discussed in the Draft EIS; however, by having the siting approved for the Bowie Generation Plant changed to be close to the existing Apache. The Apache Power Plant is one of the ten most polluting power plant in the country This coal-fueled power plant has been a major target of the EPA with significant cost impacts necessary to meet the EPA mandates for clean air. To meet this mandate, the present plans are to convert one of the two Apache generators to natural gas while continuing to keep the other Apache generator- using coal at great expense for pollution equipment changes its various primary cooperative customers. e remains some opposition to the approved "greenfield" siting at Bowie that was initially proposed to use coal. After receiving significant criticism this plant was approved by the Arizona Corporation Commission as a natural gas fueled plant in Bowie, Arizona. Unfortunately, there is no transmission infrastructure to support the Bowie location. If it was re-sited in the general vicinity of the existing Apache Power Plant and Substation, then there would be no reason to install expensive pollution control equipment on a coal-fueled generator as a relocated "Bowie" plant at the Apache site where existing transmission exists and will be significantly improved by the Southline Project. This will save Southern Arizona rural cooperative customers from having to pay for this pollution control equipment for a very old generator. A new natural gas generator (e.g., "Bowie") can easily meet the EPA mandated GHG requirements for the Apache Power Plant. This Alternative including its environmental impacts must be included in the either a Supplemental or the Final EIS.	The BLM and Western developed alternatives to the proposed route in order to address issues raised by Federal land management, State and local agencies, and the public. This alternative is outside the scope of the Southline EIS.
56	20	20.1	–	Christensen	8-MISC	I oppose ALL new construction of more of these dammed unsightly power lines that mar our landscapes and vistas. I ask that you not allow more of these ugly dammed things – No Mas! We need to make do with what is already here!	Statement of preference.
152	31	31.1	Wild Heart Ranch	Lannon	8-MISC	Southline is to be commended for taking an environmentally responsible approach to its transmission line project, especially the portion from Willcox west where they will replace existing power lines with new ones. This avoids tearing up pristine desert with roads and construction and resulting threats to wildlife, archaeology sites, communities, and the Avra Valley.	Thank you for your comment.
154	31	31.2	Wild Heart Ranch	Lannon	8-MISC	The SunZia transmission line project can take a lesson from Southline. Their misrepresentations, political lobbying, and plans for desert destruction are nothing less than shameful.	A comparison of the potential impacts from the not yet constructed SunZia project is beyond the scope of analysis for this EIS, except where addressed as a reasonably foreseeable action in the cumulative effects analysis (see section 4.21). The SunZia project was subject to its own detailed EIS, and the commenter's concerns were best directed at that process for appropriate consideration.
181	36	36.3	Hearing-State of New Mexico, Military	Scott	8-MISC	I'm the director of the office of Military Base Planning and Support for the State of New Mexico. And there's another transmission project I've been involved in, and they're doing a lot of staff work at the state level. I wanted to compliment the Bureau of Land Management and Southline, particularly Mr. Bill Kipp and Doug Patterson, for their leadership and their effort in working with everyone as they put their plan together. I have not read the Draft EIS, but I know it will be a great product. I want to compliment Bill Childress from the BLM district here in working with the installations in the southern part of the state to support their mission. I think this process is an outstanding manifestation of that.	Thank you for your comment.
182	37	37.1	Hearing	Darr	8-MISC	I would like to state that the Southline project is a tool for nothing but money. The Southline people want what we have in Hidalgo County. They can't get it where they're from; so they're going to ruin what we have here. We have beauty, pristine, clean, open spaces, untouched frontier, and the true meaning of purple mountain majesty. I tell that Southline group go make your money in your own state. Hidalgo County has had plenty of foreigners come in here to do their great plans and their illustrious ideas, and then they leave, and they leave us with the ruination of their consequences. They don't care about this state or this county like the people who live and survive here. And many of us don't want them here or their power line here, including myself. They're going to destroy our eco-culture of the Southwest by adding their disgusting power line to our landscape. It's a perfect target for terrorists because if SunZia comes through, that's just that many more that someone could throw a bomb on, and then you're out of luck. We're just a tool for them to make money. I will not sell them one grain of sand of my land which is right in the middle of the Hidalgo County area of their project. They will have to do everything they can to keep me out. I will not allow them to trespass in any way or form, and I will get whatever law enforcement is needed to keep them off.	Potential impacts to visual resources, land use, special designations, and social and economic conditions were considered in chapter 4 of the Draft EIS.
183	37	37.2	Hearing	Darr	8-MISC	I would like to enforce and request from the BLM that they reconsider this project in general. Do they want there to be a last frontier left which is Hidalgo County in New Mexico, or do they want the ruination of us to be just like everything else with power lines going everywhere for the world to see instead of the beauty that we have right now? And that's all I have to say.	The no action alternative was an alternative considered in detail in the Draft EIS. As stated in section 2.5 in the Draft EIS, under the no action alternative, the BLM would not grant the ROW for construction and operation of the proposed Project. Western would not provide Hoover Act funding, and Western would not participate in the proposed Project.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
202	38	38.19	Hearing	Lindberg	8-MISC	I own property that has the easement on my side of the line for the existing power line. And I agree with the last gentleman that spoke that to double the electrical transmission right through J-6 and/or actually through Mescal area and through Benson seems silly when there are a lot less people living north of the area. And I do believe there was a proposed alternate route that went north of the airport and I'd like everybody to support that and fight for it because it will be far less of an eyesore way off in the distance and far less environmentally hazardous to us .	As discussed in chapter 2 (see section 2.7) of the Draft EIS, alternative H would go north of the town of Benson, north of the airport. The potential visual impacts of alternative H, as well as other alternatives considered in detail in the Draft EIS can be found in section 4.10.
284	59	59.1	International Brotherhood of Electrical Workers	McBride	8-MISC	BLM's stewardship and protection of our environment is commendable. Those who erect powerlines for a living are aware of their effect on the environment when they build lines. In their training they are taught to minimize their "footprint" while working.	Thank you for your comment.
285	59	59.2	International Brotherhood of Electrical Workers	McBride	8-MISC	One point that may be lost here is that once built, a powerline has little traffic around it and mother nature reclaims her land within a year. The land will not become "virgin" again but minimizing the damage brought by progress is not only a noble aim but it is achievable. Infrastructure work in the US is necessary, help our industry make everyone aware that environmental awareness is necessary also.	Thank you for your comment.
371	68	68.48	Pima County	Bernal/Connolly	8-MISC	Section 3.9.2 formatting errors obscure lines 8-16. Is this an electronic artifact?	No errors noted upon review.
479	75	75.1		Sheehan	8-MISC	I am writing to express my opposition of the proposed routing of the Southline Transmission Project, which will run through and/or near several very important bird habitats: The San Pedro River Valley, Tumamoc Hill, Cienega Creek, and the Willcox Playa. Please advocate for the avoidance of these very impotant areas for birds as part of the power lines placement.	The potential impacts to Important Bird Areas were analyzed in section 4.8 of the Draft EIS. As noted in chapter 2 (see section 2.7 of the Draft EIS), BLM and Western developed alternatives designed to avoid or minimize impacts to sensitive resources such as Tumamoc Hill and Willcox Playa.
546	78	78.19	Coalition For Sonoran Desert Protection	Campbell	8-MISC	Lack of Support for Any Action Alternative Given the overarching lack of adequate mitigation measures proposed for impacts to Pima County's Conservation Lands System and Arizona's wildlife linkages, along with a shallow analysis of impacts to Arizona's wildlife linkages, we cannot support any alternative at this time.	Statement of preference. Additional information on impacts to Pima County CLS has been included in sections 3.11 and 4.11 of the EIS. AGFD is a cooperating agency on the proposed Project, and in addition to consulting with AGFD (see section 5.4 of the Draft EIS), impacts to wildlife linkages were considered in section 4.8.2 of the Draft EIS.
551	79	79.4	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	8-MISC	The draft EIS/Draft RMPA was also hard to follow because of the exhaustive amount of information that was presented. The BLM should re-examine whether some information is needless detail or whether it is critical information.	The EIS has been revised based on all substantive public comments on the Draft EIS. Narrative in the executive summary has been shortened, as appropriate.
552	79	79.5	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	8-MISC	The draft EIS/draft RMPA could use also some additional editing to eliminate some of the redundancy. In particular, the Executive Summary is too long and some of the information presented on the Purpose and Need is could be shortened since it is discussed in more detail in Chapter 1.	The EIS has been revised based on all substantive public comments on the Draft EIS. Narrative in the executive summary has been shortened, as appropriate.
553	79	79.6	New Mexico Department of Cultural Affairs Historic Preservation Division	Ensey	8-MISC	At this point in time, the NMSHPO does not support one alterative over the other as it was very difficult to evaluate the alternatives as they relate to the identification and assessment of effects to historic properties. It is my understanding that the Agency Preferred Alternative is a combination of the proponent preferred and proponent alternative segments PI, P2, P3, P4a, P& and local alternatives LD3a, LD4, and LD4-option 5	As discussed in section 2.10.5 of the Draft EIS, the Agency Preferred Alternative for the New Build Section would include Proponent Preferred segments P1, P2, P3, P4a, and P7 in combination with local alternatives LD3a, LD4, and LD4-Option 5 for a total of 244 miles. The Agency Preferred Alternative for the Upgrade Section would include Proponent Preferred segments U1a, U1b, U2, U3a, U3b, U3c, U3d, U3f, U3g, U3h, U3i, U3k, U3l, U3m, and U4, in combination with local alternatives TH1a and TH1-Option around Tumamoc Hill, and MA1 near the Marana Regional Airport. Tables 2-15, 2-16, 2-17, and 2-18 (previously tables 2-11, 2-12, 2-13, and 2-14 in the Draft EIS) have been revised in the EIS to include additional detail on anticipated impacts to cultural resources. Please note that as discussed in the EIS, the Agency Preferred Alternative for route groups 1 and 2 avoids any impact to the El Paso and Southwestern "Southline" Railroad, which runs along several segments of potential southern routes.
563	80	80.1		Magruder	8-MISC	I strongly recommended approval of the Southline Project. I propose changes at the Apache Generation Station.	Statement of preference.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
564	80	80.2		Magruder	8-MISC	I do NOT recommend its competitor, the SunZia Project be constructed, as Southline has vastly superior capabilities. These two significant issues should be in either a Supplemental EIS or the Final EIS.	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline Project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project. The not yet constructed SunZia project is considered as a reasonably foreseeable action, and the potential impacts of both SunZia Southwest Transmission Line and the Southline Project are considered in section 4.21.
565	80	80.3		Magruder	8-MISC	Since 2000, Santa Cruz County, Arizona, has been had its power constrained due to limitations on the existing Western Area Power Administration (WAPA) transmission line that serve my county. The Southline system removes this issue, provides greatly improved reliability and will be very beneficial for all in Southern Arizona, including customers for every electric utility including all the rural electric cooperatives, Tucson Electric Power Company (TEP), and the Arizona Public Service Company (APS). Our grid will be much stronger and robust. A similar transmission line proposal by SunZia does not provide any of these benefits. Further, this project also provides a cost- effective solution to meet the Environmental Protection Agency (EPA) green house gas (GHG) mandates for the Apache Power Plant, near Willcox, Arizona.	This is a statement of preference. This alternative is outside the scope of the Southline EIS.
566	80	80.4		Magruder	8-MISC	Unfortunately, this version of the Draft EIS for the Southline Transmission Project did not include such an alternative to reduce the GHG impacts from the Apache Power Plant or compare this project with a competing proposed transmission project, the SunZia Transmission Project, also being evaluated by the same BLM Office. Both of these omissions are serious and must be corrected in either a Supplemental EIS or in the Final EIS for the Southline Project.	The BLM and Western developed alternatives to the proposed route in order to address issues raised by Federal land management, State and local agencies, and the public. This alternative is outside the scope of the Southline EIS.
568	80	80.6		Magruder	8-MISC	Increased Power Availability. This project resolves the power requirements that have existed for several decades for those living in Southern Arizona and New Mexico/El Paso because of the reuse and upgrading of the existing substations. These eleven substations are all vital customer interconnections with the Southline Project.	The comment accurately reflects the objectives of Southline Transmission, LLC, as described in section 1.3 of the Draft EIS.
569	80	80.7		Magruder	8-MISC	Increased Reliability. One important feature of this project is the new short interconnection with the TEP Vail Substation, one of the three major substations for the Tucson metropolitan area. This interconnection will permit TEP to use power from the Southline whenever TEP's other transmission lines are having difficulties. Due to the increased forest fires that frequently impact TEP's power sources, this system will provide a much-needed "second" line for this region. In addition, this is a double-circuit system that also increases reliability by having redundant circuits in case one of the circuits has a fault.	The comment accurately characterizes one of the objectives of Southline Transmission, LLC (Improve Reliability of the Electric Transmission Grid in Southern New Mexico and Arizona), as described in section 1.3 of the Draft EIS.
570	80	80.8		Magruder	8-MISC	Resolving the EPA Mandate for the Apache Generation Station. If the ACC-approved and permitted Bowie natural gas power plant was located near the existing coal-fueled Apache Power Plant and upgraded Apache Substation near Willcox, then this issue can easily be resolved, since one of the two generators in planned to be converted to natural gas then the "Bowie" plant could easily replace the other half of the Apache plant and greatly reduce the existing GHG issues that involve this plant. This issue did not appear to be discussed in the Draft EIS.	This alternative is outside the scope of the Southline EIS.
571	80	80.9		Magruder	8-MISC	Removal of a Possible El Paso Constraint. There has been reported by the Federal Energy Regulatory Commission (FERC) that there are a possible constraints on the transmission lines that connect El Paso to the Western Interconnection (some doubt if this really exists) to the west. If so, then Southline has the necessary additional capacity and reserve to eliminate any such constraint.	The BLM and Western developed alternatives to the proposed route in order to address issues raised by Federal, State and local agencies, and the public. This alternative is outside the scope of the Southline EIS.
587	82	82.6	SunZia	Wray	8-MISC	Cite specific page numbers or relevant identifying information to each piece of material referenced and relied upon in the Draft EIS.	The literature cited style in the Draft EIS is based on Government Printing Office (GPO) publication standards and meets requirements of the Code of Federal Regulations. Specific page numbers are included when referencing report pages specifically.
590	82	82.9	SunZia	Wray	8-MISC	The Draft EIS does not contain citations with sufficient specificity to the resource reports. See e.g. 43 C.F.R. § 46.135 (b) ("Citations of specific information or analysis from other source documents should include the pertinent page numbers or other relevant identifying information.") Instead, all BLM and Western stated with respect to these resource reports, which form the basis for the baseline upon which the analysis is conducted in the Draft EIS, is that "[t]he contents of that report are used herein without specific reference." This is a specific statement acknowledging the failure and refusal to comply with the requirements of 43 C.F.R. § 46.135. While a NEPA document may rely upon materials incorporated by reference, it can only do so by complying with the regulations governing incorporating materials by reference.	The literature cited style in the Draft EIS is based on Government Printing Office (GPO) publication standards and meets requirements of the Code of Federal Regulations. Specific page numbers are included when referencing any CH2M Hill resource reports specifically. Otherwise, the CH2M Hill resource reports are treated as any other source material in the Draft EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
575	80	80.13		Magruder	8-MISC	b. Increased Power Availability. The SunZia proposal bypasses all existing substations (except Apache), including by passing all the substations near and serving Tucson, a known power sink up to 750 MW in the summer. TEP needs additional power resources to meet these load requirements. SunZia does not serve any southern Arizona or New Mexico/El Paso customers.	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline Project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project. The not yet constructed SunZia project is considered as a reasonably foreseeable action, and the potential impacts of both SunZia Southwest Transmission Line and the Southline Project are considered in section 4.21.
576	80	80.14		Magruder	8-MISC	c. Increased Reliability. The SunZia proposal does not improve reliability for any customers in Southern Arizona or New Mexico/El Paso.	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. As discussed in section 1.2 of the Draft EIS, BLM must respond to Southline's request for ROW, per FLMPA (per 43 U.S.C. 176(a)(5)). Western's evaluation of whether the Southline Project is in the public interest is part of the process whereby Western determines whether the Project is eligible to receive funding from Western's Borrowing Authority under Section 402 of the American Recovery and Reinvestment Act of 2009 (PL 111-5). Western has not made a decision on whether to provide funding to the Southline Project. The not yet constructed SunZia project is considered as a reasonably foreseeable action, and the potential impacts of both SunZia Southwest Transmission Line and the Southline Project are considered in section 4.21.
30	13	13.1	San Carlos Apache Tribe		8-MISC	Concurrence with Report findings & thank you. Additional Information – We agree with project as long as the work stays within ROW & Doesn't destroy non-disturbed areas & cultural material.	Thank you for your comment. Comment noted.
577	80	80.15		Magruder	8-MISC	d. Resolving the EPA Mandate for the Apache Power Plant. The SunZia proposal does not assist in resolving this issue at the Apache Substation.	The BLM and Western developed alternatives to the proposed route in order to address issues raised by Federal land management, State and local agencies, and the public. This alternative is outside the scope of the Southline EIS. The SunZia project was subject to its own detailed EIS, and the commenter's concerns were best directed at that process for appropriate consideration.
578	80	80.16		Magruder	8-MISC	e. Removal of a Possible El Paso Constraint. The SunZia does not assist in resolving this issue.	Noted.
797	87	87.1	Department of Defense (DOD) Siting Clearinghouse	Aimone	9-NEPA	The Department of Defense (DoD), in coordination with its Military Departments does not object to the agency preferred alternative route specified in the Southline Transmission Project draft Environmental Impact Statement. However, to preserve DoD's mission capabilities into the foreseeable future at the Buffalo Soldier Electronic Test Range (BSETR) at Fort Huachuca, Arizona, we request that any Right-of-Way (R/W) agreement between the applicant and the Bureau of Land Management incorporate the attached stipulations.	Thank you for your comment. Comment noted.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
798	87	87.2	Department of Defense (DOD) Siting Clearinghouse	Aimone	9-NEPA	However, to preserve DoD's mission capabilities into the foreseeable future at the Buffalo Soldier Electronic Test Range (BSETR) at Fort Huachuca, Arizona, we request that any Right-of-Way (R/W) agreement between the applicant and the Bureau of Land Management incorporate the attached stipulations. The Department of Defense request that any Right-of-Way agreement between the applicant and the Bureau of Land Management on the Southline Transmission Project incorporate the following stipulations: • Prohibit connections of any type to the transmission line on any portion of its route crossing BSETR and out to a distance of one mile from the range boundary. Such connections include substations , transformers and converter stations; • Opportunity to "micro-site the transmission line and associated towers to shield BSETR test sites from Electromagnetic Effects (EME); • Utilize electromagnetic interference reducing construction techniques and/or special construction to minimize EME; • Cooperate with BSETR to measure and establish an EME "floor value," including the cumulative effects of any existing transmission lines in the utility corridor ; • Develop and implement an enhanced transmission line maintenance program to correct material conditions when EME is detected above the mutually agreeable "floor value," and • Provide curtailment of transmission line operations during a specified period of time each year or as required by the BSETR of Fort Huachuca to implement short suspense critical testing, with total outage time and coordination measures to be developed in a balanced manner to meet both DoD and developer requirements.	Thank you for your comment. These stipulations were included in table 2-7 in the Draft EIS (now table 2-8 in the EIS) as design features for Military Operations. The stipulations are considered PCEMs that would be complied with in full (they are not selective); see section 2.4.6 of the EIS.
799	88	88.1	Liberty Land and Cattle; Y Cross Management Group	Way	7-LAND USE	I own a tract of land at the southern tip pf the Wilcox Playa in southern Arizona and have received an undated letter with maps regarding a route variation for the "Southline Transmission Line EIS". I would like to know how this variation may impact my property and/or rights. Please advise.	BLM responded with a map showing Project location in relation to Mr. Way's property In February 2015. Based on feedback from the public and cooperating agencies on the Draft EIS, new route variations (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize impacts to wildlife at the Willcox Playa. Route variation P7a is not a part of the Agency Preferred Alternative, as described in section 2.10.5 of the EIS. Segment P7a would intersect Mr. Way's property south of Willcox Playa. A discussion of potential impacts on property values and rights is included in the EIS in section 4.15.
800	89	89.1		Ottens	9-NEPA	At least four alternate routes are shown on the map you enclosed. Assuming the route labeled P7a is under consideration, the following objections apply: The route does not, as stated, avoid impacts upon migratory Sandhill Cranes, since they routinely feed in fields and other areas traversed by the proposed line. This behavior is similarly important to the nesting area since it provides sustenance for the cranes during the nesting season.	BLM responded in February 2015. Based on feedback from the public and cooperating agencies on the Draft EIS, new route variations (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize (not avoid), impacts to wildlife at the Willcox Playa. All route variations are described in section 2.7, and analyzed in chapters 3 and 4 of this EIS. Per Draft EIS comment letters from the FWS (letter # 71) and AGFD (letter #67), route variations P7a through P7d would be farther away from known roost sites and would likely be at a location within the crane's flight paths where the birds are of sufficient altitude that a strike would be very unlikely. The AGFD has provided additional mitigation measures to offset impacts to wildlife habitat along segment P7 in the Willcox Playa area, which have been added to the EIS as PCEMs in table 2.8.
801	89	89.2		Ottens	9-NEPA	The modified route, in any of the variations, does not follow an active pipeline as stated. Indeed, it does cross the only active gas line in at least two places, coming close to an existing compressor plant at the eastern end of Arzberger road. If a pipeline is assumed to follow or lie beneath Narita Lane, I am advised that this gas pipeline is abandoned from a tap serving Willcox (lying north of State Route 186) southward to the vicinity of the compressor plant and that the right-of-way has reverted to the adjacent property owners. I note also that Narita Lane is the only access to the western properties within Chiricahua Trails Ranches subdivision to the east of the Land. Should the lane be blocked, we will not have access to our home.	The letter you received indicated that the route variation P7a follows an existing gas line, not necessarily an active gas line. As noted in table 2-8, prior to the start of construction, Southline and its construction contractor would prepare a Traffic and Transportation Management Plan for the Project to address the timing and routing of Project trips in an effort to minimize Project impacts on local streets, highways, and railroad operations.
802	89	89.3		Ottens	9-NEPA	Your letter indicates that the route skirts the eastern edge of the agricultural area. This is in error; the lines pass through the areas now used and planned for expansion of viticulture, the growing of wine grapes. The area of the Willcox Step is prime agricultural land for this use, presently accounts for approximately 70 percent of the high-quality wines produced in Arizona, and will continue to expand for the foreseeable future. Please note that the growing number of tasting rooms and two annual wine festivals have become major income generating events Willcox.	Error noted. Sections 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations) in this EIS include a discussion of potential impacts to farm and rangelands, including vineyards.
803	89	89.4		Ottens	9-NEPA	Choosing a route that circumnavigates the Playa seems an inelegant solution to your problem. Either following the existing power line across the Playa or following I-10 to AZ191 to the Apache Power Plant would seem the most reasonable route. The cranes are already used to the lines across the Playa.	The EIS considers alternatives paralleling the existing transmission line across the playa (see P7), as well as along I-10 (see local alternative WC1). Statement of preference noted.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
804	90	90.1	Tucson Airport Authority	Coyle	9-NEPA	Thank you for the opportunity to comment on the proposed route variation for the Southline Transmission Line EIS. At this time, the TAA supports the proposed relocation of the transmission route. It should be noted that FAA Form 7460-1 will need to be filed before physical construction can occur within the Tucson International Airport Obstacle Free Zone.	Statement of preference noted. Information regarding FAA Form 7460-1 has been added to section 3.18 of the EIS.
805	91	91.1	Rhumb Line Vineyard	Myers	9-NEPA	I just became aware of the proposed power line project that's less than 1,400 ft from my property. We are located south of Willcox off of Robbs Road. I found a presentation on the BLM website which stated that comments will be received until July 10, 2014. Is this the most up to date information on the project? I was hoping to make comments.	BLM responded with a map showing Project location in relation to Mr. Myer's property In February 2015. Segment P7a would be located just east of, and along S. Wayward Wind Road (east of Rhumb Line Vineyard). Comments received as a result of outreach regarding the route variations are considered here in the Final EIS and are included in the Project Record. Sections 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations) in this EIS include a discussion of potential impacts to farm and rangelands, including vineyards.
806	92	92.1		Arnaud	7-LAND USE	I am owning the parcel APN 205-12-186 between the Apache Power Station and Sandal Street (see attachment), Does your project is going to touch my land? I plan to plant trees there! so I would like you avoid you put anything on that parcel. Could you please confirm and eventually to send a more detailed map from that specific area?	BLM responded with a map showing Project location in relation to Mr. Arnaud's property In February 2015. Mr. Arnaud's property is located south of segment U1a and west of route variation P7a. The proposed Project would not touch his land. The potential impacts of all project alternatives (including the route variations) are considered in chapter 4 of the EIS.
807	93	93.1	Questa Mine, Chevron Mining, Inc.	Schoenbacher	9-NEPA	Can I get the shapefiles that affect or come near Parcel 205 11 061. I received the letter and would like to know what is the next step and where my voice comes into play as a property owner.	No shapefiles were provided; however, a detailed map was offered to the landowner. Mr. Schoenbacher's land is located west of the existing Apache Substation; the proposed Project would not intersect his property. Comments received as a result of outreach regarding the route variations are considered here in the Final EIS and are included in the Project Record. The potential impact of the proposed transmission line on property in terms of land use is described in section 4.11.1 and in terms of property value in section 4.15 of the EIS.
808	94	94.1	Copper State Plastering	DesRochers	9-NEPA	I just received the letter from Bill Childress regarding a Proposed route variation and the BLM EIS for the Southline Transmission Line. It appears that this new route will go through my property located at 9035-9049 South Eisenhower Road. If this indeed goes through my property what will this mean to me?	BLM responded with a map showing Project location in relation to Mr. DesRochers's property In February 2015. Segment U3a (the existing Western line) is located south of Mr. DesRochers's property. Comments received as a result of outreach regarding the route variations are considered here in the Final EIS and are included in the Project Record. The potential impact of the proposed transmission line on property in terms of land use is described in section 4.11.1 and in terms of property value in section 4.15 of the EIS.
809	95	95.1	Chase Farms, LLC	Jantz	9-NEPA	This letter is in response to notification – 1793 (L000). I wish to urge you to reconsider the proposed new "route variation" marked as "P7a".	Comments received as a result of outreach regarding the route variations are considered here in the Final EIS and are included in the Project Record. Statement of preference noted.
810	95	95.2	Chase Farms, LLC	Jantz	16-PHS	As a manager of a large pecan orchard adjoining the new proposed route of a major electrical transmission line, I am concerned for the safety of my workers, as the route appears to be located on, or very near, a major portion of the farm (P7a, P7c, & P7d). We have employees performing manual pruning of trees & other work that we are unable to do with equipment. A second but equally valid concern is the helipad & hanger which has recently been constructed & finished at the north east corner of the farm. The current landing approach is from the east. A large transmission line would compromise the safety of landing a helicopter at this location. Thirdly, there has also been a new residence constructed at the same north east corner of farm. I am concerned about health issues of living so near a major electric transmission line.	The potential impacts of all Project alternatives (including the route variations) are considered in the EIS – specifically, potential public health and safety impacts are considered in sections 3.16 and 4.16.
811	97	97.1		Robbs	7-LAND	I own a rental property at a location in the Kansas Settlement near the proposed route variation of the Southline Transmission Line. My property is at the intersection of Arzberger Road and Wayward Winds Road and it appears from the map that it is located directly on the path of the proposed line. I live near Seattle, WA but may like to retire at this house in a few years. It is currently being rented to Doug Meyer so you may have sent him information about this proposed route . I just learned about this from my neighbors at Zapara Vineyards. This is very concerning because I would like to have a wine tasting room on my property there when I retire.	BLM responded with a map showing Project location in relation to Mr. Robb's property In February 2015. Mr. Robb's property is located just west of segment P7b. Route variation P7b is not included in the Agency Preferred Alternative in the EIS. The potential impact of the proposed transmission line on property in terms of land use is described in section 4.11.1 and in terms of property value in section 4.15 of the EIS.
812	97	97.2		Robbs	16-PHS	In addition there are negative health effects being near a high voltage transmission line.	The potential impacts of all Project alternatives (including the route variations) are considered in the EIS – specifically, potential public health and safety impacts are considered in sections 3.16 and 4.16.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
813	98	98.1		Young	9-NEPA	Call from Mr. Young indicating that links to the web site did not work. Where the line is coming in relation to his property	BLM verified that the project website was working, and responded with a map showing project location in relation to Mr. Young's property In February 2015. Segment U3a (the existing Western line) and route variation U3aPC are located north of Mr. Young's property.
814	99	99.1		Walker	9-NEPA	Call from Mr. Walker regarding the letter he received on the proposed Southline local routing options. Where is the line in relation to his property.	BLM responded requesting an address in order to provide a project map. No response.
815	100	100.1		Gabriele/ Neely	9-NEPA	I received the letter regarding the Southline Transmission Line. Several years ago I had a similar situation with a Pipeline. I am curious, what is the protocol for the land owners? I live in New York but do visit the property on a yearly basis to check on it. I am aware (or it was the last time I visited it) that there is not much of an investment or future as a retirement property for me. This property was passed down to me from my parents who purchased it while stationed overseas with the Army during the 1970's. I hold onto it thinking someday during my lifetime it will have some value. If the Transmission Line does go through it what will that do to the future of the land? Does it help or hurt it?	BLM responded with a map showing Project location in relation to Ms. Neely's property In February 2015. Ms. Neely's property would be located just south of route variation P7a. Please note that P7a is not included in the Agency Preferred Alternative in the EIS. Comments received as a result of outreach regarding the route variations are considered here in the Final EIS and are included in the Project Record. The potential impact of the proposed transmission line on property in terms of land use is described in section 4.11.1 and in terms of property value in section 4.15 of the EIS.
816	101	101.1		Carbonneau	9-NEPA	This is the first we have heard of this potential invasion of our property. We have never been asked, involved or contacted regarding use of our property lots. we find your letter stamped 12/16/14 to be offensive, rude and assuming. The only fact in your letter is-IT IS OUR LAND.	BLM responded in February 2015 requesting an address in order to provide a project map. No address provided. Comments received as a result of outreach regarding the route variations are considered here in the Final EIS and are included in the Project Record. The potential impact of the proposed transmission line on property in terms of land use is described in section 4.11.1 and in terms of property value in section 4.15 of the EIS.
817	101	101.2		Carbonneau	8-MISC	We do not grant permission for your project either on, through, near under or above our building lots	Comment noted. As described in section 2.9.1 of the EIS, landowners would be contacted to obtain right-of-entry, as needed.
818	101	101.3		Carbonneau	13-SOCI	Your project defaces, devalues and destroys our property as well as disrupting our property views. You have no right of way from us. We purchased these 3 joined building lots for our family's future, not yours.	The potential impact of the proposed transmission line on property in terms of land use is described in section 4.11.1, in terms of visual impacts in section 4.10, and in terms of property value in section 4.15 of the EIS.
819	102	102.1	Zarpara Vineyard	Jorve	9-NEPA	Since the modified route does not appear to be one of those originally presented to the public or considered during public hearings, will there be another round of public comments and/or hearings so that impacted people and businesses can benefit from an in-person presentation and comments can be gathered on the modified route? What is the process at this point?	BLM responded In February 2015. Mr. Jorve's property is located west of route variation P7b; please note that P7b is not included in the Agency Preferred Alternative in the EIS. There will not be any additional public meetings hosted by the BLM and/or Western. Public comments are accepted anytime in the EIS process. Comments received as a result of outreach regarding the route variations are considered here in the Final EIS and are included in the Project Record. The potential impact of the proposed transmission line on property in terms of land use is described in section 4.11.1 and in terms of property value in section 4.15 of the EIS.
820	102	102.2	Zarpara Vineyard	Jorve	7-LAND	The letter states that the modified route "skirts the edge of the agricultural area", which is true in terms of farm crops such as corn or cotton, but you may not be aware that the modified route cuts through an area that has been developing in recent years with wine grape vineyards and tasting rooms. This area is locally known as the Willcox Bench. This area begins roughly at the 2 mile marker east from Kansas Settlement Road on either Robbs Road or Arzberger Road, where the elevation reaches about 4200 feet, and follows the alluvial slope up towards the foothills of the Dos Cabezas Mountains. There are currently 11 vineyards in the area, 3 of which operate tasting rooms. Our vineyard, Zarpara Vineyard, was planted in 2010, and was the seventh vineyard on the Bench at the time. More vineyards are planned, and hopefully, more tasting rooms as well. We are concerned that the transmission line will detract from the natural aesthetics that we think are important to our wine tasting room business. This may sound superficial, but we think the aesthetics of this area play an important role in our business. We are also concerned that the transmission line might chill further development of vineyards and tasting rooms in this area. The development of the wine industry in this area is important to us personally because we think we need more vineyards and tasting rooms on the Willcox Bench to draw in more tourists, and it is also important to the Willcox region because it brings in needed tourist dollars and provides employment.	Error noted. Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. Three visual simulations from area vineyards have also been added to appendix K of the EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
821	104	104.1		Sakellarakis	8-MISC	Thank you for the noce about the proposed power line routs. I've shared the info with my nieghbours, and we unanimously conclude that it would be best for everyone that lives here if the "NEW route variation" is used, the one that goes north of the residences on the north side of Old Vail Connection Rd. That variation/route is simply more logical, just simply from our perspective as residents here. Hopefully the NEW route might help, perhaps from a maintenence perspective, its easier to access away from residential areas, I dont know but I hope there is enough incentive for you to just take the simple and better route north of Old Vail Connection.	Thank you for your comment. Statement of preference noted.
822	105	105.1	Deep Sky Vineyard	Asmundson	9-NEPA	I received a copy of letter 1793(L0000) from my neighbor Mark Jorve. We own 20 acres of vineyards between Robbs Road and Arzberger Road to the East of Kansas Settlement Road. We were not notified of the modified route of the transmission line.	BLM responded in February 2015. Letters were mailed to potentially affected property owners with parcels located within 0.5 mile of the proposed Project route variations.
823	105	105.2	Deep Sky Vineyard	Asmundson	19-VIS	This new route would be extremely detrimental to the local vineyards. There are 11 vineyards in the area and 3 of them have tasting rooms. We also plan to build a tasting room in the next few years. These businesses bring tourists and jobs to the Willcox area. They support the restaurants, hotels, shops and gas stations in the southeastern section of Arizona. The transmission line would detract from the natural beauty of the area and would limit future vineyard development. Your letter states that it skirts the edge of the agricultural area. It may not matter to a cotton farmer, but it would be visible from our vineyard and would severely impact our decision to build a tasting room. It may not matter to a cotton farmer, but it would be visible from our vineyard and would severely impact our decision to build a tasting room.	Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. Three visual simulations from area vineyards have also been added to appendix K of the EIS.
824	105	105.3	Deep Sky Vineyard	Asmundson	9-NEPA	Will there be further hearings on this matter due to the route variation?	There will not be any additional public meetings hosted by the BLM and/or Western. Public comments are accepted anytime in the EIS process. Comments received as a result of outreach regarding the route variations are considered here in the Final EIS and are included in the Project Record.
825	106	106.1	Chiricahua Ranch Vineyards	Gonnerman	9-NEPA	As I understand it, the presently favored route takes these new lines right through the heart of Arizona's wine country. While grape vines may not care where the power lines are routed, tourists sure do, and they are the primary source of revenue in this business.	BLM responded with a map showing Project location in relation to Mr. Gonnerman's property in February 2015. Mr. Gonnerman's property is located east of route variation P7a. This segment is not included as a part of the Agency Preferred Alternative in the EIS. Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. Three visual simulations from area vineyards have also been added to appendix K of the EIS.
826	106	106.2	Chiricahua Ranch Vineyards	Gonnerman	9-NEPA	Naturally those of us with vineyards in the area would like the power lines to follow the originally proposed route which went very near the playa.	Thank you for your comment; statement of preference noted.
827	106	106.3	Chiricahua Ranch Vineyards	Gonnerman	9-NEPA	Now that new routes are being proposed, will there be a comment period?	There will not be any additional public meetings hosted by the BLM and/or Western. Public comments are accepted anytime in the EIS Process. Comments received as a result of outreach regarding the route variations are considered here in the Final EIS and are included in the Project Record.
828	107	107.1	Chiricahua Ranch Vineyards	Carbonneau	8-MISC	For the record: my e-mail was sent on 12/23/14-not on 1/13/15. It took almost a month and a half for a response.	Discrepancy noted here and in the Project Record.
829	107	107.2	Chiricahua Ranch Vineyards	Carbonneau	8-MISC	I suggest you check your maps to insure you do not trespass on my property.	As described in section 2.9.1 of the EIS, landowners would be contacted to obtain right-of-entry, as needed.
830	107	107.3	Chiricahua Ranch Vineyards	Carbonneau	19-VIS	I have no intention of you destroying my families future housing lots, interfering with property views, and the cause of loss of use and value of the three connecting lots. How would you like to look out your window and see lines/structures on the property that you own and pay taxes on--- let alone the environmental impact on people that it will have	Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. The potential environmental impacts of the proposed Project and alternatives are described in chapter 4 of the EIS. Three visual simulations from area vineyards have also been added to appendix K of the EIS.
831	108	108.1	Rhumb Line Vineyard	Myers	9-NEPA	Thanks for taking my call today regarding the Southline Transmission Project. If you could send me any current maps and timelines on the project, that would be great.	BLM responded with a map showing Project location in relation to Mr. Myer's property in February 2015. Segment P7a would be located just east of, and along S. Wayward Wind Road (east of Rhumb Line Vineyard). Comments received as a result of outreach regarding the route variations are considered here in the Final EIS and are included in the Project Record.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
832	108	108.2	Rhumb Line Vineyard	Myers	19-VIS	My wife and I own 40 acres off of Robbs Rd and Wayward Winds. We bought the land almost three years ago. We've planted 10 acres of grapevines and had plans to open a winery and tasting room. We are definitely rethinking this decision if, in fact, we'll have high voltage lines running next to our property. This could be a big set back for the AZ Wine and tourism industry. A majority of the wine grapes grown in AZ come from this small area of the state and many wineries have seen increases in traffic to their vineyards over the last 5 years. Most of this increased traffic has come from the attention that these unique wines have be given nationally; Food & Wine Magazine San Francisco Chronicle, Today Show (CBS tomorrow morning), etc. I'm sure that everyone has a concern about how unsightly the power lines can be. I believe this could have a drastic impact on our developing wine and tourism industry, especially in a part of the state that hasn't seen much positive economic possibilities in quite some time.	Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. The potential environmental impacts of the proposed Project and alternatives are described in chapter 4 of the EIS. Three visual simulations from area vineyards have also been added to appendix K of the EIS.
833	109	109.1	Zarpara Vineyard	Jorve	9-NEPA	Either Wayward Winds or Narita Lane is bad news for the wine industry on the Willcox Bench, so I will be opposing this route, and will be encouraging other stakeholders to bring pressure to bear to hopefully prevent this transmission line coming through the Willcox Bench or anywhere else that places it between the Willcox Bench and the mountain views. This matter is of very dire concern to my own business and the other businesses close by, but I think the implications go much further, and I will try to explain that in this email.	Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. The potential environmental impacts of the proposed Project and alternatives are described in chapter 4 of the EIS. Three visual simulations from area vineyards have also been added to appendix K of the EIS.
834	109	109.2	Zarpara Vineyard	Jorve	13-SOCI	Executive summary: Aesthetics play a large role in the vineyard and tasting room business, and a power transmission line such as Southline would be an obvious detriment to those aesthetics, but I am concerned that the transmission line will deliver an economic calamity that will stall the growth of the wine industry in Cochise County, and not only on the Willcox Bench. I think Cochise County knows that the growing wine industry is a key component of the economic development of the county, and that the Willcox Bench is an essential part of that economic development. The power line will cut through the Willcox Bench, and to my mind, threaten the further growth of the wine industry in this particular area, and because of the unique position of the Willcox Bench in Cochise County, this could stall the wine industry in Cochise County as a whole. The Willcox Bench is a sure thing. It's the goose that lays the golden egg! The power line will force a roll of the dice to see if the wine industry will want to stay on the Willcox Bench or abandon it, as I think is very likely, and try to find a different location to continue growing.	Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. The potential environmental impacts of the proposed Project and alternatives are described in chapter 4 of the EIS. Three visual simulations from area vineyards have also been added to appendix K of the EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
835	109	109.3	Zarpara Vineyard	Jorve	13-SOCI	But I am not aware of any other location in all of Cochise County that will do the same job as the Willcox Bench (further details on this below). **This is why this is so critical** The wine industry can't just pick up and move down the road. The Willcox Bench is "where it is happening", and for clear reasons, and there is no place else in Cochise County like it. First, let's define the Willcox Bench. It is roughly the strip of land starting on a line 2 miles east of KS Road (where Zarpara Vineyard is), and extending for a few miles to the east along either side of Robbs Road and Arzberger Road. It is bounded by state trust land on the north, and by land that is too low in elevation to grow grapes to the west and south. On the east side, lack of electricity and rougher terrain are the limiting factors. If the Willcox Bench is allowed to grow, we will see vineyards, tasting rooms, B&Bs, resorts, restaurants, etc, take over this area. Zarpara Vineyard was the first tasting room on the Willcox Bench when it opened in 2012. Now there are three. Another vineyard wants to open a tasting room and a bistro. Yet another vineyard wants to open a resort. A B&B has been proposed for Wayward Winds. When Zarpara Vineyard planted its vines in 2010, we were the 7th vineyard on the Bench. Now there are eleven vineyards on the Bench. Two more vineyards, at least one with a tasting room, are in the planning stages. So, I think I have shown that the Willcox Bench is an economic growth area, and has huge potential. The Willcox Bench is unique in Cochise County. There is no other place like it in terms of wine industry growth potential. It has the right elevation for wine grapes, a slope that reduces frost damage in the spring, good soil, close proximity to I-10 and Willcox to draw in tourists, access to electricity, and a good water supply. Let's try to find another place in Cochise County with similar potential: 1. North of Willcox. The two vineyards there (far north, one actually in Graham County) now frequently lose significant crop to frost in the spring, and are too far away anyway to have tasting rooms. The flat farm land between Willcox and those vineyards is too cold for vineyards. 2. San Pedro valley. Texas root rot. That's why you don't see vineyards there now (other than Tombstone). 3. South Sulpher Springs Valley. Controlled by an INA (irrigation non-expansion area), which means no new farming acreage can go under irrigation beyond 2 acres supplied by a domestic well (i.e. no serious vineyards). 4. West side of the Sulpher Springs Valley. Has potential, but is further away from I-10 and lacks close-by amenities like hotels, restaurants, and destinations like the Chiricahua National Monument. 5. East side of the Dos Cabezas Mountains. Too far away for customers, who mostly come from Tucson and Phoenix.	Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. The potential environmental impacts of the proposed Project and alternatives are described in chapter 4 of the EIS. Three visual simulations from area vineyards have also been added to appendix K of the EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
836	109	109.4	Zarpara Vineyard	Jorve	13-SOCI	From our vantage point here at Zarpara, I'm worried that the transmission line will appear taller than Mount Bowie, so it will block out that view. It will occlude much of Dos Cabezas, so that view will be scarred and unattractive. For any future vineyards/tasting rooms positioned east of the transmission line, the view to the west (which is quite amazing!) will be blocked and dominated by the transmission line. Who would want to open a tasting room close to or under the transmission line? If the transmission line comes through the Willcox Bench: 1. Property values will likely go down. Not such a bad thing if you want to buy some land and plant a vineyard. 2. So let's say a buyer plants a vineyard, but they won't open a tasting room there because of the ugly, eyesore transmission line. It's a more difficult and costly proposition to put a tasting room somewhere other than the vineyard. I think buyers will be discouraged. 3. So, you have three tasting rooms on the Willcox Bench now, and maybe not any more in the future. And you have eleven vineyards on the Willcox Bench now, and maybe not any more in the future. The Willcox Bench needs more vineyards and tasting rooms! More vineyards and tasting rooms means more customers for everyone here. What about the B&Bs and resorts? Would you open a B&B under a transmission line? And if there are only a limited number of tasting rooms on the Willcox Bench, then there is no market for a restaurant. Conclusion: By routing the transmission line through the Willcox Bench, my own business is threatened, and more, the growth of the entire wine industry on the Willcox Bench could stall and come to an end. Due to the uniqueness of the Willcox Bench in Cochise County, this could stall the growth of the wine industry in the county as a whole	Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. The potential environmental impacts of the proposed Project and alternatives are described in chapter 4 of the EIS. Three visual simulations from area vineyards have also been added to appendix K of the EIS.
837	110	110.1		Robbs	8-MISC	Thank you for sending me the map of the proposed corridor of the Southline 345 kilovolt transmission line which runs along Wayward Winds road in the Kansas Settlement near Willcox, AZ. Since I don't know how much the county is aware of this issue I have cc'd the Cochise County Board of Supervisors, the Cochise County Recorder and the Cochise County planning and zoning department.	BLM responded with a map showing Project location in relation to Mr. Robb's property in February 2015. Mr. Robb's property is located just west of segment P7b. Route variation P7b is not included in the Agency Preferred Alternative in the EIS. Cochise County is a cooperating agency, as noted in the executive summary, chapter 1, and chapter 5 of the EIS.
838	110	110.2		Robbs	8-MISC	I am opposed to this high voltage line running along Wayward Winds road and Narita lane for many reasons:	Thank you for your comment; statement of preference noted.
839	110	110.3		Robbs	16-PHS	1. The route along Wayward Winds Road makes a detour between my house at 4915 E .Arzberger road and my uncle's and aunt's home, RL and Sally Robbs at 4995 E. Arzberger Road. This cuts directly through my father's property, Floyd Robbs and RL Robbs' property. Have you made any effort to contact them? I never would have known about your plans unless one of the other property owners had told me about this. Shouldn't you contact the county recorder to determine who lives along this route before you make a decision to take over their property for a high voltage transmission line? 2. This high a voltage is not healthy to people living nearby despite what studies you may cite. There are long term negative effects of living organisms near this high of an electric voltage 3. This line isn't even necessary and it is being constructed only to benefit a billionaire business man, Ray L. Hunt. How would Mr. Hunt feel if a high voltage line was being planned near his house? 4. The Kansas Settlement has recently been discovered to be one of the premiere wine growing areas of the state and the country. The number of vineyards and wineries in that area has been growing each year. Most of the people putting in these wineries are retirees who have worked and saved their entire lives for this dream. Now if that line goes in those visions will be destroyed. It is a known fact that transmission lines will decrease property values tremendously.	Cochise County is a cooperating agency, as noted in the executive summary, chapter 1, and chapter 5 of the EIS. Letters were mailed to potentially affected property owners with parcels located within 0.5 mile of the proposed Project route variations. Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. The potential impacts of all Project alternatives (including the route variations) are considered in the EIS – specifically, potential public health and safety impacts are considered in sections 3.16 and 4.16.
840	110	110.9		Robbs	19-VIS	Additionally the high towers and wires will create a hideous eyesore of disastrous proportions marring the beautiful vistas of the Dos Cabezas mountains.	Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources). Three visual simulations from area vineyards have also been added to appendix K of the EIS.
841	110	110.10		Robbs	7-LAND	The wine industry of small boutique owners depends heavily on tourism with people visiting local wineries. Most of the wine tourists are from urban areas seeking an escape from their industrialized wired cities.	Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. Three visual simulations from area vineyards have also been added to appendix K of the EIS.
842	110	110.11		Robbs	9-NEPA	Please let me know what can be done to stop these lines being built through the Kansas Settlement and better yet to stop this project entirely.	Thank you for your comment; statement of preference noted. Public comments are accepted anytime in the EIS process. Comments received as a result of outreach regarding the route variations are considered here in the Final EIS and are included in the Project Record.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
843	111	111.1	Chiricahua Ranch Vineyards	Gonnerman	9-NEPA	May I assume that when comments are added to the project record, they have no impact on the discussion?	Public comments are accepted anytime in the EIS Process. Comments received as a result of outreach regarding the route variations are considered here in the Final EIS and are included in the Project Record.
844	111	111.2	Chiricahua Ranch Vineyards	Gonnerman	8-MISC	I've included my property address and mailing address below. I'd definitely like to be informed	Thank you; you have been added to the project mailing list.
845	111	111.3	Chiricahua Ranch Vineyards	Gonnerman	9-NEPA	It's proven difficult to find information about how this project has developed thus far, and how it's ended up along the current proposed corridor.	The Draft EIS was published in April 2014, is available online, and describes the proposed Project and alternatives, as well as the potential impacts. As indicated in the letter to you in December 2014, the route variations new to the EIS are being considered based on comments from the AGFD and public regarding potential impacts to migratory birds at Willcox Playa.
846	111	111.4	Chiricahua Ranch Vineyards	Gonnerman	9-NEPA	First, I understand that the first proposed route went north of Willcox. Why was that route removed from consideration?	The EIS considers alternatives paralleling the existing transmission line across the playa (see P7), as well as along I-10 (see local alternative WC1). These alternatives are analyzed in detail in the Draft EIS and are still being considered as routing options.
847	111	111.5	Chiricahua Ranch Vineyards	Gonnerman	9-NEPA	Second, I understand that the route between Kansas Settlement Road and the Playa was taken out of consideration due to concerns that AZ Fish & Game had about the Sandhill Cranes. What evidence did Fish & Game present that these power lines would pose a risk to the birds?	As indicated in the letter to you in December 2014, the route variations new to the EIS are being considered based on comments from the AGFD and public regarding potential impacts to migratory birds at Willcox Playa. The Draft EIS includes an analysis of the potential impacts to migratory birds, including sandhill cranes. Additionally, AGFD has developed additional mitigation measures to offset impacts to wildlife habitat in the Willcox Playa area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
848	111	111.6	Chiricahua Ranch Vineyards	Gonnerman	7-LAND	The current proposed routes are far enough from my property so as not to have a direct impact on my business plans, but they could have a devastating impact on the fledgling wine industry in the area and the business plans of many of my friends and neighbors. It's actually very hard to make a living in this industry, especially as a small producer just starting up. The only way that many survive is by selling wine directly to consumers out of their vineyard tasting rooms, and the best way to do that is to host events.	Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. Three visual simulations from area vineyards have also been added to appendix K of the EIS.
849	111	111.7	Chiricahua Ranch Vineyards	Gonnerman	19-VIS	Tourists just won't be interested in attending events at properties near large power lines. They not only impact the aesthetics	Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. Three visual simulations from area vineyards have also been added to appendix K of the EIS.
850	111	111.8	Chiricahua Ranch Vineyards	Gonnerman	16-PHS	but many people still believe that proximity to power lines carries health risks. Now I know that studies long ago refuted such claims, but that doesn't change the way people think. Many tourists will simply avoid spending time at vineyards bounded by these huge power lines. Most of Arizona's wine grapes are grown in the Kansas Settlement area because it has the right elevation and soil to be a good place to grow grapes, and water is plentiful. There just isn't any place else for us to go. Any higher and it's too cold, any lower and it's too warm (or conversely too cold, due to temperature inversion). Even if there was another area we could move to, no one could afford to. Average costs for starting a vineyard run $25,000 per acre. No one can afford to simply walk away from that kind of investment and start over somewhere else.	The potential impacts of all Project alternatives (including the route variations) are considered in the EIS – specifically, potential public health and safety impacts are considered in sections 3.16 and 4.16. Based on this and other similar comments from area landowners the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry.
851	112	112.1		Siegel	9-NEPA	the proposed transmission lines are just steps from my front door and my future vineyard property which is up for sale. As a senior citizen on a fixed income, I beg you to find another route for this lines in Willcox or surrounding grazing areas.	BLM responded with a map showing Project location in relation to MS. Siegel's property In February 2015. Ms. Siegel's property is located just west of route variation P7a. Thank you for your comment. Statement of preference noted.
852	113	113.1	Pillsbury Wines Vineyard & Winery	Pillsbury	3-CUL	This is land that was legendary, from the early Chiricahua Apaches, the Coronado Trail forged by the Conquistadores, Cochise's own continual outwitting of the US Cavalry, and his having the last laugh when he retreated to Cochise Stronghold across the valley in the Dragoons. Never caught, never photographed, still in an unknown burial site. Just over the hill past the ghost town of Dos Cabezas is Fort Bowie and the Chiricahua National Monument. Nestled closer to the Dragoons are the ghost towns of Pearce and Cochise.	Thank you for your comment. The EIS discusses the cultural history of the area (see section 3.9) and specially designated lands such as national monuments (see section 3.14).
853	113	113.2	Pillsbury Wines Vineyard & Winery	Pillsbury	7-LAND	More importantly, this distant and still undiscovered valley was blessed with the most perfect soil, water, and climate for growing wine grapes, one of the most eco- friendly crops possible to grow. Wine grapes use one-seventh of the water and produce up to 10 times the income per acre of other crops.	The potential impacts of all Project alternatives (including the route variations) are considered in the EIS – specifically, potential impacts to soils, water and climate are considered in sections 4.2, 4.5, and 4.7. The EIS also includes a discussion of viticulture as a land use in this region – see section 3.11.1.
854	113	113.3	Pillsbury Wines Vineyard & Winery	Pillsbury	13-SOCI	And this all translates into jobs in one of the most impoverished regions of the State.	The EIS includes a discussion of viticulture as a land use in this region as well as a discussion of the potential economic impacts of the wine industry – see sections 3.11.1, 4.11.1, 3.15, and 4.15.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
855	113	113.4	Pillsbury Wines Vineyard & Winery	Pillsbury	7-LAND	Apart from its history and the economics, this fantastic discovery has the precious attraction, in its isolated and ancient way, of being unspoiled For most of us on the Willcox Bench, the pristine nature of this place, as yet isolated from the ravages of the industrialized world, is the essence of what our wines are showcasing to the rest of the State, and indeed the Country and the World. Pure air. Pure water. Soils as yet unpolluted. Most vineyards, like ours, organic. Vines managed and fruit harvested by hand. Fermented on-site with native wild yeasts. Talk about sustainable! In a world drowning in mass-produced, over-refined food and drink, we have an almost magical power in what we produce, and that's how we market what we do. Our Pillsbury Wine letterhead is our wine label featuring Cochise County, wild and unspoiled. Like the wines.	The potential impacts of all Project alternatives (including the route variations) are considered in the EIS – specifically, potential impacts to soils, water and climate are considered in sections 4.2, 4.5, and 4.7. The EIS also includes a discussion of viticulture as a land use in this region as well as a discussion of the potential economic impacts of the wine industry – see sections 3.11.1, 4.11.1, 3.15, and 4.15.
856	113	113.5	Pillsbury Wines Vineyard & Winery	Pillsbury	7-LAND	15 years ago there were two tiny vineyards here. Now there are over 500 acres of vines, producing 74% of the grapes used in making authentic Arizona Wine. And we have barely scratched the surface. Look what wine did for Napa Valley. Staggering. And our land is perhaps 4% the cost of Napa land, labor half the price, and 10 times more plentiful. The sky's the limit. Unless of course, the sky is crossed with the massive Southline Transmission Line	The EIS includes a discussion of viticulture as a land use in this region as well as a discussion of the potential economic impacts of and to the wine industry – see sections 3.11.1, 4.11.1, 3.15, and 4.15.
857	113	113.6	Pillsbury Wines Vineyard & Winery	Pillsbury	19-VIS	Imagine just the visual impact of these lines in trying to market the virginal quality of this valley. It will drive a knife into the very heart of this fairytale image, exchanging our tiny wooden poles for the massive Transmission Line.	The potential impacts of all Project alternatives (including the route variations) are considered in the EIS – specifically, potential visual impacts are considered in sections 3.10 and 4.10.
858	113	113.7	Pillsbury Wines Vineyard & Winery	Pillsbury	16-PHS	Then consider the physical effect—including the electromagnetic-field-generated impact on the health of all the workers and residents nearby, plus the effect on the quality and likely quantity of our fruit.	The potential impacts of all Project alternatives (including the route variations) are considered in the EIS – specifically potential public health and safety impacts are considered in sections 3.16 and 4.16. There is no evidence to suggest that fruit in the region would be impacted by a proposed transmission line.
859	113	113.8	Pillsbury Wines Vineyard & Winery	Pillsbury	1-AIR	The line will impact the Equinoxial winds of the Spring, and the Monsoon storm cells in the late Summer.	The potential impacts of all Project alternatives (including the route variations) are considered in the EIS – specifically, air quality and climate impacts are considered in sections 3.2 and 4.2. There is no evidence to suggest that weather patterns would be impacted by a proposed transmission line.
860	113	113.9	Pillsbury Wines Vineyard & Winery	Pillsbury	13-SOCI	The Southline Transmission Line would make a devastating far-reaching difference in the Willcox Bench, the future economy of Willcox and surrounding towns, and the future of the Arizona wine industry. This line will destroy the vines, the dreams, and the livelihood of so many Arizona winegrowers who have literally hewn the Garden of Eden from these desert soils to bring this region and our State to the attention of the International community it deserves. Vines, not lines.	The EIS includes a discussion of viticulture as a land use in this region as well as a discussion of the potential economic impacts of and to the wine industry – see sections 3.11.1, 4.11.1, 3.15, and 4.15. Your opposition is noted here and in the record.
861	114	114.1		Cotignola	9-NEPA	we would love to know if you are still going to build your transmission line since Sunzia is building there	The approved SunZia project and the proposed Southline Transmission Line Project are separate ROW requests and are both being considered by the BLM.
862	114	114.2		Cotignola	9-NEPA	Are you building a brand new elic powerline project or is your project being built to replace an old elic powerline that already there.	For more Project information, see chapter 2 of the EIS. There is a New Build Section that would be new construction of a 345-kV line between the Afton substation in New Mexico and the Apache Substation in Arizona. The proposed Project would also include an upgrade of two of Western's existing 115-kV lines to a 230-kV line between the Apache Substation and the Saguaro Substation in Arizona.
863	114	114.3		Cotignola	9-NEPA	How will your project or the Sunzia project create and bring elic power poles and power lines to the very southern part of Luna County New Mexico about 30 miles south of Deming.	The not yet constructed SunZia project and Southline Transmission Line Project are separate ROW requests. A comparison of the potential impacts from these two projects is beyond the scope of analysis for this EIS, except where addressed as a reasonably foreseeable action in the cumulative effects analysis (see section 4.21). The SunZia project was subject to its own detailed EIS and the project was approved in January 2015. See chapter 2 of the EIS for a description of the Project – segment P2 of subroute 1.1 following an existing transmission line just north of Deming, New Mexico.
864	114	114.4		Cotignola	9-NEPA	Right now are there Elic Power poles & Elic Power lines along the Southern New Mexico border line	See chapter 2 of the EIS for a description of the project – large portions of the proposed Project follow existing transmission lines and other linear infrastructure in Arizona and New Mexico.
865	114	114.5		Cotignola	9-NEPA	Are you building the main Elic power pole lines, next, and will it take local Elic power companies to run & bring new Elc power lines to area right now where there is no Elic power lines right now. (for example) in our opinion South Luna County New Mexico in the future is going to see a large building boom in our opinion. So the question is this, how will the Southern end of Luna County New Mexico get it/must needed new Elic powerlines to the future ok Can you explain it to us	As stated in section 1.3.1 of this Final EIS, the proposed Project would be a transmission-only project. Southline would not purchase power from generators or sell power to others. The proposed Project, as described in chapter 2 of the Draft EIS, would interconnect with up to 14 existing stations where new or existing power generation resources could interconnect to and utilize the capacity Southline would add to the system.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
866	114	114.6		Cotignola	9-NEPA	Do you think that you can please mail us some kind of color map showing us the location more or less showing where your transmission line project will run & be built	BLM responded with a map showing Project location in relation to Mr. Cotignola's property in April 2015.
867	114	114.7		Cotignola	8-MISC	Can you keep us on a mailing list so we can get any new updates or your project being built, ok Also, oh by the way we don't own a computer so we need your time and help with this ok	Added to the mailing list.
868	114	114.8		Cotignola	8-MISC	When do you expect to being construction of your transmission line project do you know	According the Southline's WECC Phase 2 report (WECC 2015), the proposed Project is anticipated to be in service in 2017, with construction occurring prior to that.
869	114	114.9		Cotignola	9-NEPA	do you have plans to bring Elic power pole & line to Upham New Mexico where space port America is located about 90 miles north of Deming New Mexico	See chapter 2 of the EIS for a description of the Project – the Project does not extend that far north.
870	114	114.10		Cotignola	9-NEPA	are you building your project because like myself we expect a boom in New growth and new development in these new areas we would love to know ok	As discussed in sections 1.1.1 and 1.3 of the Draft EIS, the purpose of the Project is to improve reliability in southern New Mexico and southern Arizona, mitigate existing congestion, increase the ability to meet the increasing demand for electricity, and facilitate generation and public policy goals by increasing the capacity of the existing electric transmission grid. As discussed in section 4.15, the proposed alternatives could provide significant long-term benefits by increasing the ability of the grid to meet demand growth in the region.
871	115	115.1	Chiricahua Ranch Vineyards	Gonnerman	13-SOCI	Those of us involved in the wine industry in the Willcox area are very concerned about the new proposed route. No one responded during the official comment period because few were aware of this project and those that were aware were unconcerned. This is because the north route was far from the Willcox Bench and the south route was just far enough away so as not to be problematic. But, as you know, following closure of the official comment period the route moved several miles to the east going straight through the Willcox Bench where it now poses a threat to Arizona's fledgling wine industry. Arizona's wine makers depend on tourism to sell wine. Few distributors or retailers are interested in buying wine from small wineries just starting out. It's for this reason that selling direct to consumers is so vital. This requires getting tourists into the vineyard and winery, and the best way to do that is to host events. Tourists just aren't going to be interested in attending events at vineyards with these power lines nearby. This is both for obvious aesthetic reasons	The EIS includes a discussion of viticulture as a land use in this region as well as a discussion of the potential economic impacts of and to the wine industry – see sections 3.11.1, 4.11.1, 3.15, and 4.15. The potential visual impacts of the Project are discussed in section 3.10 and 4.10.
872	115	115.2	Chiricahua Ranch Vineyards	Gonnerman	13-SOCI	Tourists just aren't going to be interested in attending events at vineyards with these power lines nearby. This is both for obvious aesthetic reasons and due to the persistent belief that electromagnetic emissions are bad for one's health. That the health effects are unsubstantiated is irrelevant; it's what many believe and they will refrain from spending time near these large power lines.	The EIS includes a discussion of viticulture as a land use in this region as well as a discussion of the potential economic impacts of and to the wine industry – see sections 3.11.1, 4.11.1, 3.15, and 4.15. Potential impacts to public health and safety are considered in sections 3.16 and 4.16 of the EIS.
873	115	115.3	Chiricahua Ranch Vineyards	Gonnerman	19-VIS	Also, regarding the first point, aesthetics, would you want power lines in the background of your wedding pictures? Most would not.	The potential visual impacts of the project are discussed in sections 3.10 and 4.10 of the EIS.
874	115	115.4	Chiricahua Ranch Vineyards	Gonnerman	7-LAND	Sure, grapes can be grown right under the power lines, but selling the resulting wine would require having a second location. Few could afford that, and no one can afford to move. Starting a vineyard costs around $25,000 per acre, and no one I know can afford to walk away from that kind of investment and start over elsewhere. Even if they could, where would they go? There's a reason why the majority of Arizona's wine grapes are grown on the Willcox Bench.	The EIS includes a discussion of viticulture as a land use in this region as well as a discussion of the potential economic impacts of and to the wine industry – see sections 3.11.1, 4.11.1, 3.15, and 4.15.
875	115	115.5	Chiricahua Ranch Vineyards	Gonnerman	7-LAND	There's a reason why the majority of Arizona's wine grapes are grown on the Willcox Bench. It has adequate water reserves and the right soil and climate, making it the best place in the state.	The EIS includes a discussion of viticulture as a land use in this region as well as a discussion of the potential economic impacts of and to the wine industry – see sections 3.11.1, 4.11.1, 3.15, and 4.15. The potential visual impacts of the Project are discussed in sections 3.10 and 4.10.
876	115	115.6	Chiricahua Ranch Vineyards	Gonnerman	9-NEPA	I understand that the south route was modified due to concerns about the impact on the Sandhill Cranes. This is puzzling though, considering how they fly through the area. At my property, two miles east of the new proposed (Narita Ln.) route, the cranes fly overhead at 25 to 50 feet on their migratory route. I know that they fly much higher at some points en route, but for whatever reason they don't achieve those altitudes in the Willcox area	Based on feedback from the public and cooperating agencies on the Draft EIS, new route variations (P7a, P7b, P7c, and P7d) have been included in the EIS to minimize (not avoid), impacts to wildlife at the Willcox Playa. All route variations are described in section 2.7, and analyzed in chapters 3 and 4 of this EIS. Per Draft EIS comment letters from the USFWS (letter # 71) and AGFD (letter #67),route variations P7a through P7d would be farther away from known roost sites and would likely be at a location within the crane's flight paths where the birds are of sufficient altitude that a strike would be very unlikely. AGFD has developed additional mitigation measures to offset impacts to wildlife habitat in the Willcox Playa area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
877	115	115.7	Chiricahua Ranch Vineyards	Gonnerman	9-NEPA	Please consider alternative routes. If the south route must be taken, I believe a route just west of Kansas Settlement Road would have little impact on tourism in the area and be no better or worse for the cranes	Alternatives considered in detail in the EIS are described in section 2.7. No decision on the proposed Project would be made by BLM or Western until at least 30 days after publication of the NOA for the Final EIS. Statement of preference noted.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
878	116	116.1	Merkin Vineyards	Noble	9-NEPA	Call from Mr. Noble regarding the letter he received on the proposed Southline local routing options. Concerned about health impacts and impacts to area vineyards. Caller asked if a decision had been made yet.	All route variations are described in section 2.7, and analyzed in chapters 3 and 4 of this EIS. The EIS includes a discussion of viticulture as a land use in this region as well as a discussion of the potential economic impacts of and to the wine industry – see sections 3.11.1, 4.11.1, 3.15, and 4.15. Potential impacts to public health and safety are considered in sections 3.16 and 4.16 of the EIS. Alternatives considered in detail in the EIS are described in section 2.7. No decision on the proposed Project would be made by BLM or Western until at least 30 days after publication of the NOA for the Final EIS.
879	117	117.1		Verris	9-NEPA	Call from Mr. Verris regarding the letter he received on the proposed Southline local routing options. Concerned about location of new route variations.	All route variations are described in section 2.7, and analyzed in chapters 3 and 4 of this EIS.
880	118	118.1		Lynch	9-NEPA	Call from Mr. Lynch asking about the status of the EIS.	Final EIS expected to be published in 2015.
881	119	119.1		Chelenza	9-NEPA	Call from Ms. Chelenza regarding the letter she received on the proposed Southline local routing options. Concerned about location of new route variations.	All route variations are described in section 2.7, and analyzed in chapters 3 and 4 of this EIS.
882	120	120.1		Jarvey	9-NEPA	Call from Mr. Jarvey asking about information for project.	Directed to BLM website for more information.
883	121	121.1		Gerth	9-NEPA	Call from Mr. Gerth expressing concerns about location of new route variations.	All route variations are described in section 2.7, and analyzed in chapters 3 and 4 of this EIS.
884	122	122.1	Zarpara Vineyard	Jorve	13-SOCI	1. Three more tasting rooms are on hold, making six total, pending disposition of the power line. Also, two vineyards and two homes are on hold. The tasting rooms on hold: Caduceus Cellars, Deep Sky, Kief-Joshua, Rhumbline, Send-Reckoner, and Gerths. Vineyards on hold: Kief-Joshua and Gerths. Homes on hold: Rhumbline and Gerths. (There are currently 11 vineyards on the Willcox Bench and 3 tasting rooms).	The EIS includes a discussion of viticulture as a land use in this region as well as a discussion of the potential economic impacts of and to the wine industry – see sections 3.11.1, 4.11.1, 3.15, and 4.15.
885	122	122.2	Zarpara Vineyard	Jorve	9-NEPA	2. AZ G&F and BLM did not know about the vineyards. They have been looking at outdated Google Earth pictures, which do not show all of the vineyards. A simple drive out to the area would have shown them how the power line would be plowing through vineyards in a key economic development area. Further, there are landowners adjacent to the power line through the bench that say they didn't receive the December letter from the BLM that announced that a new route was under consideration. It may be that only those landowners in the direct path of the new route received those letters. This just goes more to the point that our community on the Willcox Bench has been denied the same process of vetting that the other routes were subjected to.	Representatives from BLM, Western, and AGFD conducted site visits to the Willcox Playa and Willcox Bench area in July 2014, January 2015, and May 2015. The May 2015 visit included a tour of 11 vineyards/landowner properties. In December 2014, letters were mailed to potentially affected property owners with parcels located within 0.5 mile of the proposed Project route variations. As noted in chapters 1 and 5 of the EIS, 35 comments have been received in response to the outreach letters. These comments have been addressed in the same manner as all public comments that were received on the Draft EIS. Based on comments received from the outreach letters and other similar comments from area landowners, the EIS includes a discussion and analysis of the Willcox Bench and vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry. The potential environmental impacts of the proposed Project and alternatives are described in chapter 4 of the EIS. Three visual simulations from area vineyards have also been added to appendix K of the EIS.
886	122	122.3	Zarpara Vineyard	Jorve	2-BIO	3. AZ G&F may think their job is done, but we need to get them back to the table. Black Forest Partners has ideas that the BLM and Western could use to work with AZ G&F to make the Proponent Preferred route acceptable to everyone involved. This is the route that follows an existing power line, and skirts the east and south banks of the Willcox Playa (and completely avoids the Willcox Bench). AZ G&F has an objection to just one specific point along that route, the place on the southwest edge of the Willcox Playa where they pump water to create a pond to attract the cranes. Black Forest suggested that the pond could be relocated. Also, we would like to see the reports which we were told AZ G&F has available which would serve to clarify their position on the P7 segment, e.g., detail numbers of birds killed by the existing power lines, number of sandhill cranes roosting at their pond, and the number of sandhill cranes present at the other roosting areas on the Willcox Playa. We would also like to see any analysis AZ G&F has of the Willcox Bench area.	BLM and Western met with representatives from AGFD and FWS in May and June 2015 to discuss their concerns regarding Project alternatives in the vicinity of the Willcox Playa Wildlife Area. AGFD has developed additional mitigation measures to offset impacts to wildlife habitat in the Willcox Playa area, specifically segment P7. AGFD mitigation measures, which include relocating Crane Lake, have been incorporated into the EIS as PCEMs in table 2-8. Additionally, the potential impacts of all Project alternatives (including the route variations) are considered in the EIS; specifically, potential impacts to sandhill cranes and their roosting sites are considered in sections 4.8.2 of the EIS.
887	122	122.4	Zarpara Vineyard	Jorve	9-NEPA	4. It's still not clear what the objections are to the northern route - the Proponent Alternative route, also known as the Environmentally Preferred Route. AZ G&F said they have no objections to the northern route.	The commenter is correct; the AGFD does not have objections to the northern route. As discussed in sections 3.11.3 and 4.11.3 of the EIS (Military Operations), there are military sensitivities to the northern route, specifically segments Ga, Gb, Gc.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
888	122	122.5	Zarpara Vineyard	Jorve	8-MISC	Again, we would like to host another tour, this time for the politicians representing this area, so that we can show you how devastating the power line would be to the wine industry on the Willcox Bench. Thank you for your time and attention to this matter.	Representatives from both Southline and BLM have attended a tour of the Willcox Bench and vineyards on separate occasions. Additionally, the EIS includes a discussion of viticulture as a land use in this region as well as a discussion of the potential economic impacts of and to the wine industry – see sections 3.11.1, 4.11.1, 3.15, and 4.15.
889	123	123.1	Robert S. Lynch & Associates	Lynch	8-MISC	This office represents the Arizona Wine Growers' Association. We are writing to you concerning a proposal first put forth last December to change the route of part of the proposed Southline Transmission Line to go through the Willcox Bench, the prime winegrowing area of Cochise County and the State of Arizona.	Thank you for your comment.
890	123	123.2	Robert S. Lynch & Associates	Lynch	9-NEPA	The Bureau of Land Management (BLM) and the Western Area Power Administration (Western) published your Notice of Intent to Prepare the Environmental Impact Statement (EIS) for this project on April 4, 2012. 77 Fed.Reg. 20411, et seq. You then published your Notice of Availability of your joint Draft Environmental Impact Statement (DEIS) on April 11, 2014. 79 Fed.Reg. 20224, et seq. The comment period closed on July 20, 2014. On December 15, 2014, you sent some landowners on and near the Willcox Bench letters advising them that the agencies had proposed a new route segment (P7a, P7b, P7c & P7d) not included in the DEIS proposals and alternatives and through an area not even evaluated for environmental and other impacts in the DEIS. It is our information that only landowners in the possible direct path of the new route were notified and adjacent owners were not.	Segments P7a, P7b, P7c, and P7d are considered variations of routes that were presented and analyzed in the Draft EIS. These minor route variations are further analyzed in detail in chapter 4 of the Final EIS. As noted by the commenter, letters were mailed on December 15, 2014 to landowners on and near the Willcox Bench. These outreach letters were mailed to potentially affected property owners with parcels located within 0.5 mile of the proposed Project route variations. As noted in chapters 1 and 5 of the EIS, 35 comments have been received in response to the outreach letters. These comments have been addressed in the same manner in which all public comments received on the Draft EIS were addressed; they are considered in the analysis presented in chapter 4 of the Final EIS and are included in the Project Record. Further, the potential impact of the proposed transmission line (including route variations) on property is described in chapter 4 of the EIS.
891	123	123.3	Robert S. Lynch & Associates	Lynch	9-NEPA	As you know, the Responsible Official cannot consider alternatives not discussed in the relevant environmental documents. Department of the Interior NEPA Regulations, 43 C.F.R. § 46.420. And BLM must solicit comments from affected persons. 43 C.F.R. § 46.435. Those solicitations must allow affected persons to provide comments "on the record", i.e., during the comment period. *Warm Springs Dam Task Force v. Gribble*, 621 F.2d 1017 (9th Cir. 1980). When that does not happen, the BLM NEPA Handbook dictates that the agency prepare a Supplemental Draft EIS. Handbook H-1790-1, Subsection 5.3.1, p. 29.	Segments P7a, P7b, P7c, and P7d are considered variations of routes that were presented and analyzed in the Draft EIS. These minor route variations are further analyzed in detail in chapter 4 of the Final EIS. Additionally, outreach letters were mailed on December 15, 2014 to potentially affected landowners with parcels located on and near the Willcox Bench within 0.5 mile of the proposed Project route variations. As noted in chapters 1 and 5 of the EIS, 35 comments have been received in response to the outreach letters. These comments have been addressed in the same manner in which all public comments received on the Draft EIS were addressed; they are considered in the analysis presented in chapter 4 of the Final EIS and are included in the Project Record. Further, the potential impact of the proposed transmission line (including route variations) on property is described in chapter 4 of the EIS. Though portions of the EIS have been revised to include route variations, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared. Further, even though additional reroutes were considered, ultimately the Agency Preferred Alternative includes the route identified and analyzed in the Draft EIS, and there was no need to prepare a supplemental EIS.
892	123	123.4	Robert S. Lynch & Associates	Lynch	9-NEPA	Supplemental EIS's and Supplemental Draft EIS's are often used by federal agencies, especially where a new alternative is to be considered. *Sierra Forest Legacy v. Sherman*, 646 F.3d 1161, 1169 (9th Cir. 2011); *Dubois v. U.S. Dept. of* Agriculture, 102 F3d 1273, 1292 (1st Cir. 1996); *State of Cal. v. Block*, 690 F.2d 753, 770 (9th Cir. 1982); NEPA Regulations, 40 C.F.R. § 1502.9(c)(1). Supplemental DEIS's or EIS's are mandated when either "(i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." Id. *Norton v. Southern Utah Wilderness Alliance*, 542 U.S. 55, 72 (2004); *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 372 (1989); *People of the State of Cal. V. U.S. D.O.I.*, 9th Cir., No. 12-55856, May 19, 2014, Slip Op. 21; *Westlands Water Dist. V. U.S. Dep't of Interior*, 376 F.3d 853, 873 (9th Cir. 2004).	Segments P7a, P7b, P7c, and P7d are considered variations of routes that were presented and analyzed in the Draft EIS. These minor route variations are further analyzed in detail in chapter 4 of the Final EIS. Though portions of the EIS have been revised to include route variations, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared. Further, even though additional reroutes were considered, ultimately the Agency Preferred Alternative includes the route identified and analyzed in the Draft EIS, and there was no need to prepare a supplemental EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
893	123	123.5	Robert S. Lynch & Associates	Lynch	9-NEPA	In this case, both conditions have been met and both standards apply. The new route is a significant change in the only portion of the proposed line that is new construction and not a rebuild. It is a substantial change in the very portion of the line that has the significant impacts that have been the focus of the DEIS. This new area was not analyzed in the DEIS, let alone available for comment as an alternative. This is aptly demonstrated by the discussion of eliminating Local Alternative DC1, the discussion of which is totally lacking any discussion of the Willcox Bench which it would have impacted.	The addition of segments P7a, P7b, P7c, and P7d is not considered a substantial change; they are variations of routes that were presented and analyzed in the Draft EIS. The potential impacts of these minor route variations are further analyzed in detail in chapter 4 of the Final EIS. Additionally, outreach letters were mailed on December 15, 2014 to potentially affected landowners with parcels located on and near the Willcox Bench within 0.5 mile of the proposed Project route variations. As noted in chapters 1 and 5 of the EIS, 35 comments have been received in response to the outreach letters. These comments have been addressed in the same manner in which all public comments received on the Draft EIS were addressed; they are considered in the analysis presented in chapter 4 of the Final EIS and are included in the Project Record. Though portions of the EIS have been revised to include route variations, none of these revisions describe significant new circumstances or significant new information relevant to environmental concerns; therefore, no supplemental EIS has been prepared. Further, even though additional reroutes were considered, ultimately the Agency Preferred Alternative includes the route identified and analyzed in the Draft EIS, and there was no need to prepare a supplemental EIS.
894	123	123.6	Robert S. Lynch & Associates	Lynch	9-NEPA	Additionally, there is significant new relevant information. The Sun Zia Southwest Transmission Project has been approved by the Department of the Interior. Thus, the prior analysis discounting using a path parallel to Sun Zia (DN1, DEIS, p. 123; LD4, DEIS, p. 126) or purchasing line capacity in lieu of constructing a portion of the Southline EHV line (DEIS, p. 137-9) because of the uncertainty of that line's future (DEIS, p. 138) is no longer valid.	The SunZia project may have been approved by the Department of the Interior but as of publication of this EIS the project remains on hold.
895	123	123.7	Robert S. Lynch & Associates	Lynch	9-NEPA	We were curious how such a significant portion of the only segment of this line constituting new construction could be proposed *post hoc* for such a radical change without any recognition of the current development of the Willcox Bench.	The addition of segments P7a, P7b, P7c, and P7d is not considered a radical change; they are variations of routes that were presented and analyzed in the Draft EIS. Further, based on comments received from landowners in the Willcox Bench area, the EIS includes a discussion and analysis of the area's vineyards; see sections 3.10 and 4.10 (Visual Resources), 3.11 and 4.11 (Land Use, Including Farm and Range Resources and Military Operations), and 3.15 and 4.15 (Socioeconomics) for a discussion of the potential impacts to the area wine industry.
896	123	123.8	Robert S. Lynch & Associates	Lynch	8-MISC	One of our members reached out to the Arizona Game and Fish Department and Black Forest Partners, the project manager for Southline, and invited them for a tour. They came. Specifically, William Kipp and Doug Patterson of Black Forest Partners and Robert Fink, the Arizona Game and Fish Department Regional Wildlife Program Manager, and Gilbert Gonzales of the local Arizona Game and Fish Department office. Another of our members and a local couple joined the group.	Noted. BLM attended a similar but separate tour of the Willcox Bench area in May 2015.
897	123	123.9	Robert S. Lynch & Associates	Lynch	8-MISC	The group toured seven (7) of the vineyards, visited three (3) tasting rooms and saw two future vineyard locations. Apparently, neither the Arizona Game and Fish Department representatives nor the Black Forest Partners representatives had ever been there before. As it turns out, Arizona Game and Fish had been using outdated Google Earth pictures and it appears that BLM officials were accepting and relying on this erroneous information to the detriment of the EIS process.	Satellite imagery data used in the EIS analysis are the most current publicly available data. These were further supplemented with data collected during the May 2015 BLM field visit to the Willcox Bench and winery tour.
898	123	123.10	Robert S. Lynch & Associates	Lynch	8-MISC	Segment P7 was discussed. It was the Arizona Game and Fish Department's objection to it that caused BLM to propose, *post hoc*, the line segment directly through the most productive wine grape growing area of the state. As it turns out, the objection was only to a very small piece of that route that, as it parallels an existing power line, goes by, as does the existing line, an artificial pond that the Arizona Game and Fish Department maintains for the sandhill crane. Except for this, the Department had no objection to the rest of the P7 segment.	Per Draft EIS comment letters from the FWS (letter # 71) and AGFD (letter #67),route variations P7a through P7d would be farther away from known roost sites than P7 and would likely be at a location within the crane's flight paths where the birds are of sufficient altitude that a strike would be very unlikely. As a result of comments received from landowners in the Willcox Bench area, BLM and Western worked in coordination with AGFD and FWS regarding their concerns with segment P7. Meetings were conducted with AGFD in May and June 2015. Ultimately, the AGFD developed additional mitigation measures for segment P7 to offset impacts to wildlife habitat in the Willcox Playa area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
899	123	123.11	Robert S. Lynch & Associates	Lynch	2-BIO	Discussion that day immediately turned to attaching devices to the line so that the birds could see and avoid it, Southline moving the pond for the Arizona Game and Fish Department, Southline constructing viewing platforms and paths, etc. In other words, they discussed the mitigation strategy to fix this single problem with P7, another subject missing from the DEIS. It is crystal clear that BLM has a path forward that can keep the EIS process on track. It is our understanding that Black Forest Partners and the Arizona Game and Fish Department will meet soon with BLM and Western to design an acceptable mitigation strategy for the pond, allowing a consensus return to P7 as the preferred segment for the line in this area. We applaud that effort and encourage quick development of the mitigation plan.	BLM and Western have indeed worked in coordination with AGFD and FWS regarding their concerns with segment P7. Meetings were conducted in May and June 2015 to discuss mitigation strategy. AGFD has developed additional mitigation measures for segment P7 to offset impacts to wildlife habitat in the Willcox Playa area, including relocation of Crane Lake. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8. Additionally, line marking devices attached to the line so birds could see and avoid it are included as a PCEM in table 2-8 and discussed in section 4.8.2 of the EIS.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
900	123	123.12	Robert S. Lynch & Associates	Lynch	13-SOCI	Once you have the mitigation plan agreed to so it can be included in the Final EIS, we ask that you notify those contacted in December and other nearby landowners that the December proposal is off the table. Then the six tasting rooms on hold can start construction. The two new vineyards can be planted. Two new homes currently on hold can be built and an important economic engine for Cochise County can continue to grow. And our concerns about the Southline Project will have been resolved.	The AGFD has developed additional mitigation measures for segment P7 to offset impacts to wildlife habitat in the Willcox Playa area. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8. Landowners in the Willcox Bench area who were contacted via the outreach letter are on the Project mailing list and will be notified when the EIS will be available and how to obtain copies.
901	123	123.13	Robert S. Lynch & Associates	Lynch	8-MISC	But let me be just as crystal clear that, if BLM continues to pursue this ill thought out line segment through the Willcox Bench, we will sue before we let you damage the livelihoods of Arizona Wine Growers' Association members like this. Please keep us advised of further developments.	Noted.
902	124[1]	124.1	Arizona Game and Fish Department	deVos	9-NEPA	As we discussed, the various alternatives for the Southline transmission line all have conflicts with existing interests and management activities; in the case of P7, the Department's concern is associated with impacts to Crane Lake and wildlife that use that area. That said, there appears to be a reasonable solution that offsets these impacts to the Arizona Game and Fish Commission-owned land when these mitigation projects are fully implemented. With this accomplished, the Department can support the proposed P7 alignment.	Noted; potential impacts to Crane Lake and the wildlife that use it are considered in sections 3.8.2 and 4.8.2 of the EIS. AGFD mitigation measures have been incorporated as Project PCEMs in table 2-8 of the EIS.
903	124[1]	124.2	Arizona Game and Fish Department	deVos	9_NEPA	This letter summarizes what we discussed regarding potential mitigation for impacts to the Departments Willcox Playa Wildlife Area (WPWA). I wanted to follow up with you and identify those mitigative measures that the Department staff developed based on resource needs in the area.	Thank you.
904	124[1]	124.3	Arizona Game and Fish Department	deVos	9_NEPA	The WPWA meets Resource Category 1 designation under the Department's habitat compensation policy (I2.3) with a compensation goal of no loss of existing in-kind habitat value, and a guideline recommending that all potential losses of existing habitat values be prevented. However, since WPWA is a wholly artificial habitat, it could be reconstructed elsewhere without permanent loss. Therefore, if reconstructed, and if the loss of temporal and associated impacts are mitigated with further enhancements to the wildlife area throught the life of the project, the Commission's intent in policies A2.16 and A2.13 will have been met and possibly exceeded.	Habitat compensation policy information has been incorporated into section 3.8.2 of the EIS.
904	124[1]	124.4	Arizona Game and Fish Department	deVos	9_NEPA	The Department proposes that Southline work with our staff and the BLM to implement a plan to achieve the following proposed objectives on WPWA: • Relocation of Crane Lake: Find a suitable location and, if necessary, acquier land for the reconstructed Crane Lake; fund the construction of the lake and associated infrastructure, revegetation, visitor facilityies, and fund operation and maintenance costs of the new lake and associated infrastructure for the life of the Southline Project, with renewal of that commitment upon future renewal of the project permit. • Pond renovation: Improve or prvide funding to improve riparian emergent wetlands on three historic ponds near Kansas Settlement Road. Wetlands will be constructed to Department specifications and adequately equipped with pumps, liners, and drains to ensure that wildlife values are maintained. • Vegetation management: Fund the removal of non-native flora and revegetation with native flora on WPWA. Mitigation implementation costs associated with the three catagories avove will include operation, maintenance, analysis, monitoring, cultural and environmental clearances.	Southline has agreed in principle to these mitigation measures developed by AGFD, and the measures have been incorporated as part of the Project PCEMs in table 2-8 of the EIS. Further, analysis in section 4.8.2 of the EIS has been revised to consider the application of AGFD mitigation measures.
905	125	125.1		Wenrick, B.	2-BIO	I am extremely upset that the BLM's preferred alternative would allow Southline to be routed directly adjacent to the Willcox Playa/ Cochise Lakes Globally Important Bird Area and the wintering grounds for Sandhills Cranes in Whitewater Draw, which draws upwards of 20,000 cranes every year. Willcox Playa and Crane Lake, within the northern portion of the Sulphur Springs Valley of Southeast Arizona, supports the second largest over-wintering concentration of Sandhill Cranes in Arizona, typically 4,000 to 9,000 birds. Cochise Lakes and an area of nearby alkaline lakes, also provide important habitat for a great number of bird species.. I have photographed Sandhills Cranes in the Valley for the past 23 years, and I have submitted Photos and Videos to many Groups across the country. Please do not ruin the habitat so important to keep the Sandhills returning to the valley. This area is as important a winter feeding ground as is Bosque del Apache NWR in New Mexico.	Chapter 2 of the EIS includes more information on how the Agency Preferred Alternative was selected. BLM and Western have worked in coordination with AGFD on development of mitigation measures to offset impacts to wildlife habitat in their Willcox Playa area including relocation of Crane Lake. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.

[1] Letter received on June 24, 2015 in response to coordination with AGFD during May and June 2015 as discussed in chapter 5, section 5.3.

Table 8-1. Comments on the Draft EIS and Agency Response (Continued)

Comment ID	Submittal No.	Comment No.	Organization	Commenter Last Name	Comment Subject	Comment on Draft EIS	Agency Response to Comments
905	125	125.2		Wenrick, B.	2-BIO	Collisions with utility lines and fences are a primary threat to populations of Sandhill Cranes wherever these lines infringe on airspace the cranes use in migration and their daily feeding forays.	As stated in chapter 2 and section 3.8 in the Draft EIS, an Avian Protection Plan would be a Project-tailored plan designed to reduce avian collision mortality that results from avian interactions with electric utility facilities. Mitigation measures proposed, including use of avian flight diverters, were included in table 2-7 (now table 2-8 in the EIS) and section 4.8 of the Draft EIS.
905	125	125.3		Wenrick, B.	9_NEPA	The Final EIS should analyze a new alternative route north of I-10 and avoid the Globally Important Bird Area of Willcox Playa and Cochise Lakes altogether.	As described in chapter 2 of the Draft EIS, alternatives around the Willcox Playa were analyzed. Additionally, local route variations have been included in the Final EIS (P7a, P7b, P7c, and P7d) in response to public and agency comments and concerns about impacts near the Willcox Playa. The potential environmental impacts of all alternatives considered in detail were described in chapter 4 of the Draft EIS.
905	125	125.4		Wenrick, B.	9-NEPA	Also, the FEIS should analyze burying the line for any alternative that crosses open water or flight paths from roosting areas to feeding areas.	Section 2.9 (Alternatives Considered but Eliminated from Further Analysis) of the EIS has been revised to include a section on alternative construction methods, such as burying the proposed transmission line.
906	126	126.1		Wenrick, P.	2-BIO	I am dismayed that the BLM's preferred alternative would allow Southline to be routed directly adjacent to the Willcox Playa/ Cochise Lakes Globally Important Bird Area. This Globally Important Bird Area is not an appropriate location to site a new transmission line. Willcox Playa and Crane Lake, within the northern portion of the Sulphur Springs Valley of Southeast Arizona, supports the second largest over-wintering concentration of Sandhill Cranes in Arizona, typically 4,000 to 9,000 birds. Cochise Lakes and an area of nearby alkaline lakes, also provide important habitat for a great number of bird species..	Chapter 2 of the EIS includes information on how the Agency Preferred Alternative was selected. BLM and Western have worked in coordination with AGFD on development of mitigation measures to offset impacts to wildlife habitat in their Willcox Playa area including relocation of Crane Lake. AGFD mitigation measures have been incorporated into the EIS as PCEMs in table 2-8.
906	126	126.2		Wenrick, P.	2-BIO	Collisions with utility lines and fences are a primary threat to populations of Sandhill Cranes wherever these lines infringe on airspace the cranes use in migration and their daily feeding forays.	As stated in chapter 2 and section 3.8 in the Draft EIS, an Avian Protection Plan would be a Project-tailored plan designed to reduce avian collision mortality that results from avian interactions with electric utility facilities. Mitigation measures proposed, including use of avian flight diverters, were included in table 2-7 (now table 2-8 in the EIS) and section 4.8 of the Draft EIS.
906	126	126.3		Wenrick, P.	9-NEPA	The Final EIS should analyze a new alternative route north of I-10 and avoid the Globally Important Bird Area of Willcox Playa and Cochise Lakes altogether.	As described in chapter 2 of the Draft EIS, alternatives around the Willcox Playa were analyzed. Additionally, local route variations have been included in the Final EIS (P7a, P7b, P7c, and P7d) in response to public and agency comments and concerns about impacts near the Willcox Playa. The potential environmental impacts of all alternatives considered in detail were described in chapter 4 of the Draft EIS.
906	126	126.4		Wenrick, P.	9-NEPA	Also, the FEIS should analyze burying the line for any alternative that crosses open water or flight paths from roosting areas to feeding areas.	Section 2.9 (Alternatives Considered but Eliminated from Further Analysis) of the EIS has been revised to include a section on alternative construction methods, such as burying the proposed transmission line.

Appendix G

CULTURAL RESOURCES WITHIN THE REPRESENTATIVE RIGHT-OF-WAY

Table G-1. Cultural Resources within the Representative Right-of-Way

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section														
Route group 1	A	None	Limited Activity	Historic	Fence	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1463
Route group 1	A	None	Limited Activity	Historic	Fence	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1841
Route group 1	A	None	Limited Activity	Historic	Fence	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1844
Route group 1	A	None	Limited Activity	Historic	Fence	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1846
Route group 1	A	LA 35136	Limited Activity	Prehistoric	artifact scatter	Folsom; Mogollon	9000–8000 B.C.; A.D. 200–1100	1	Unevaluated					WRI-S-1670
Route group 1	A	LA 79551	Limited Activity	Prehistoric	artifact scatter	Mogollon	Unspecific Jornada Mogollon	1	Determined Eligible	Not Entered	SHPO	Not Entered	Not Entered	WRI-S-1831
Route group 1	A	LA 21134	Limited Activity	Prehistoric	Artifact scatter with Feature	Mogollon	Late Pueblo (Jornada) A.D. 1300–1400	1	Unevaluated		SHPO	38627	1/26/1993	WRI-S-1656
Route group 1	A	LA 35135	Limited Activity	Prehistoric	artifact scatter with Feature	Mogollon (Jornada)	Early Pueblo A.D. 1100– Late Pueblo A.D. 1400	1	Unevaluated					WRI-S-1669
Route group 1	A	LA 35137	Limited Activity	Unknown	artifact scatter with Feature	Unknown	Unknown 9500 B.C.– A.D. 1993	1	Unevaluated					WRI-S-1671
Route group 1	A	None	Ranching	Historic	Ranch	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1381
Route group 1	A	None	Structure	Historic	Structure	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1284
Route group 1	A	None	Town	Historic	Town	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1384
Route group 1	A	LA 69483	Transportation	Historic	Historic Railroad Worker Camp	Euro-American	1900–1910	1	Unknown					WRI-S-1815
Route group 1	A	None	Transportation	Historic	Road	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1532
Route group 1	A	None	Transportation	Historic	Road	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1535
Route group 1	A	None	Transportation	Historic	Road	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1538
Route group 1	A	None	Transportation	Historic	Road	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1552
Route group 1	A	None	Transportation	Historic	Road	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1719
Route group 1	A	None	Transportation	Historic	Road	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1838
Route group 1	A	None	Transportation	Historic	Road	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1839
Route group 1	A	None	Transportation	Historic	Road	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1840
Route group 1	A	None	Transportation	Historic	Road	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1842
Route group 1	A	None	Transportation	Historic	Road	Euro-American	Unknown	1	Unevaluated -- Mapped Resource					WRI-M-1845

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	B	LA 54881	Industrial	Historic	Altair Siding, El Paso & Swern RR Altair, Southern RR Siding	Euro-American	US Territorial 1902–1961	1	Unevaluated					WRI-S-1765
Route group 1	B	LA 54880	Industrial	Historic	Railroad Section Station	Euro-American	US Territorial 1902–1961	1	Determined Eligible	D	SHPO	67326	2/18/2006	WRI-S-1764
Route group 1	B	LA 54893	Limited Activity	Multi	artifact scatter with Feature	Native Archaeological Culture	Unspecific 9500 B.C.–A.D. 1880	1	Unevaluated					WRI-S-1769
Route group 1	B	None	Town	Historic	Town			1	Unevaluated -- Mapped Resource					WRI-M-1385
Route group 1	B	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1553
Route group 1	B	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1555
Route group 1	B	LA 159468	Unknown	Historic	Unknown	Unknown	Unknown	1	Determined Eligible					WRI-S-1581
Route group 1	B	LA 159826	Unknown	Multi	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1586
Route group 1	C	LA 54905	Limited Activity	Prehistoric	artifact scatter	Archaic	Unspecific Archaic 5500 B.C.–A.D. 900	1	Unevaluated		SHPO			WRI-S-1772
Route group 1	C	None	Ranching	Historic	Ranch	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1409
Route group 1	C	None	Town	Historic	Town	Euro-American		6	Unevaluated -- Mapped Resource					WRI-M-1410
Route group 1	C	LA 5197	Town	Historic	Town and Mining Site: Town of Hermanas	Euro-American	NM Statehood 1917–1960	1	Determined Eligible	D	SHPO	67326	2/18/2006	WRI-S-1758
Route group 1	C	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1553
Route group 1	C	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1600
Route group 1	C	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1614
Route group 1	C	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1622
Route group 1	C	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1625
Route group 1	C	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1627
Route group 1	C	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1903
Route group 1	C	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1904
Route group 1	C	Janos Copper Road	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3707
Route group 1	D	Shakespeare Ghost Town	Habitation	Historic	habitation	Unknown		1	Listed on State and/or Federal Register					WRI-R-3540
Route group 1	D	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1673

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	D	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1695
Route group 1	D	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-1662
Route group 1	D	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1795
Route group 1	D	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1804
Route group 1	D	LA 99968	Limited Activity	Historic	artifact scatter	Euro-American	US Territorial	1	Determined Not Eligible		SHPO	56257	10/30/1998	WRI-S-1850
Route group 1	D	None	Limited Activity	Historic	Fence	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2184
Route group 1	D	LA 99967	Limited Activity	Historic	Unknown	Euro-American	Unspecified	1	Determined Not Eligible		SHPO	41338	9/9/1993	WRI-S-1849
Route group 1	D	LA 68966	Mining	Historic	Mining	Euro-American	1900–1950	1	Unevaluated					WRI-S-1813
Route group 1	D	None	Mining	Historic	Mining feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2053
Route group 1	D	None	Town	Historic	Town	Multi		26	Unevaluated -- Mapped Resource					WRI-M-1432
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1675
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1676
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1677
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1687
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1692
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1693
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1697
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1698
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1701
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1702
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1764
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1777
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1803
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1805

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1990
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1991
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1993
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2091
Route group 1	D	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2198
Route group 1	D	Continental Divide	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2231
Route group 1	D	None	Utility	Historic	Telegraph line	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2012
Route group 1	D	None	Utility	Historic	Utility line	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2185
Route group 1	D	LA 129785	Utility	Historic	Utility line	Euro-American	Recent 1948–Present	1	Unevaluated		SHPO	92156	6/6/2011	WRI-S-1498
Route group 1	DN1	LA 69609	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					None
Route group 1	DN1	LA 98750	Limited Activity	Prehistoric	Artifact scatter	Mogollon	Unknown	1	Unevaluated					WRI-S-1846
Route group 1	DN1	None	Transportation	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1581
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1582
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2205
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2206
Route group 1	DN1	None	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-3705
Route group 1	DN1	None	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-3707
Route group 1	DN1	None	Limited Activity	Historic	Fence	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Limited Activity	Historic	Fence	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					
Route group 1	DN1	None	Transportation	Historic	Railroad Feature	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Railroad Feature	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	DN1	None	Limited Activity	Historic	Tank	Euro-American		1	Unevaluated -- Mapped Resource					None
Route group 1	P1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1513
Route group 1	P1	None	Industrial	Historic	Pumping Station			1	Unevaluated -- Mapped Resource					WRI-M-2213
Route group 1	P1	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1822
Route group 1	P1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1516
Route group 1	P1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1821
Route group 1	P1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1820
Route group 1	P1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1821
Route group 1	P3	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-1529

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	P3	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-1558
Route group 1	P3	LA 16473	Limited Activity	Multi	artifact scatter	Unknown	Unknown 9500 B.C.–A.D. 1993	1	Unevaluated					WRI-S-1614
Route group 1	P3	LA 32772	Limited Activity	Prehistoric	artifact scatter	Mogollon	Unspecific Mimbres A.D. 200–1400	1	Unevaluated					WRI-S-1661
Route group 1	P3	LA 32773	Limited Activity	Prehistoric	artifact scatter	Mogollon (Mimbres)	Unspecific A.D. 200–1400	1	Unevaluated					WRI-S-1662
Route group 1	P3	LA 35198	Limited Activity	Prehistoric	artifact scatter	Mogollon	A.D. 200–1400	1	Unevaluated					WRI-S-1697
Route group 1	P3	LA 16475	Limited Activity	Prehistoric	artifact scatter with Feature	Mogollon	Unspecific Mimbres A.D. 200–1400	1	Unevaluated					WRI-S-1616
Route group 1	P3	LA 16477	Limited Activity	Prehistoric	artifact scatter with Feature	Mogollon	Unspecific Mimbres A.D. 200–1400	1	Unevaluated					WRI-S-1618
Route group 1	P3	LA 35199	Limited Activity	Unknown	artifact scatter	Unknown	Unknown 9500 B.C.–A.D. 1993	1	Unevaluated					WRI-S-1698
Route group 1	P3	None	Mining	Historic	Mining feature			1	Unevaluated -- Mapped Resource					WRI-M-1865
Route group 1	P3	None	Mining	Historic	Mining feature			1	Unevaluated -- Mapped Resource					WRI-M-1866
Route group 1	P3	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1545
Route group 1	P3	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1553
Route group 1	P3	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1557
Route group 1	P3	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1558
Route group 1	P3	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1560
Route group 1	P3	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1561
Route group 1	P3	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1934
Route group 1	P3	LA 159471	Transportation	Historic	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1584
Route group 1	P3	None	Utility	Historic	Gas line			1	Unevaluated -- Mapped Resource					WRI-M-1935
Route group 1	P3	LA 129785	Utility	Historic	Utility Line	Euro-American	Recent 1948–Present	1	Unevaluated		SHPO	92156	6/6/2011	WRI-S-1498
Route group 1	P2	LA 35175	Limited Activity	Prehistoric	artifact scatter	Archaic; Mogollon	Archaic 5500 B.C.–A.D. 900; A.D. 200–750	1	Unevaluated					WRI-S-1683
Route group 1	P2	LA 35176	Limited Activity	Prehistoric	artifact scatter	Mogollon (Jornada)	A.D. 200–1100	1	Unevaluated					WRI-S-1684
Route group 1	P2	LA 35177	Limited Activity	Prehistoric	artifact scatter	Mogollon (Jornada)	A.D. 200–1100	1	Unevaluated					WRI-S-1685
Route group 1	P2	LA 51111	Limited Activity	Prehistoric	artifact scatter	Archaic	Late Archaic 1800 B.C.–A.D. 900	1	Unevaluated					WRI-S-1750

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	P2	LA 35178	Limited Activity	Unknown	artifact scatter	Unknown	Unknown 9500 B.C.–A.D. 1993	1	Unevaluated					WRI-S-1686
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2211
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2212
Route group 1	P2	None	Utility	Historic	Pipeline			1	Unevaluated -- Mapped Resource					WRI-M-2224
Route group 1	P2	Crooke's Wagon Road/Mormon Battalion Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3705
Route group 1	P2	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-1581
Route group 1	P2	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-1591
Route group 1	P2	LA 152956	Limited Activity	Historic	artifact scatter	Euro-American	NM Territorial–Recent 1900–1950	1	Determined Not Eligible		SHPO	79032	9/7/2006	WRI-S-1564
Route group 1	P2	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1461
Route group 1	P2	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1485
Route group 1	P2	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1823
Route group 1	P2	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1828
Route group 1	P2	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1953
Route group 1	P2	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1955
Route group 1	P2	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1969
Route group 1	P2	LA 15324	Limited Activity	Historic	Historic Trash	Euro-American	Unspecific A.D. 1539–Present	1	Unevaluated		SHPO	16740	11/11/1988	WRI-S-1565
Route group 1	P2	LA 15327	Limited Activity	Historic	Historic Trash	Unknown	Unspecific 1912–1945	1	Unevaluated					WRI-S-1568
Route group 1	P2	LA 136070	Limited Activity	Multi	Fire Cracked Rock Concentration (3)	Native Archaeological Culture	Unspecific 9500 B.C.–A.D. 1880	1	Unevaluated		SHPO	65144	6/18/2002	WRI-S-1526
Route group 1	P2	LA 12782	Limited Activity	Prehistoric	artifact scatter	Mogollon	Mimbres A.D. 200–1400	1	Unknown					WRI-S-1470
Route group 1	P2	LA 12786	Limited Activity	Prehistoric	artifact scatter	Mogollon	Mimbres A.D. 200–1400	1	Unknown					WRI-S-1474
Route group 1	P2	LA 15330	Limited Activity	Prehistoric	artifact scatter	Archaic; Mogollon	Middle/Late Archaic 3000 B.C.–A.D. 900, Jornada A.D. 200–1400	1	Unevaluated					WRI-S-1571
Route group 1	P2	LA 12784	Limited Activity	Unknown	artifact scatter	unknown	Unknown 9500 B.C.–A.D. 1993	1	Unknown					WRI-S-1472

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	P2	LA 18810	Limited Activity	Prehistoric	artifact scatter	Mogollon	Late Pueblo A.D. 1175–1400	1	Unevaluated					WRI-S-1635
Route group 1	P2	None	Ranching	Historic	Ranch			4	Unevaluated -- Mapped Resource					WRI-M-1486
Route group 1	P2	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1330
Route group 1	P2	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1355
Route group 1	P2	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1356
Route group 1	P2	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1357
Route group 1	P2	None	Town	Historic	Town			6	Unevaluated -- Mapped Resource					WRI-M-1481
Route group 1	P2	None	Town	Historic	Town			10	Unevaluated -- Mapped Resource					WRI-M-1482
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1513
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1515
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1517
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1541
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1542
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1547
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1548
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1576
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1577
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1582
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1583
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1584
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1585
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1586
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1589

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1590
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1593
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1827
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1830
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1928
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1930
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1931
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1936
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1937
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1948
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1959
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1960
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1961
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1968
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1972
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1976
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1980
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2205
Route group 1	P2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2206
Route group 1	P2	Janos Copper Road	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3707
Route group 1	P2	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 1	P2	LA 15328	Limited Activity	Prehistoric	Artifact scatter	Mogollon	Unspecific Mimbres 200AD-1400AD	1	Unevaluated		SHPO		9/7/2006	WRI-S-1569
Route group 1	S1	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-1529

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	S1	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1831
Route group 1	S1	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1833
Route group 1	S1	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1835
Route group 1	S1	LA 65461	Limited Activity	Prehistoric	artifact scatter	Native Archaeological Culture	ceramic A.D. 200–1400	1	Unevaluated					WRI-S-1796
Route group 1	S1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1513
Route group 1	S1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1519
Route group 1	S1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1522
Route group 1	S1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1524
Route group 1	S1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1525
Route group 1	S1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1527
Route group 1	S1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1528
Route group 1	S1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1530
Route group 1	S1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1531
Route group 1	S1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1532
Route group 1	S1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1821
Route group 1	S1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1832
Route group 1	S1	LA 129785	Utility	Historic	Utility Line	Euro-American	Recent 1948–Present	1	Unevaluated		SHPO	92156	6/6/2011	WRI-S-1498
Route group 1	S1	None	Water Control Features	Historic	Canal			1	Unevaluated -- Mapped Resource					WRI-M-1533
Route group 1	S2	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1463
Route group 1	S2	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1841
Route group 1	S2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1532
Route group 1	S2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1536
Route group 1	S2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1538

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	S2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1552
Route group 1	S2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1554
Route group 1	S2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1720
Route group 1	S3	LA 54878	Industrial	Historic	El Paso and Southwestern Railroad, Mt. Riley Station	Euro-American	US Territorial 1902–1961	1	Determined Eligible	D	SHPO	67326	2/18/2006	WRI-S-1762
Route group 1	S3	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-1556
Route group 1	S3	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1851
Route group 1	S3	None	Town	Historic	Town			2	Unevaluated -- Mapped Resource					WRI-M-1382
Route group 1	S3	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1553
Route group 1	S3	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1725
Route group 1	S3	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1729
Route group 1	S4	None	Ranching	Historic	Ranch			1	Unevaluated -- Mapped Resource					WRI-M-1386
Route group 1	S4	None	Town	Historic	Town			1	Unevaluated -- Mapped Resource					WRI-M-1385
Route group 1	S4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1553
Route group 1	S4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1555
Route group 1	S4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1852
Route group 1	S5	LA 162363	Habitation	Historic	artifact scatter with Feature - Charles E. Bourgeois Homestead	Euro-American	Statehood 1914–Present	1	Unknown		SHPO	87483	8/19/2009	WRI-S-1596
Route group 1	S5	LA 54883	Industrial	Historic	Miriam Railroad Siding	Euro-American	US Territorial 1902–1961	1	Determined Eligible	D	SHPO	67326	2/18/2006	WRI-S-1767
Route group 1	S5	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-1880
Route group 1	S5	LA 54882	Industrial	Historic	Railroad Stations	Euro-American	US Territorial 1902–1961	1	Determined Eligible	D	SHPO	67326	2/18/2006	WRI-S-1766
Route group 1	S5	LA 131904	Limited Activity	Historic	artifact scatter	Euro-American	1920–1939	1	Unknown					WRI-S-1508
Route group 1	S5	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1867
Route group 1	S5	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1868
Route group 1	S5	LA 50346	Limited Activity	Historic	Trash Dump	Hispanic	NM Statehood 1912–1945	1	Unevaluated					WRI-S-1747

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	S5	LA 54894	Limited Activity	Prehistoric	artifact scatter	Mogollon	Early Pueblo A.D. 1000–Late Pueblo A.D. 1400	1	Unevaluated					WRI-S-1770
Route group 1	S5	LA 35231	Limited Activity	Unknown	artifact scatter	Unknown	Unknown 9500 B.C.–A.D. 1993	1	Unevaluated					WRI-S-1712
Route group 1	S5	None	Ranching	Historic	Ranch			1	Unevaluated -- Mapped Resource					WRI-M-1409
Route group 1	S5	LA 162362	Ranching	Historic	Ranching / Agricultural	Euro-American	NM Statehood 1935–Present	1	Unknown		SHPO	87483	8/19/2009	WRI-S-1595
Route group 1	S5	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1467
Route group 1	S5	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1468
Route group 1	S5	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1475
Route group 1	S5	None	Town	Historic	Town			7	Unevaluated -- Mapped Resource					WRI-M-1394
Route group 1	S5	None	Town	Historic	Town			1	Unevaluated -- Mapped Resource					WRI-M-1407
Route group 1	S5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1553
Route group 1	S5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1566
Route group 1	S5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1568
Route group 1	S5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1569
Route group 1	S5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1570
Route group 1	S5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1573
Route group 1	S5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1599
Route group 1	S5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1879
Route group 1	S5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1881
Route group 1	S5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1883
Route group 1	S5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2092
Route group 1	S5	LA 158431	Unknown	Historic	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1577
Route group 1	S5	LA 76114	Unknown	Historic	Unknown	Unknown	1500–1950	1	Determined Eligible	D	SHPO	NA	2/18/2006	WRI-S-1822
Route group 1	S6	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1907

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	S6	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1908
Route group 1	S6	None	Ranching	Historic	Ranch			1	Unevaluated -- Mapped Resource					WRI-M-1409
Route group 1	S6	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1553
Route group 1	S6	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1600
Route group 1	S6	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1608
Route group 1	S6	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1609
Route group 1	S6	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1611
Route group 1	S6	Janos Copper Road	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3707
Route group 1	S7	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-1623
Route group 1	S7	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-1662
Route group 1	S7	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1909
Route group 1	S7	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1913
Route group 1	S7	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1918
Route group 1	S7	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1921
Route group 1	S7	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-1924
Route group 1	S7	None	Ranching	Historic	Ranch			3	Unevaluated -- Mapped Resource					WRI-M-1496
Route group 1	S7	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1369
Route group 1	S7	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1490
Route group 1	S7	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1500
Route group 1	S7	None	Town	Historic	Town			1	Unevaluated -- Mapped Resource					WRI-M-1415
Route group 1	S7	None	Town	Historic	Town			1	Unevaluated -- Mapped Resource					WRI-M-1418
Route group 1	S7	None	Town	Historic	Town			2	Unevaluated -- Mapped Resource					WRI-M-1419
Route group 1	S7	None	Town	Historic	Town			100	Unevaluated -- Mapped Resource					WRI-M-1426

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	S7	LA 44811	Town	Historic	Victorio Siding, Victorio Station	Euro-American	US Territorial 1901–NM Statehood 1935	1	Determined Eligible	D	SHPO	40038	5/18/1993	WRI-S-1737
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1626
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1631
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1633
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1634
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1640
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1642
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1643
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1659
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1665
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1667
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1758
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1906
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1917
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1922
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2016
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2020
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2025
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2029
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2033
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2034
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2037
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2038

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 1	S7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2091
Route group 1	S7	Crooke's Wagon Road/Mormon Battalion Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3705
Route group 1	S7	LA 160635	Unknown	Historic	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1589
Route group 1	S7	LA 160636	Unknown	Historic	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1590
Route group 1	S7	LA 160637	Unknown	Historic	Unknown	Unknown	Unknown	1	Determined Not Eligible					WRI-S-1591
Route group 1	S7	None	Utility	Historic	Pipeline			1	Unevaluated -- Mapped Resource					WRI-M-2229
Route group 1	S7	None	Utility	Historic	Telegraph line			1	Unevaluated -- Mapped Resource					WRI-M-2012
Route group 1	S8	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-1662
Route group 1	S8	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-1984
Route group 1	S8	LA 134502	Limited Activity	Prehistoric	artifact scatter	Mogollon	Late Pithouse to Early Pithouse--Mimbres A.D. 600--1200	1	Determined Eligible	D	SHPO	64776	6/17/2002	WRI-S-1518
Route group 1	S8	LA 134503	Limited Activity	Prehistoric	artifact scatter	Mogollon	Unspecific Mimbres Mogollon A.D. 200--1400	1	Determined Not Eligible		SHPO	64776	6/12/2002	WRI-S-1519
Route group 1	S8	LA 131194	Transportation	Historic	Old SR 70/80 roadbed	Euro-American	Late Historic 1920--1945	1	Determined Not Eligible		SHPO	78825	8/15/2006	WRI-S-1507
Route group 1	S8	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1981
Route group 1	S8	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1982
Route group 1	S8	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1983
Route group 1	S8	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2091
Route group 1	S8	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 1	S8	None	Utility	Historic	Pipeline			1	Unevaluated -- Mapped Resource					WRI-M-2224
Route group 1	S8	None	Utility	Historic	Pipeline			1	Unevaluated -- Mapped Resource					WRI-M-2225
Route group 1	S8	None	Utility	Historic	Telegraph line			1	Unevaluated -- Mapped Resource					WRI-M-1985
Route group 1	S8	None	Utility	Historic	Telegraph line			1	Unevaluated -- Mapped Resource					WRI-M-2012
Route group 1	S8	LA 129785	Utility	Historic	Utility Line	Euro-American	Recent 1948--Present	1	Unevaluated		SHPO	92156	6/6/2011	WRI-S-1498
Route group 2	LD1	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1804
Route group 2	LD1	LA 129570	Limited Activity	Historic	artifact scatter	Euro-American	Anglo	1	Determined Eligible	D	SHPO	60125	9/7/2000	WRI-S-3704

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	LD1	LA 56186	Limited Activity	Prehistoric	artifact scatter	Native American	Unknown	1	Unevaluated					WRI-S-3728
Route group 2	LD1	LA 140121	Mining	Historic	Habitation	Euro-American	Anglo	1	Unevaluated					WRI-S-3703
Route group 2	LD1	None	Mining	Historic	Mining feature			1	Unevaluated -- Mapped Resource					WRI-M-2053
Route group 2	LD1	None	Other	Historic	Compound			5	Unevaluated -- Mapped Resource					WRI-M-4701
Route group 2	LD1	None	Other	Historic	Compound			10	Unevaluated -- Mapped Resource					WRI-M-4702
Route group 2	LD1	None	Other	Historic	Compound			3	Unevaluated -- Mapped Resource					WRI-M-4703
Route group 2	LD1	None	Other	Historic	Compound			20	Unevaluated -- Mapped Resource					WRI-M-4705
Route group 2	LD1	None	Other	Historic	Compound			4	Unevaluated -- Mapped Resource					WRI-M-4706
Route group 2	LD1	None	Other	Historic	Compound			2	Unevaluated -- Mapped Resource					WRI-M-4707
Route group 2	LD1	None	Other	Historic	Ditch			1	Unevaluated -- Mapped Resource					WRI-M-3740
Route group 2	LD1	None	Other	Historic	Tank			1	Unevaluated -- Mapped Resource					WRI-M-4461
Route group 2	LD1	None	Other	Historic	Tank			1	Unevaluated -- Mapped Resource					WRI-M-4463
Route group 2	LD1	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4481
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0011
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0012
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0014
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0023
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0028
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0029
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0030
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0031
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0270
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1805
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3718

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3726
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3742
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3744
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3769
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3770
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3771
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3772
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3800
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3841
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3844
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3848
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3849
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3850
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3860
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3890
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3896
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3902
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3911
Route group 2	LD1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4336
Route group 2	LD1	AZ CC:11:70(ASM)	Transportation	Historic	Road	Non Native Culture	Late Historic 1900–1950	1	Unevaluated					WRI-S-1325
Route group 2	LD1	AZ CC:12:50(ASM)	Transportation	Historic	Road (Historic West Sellars Ranch Road)	Euro-American	Post A.D.1700 Historic A.D.1700–1950	1	Unevaluated					WRI-S-1339
Route group 2	LD1	AZ CC:12:51(ASM)	Transportation	Historic	Road (Historic Wood Canyon Road)	Euro-American	Post A.D.1700 Historic A.D.1700–1950	1	Unevaluated					WRI-S-1340
Route group 2	LD1	AZ CC:16:22(ASM)	Transportation	Historic	Road (Portal Road)	Euro-American	1932	1	Unevaluated					WRI-S-1394

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	LD1	None	Transportation	Historic	Stage route			1	Unevaluated -- Mapped Resource					WRI-M-0600
Route group 2	LD1	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 2	LD1	AZ CC:16:26(ASM)	Transportation	Historic	Vanar Road	Euro-American	Prior to 1914	1	Unevaluated					WRI-S-3783
Route group 2	LD1	LA 149311	Unknown	Unknown	unknown	Unknown	Unknown	1	Unevaluated					WRI-S-3717
Route group 2	LD1	AZ T:9:85(ASM)	Utility	Historic	AT&T transcontinental communication cable	Euro-American	1900–1950		Unevaluated					WRI-S-3782
Route group 2	LD1	AZ CC:16:16(ASM)	Utility	Historic	telephone line	Euro-American	1900–1950		Unevaluated					WRI-S-3777
Route group 2	LD1	None	Utility	Historic	Utility line			1	Unevaluated -- Mapped Resource					WRI-M-3746
Route group 2	LD1	None	Utility	Historic	Utility line			1	Unevaluated -- Mapped Resource					WRI-M-4337
Route group 2	LD1	LA 129785	Utility	Historic	Utility Line	Euro-American	Recent 1948–Present	1	Unevaluated		SHPO	92156	6/6/2011	WRI-S-1498
Route group 2	LD1	None	Water Control Features	Historic	Levee			1	Unevaluated -- Mapped Resource					WRI-M-3861
Route group 2	LD2	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-2055
Route group 2	LD2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3709
Route group 2	LD2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3714
Route group 2	LD2	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 2	LD3a	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-3788
Route group 2	LD3a	None	Transportation	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-3808
Route group 2	LD3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3810
Route group 2	LD3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3813
Route group 2	LD3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3814
Route group 2	LD3a	None	Utility	Historic	Transmission Line			1	Unevaluated -- Mapped Resource					WRI-M-3818
Route group 2	LD3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3819
Route group 2	LD3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3820
Route group 2	LD3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3823
Route group 2	LD3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3824
Route group 2	LD3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3827

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	LD3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3828
Route group 2	LD3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3834
Route group 2	LD3a	LA 12779	Limited Activity	Prehistoric	Artifact scatter	Mogollon	Unspecified	1	Unevaluated					WRI-S-3721
Route group 2	LD3a	LA 12780	Habitation	Prehistoric	Habitation	Mogollon	Unspecified	1	Unevaluated					WRI-S-3722
Route group 2	LD3a	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 2	LD3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2077
Route group 2	LD4	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2099
Route group 2	LD4	None	Transportation	Historic	Trail			1	Unevaluated -- Mapped Resource					WRI-M-3703
Route group 2	LD4	None	Transportation	Historic	Road	Euro-American			Unevaluated -- Mapped Resource					WRI-M-3933
Route group 2	LD4	AZ CC:3:91(ASM)	Transportation	Historic	Historic Road (US191, US 71)	Euro-American	Historic 1800–1950	1	Determined Eligible	A, D	SHPO	NA	5/6/2002; 1/8/2004	WRI-S-1395
Route group 2	LD4	AZ FF:1:33(ASM)	Transportation	Historic	Road (US666)	Euro-American	Anglo	1	Unevaluated					WRI-S-1438
Route group 2	LD4	AZ CC:10:3(ASM)	Limited Activity	Prehistoric	Artifact scatter	Mogollon		1	Unevaluated					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Fence			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road to Solomonsville			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Railroad			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Trail			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4	None	Transportation	Historic	Road to Will Springs Canyon			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option4	Zuniga Route and Return Route (approx.)	Transportation	Historic	Trail			1	Unevaluated -- Mapped Resource					WRI-M-3703
Route group 2	LD4-Option4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0281
Route group 2	LD4-Option4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0670
Route group 2	LD4-Option4	Zuniga Route and Return Route (approx.)	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3703
Route group 2	LD4-Option4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	LD4-Option4	None	Utility	Historic	Telegraph			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option4	None	Transportation	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option4	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0117
Route group 2	LD4-Option5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0281
Route group 2	LD4-Option5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0664
Route group 2	LD4-Option5	Zuniga Route and return route (approx.)	Transportation	Historic	Trail			1	Unevaluated -- Mapped Resource					WRI-M-3703
Route group 2	LD4-Option5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0670
Route group 2	LD4-Option5	None	Town	Historic	Town	Euro-American		6	Unevaluated -- Mapped Resource					WRI-M-0878
Route group 2	Ga	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2096
Route group 2	F	None	Utility	Historic	Pipeline	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2219
Route group 2	LD4-Option5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option5	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option5	None	Limited Activity	Historic	Windmill			1	Unevaluated -- Mapped Resource					None
Route group 2	LD4-Option5	None	Limited Activity	Historic	Tank			1	Unevaluated -- Mapped Resource					None
Route group 2	WC1a	Zuniga Route and return route (approx)	Transportation	Historic	Trail			1	Unevaluated -- Mapped Resource					WRI-M-3703

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	WC1a	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-4353
Route group 2	WC1a	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-4413
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4244
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4245
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4247
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4251
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4259
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4261
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4266
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4269
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4273
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4275
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4276
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4290
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4294
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4347
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4354
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4356
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4357
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4358
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4360
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4361
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4364

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4367
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4370
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4389
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4391
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4398
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4402
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4403
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4425
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4428
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4430
Route group 2	WC1a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-4434
Route group 2	WC1a	None	Other	Historic	Compound			10	Unevaluated -- Mapped Resource					WRI-M-4735
Route group 2	WC1a	None	Other	Historic	Windmill			1	Unevaluated -- Mapped Resource					WRI-M-4853
Route group 2	WC1a	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1255
Route group 2	WC1a	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1256
Route group 2	WC1a	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4847
Route group 2	WC1a	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4848
Route group 2	WC1a	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4852
Route group 2	WC1a	AZ CC:9:5(ASM)	Transportation	Historic	Historic-SPRR Station	Euro-American	Prior to 1900	1	Unevaluated					WRI-S-3745
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0199
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0278
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0280
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0709

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0710
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0716
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0718
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0719
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4001
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4006
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4009
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4015
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4016
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4018
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4019
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4020
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4137
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4140
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4141
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4142
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4148
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4149
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4151
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4155
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4162
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4171
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4264

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4373
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4374
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4375
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4392
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4404
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4405
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4406
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4415
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4418
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4421
Route group 2	WC1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4429
Route group 2	WC1a	None	Utility	Historic	Utility line			1	Unevaluated -- Mapped Resource					WRI-M-4355
Route group 2	WC1a	None	Utility	Historic	Utility line			1	Unevaluated -- Mapped Resource					WRI-M-4414
Route group 2	E	None	Industrial	Historic	Airfield	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1013
Route group 2	E	None	Limited Activity	Historic	Fence	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2055
Route group 2	E	LA 55764	Limited Activity	Prehistoric	artifact scatter with Feature	Mogollon	Early Pueblo A.D. 1050–1250	1	Unevaluated		SHPO	62627	1/16/2002	WRI-S-1775
Route group 2	E	None	Structure	Historic	Structure	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0773
Route group 2	E	None	Structure	Historic	Structure	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0804
Route group 2	E	None	Structure	Historic	Structure	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0805
Route group 2	E	None	Structure	Historic	Structure	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1453
Route group 2	E	None	Town	Historic	Town	Euro-American		2	Unevaluated -- Mapped Resource					WRI-M-1030
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0002
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0003

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0006
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0008
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0018
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0020
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0021
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0022
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0023
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0246
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0252
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0253
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0593
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0594
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0595
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0597
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0605
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1808
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1810
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1814
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1815
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2059
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2062
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2063
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2074

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2084
Route group 2	E	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2085
Route group 2	E	None	Transportation	Historic	Stage route	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0600
Route group 2	E	None	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0235
Route group 2	E	None	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0236
Route group 2	E	None	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0237
Route group 2	E	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 2	F	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0072
Route group 2	F	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0124
Route group 2	F	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0923
Route group 2	F	AZ CC:10:54(ASM)	Limited Activity	Multi	artifact scatter	Mogollon; Historic	Preceramic 12,000 B.C.–A.D. 500; Historic	1	Unevaluated					WRI-S-1288
Route group 2	F	AZ CC:10:104(ASM)	Limited Activity	Prehistoric	artifact scatter	Native Archaeological Culture	Prehistoric 12,000 B.C.– A.D. 1500	1	Unevaluated					WRI-S-1252
Route group 2	F	None	Structure	Historic	Structure	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0900
Route group 2	F	AZ CC:10:103(ASM)	Transportation	Historic	Homestead (Bowie Junction)	Euro-American	Late Historic 1900–1950	1	Unevaluated					WRI-S-1251
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0035
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0039
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0040
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0041
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0053
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0057
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0058
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0059
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0060

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0061
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0075
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0083
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0084
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0085
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0086
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0098
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0100
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0101
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0102
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0117
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0118
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0128
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0139
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0143
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0147
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0148
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0149
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0150
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0609
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0610
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0646
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0648

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0656
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0657
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0660
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0664
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0666
Route group 2	F	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2095
Route group 2	F	AZ CC:10:93(ASM)	Transportation	Historic	Road (Safford Interchange)	Euro-American	Late Historic 1900--1950; 1950--Present	1	Unevaluated		SHPO	NA	1/23/2002	WRI-S-1309
Route group 2	F	None	Utility	Historic	Pipeline	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2219
Route group 2	F	None	Water Control Features	Historic	Dike	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0129
Route group 2	F	Zuniga Route and Return Route (approx.)	Transportation	Historic	Trail			4	Unevaluated -- Mapped Resource					WRI-M-3703
Route group 2	F	None	Water Control Features	Historic	Well	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0911
Route group 2	Ga	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2096
Route group 2	Ga	None	Other	Historic	Tank	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1103
Route group 2	Ga	None	Other	Historic	Tank	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1154
Route group 2	Ga	None	Other	Historic	Tank	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1156
Route group 2	Ga	None	Other	Historic	Windmill	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1097
Route group 2	Ga	None	Ranching	Historic	Ranch	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2217
Route group 2	Ga	None	Structure	Historic	Structure	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0931
Route group 2	Ga	None	Structure	Historic	Structure	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1060
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0200
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0202
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0204
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0284

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0285
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0291
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0297
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0305
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0309
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0310
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0311
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0312
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0313
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0315
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0317
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0322
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0331
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0333
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0343
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0664
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0676
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0677
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0718
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0721
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0724
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0725
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0732

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0733
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0734
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0738
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0739
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2097
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2098
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2099
Route group 2	Ga	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2218
Route group 2	Ga	AZ AA:16:377(ASM)	Transportation	Historic	State Route 86	Euro-American	1900–1950	1	Determined Eligible	A, D	SHPO	NA	10/3/2003	WRI-S-1183
Route group 2	Ga	Zuñiga Route	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-3703
Route group 2	Ga	None	Water Control Features	Historic	Well	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1058
Route group 2	Gb	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0713
Route group 2	Gb	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0714
Route group 2	Gb	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0715
Route group 2	Gb	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0720
Route group 2	Gc	None	Cemetery	Historic	Cemetery	Multi		1	Unevaluated -- Mapped Resource					WRI-M-0969
Route group 2	Gc	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0186
Route group 2	Gc	AZ CC:13:3(ASM)	Limited Activity	Prehistoric	artifact scatter	Native Archaeology Culture	Prehistoric 1200 B.C.–A.D. 1500	1	Unknown					WRI-S-1359
Route group 2	Gc	AZ CC:13:5(ASM)	Limited Activity	Prehistoric	artifact scatter with Features	Native Archaeological Culture	Prehistoric 1200 B.C.–A.D. 1500	1	Unknown					WRI-S-1369
Route group 2	Gc	None	Other	Historic	Tank	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0986
Route group 2	Gc	AZ CC:13:45(ASM)	Ranching	Historic	Homestead	Euro-American	Late Historic 1900–1950	1	Determined Eligible	D	SHPO	NA	10/3/2003	WRI-S-1368
Route group 2	Gc	None	Structure	Historic	Structure	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0966
Route group 2	Gc	None	Structure	Historic	Structure	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0967

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	Gc	None	Town	Historic	Town	Euro-American		34	Unevaluated -- Mapped Resource					WRI-M-0977
Route group 2	Gc	AZ CC:3:91(ASM)	Transportation	Historic	Historic Road (US191, US 71)	Euro-American	Historic 1800–1950	1	Determined Eligible	A, D	SHPO	NA	5/6/2002; 1/8/2004	WRI-S-1395
Route group 2	Gc	AZ FF:1:34(ASM)	Transportation	Historic	Railroad (Arizona & Colorado Railroad Company)	Euro-American	Late Historic 1903	1	Determined Eligible	A,D	SHPO	NA	11/25/2003	WRI-S-1439
Route group 2	Gc	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0188
Route group 2	Gc	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0218
Route group 2	Gc	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0220
Route group 2	Gc	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0705
Route group 2	Gc	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2099
Route group 2	Gc	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2100
Route group 2	Gc	Zuñiga Route	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-3703
Route group 2	I	Zuñiga Route	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-3703
Route group 2	I	None	Utility	Historic	Pipeline	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2219
Route group 2	I	None	Utility	Historic	Telegraph line	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0654
Route group 2	I	None	Water Control Features	Historic	Dike	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0877
Route group 2	J	None	Town	Historic	Town	Euro-American		6	Unevaluated -- Mapped Resource					WRI-M-0878
Route group 2	J	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0670
Route group 2	J	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2096
Route group 2	J	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0281
Route group 2	J	None	Utility	Historic	Pipeline	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2219
Route group 2	J	Zuñiga Route	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-3703
Route group 2	P4a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1986
Route group 2	P4a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1987
Route group 2	P4a	Continental Divide	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-2231

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	P4b	None	Industrial	Historic	Railroad			1	Unevaluated -- Mapped Resource					WRI-M-2179
Route group 2	P4b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2180
Route group 2	P4b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2181
Route group 2	P4b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2182
Route group 2	P4b	None	Utility	Historic	Pipeline			1	Unevaluated -- Mapped Resource					WRI-M-2224
Route group 2	P4c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1803
Route group 2	P4c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2044
Route group 2	P4c	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 2	P5a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-2055
Route group 2	P5a	LA 55764	Limited Activity	Prehistoric	artifact scatter with Feature	Mogollon	Early Pueblo A.D. 1050–1250	1	Unevaluated		SHPO	62627	1/16/2002	WRI-S-1775
Route group 2	P5a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1808
Route group 2	P5a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1809
Route group 2	P5a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1810
Route group 2	P5b	LA 130265	Habitation	Historic	artifact scatter with Features	Euro-American	Territorial–Statehood 1880–1920	1	Determined Eligible		SHPO	62627	1/16/2002	WRI-S-1503
Route group 2	P5b	LA 55762	Habitation	Multi	artifact scatter with Features	Unknown, Euro-American	9500 B.C.–A.D. 1550, US Territorial 1846–1912	1	Determined Eligible		SHPO	62627	1/16/2002	WRI-S-1773
Route group 2	P5b	AZ CC:12:22(ASM)	Habitation	Prehistoric	artifact scatter	Native Archaeological Culture	ceramic A.D. 200–1500	1	Unevaluated					WRI-S-1332
Route group 2	P5b	AZ CC:12:23(ASM)	Habitation	Prehistoric	Rock Shelters with Artifacts	Native Archaeological Culture	ceramic A.D. 200–1500	1	Unevaluated					WRI-S-1333
Route group 2	P5b	AZ CC:12:24(ASM)	Limited Activity	Historic	artifact scatter	Non Native Culture	1917–1931	1	Unevaluated					WRI-S-1334
Route group 2	P5b	AZ CC:12:20(ASM)	Limited Activity	Prehistoric	artifact scatter	Native Archaeological Culture	Prehistoric 1200 B.C.–A.D. 1500	1	Unknown					WRI-S-1330
Route group 2	P5b	AZ CC:12:25(ASM)	Limited Activity	Prehistoric	artifact scatter	Native Archaeological Culture	Prehistoric 1200 B.C.–A.D. 1500	1	Unknown					WRI-S-1335
Route group 2	P5b	None	Mining	Historic	Mine			15	Unevaluated -- Mapped Resource					WRI-M-1460
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0001
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0023

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0024
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0025
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0075
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0230
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0245
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0249
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0254
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0258
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0274
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0275
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-1811
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2077
Route group 2	P5b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2080
Route group 2	P5b	None	Transportation	Historic	Stage route			1	Unevaluated -- Mapped Resource					WRI-M-0600
Route group 2	P5b	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 2	P6a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0010
Route group 2	P6a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0079
Route group 2	P6a	AZ AA:16:377(ASM)	Transportation	Historic	State Route 86	Euro-American	1900–1950	1	Determined Eligible	A, D	SHPO	NA	10/3/2003	WRI-S-1183
Route group 2	P6b	AZ CC:10:43(ASM)	Habitation	Multi	artifact scatter with structure	Native Archaeological Culture; Other	Prehistoric 12,000 B.C.– A.D. 1500; Historic A.D. 1500–1950	1	Unevaluated					WRI-S-1281
Route group 2	P6b	AZ CC:11:49(ASM)	Habitation	Prehistoric	Village with artifact scatter	San Simon	Prehistoric 1200 B.C.– A.D. 1500	1	Unknown					WRI-S-1319
Route group 2	P6b	AZ CC:10:20(ASM)	Limited Activity	Historic	artifact scatter with Feature	Euro-American	A.D. 1900	1	Unknown					WRI-S-1264
Route group 2	P6b	AZ CC:10:26(ASM)	Limited Activity	Multi	artifact scatter with Features	Euro-American, Native Archaeological Culture	Historic A.D. 1500–1950; Prehistoric 1200 B.C.–A.D. 1500	1	Unknown					WRI-S-1270

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	P6b	AZ CC:10:44(ASM)	Limited Activity	Multi	artifact scatter with Features	Native Archaeological Culture; Other	Prehistoric 12,000 B.C.–A.D. 1500; Historic A.D. 1500–1950	1	Unevaluated					WRI-S-1282
Route group 2	P6b	AZ CC:10:32(ASM)	Limited Activity	Prehistoric	artifact scatter	Native Archaeological Culture	Prehistoric 12,000 B.C.–A.D. 1500;	1	Unevaluated					WRI-S-1276
Route group 2	P6b	AZ CC:10:34(ASM)	Limited Activity	Prehistoric	artifact scatter	Unknown	Prehistoric 12,000 B.C.–A.D. 1500;	1	Unevaluated					WRI-S-1278
Route group 2	P6b	AZ CC:10:12(BLM)	Limited Activity	Prehistoric	artifact scatter	Native American	Prehistoric 12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-3472
Route group 2	P6b	AZ CC:11:18(ASM)/ AR 544	Limited Activity	Prehistoric	artifact scatter	Native American	Unknown	1	Unknown					WRI-S-3480
Route group 2	P6b	AZ CC:10:41(ASM)	Limited Activity	Prehistoric	artifact scatter with Feature	Native Archaeology Culture	Prehistoric 12,000 B.C.–A.D. 1500	1	Unknown					WRI-S-1280
Route group 2	P6b	AZ CC:10:33(ASM)	Limited Activity	Prehistoric	artifact scatter with features	Unknown	Prehistoric 12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1277
Route group 2	P6b	None	Ranching	Historic	Ranch			2	Unevaluated -- Mapped Resource					WRI-M-0865
Route group 2	P6b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-0849
Route group 2	P6b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1235
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0033
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0034
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0036
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0043
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0046
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0047
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0048
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0066
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0068
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0069
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0070
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0078

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0081
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0088
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0089
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0090
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0091
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0099
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0106
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0107
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0126
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0130
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0153
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0606
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0608
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0609
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0611
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0630
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0634
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0635
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0643
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0649
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0650
Route group 2	P6b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2095

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	P6b	AZ CC:11:48(ASM)	Water Control	Multi	Canals	Unknown	Historic A.D.1500–1950; Prehistoric 12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1318
Route group 2	P6c	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-2096
Route group 2	P6c	AZ CC:10:26(ASM)	Limited Activity	Multi	artifact scatter with Features	Euro-American, Native Archaeological Culture	Historic A.D.1500–1950; Prehistoric 12,000 B.C.–A.D. 1500	1	Unknown					WRI-S-1270
Route group 2	P6c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0114
Route group 2	P6c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0115
Route group 2	P6c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0282
Route group 2	P6c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0670
Route group 2	P6c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2098
Route group 2	P6c	None	Utility	Historic	Pipeline			1	Unevaluated -- Mapped Resource					WRI-M-2219
Route group 2	P7	AZ CC:10:107(ASM)	Habitation	Prehistoric	artifact scatter with Features	Native Archaeological Culture	Prehistoric 12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1254
Route group 2	P7	AZ CC:9:47(ASM)	Habitation	Prehistoric	artifact scatter/Camp	Cochise	Archaic 8000 B.C.–A.D. 200	1	Unevaluated					WRI-S-1409
Route group 2	P7	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-2232
Route group 2	P7	AZ CC:13:11(ASM)	Limited Activity	Prehistoric	artifact scatter	Mogollon	Prehistoric 12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1347
Route group 2	P7	AZ CC:13:12(ASM)	Limited Activity	Prehistoric	artifact scatter	Native Archaeological Culture	Prehistoric 12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1348
Route group 2	P7	AZ CC:13:15(ASM)	Limited Activity	Prehistoric	artifact scatter	Mogollon	Mogollon Pueblo Period A.D. 1150–1400	1	Unevaluated					WRI-S-1351
Route group 2	P7	AZ CC:13:65(ASM)	Limited Activity	Prehistoric	artifact scatter	Cochise	Archaic 8000 B.C.–A.D. 200	1	Unevaluated					WRI-S-1377
Route group 2	P7	AZ CC:9:2(ASM)	Limited Activity	Prehistoric	artifact scatter	Native Archaeological Culture	12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1398
Route group 2	P7	AMF Survey: lithic	Limited Activity	Unknown	artifact scatter	Unknown	Unknown	1	Unknown					WRI-S-3543
Route group 2	P7	None	Mining	Historic	Mining feature			1	Unevaluated -- Mapped Resource					WRI-M-1011
Route group 2	P7	None	Other	Historic	Tank			1	Unevaluated -- Mapped Resource					WRI-M-0940
Route group 2	P7	None	Other	Historic	Tank			1	Unevaluated -- Mapped Resource					WRI-M-0950
Route group 2	P7	AZ CC:13:13(ASM)	Ranching	Historic	Historic Ranching	Euro-American	Post– A.D. 1880	1	Unknown					WRI-S-1349

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	P7	AZ CC:9:4(ASM)	Ranching	Historic	Homestead	Non Native Archaeological Culture; Native Archaeological Culture	Historic A.D. 1500–1950; Prehistoric 12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1407
Route group 2	P7	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-0941
Route group 2	P7	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-0959
Route group 2	P7	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-0964
Route group 2	P7	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1241
Route group 2	P7	AZ CC:3:91(ASM)	Transportation	Historic	Historic Road (US191, US 71)	Euro-American	Historic A.D. 1800–1950	1	Determined Eligible	A, D	SHPO	NA	5/6/2002; 1/8/2004	WRI-S-1395
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0121
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0156
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0157
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0158
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0160
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0164
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0169
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0227
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0671
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0673
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0678
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0680
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0686
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0697
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0699
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0701

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2097
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2098
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2100
Route group 2	P7	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2221
Route group 2	P7	AMF Survey: historic	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-3637
Route group 2	P7	AMF Survey: historic-prehistoric mix	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-3656
Route group 2	P7	AMF Survey: historic-prehistoric mix	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-3658
Route group 2	P7	None	Utility	Historic	Pipeline			1	Unevaluated -- Mapped Resource					WRI-M-2219
Route group 2	P7	None	Utility	Historic	Pipeline			1	Unevaluated -- Mapped Resource					WRI-M-2220
Route group 2	P7	None	Utility	Historic	Telegraph line			1	Unevaluated -- Mapped Resource					WRI-M-0679
Route group 2	P7	None	Utility	Historic	Telegraph line			1	Unevaluated -- Mapped Resource					WRI-M-0685
Route group 2	P7	AZ FF:1:34(ASM)	Transportation	Historic	Railroad (Arizona & Colorado Railroad Company)	Euro-American	Anglo	1	Determined Eligible	A, D				WRI-S-1439
Route group 2	P7a	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Anglo	1	Determined Eligible					WRI-R-3541
Route group 2	P7a	AZ CC:3:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Anglo	1	Recommended Ineligible					WRI-S-1388
Route group 2	P7a	AZ CC:10:118(ASM)	Limited Activity	Prehistoric	Artifact scatter	Native American		1	Unevaluated					WRI-S-1260
Route group 2	P7a	AZ CC:3:91(ASM)	Transportation	Historic	Historic Road (US 191, US 71)	Euro-American	Anglo	1	Determined Eligible	A, D				WRI-S-1395
Route group 2	P7a	AZ FF:1:34(ASM)	Transportation	Historic	Railroad (Arizona & Colorado Railroad Company)	Euro-American	Anglo	1	Determined Eligible	A, D				WRI-S-1439
Route group 2	P7a	AZ CC:9:2(ASM)	Limited Activity	Prehistoric	Artifact scatter	Native American		1	Unevaluated					WRI-S-1398
Route group 2	P7a	AZ BB:16:48(ASM)	Utility	Historic	Historic Natural Gas Pipeline 1103 (El Paso Natural Gas)	Euro-American	Anglo	1	Unevaluated					WRI-S-1241
Route group 2	P7a	AZ CC:14:50(ASM)	Habitation	Prehistoric	Artifact scatter	Cochise		1	Unevaluated					WRI-S-1392
Route group 2	P7a	AZ FF:1:33(ASM)	Transportation	Historic	Road (US666)	Euro-American	Anglo	1	Unevaluated					WRI-S-1438
Route group 2	P7a	None	Utility	Historic	Pipeline			1	Unevaluated -- Mapped Resource					WRI-M-0215
Route group 2	P7a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0177

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
New Build Section, cont'd.														
Route group 2	P7a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0213
Route group 2	P7a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0121
Route group 2	P7a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0174
Route group 2	P7a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2097
Route group 2	P7a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0155
Route group 2	P7a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0673
Route group 2	P7b	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Anglo	1	Determined Eligible					WRI-R-3541
Route group 2	P8	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0174
Route group 2	P8	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0175
Upgrade Section														
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0177
Route group 3	U1a	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 3	U1b	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 3	U2	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 3	U3a	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 3	U3b	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 3	U3c	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 3	U3d	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 3	U3e	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 3	U3f	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 3	U3h	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 3	U3i	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 4	MA1	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0417
Route group 4	MA1	AZ AA:11:240(ASM)	Unknown	Unknown	Unknown			1	Unevaluated					WRI-S-114

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 3	TH1 Option	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 4	TH1 Option	AZ AA:16:51(ASM)/ AZ AA:16:6(ASM)	Habitation	Historic	Desert Laboratory of the Carnegie Center	Euro-American	Late Historic A.D. 1900–1950	1	Determined Eligible					WRI-S-1185
Route group 4	TH1 Option	None	Transportation	Historic	Road	Euro-American		1	Unevaluated – Mapped Resource					WRI-M-2166
Route group 4	TH1 Option	10000109/ AZ AA:16:6(ASM)	Habitation	Prehistoric	habitation			1	Listed on State and/or Federal Register					WRI-R-3533
Route group 4	TH1 Option	None	Limited Activity	Historic	Fence			1	Unevaluated – Mapped Resource					WRI-M-4316
Route group 4	TH1 Option	None	Transportation	Historic	Road	Euro-American		1	Unevaluated – Mapped Resource					WRI-M-4319
Route group 4	TH1 Option	Crooke's Wagon Road/Mormon Battalion Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated – Mapped Resource					WRI-M-3705
Route group 4	TH1 Option	None	Utility	Historic	Transmission line	Euro-American		1	Unevaluated – Mapped Resource					WRI-M4-4035
Route group 4	TH1a	AZ AA:16:51(ASM)/ AZ AA:16:6(ASM)	Habitation	Historic	Desert Laboratory of the Carnegie Center	Euro-American	Late Historic A.D. 1900–1950	1	Determined Eligible					WRI-S-1185
Route group 4	TH1a	10000109/AZ AA:16:6(ASM)	Habitation	Prehistoric	habitation			1	Listed on State and/or Federal Register					WRI-R-3533
Route group 4	TH1a	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 4	TH1b	AZ AA:16:188(ASM)	agriculture	Prehistoric	agricultural features	Native American	Hohokam	1	Unevaluated					WRI-S-3734
Route group 4	TH1b	AZ AA:16:51(ASM)/ AZ AA:16:6(ASM)	Habitation	Historic	Desert Laboratory of the Carnegie Center	Euro-American	Late Historic A.D. 1900–1950	1	Determined Eligible					WRI-S-1185
Route group 4	TH1b	10000109/AZ AA:16:6(ASM)	Habitation	Prehistoric	habitation			1	Listed on State and/or Federal Register					WRI-R-3533
Route group 4	TH1b	None	Transportation	Historic	Road			1	Unevaluated – Mapped Resource					WRI-M-4023
Route group 4	TH1b	None	Transportation	Historic	Road			1	Unevaluated – Mapped Resource					WRI-M-4026
Route group 4	TH1b	None	Transportation	Historic	Road			1	Unevaluated – Mapped Resource					WRI-M-4032
Route group 4	TH1b	None	Transportation	Historic	Road			1	Unevaluated – Mapped Resource					WRI-M-4305
Route group 4	TH1b	None	Transportation	Historic	Road			1	Unevaluated – Mapped Resource					WRI-M-4307
Route group 4	TH1b	None	Transportation	Historic	Road			1	Unevaluated – Mapped Resource					WRI-M-4310
Route group 4	TH1b	None	Transportation	Historic	Road			1	Unevaluated – Mapped Resource					WRI-M-4311

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	TH1b	Cooke's Wagon Road/Mormon Battalion Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3705
Route group 4	TH1b	AZ AA:12:875(ASM)	Utility	Historic	El Paso Natural Gas pipeline No. 1007	Euro-American	1930s	1	Determined Eligible	C, D	SHPO	NA	2/4/2004	WRI-S-1170
Route group 4	TH1c	AZ AA:16:333(ASM)	Limited Activity	Prehistoric	artifact scatter	Hohokam	Ceramic A.D. 200–1500	1	Unevaluated					WRI-S-1182
Route group 4	TH1c	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4624
Route group 4	TH1c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2132
Route group 4	TH1c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4034
Route group 4	TH1c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4327
Route group 4	TH1c	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 4	TH1c	None	Utility	Historic	Utility line			1	Unevaluated -- Mapped Resource					WRI-M-4035
Route group 4	TH3 Option A	AZ BB:13:105(ASM)	Habitation	Multi	artifact scatter and structure	Native American	Hohokam and O'odham		Unevaluated					WRI-S-3737
Route group 4	TH3 Option A	AZ BB:13:101(ASM)	Habitation	Prehistoric	artifact scatter	Native American	Hohokam	1	Determined Eligible	D	SHPO	NA	1/21/2004	WRI-S-3736
Route group 4	TH3 Option A	AZ BB:13:103(ASM)	Limited Activity	Prehistoric	artifact scatter	Hohokam	Ceramic A.D. 200–1500	1	Unevaluated					WRI-S-1190
Route group 4	TH3 Option A		Habitation	Historic	Structure	Euro-American		`	Unevaluated -- Mapped Resource					WRI-M-4694
Route group 4	TH3 Option A	None	Other	Historic	Compound			23	Unevaluated -- Mapped Resource					WRI-M-4695
Route group 4	TH3 Option A	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4645
Route group 4	TH3 Option A	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0452
Route group 4	TH3 Option A	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0537
Route group 4	TH3 Option A	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4055
Route group 4	TH3 Option A	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4068
Route group 4	TH3 Option A	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4114
Route group 4	TH3 Option A	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4116
Route group 4	TH3 Option A	AZ BB:13:780(ASM)	Utility	Historic	Transmission Line	Euro-American	Late Historic	1	Unknown					WRI-S-1222
Route group 4	TH3 Option A	AZ BB:13:142(ASM)	Water Control Features	Historic	cistern	Euro-American	A.D. 1900–1950		Unevaluated					WRI-S-3753
Route group 4	TH3 Option A	None	Water Control Features	Historic	Well			1	Unevaluated -- Mapped Resource					WRI-M-4642

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	TH3 Option B	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4028
Route group 4	TH3 Option B	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4067
Route group 4	TH3 Option B	Juan Bautista de Anza Route	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3704
Route group 4	TH3 Option C	AZ BB:13:17(ASM)	Habitation	Prehistoric	artifact scatter	Native American	Hohokam A.D. 200–1500	1	Determined Eligible	D	SHPO	NA	9/16/2002	WRI-S-3805
Route group 4	TH3 Option C	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4649
Route group 4	TH3 Option C	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4650
Route group 4	TH3 Option C	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4651
Route group 4	TH3 Option C	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4654
Route group 4	TH3 Option C	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4657
Route group 4	TH3 Option C	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4659
Route group 4	TH3 Option C	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4042
Route group 4	TH3 Option C	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4043
Route group 4	TH3 Option C	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4053
Route group 4	TH3 Option C	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4054
Route group 4	TH3 Option C	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4068
Route group 4	TH3 Option C	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4069
Route group 4	TH3 Option C	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4070
Route group 4	TH3 Option C	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4071
Route group 4	TH3 Option C	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4072
Route group 4	TH3 Option C	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4073
Route group 4	TH3 Option C	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4074
Route group 4	TH3 Option C	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4076
Route group 4	TH3 Option C	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4326

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	TH3 Option C	AZ AA:16:377(ASM)	Transportation	Historic	State Route 86	Euro-American	1900–1950	1	Determined Eligible	A, D	SHPO	NA	10/3/2003	WRI-S-1183
Route group 4	TH3 Option C	AZ BB:13:539(ASM)	Water Control Features	Historic	canal	Unknown	1700–1950		Unevaluated					WRI-S-3799
Route group 4	TH3a	AZ BB:13:402(ASM)	Habitation	Prehistoric	artifact scatter	Native American	Hohokam and O'odham A.D. 200–1700	1	Unevaluated					WRI-S-3752
Route group 4	TH3a	AZ BB:13:17(ASM)	Habitation	Prehistoric	artifact scatter	Native American	Hohokam A.D. 200–1500	1	Determined Eligible	D	SHPO	NA	9/16/2002	WRI-S-3805
Route group 4	TH3a	None	Other	Historic	Compound			23	Unevaluated -- Mapped Resource					WRI-M-4695
Route group 4	TH3a	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4693
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4042
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4043
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4045
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4046
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4047
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4048
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4049
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4050
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4051
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4052
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4055
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4057
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4058
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4059
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4060
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4064
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4076

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4099
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4100
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4101
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4102
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4104
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4105
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4107
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4108
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4110
Route group 4	TH3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4326
Route group 4	TH3a	AZ CC:13:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Historic	1	Recommended Ineligible					WRI-S-1388
Route group 4	TH3a	AZ BB:13:780(ASM)	Utility	Historic	Transmission Line	Euro-American	Late Historic	1	Unknown					WRI-S-1222
Route group 4	TH3a	None	Utility	Historic	Utility line			1	Unevaluated -- Mapped Resource					WRI-M-4065
Route group 4	TH3a	None	Water Control Features	Historic	Well			1	Unevaluated -- Mapped Resource					WRI-M-4641
Route group 4	TH3b	AZ BB:13:86(ASM)	Habitation	Prehistoric	artifact scatter	Native American	Hohokam A.D. 200–1500	1	Unevaluated					WRI-S-3796
Route group 4	TH3b	AZ BB:13:94(ASM)	Habitation	Prehistoric	artifact scatter	Native American	Hohokam and O'odham A.D. 200–1500 and A.D. 1500–1950	1	Determined Eligible	D	SHPO	NA	Feb-12	WRI-S-3797
Route group 4	TH3b	AZ BB:13:17(ASM)	Habitation	Prehistoric	artifact scatter	Native American	Hohokam A.D. 200–1500	1	Determined Eligible	D	SHPO	NA	9/16/2002	WRI-S-3805
Route group 4	TH3b	AZ BB:13:111(ASM)	Industrial	Multi	Lee's Mill	Multi	Hohokam and Euro-American A.D. 200–1900		Determined Eligible	D	SHPO	NA	Feb-12	WRI-S-3798
Route group 4	TH3b	None	Mining	Historic	Mining feature			1	Unevaluated -- Mapped Resource					WRI-M-4633
Route group 4	TH3b	None	Other	Historic	Compound			1	Unevaluated -- Mapped Resource					WRI-M-4827
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4632
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4636

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4662
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4663
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4664
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4665
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4666
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4667
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4668
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4670
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4677
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4681
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4683
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4686
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4688
Route group 4	TH3b	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-4689
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4040
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4077
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4080
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4081
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4082
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4083
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4089
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4091
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4092

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4093
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4094
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4096
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4097
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4320
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4321
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4322
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4323
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4324
Route group 4	TH3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4325
Route group 4	TH3b	Juan Bautista de Anza Route	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3704
Route group 4	TH3b	AZ BB:13:6(ASM)	Transportation	Multi	Southern Pacific Railroad Mainline - Proponent Alternative	Multi	Hohokam, Mexican--American, Asian--American, Euro--American ca. 1877--1880		Unevaluated	A, D	SHPO	NA	10/14/2003	WRI-S-3800
Route group 4	TH3b	AZ AA:12:875(ASM)	Utility	Historic	El Paso Natural Gas pipeline No. 1007	Euro-American	1930s	1	Determined Eligible	C, D	SHPO	NA	2/4/2004	WRI-S-1170
Route group 4	TH3b	None	Utility	Historic	Utility line			1	Unevaluated -- Mapped Resource					WRI-M-4039
Route group 4	TH3b	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Anglo	1	Determined Eligible					WRI-R-3541
Route group 3	H	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0478
Route group 3	H	None	Industrial	Historic	Railroad feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0553
Route group 3	H	AZ EE:3:15(ASM)	Limited Activity	Historic	artifact scatter	Euro-American	Historic A.D. 1500--1950	1	Unevaluated					WRI-S-1423
Route group 3	H	AZ BB:15:11(ASM)	Limited Activity	Prehistoric	artifact scatter	Native Archaeological Culture	Prehistoric 12,000 B.C.--A.D. 1500	1	Unevaluated					WRI-S-1226
Route group 3	H	None	Mining	Historic	Mining feature	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0549
Route group 3	H	None	Ranching	Historic	Ranch	Euro-American		2	Unevaluated -- Mapped Resource					WRI-M-1215
Route group 3	H	None	Town	Historic	Town	Euro-American		11	Unevaluated -- Mapped Resource					WRI-M-1189

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 3	H	AZ Z:2:40(ASM)	Transportation	Historic	Railroad (Southern Pacific Railroad Mainline - Proponent Alternative)	Euro-American; Asian-American	1877–1880	1	Determined Eligible	A	SHPO	NA	12/5/2003	WRI-S-1442
Route group 3	H	AZ EE:3:62(ASM)	Transportation	Historic	Railroad Grades	Euro-American	Late Historic A.D. 1900–1950	1	Unevaluated					WRI-S-1433
Route group 3	H	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0350
Route group 3	H	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0421
Route group 3	H	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0422
Route group 3	H	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0425
Route group 3	H	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0428
Route group 3	H	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0480
Route group 3	H	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0481
Route group 3	H	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0484
Route group 3	H	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0487
Route group 3	H	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0547
Route group 3	H	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0558
Route group 3	H	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0559
Route group 3	H	None	Transportation	Historic	Road	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0746
Route group 3	H	AZ FF:9:17(ASM)	Transportation	Historic	Road (SR 80)	Euro-American	Late Historic 1900–1950	1	Determined Eligible	A, C, D	SHPO	NA	11/28/2004	WRI-S-1440
Route group 3	H	None	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0545
Route group 3	H	None	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0552
Route group 3	H	Zuñiga Route	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-3703
Route group 3	H	Crooke's Wagon Road/Mormon Battalion Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3705
Route group 3	H	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 3	H	None	Utility	Historic	Pipeline	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0355
Route group 3	H	None	Utility	Historic	Pipeline	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-0548

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 3	H	None	Water Control Features	Historic	Acequia	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1276
Route group 3	H	None	Water Control Features	Historic	Acequia	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-1277
Route group 3	U1a	AZ BB:16:25(ASM)	Habitation	Prehistoric	artifact scatter	Native Archaeological Culture	Unknown	1	Unevaluated					WRI-S-1236
Route group 3	U1a	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-0186
Route group 3	U1a	AZ BB:16:18(ASM)	Limited Activity	Prehistoric	artifact scatter	Native Archaeological Culture	12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1234
Route group 3	U1a	AZ BB:16:5(ASM)	Limited Activity	Prehistoric	Bedrock Mortars	Native Archaeological Culture	Prehistoric 12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1242
Route group 3	U1a	AZ BB:16:28(ASM)	Limited Activity	Unknown	Rock pile with grinding slab	Unknown	Unknown	1	Unevaluated					WRI-S-1239
Route group 3	U1a	None	Mining	Historic	Mine			24	Unevaluated -- Mapped Resource					WRI-M-0991
Route group 3	U1a	AZ CC:13:9(ASM)	Mining	Historic	Mining	Non Native Culture	Historic A.D. 1500–1950	1	Unevaluated					WRI-S-1389
Route group 3	U1a	None	Town	Historic	Town			2	Unevaluated -- Mapped Resource					WRI-M-1165
Route group 3	U1a	AZ CC:13:54(ASM)	Transportation	Historic	North Cochise Stronghold Road	Euro-American	A.D. 1500–1950	1	Unevaluated					WRI-S-3455
Route group 3	U1a	AZ BB:16:39(ASM)	Transportation	Historic	Old Ranch Road	Euro-American	Historic A.D. 1500–1950	1	Unevaluated					WRI-S-1240
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0177
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0206
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0207
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0208
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0209
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0210
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0211
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0212
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0213
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0345
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0346

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0347
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0351
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0352
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0353
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0354
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0706
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0740
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0741
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0742
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0743
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0744
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0745
Route group 3	U1a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2099
Route group 3	U1a	AZ BB:16:54(ASM)	Transportation	Historic	Road (Texas Canyon Road)	Euro-American	Post A.D. 1700 Historic A.D. 1700–1950	1	Unevaluated					WRI-S-1243
Route group 3	U1a	Zuñiga Route	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-3703
Route group 3	U1a	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 3	U1a	AZ BB:16:64(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1244
Route group 3	U1a	AZ CC:13:75(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1384
Route group 3	U1a	AZ CC:13:76(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1385
Route group 3	U1a	AZ CC:13:77(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1386
Route group 3	U1a	AZ CC:13:79(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1387
Route group 3	U1a	None	Utility	Historic	Pipeline			1	Unevaluated -- Mapped Resource					WRI-M-0215
Route group 3	U1a	AZ BB:16:24(ASM)	Water Control	Historic	CCC Spreader Dike Features	Euro-American	Late Historic A.D. 1900–1950	1	Unevaluated					WRI-S-1235
Route group 3	U1a	AZ BB:16:26(ASM)	Water Control	Historic	CCC Spreader Dike Features	Euro-American	Late Historic A.D. 1900–1950	1	Unevaluated					WRI-S-1237
Route group 3	U1a	AZ BB:16:27(ASM)	Water Control	Historic	CCC Spreader Dike Features	Euro-American	Late Historic A.D. 1900–1950	1	Unevaluated					WRI-S-1238

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 3	U1a	AZ CC:13:51(ASM)	Water Control	Historic	Erosion Features (CCC)	Euro-American	Late Historic A.D. 1900–1950	1	Unevaluated					WRI-S-1370
Route group 3	U1b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0348
Route group 3	U1b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0349
Route group 3	U2	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-0516
Route group 3	U2	AZ EE:3:213(ASM)	Limited Activity	Historic	artifact scatter	Euro-American	Middle Historic A.D. 1800–1900	1	Unevaluated					WRI-S-1427
Route group 3	U2	AZ EE:3:6(AMF)	Limited Activity	Prehistoric	artifact scatter with Feature	Native Archaeological Culture	12,000 B.C.–A.D. 1500	1	Unknown					WRI-S-1431
Route group 3	U2	AZ EE:3:74(ASM)	Transportation	Historic	Railroad (El Paso - Southwestern Railroad)	Euro-American	Late Historic 1911–1950	1	Determined Eligible	A,D	SHPO	NA	5/22/2003	WRI-S-1435
Route group 3	U2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0495
Route group 3	U2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0515
Route group 3	U2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0517
Route group 3	U2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0529
Route group 3	U2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0533
Route group 3	U2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0539
Route group 3	U2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0541
Route group 3	U2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0542
Route group 3	U2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0543
Route group 3	U2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0547
Route group 3	U2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0563
Route group 3	U2	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0564
Route group 3	U2	AZ FF:9:17(ASM)	Transportation	Historic	Road (SR 80)	Euro-American	Late Historic 1900–1950	1	Determined Eligible	A, C, D	SHPO	NA	11/28/2004	WRI-S-1440
Route group 3	U2	None	Transportation	Historic	Trail			1	Unevaluated -- Mapped Resource					WRI-M-0545
Route group 3	U2	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 3	U2	AZ EE:3:196(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1425
Route group 3	U2	AZ EE:3:197(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1426

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 3	U2	AZ EE:3:253(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1429
Route group 3	U2	AZ BB:16:48(ASM)	Utility	Historic	Historic Natural Gas Pipeline 1103 (El Paso Natural Gas)	Euro-American	Late Historic 1900–1950	1	Unevaluated					WRI-S-1241
Route group 3	U2	None	Utility	Historic	Pipeline			1	Unevaluated -- Mapped Resource					WRI-M-0540
Route group 3	U2	AZ EE:3:85(ASM)	Water Control	Historic	Canal (Pomerene)	Euro-American	Late Historic 1934	1	Unevaluated					WRI-S-1436
Route group 3	U2	Zuñiga Route	Transportation	Historic	Trail	Euro-American		1	Unevaluated -- Mapped Resource					WRI-M-3703
Route group 3	U2	Crooke's Wagon Road/Mormon Battalion Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3705
Route group 3	U3a	Crooke's Wagon Road/Mormon Battalion Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3705
Route group 3	U3a	None	Habitation	Historic	Camp Huachuca			1	Unevaluated -- Mapped Resource					WRI-M-2102
Route group 3	U3a	AZ BB:13:560(ASM)	Habitation	Prehistoric	artifact scatter w/Features	Hohokam	Ceramic A.D. 750–1400	1	Unevaluated					WRI-S-1207
Route group 3	U3a	AZ BB:13:74(ASM)	Habitation	Prehistoric	artifact scatter with Feature	Hohokam	Prehistoric 12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1218
Route group 3	U3a	AZ BB:13:7(ASM)	Habitation	Prehistoric	artifact scatter with Features	Native Archaeological Culture	Prehistoric 12,000 B.C.–A.D. 1500	1	Unknown					WRI-S-1215
Route group 3	U3a	84000762	Habitation	Prehistoric	habitation			1	Listed on State and/or Federal Register					WRI-R-3532
Route group 3	U3a	4001247	Habitation	Prehistoric	habitation			1	Listed on State and/or Federal Register					WRI-R-3534
Route group 3	U3a	AZ BB:13:15(ASM)	Habitation	Prehistoric	Habitation (Valencia Site)	Native Archaeological Culture; Hohokam	Paleoindian 12,000–8000 B.C.–Hohokam Classic Period A.D. 1500	1	Listed on State and/or Federal Register					WRI-S-1193
Route group 3	U3a	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-0578
Route group 3	U3a	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-2107
Route group 3	U3a	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-2114
Route group 3	U3a	AZ BB:14:651(ASM)	Limited Activity	Historic	artifact scatter	Euro-American	Late Historic A.D. 1900–1950	1	Unevaluated					WRI-S-1223
Route group 3	U3a	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-0589
Route group 3	U3a	AZ EE:2:54(ASM)	Limited Activity	Prehistoric	artifact scatter	Unknown	12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1418
Route group 3	U3a	AZ EE:2:97(ASM)	Limited Activity	Prehistoric	artifact scatter	Native Archaeological Culture	Prehistoric 12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1420
Route group 3	U3a	AZ EE:2:98(ASM)	Limited Activity	Prehistoric	artifact scatter	Native Archaeological Culture	Unknown	1	Unevaluated					WRI-S-1421

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 3	U3a	AZ EE:2:99(ASM)	Limited Activity	Prehistoric	artifact scatter	Native Archaeological Culture	Unknown	1	Unevaluated					WRI-S-1422
Route group 3	U3a	AZ BB:13:720(ASM)	Limited Activity	Prehistoric	artifact scatter with feature	Hohokam	Ceramic A.D. 200–1500	1	Unevaluated					WRI-S-1217
Route group 3	U3a	AZ BB:13:565(ASM)	Limited Activity	Prehistoric	artifact scatter with Features	Hohokam	Ceramic A.D. 750–1400	1	Unevaluated					WRI-S-1209
Route group 3	U3a	AZ BB:13:638(ASM)	Limited Activity	Prehistoric	Rock Features	Native Archaeological Culture	Prehistoric 12,000 B.C.–A.D. 1500	1	Determined Not Eligible		SHPO	NA	7/27/2000	WRI-S-1210
Route group 3	U3a	None	Military	Historic	Tucson Military Reservation			1	Unevaluated – Mapped Resource					WRI-M-2155
Route group 3	U3a	AZ EE:2:133(ASM)	Ranching	Historic	artifact scatter with present ranch	Euro-American	Historic A.D. 1500–1950	1	Unevaluated					WRI-S-1412
Route group 3	U3a	AZ BB:13:558(ASM)	Ranching	Multi	Agriculture	Euro-American; Mexican American; Hohokam	Middle Archaic–Historic 4800 B.C.–A.D. 1950	1	Unevaluated					WRI-S-1205
Route group 3	U3a	AZ BB:13:315(ASM)	Ranching	Prehistoric	Agriculture	Hohokam	Prehistoric 12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1195
Route group 3	U3a	None	Structure	Historic	Structure			1	Unevaluated – Mapped Resource					WRI-M-1187
Route group 3	U3a	None	Structure	Historic	Structure			1	Unevaluated – Mapped Resource					WRI-M-1188
Route group 3	U3a	None	Structure	Historic	Structure			1	Unevaluated – Mapped Resource					WRI-M-1199
Route group 3	U3a	None	Structure	Historic	Structure			1	Unevaluated – Mapped Resource					WRI-M-2145
Route group 3	U3a	None	Structure	Historic	Structure			1	Unevaluated – Mapped Resource					WRI-M-2146
Route group 3	U3a	None	Structure	Historic	Structure			1	Unevaluated – Mapped Resource					WRI-M-2168
Route group 3	U3a	AZ BB:13:679(ASM)	Transportation	Historic	Railroad (Tucson & Nogales Railroad)	Historic Archaeological Culture	Late Historic A.D. 1900–1950	1	Unevaluated					WRI-S-1214
Route group 3	U3a	AZ EE:1:300(ASM)	Transportation	Historic	Railroad (Twin Buttes Railroad)	Euro-American	Late Historic ca. 1904	1	Unevaluated					WRI-S-1411
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated – Mapped Resource					WRI-M-0456
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated – Mapped Resource					WRI-M-0457
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated – Mapped Resource					WRI-M-0458
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated – Mapped Resource					WRI-M-0459
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated – Mapped Resource					WRI-M-0461
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated – Mapped Resource					WRI-M-0463

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0464
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0465
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0466
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0467
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0468
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0469
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0471
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0473
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0474
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0475
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0482
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0483
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0485
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0486
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0504
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0505
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0506
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0508
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0509
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0510
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0511
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0512
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0518

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0519
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0520
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0521
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0522
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0523
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0524
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0525
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0526
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0527
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0535
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0536
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0579
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0580
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0583
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0584
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0587
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0588
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0748
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0749
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0750
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0751
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0752
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0753

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0756
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0757
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0760
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0761
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0765
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2101
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2103
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2104
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2113
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2115
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2134
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2136
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2137
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2153
Route group 3	U3a	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2154
Route group 3	U3a	AZ BB:13:659(ASM)	Transportation	Historic	Road	Euro-American	Historic A.D. 1500–1950	1	Unevaluated					WRI-S-1212
Route group 3	U3a	AZ EE:2:488(ASM)	Transportation	Historic	Road	Euro-American	A.D. 1500–1950	1	Unevaluated					WRI-S-1415
Route group 3	U3a	AZ BB:13:658(ASM)	Transportation	Historic	Road (Old Nogales Highway)	Euro-American	Historic A.D. 1500–1950	1	Unevaluated					WRI-S-1211
Route group 3	U3a	AZ BB:14:676(ASM)	Transportation	Historic	Road (Vail Road extension)	Euro-American	Historic A.D. 1500–1950	1	Unevaluated					WRI-S-1224
Route group 3	U3a	AZ BB:13:759(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1221
Route group 3	U3a	AZ EE:2:520(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unevaluated					WRI-S-1416
Route group 3	U3a	AZ EE:2:526(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1417
Route group 3	U3a	None	Utility	Historic	Pipeline			1	Unevaluated -- Mapped Resource					WRI-M-0586
Route group 3	U3a	AZ BB:13:780(ASM)	Utility	Historic	Transmission Line	Euro-American	Late Historic	1	Unknown					WRI-S-1222

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	U3aPC	AZ BB:13:558(ASM)	Ranching	Both	Agriculture	Euro-American; Mexican American; Hohokam		1	Unevaluated					WRI-S-1205
Route group 4	U3aPC	BB:13:720(ASM)	Limited Activity	Prehistoric	Artifact scatter with features	Hohokam		1	Unknown					WRI-S-1217
Route group 4	U3aPC	AZ CC:3:80(ASM)	Utility	Historic	Transmission Line with artifact scatter	Euro-American	Anglo	1	Recommended Ineligible					WRI-S-1388
Route group 4	U3aPC	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0486
Route group 4	U3aPC	Cooke's Wagon Road/Mormon Battalion Trail	Transportation	Historic	Trail			1	Unevaluated -- Mapped Resource					WRI-M-3705
Route group 4	U3b	AZ BB:13:74(ASM)	Habitation	Prehistoric	Artifact scatter with feature	Hohokam	Prehistoric 12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1218
Route group 4	U3b	AZ BB:13:102(ASM)	Limited Activity	Historic	Artifact scatter	O'odham	Historic A.D. 1500–1950	1	Unevaluated					WRI-S-1189
Route group 4	U3b	AZ BB:13:103(ASM)	Limited Activity	Prehistoric	Artifact scatter	Hohokam	Ceramic A.D. 200–1500	1	Unevaluated					WRI-S-1190
Route group 4	U3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0453
Route group 4	U3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0454
Route group 4	U3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0455
Route group 4	U3b	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0537
Route group 4	U3b	AZ BB:13:780(ASM)	Utility	Historic	Transmission Line	Euro-American	Late Historic	1	Unknown					WRI-S-1222
Route group 4	U3b	None	Water Control Features	Historic	Well			1	Unevaluated -- Mapped Resource					WRI-M-1201
Route group 4	U3c	AZ BB:13:20(ASM)	Habitation	Prehistoric	Artifact scatter	Native Archaeological Culture; Hohokam	Early Ceramic A.D. 200–1000; Historic A.D. 1500–1950	1	Unevaluated					WRI-S-1194
Route group 4	U3c	AZ BB:13:103(ASM)	Limited Activity	Prehistoric	Artifact scatter	Hohokam	Ceramic A.D. 200–1500	1	Unevaluated					WRI-S-1190
Route group 4	U3c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0451
Route group 4	U3c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0452
Route group 4	U3c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0537
Route group 4	U3c	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2133
Route group 4	U3c	Juan Bautista de Anza Route	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3704
Route group 4	U3c	AZ BB:13:749(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1219
Route group 4	U3c	AZ BB:13:780(ASM)	Utility	Historic	Transmission Line	Euro-American	Late Historic	1	Unknown					WRI-S-1222

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	U3d	Cooke's Wagon Road/Mormon Battalion Trail	Transportation	Historic	Trail			1	Unevaluated -- Mapped Resource					WRI-M-3705
Route group 4	U3d	AZ AA:16:51(ASM)/ AZ AA:16:6(ASM)	Habitation	Historic	Desert Laboratory of the Carnegie Center	Euro-American	Late Historic A.D. 1900–1950	1	Determined Eligible					WRI-S-1185
Route group 4	U3d	AZ AA:16:3(ASM)	Habitation	Multi	Habitation	Euro-American; Native Archaeological Culture; Hohokam	Late Archaic San Pedro 1500 B.C.–A.D. 200; Middle Archaic 4800–1500 B.C.; Pre–Classic Period A.D. 450–1100; Sedentary Period Early & Middle Rincon Phases A.D. 950–1100; Historic A.D. 1500–1950	1	Determined Eligible	D	SHPO	NA	7/28/2003	WRI-S-1180
Route group 4	U3d	10000109/ AZ AA:16:6(ASM)	Habitation	Prehistoric	habitation			1	Listed on State and/or Federal Register					WRI-R-3533
Route group 4	U3d	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-2144
Route group 4	U3d	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0565
Route group 4	U3d	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0566
Route group 4	U3d	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0567
Route group 4	U3d	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0568
Route group 4	U3d	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0569
Route group 4	U3d	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0570
Route group 4	U3d	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0571
Route group 4	U3d	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0576
Route group 4	U3d	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2108
Route group 4	U3d	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2112
Route group 4	U3d	AZ AA:16:377(ASM)	Transportation	Historic	State Route 86	Euro-American	1900–1950	1	Determined Eligible	A, D	SHPO	NA	10/3/2003	WRI-S-1183
Route group 4	U3e	AZ AA:16:51(ASM)/ AZ AA:16:6(ASM)	Habitation	Historic	Desert Laboratory of the Carnegie Center	Euro-American	Late Historic A.D. 1900–1950	1	Determined Eligible					WRI-S-1185
Route group 4	U3e	10000109/ AZ AA:16:6(ASM)	Habitation	Prehistoric	habitation			1	Listed on State and/or Federal Register					WRI-R-3533
Route group 4	U3f	AZ AA:16:51(ASM)/ AZ AA:16:6(ASM)	Habitation	Historic	Desert Laboratory of the Carnegie Center	Euro-American	Late Historic A.D. 1900–1950	1	Determined Eligible					WRI-S-1185
Route group 4	U3f	10000109/ AZ AA:16:6(ASM)	Habitation	Prehistoric	habitation			1	Listed on State and/or Federal Register					WRI-R-3533

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	U3f	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2166
Route group 4	U3g	AZ AA:16:51(ASM)/ AZ AA:16:6(ASM)	Habitation	Historic	Desert Laboratory of the Carnegie Center	Euro-American	Late Historic A.D. 1900–1950	1	Determined Eligible					WRI-S-1185
Route group 4	U3g	10000109/ AZ AA:16:6(ASM)	Habitation	Prehistoric	habitation			1	Listed on State and/or Federal Register					WRI-R-3533
Route group 4	U3g	AZ AA:16:26(ASM)	Habitation	Prehistoric	Habitation Site (St. Mary's)	Hohokam	Pioneer to Classic Period Hohokam Ceramic A.D. 200–1500; Middle Rincon A.D. 950–1100	1	Unevaluated	D	SHPO	NA	10/11/2001	WRI-S-1178
Route group 4	U3g	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-0581
Route group 4	U3g	AZ AA:16:333(ASM)	Limited Activity	Prehistoric	artifact scatter	Hohokam	Ceramic A.D. 200–1500	1	Unevaluated					WRI-S-1182
Route group 4	U3g	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1225
Route group 4	U3g	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0572
Route group 4	U3g	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0573
Route group 4	U3g	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0574
Route group 4	U3g	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0577
Route group 4	U3g	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0582
Route group 4	U3g	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2132
Route group 4	U3g	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2165
Route group 4	U3g	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2166
Route group 4	U3g	AZ AA:12:875(ASM)	Utility	Historic	El Paso Natural Gas pipeline No. 1007	Euro-American	1930s	1	Determined Eligible	C, D	SHPO	NA	2/4/2004	WRI-S-1170
Route group 4	U3h	AZ AA:16:333(ASM)	Limited Activity	Prehistoric	artifact scatter	Hohokam	Ceramic A.D. 200–1500	1	Unevaluated					WRI-S-1182
Route group 4	U3h	AZ BB:13:320(ASM)	Limited Activity	Prehistoric	artifact scatter	Hohokam	Ceramic A.D. 200–1500	1	Unevaluated					WRI-S-1196
Route group 4	U3h	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1193
Route group 4	U3h	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1229
Route group 4	U3h	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0513
Route group 4	U3h	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0514

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	U3h	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2164
Route group 4	U3h	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 4	U3i	AZ AA:12:148(ASM)	Habitation	Prehistoric	artifact scatter	Hohokam	Rillito and Rincon Phases A.D. 200–1300	1	Unevaluated					WRI-S-1151
Route group 4	U3i	AZ AA:12:99(ASM)	Habitation	Prehistoric	artifact scatter	Hohokam	Ceramic A.D. 950–1450	1	Unevaluated					WRI-S-1177
Route group 4	U3i	AZ AA:12:105(ASM)	Habitation	Prehistoric	artifact scatter w/Features	Hohokam	Late Archaic 1500 B.C.– A.D. 200; Ceramic A.D. 200–1500	1	Determined Eligible	D	SHPO	NA	3/17/2003	WRI-S-1143
Route group 4	U3i	AZ AA:12:321(ASM)	Habitation	Prehistoric	artifact scatter w/features	Hohokam	A.D. 950–1100	1	Unevaluated					WRI-S-1158
Route group 4	U3i	AZ AA:12:96(ASM)	Habitation	Prehistoric	artifact scatter w/features	Hohokam	Early Archaic 8000–4800 B.C.; A.D. 450–1100	1	Determined Eligible	D	SHPO	NA	3/17/2003	WRI-S-1173
Route group 4	U3i	AZ AA:12:315(ASM)	Habitation	Prehistoric	artifact scatter with features	Hohokam and Euro-American	Ceramic A.D. 200–1500; Historic 1500–1950	1	Determined Eligible	D	SHPO	NA	-	WRI-S-1155
Route group 4	U3i	AZ AA:12:46(ASM)	Habitation	Prehistoric	Habitation	Native Archaeological Culture	8000 B.C.– A.D. 1700	1	Unevaluated					WRI-S-1161
Route group 4	U3i	AZ AA:12:93(ASM)	Habitation	Prehistoric	Habitation	Hohokam	Pioneer through Classic period occupation A.D. 200–1500	1	Determined Eligible	D	SHPO	NA	1/21/2004	WRI-S-1171
Route group 4	U3i	AZ AA:12:56(ASM)	Habitation	Prehistoric	Habitation	Hohokam	Unspecified	1	Unknown					WRI-S-3459
Route group 4	U3i	AZ AA:12:502(ASM)	Habitation	Prehistoric	Habitation Site	Hohokam	Ceramic A.D. 200–1500	1	Unevaluated					WRI-S-1162
Route group 4	U3i	AZ AA:12:300(ASM)	Habitation	Prehistoric	Lithic Procurement	Native Archaeological Culture	Late Archaic 1500 B.C.–A.D. 200, Prehistoric 12,000 B.C.–A.D. 1500	1	Determined Eligible	D	SHPO	NA	7/29/2003	WRI-S-1154
Route group 4	U3i	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-0538
Route group 4	U3i	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-1206
Route group 4	U3i	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-2123
Route group 4	U3i	AZ AA:12:146(ASM)	Limited Activity	Prehistoric	artifact scatter	Hohokam	Rillito and Rincon Phases A.D. 200–1300	1	Unevaluated					WRI-S-1149
Route group 4	U3i	AZ AA:12:672(ASM)	Limited Activity	Prehistoric	artifact scatter	Hohokam	Ceramic A.D. 200–1500	1	Unevaluated					WRI-S-1163
Route group 4	U3i	AZ AA:12:78(ASM)	Limited Activity	Prehistoric	artifact scatter	Hohokam	Ceramic A.D. 200–1500	1	Unevaluated					WRI-S-1166
Route group 4	U3i	AZ AA:12:97(ASM)	Limited Activity	Prehistoric	artifact scatter	Hohokam	Tanque Verde Phase A.D. 1000–1300	1	Unevaluated					WRI-S-1174
Route group 4	U3i	AZ AA:12:371(ASM)	Structure	Historic	Julian Rodriguez Homestead	Mexican-American	1908	1	Unevaluated					WRI-S-1159

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	U3i	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1202
Route group 4	U3i	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-1207
Route group 4	U3i	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-2139
Route group 4	U3i	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-2141
Route group 4	U3i	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-2159
Route group 4	U3i	AZ AA:12:42(ASM)	Structure	Multi	Homestead; artifact scatter	Euro-American; Hohokam	Ceramic 200--1500; Historic A.D. 1500--1950	1	Unevaluated					WRI-S-1160
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0379
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0380
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0381
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0382
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0383
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0384
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0385
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0386
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0387
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0389
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0391
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0393
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0394
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0395
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0396
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0397
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0398

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0399
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0400
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0401
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0402
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0403
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0405
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0406
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0407
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0408
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0409
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0410
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0418
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0420
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0432
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0435
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0437
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0438
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0439
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0440
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0449
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0450
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0555
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0556

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2105
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2111
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2116
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2117
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2118
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2119
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2120
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2121
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2122
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2130
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2131
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2138
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2140
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2156
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2157
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2160
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2161
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2163
Route group 4	U3i	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2171
Route group 4	U3i	Juan Bautista de Anza Route	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3704
Route group 4	U3i	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 4	U3i	AZ AA:11:240(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1141
Route group 4	U3i	AZ AA:12:104(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1145
Route group 4	U3i	None	Utility	Historic	Utility line			1	Unevaluated -- Mapped Resource					WRI-M-0550

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	U3i	None	Water Control Features	Historic	Canal			1	Unevaluated -- Mapped Resource					WRI-M-2151
Route group 4	U3i	None	Water Control Features	Historic	Well			1	Unevaluated -- Mapped Resource					WRI-M-2162
Route group 4	U3j	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0417
Route group 4	U3j	AZ AA:11:240(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1141
Route group 4	U3k	Los Robles Arch Area (NRHP)	Habitation	Prehistoric	habitation			1	Listed on State and/or Federal Register					WRI-R-3471
Route group 4	U3k	AZ AA:11:12(ASM)	Habitation	Prehistoric	Habitation Site (The Hog Farm site)	Hohokam	Hohokam Classic Period Based on ceramic identification A.D. 1100–1450 Hohokam Colonial Period Based on ceramic identification A.D. 750–950 Prehistoric A.D. 750–1450; Historic A.D. 1500–1950	1	Determined Eligible	D	SHPO	NA	12/8/2003	WRI-S-1137
Route group 4	U3k	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-0358
Route group 4	U3k	None	Limited Activity	Historic	Fence			1	Unevaluated -- Mapped Resource					WRI-M-0415
Route group 4	U3k	None	Structure	Historic	Structure			1	Unevaluated -- Mapped Resource					WRI-M-2172
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0356
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0357
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0359
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0360
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0361
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0362
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0363
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0367
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0369
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0370

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0371
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0372
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0373
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0374
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0375
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0376
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0377
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0378
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0412
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0413
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0414
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0416
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2106
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2109
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2110
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2124
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2125
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2126
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2128
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2147
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2148
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2149
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2150

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2173
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2174
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2175
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2176
Route group 4	U3k	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2177
Route group 4	U3k	AZ AA:11:131(ASM)	Transportation	Historic	Road/Trail	Euro-American	Late Historic A.D. 1900–1950	1	Unevaluated					WRI-S-1138
Route group 4	U3k	Juan Bautista de Anza Route	Transportation	Historic	Trail	Euro-American	Unspecified	1	Unevaluated -- Mapped Resource					WRI-M-3704
Route group 4	U3k	AZ AA:11:237(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1140
Route group 4	U3k	AZ AA:11:240(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1141
Route group 4	U3k	AZ AA:12:875(ASM)	Utility	Historic	El Paso Natural Gas pipeline No. 1007	Euro-American	1930s	1	Determined Eligible	C, D	SHPO	NA	2/4/2004	WRI-S-1170
Route group 4	U3k	AZ AA:1:95(ASM)	Utility	Historic	Maricopa-Saguaro 115 kV transmission	Euro-American	Late Historic 1948	1	Determined Not Eligible		SHPO	NA	5/14/2002	WRI-S-1136
Route group 4	U3k	None	Water Control Features	Historic	Canal			1	Unevaluated -- Mapped Resource					WRI-M-0366
Route group 4	U3k	Cooke's Wagon Road/Mormon Battalion Trail	Transportation	Historic	Trail			1	Unevaluated -- Mapped Resource					WRI-M-3705
Route group 4	U3l	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-2127
Route group 4	U3l	AZ Z:2:40(ASM)	Transportation	Historic	Railroad (Southern Pacific Railroad Mainline - Proponent Alternative)	Euro-American; Asian-American	1877–1880	1	Determined Eligible	A	SHPO	NA	12/5/2003	WRI-S-1442
Route group 4	U3l	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3934
Route group 4	U3l	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3935
Route group 4	U3l	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-3936
Route group 4	U3l	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-4438
Route group 4	U3l	AZ AA:2:118(ASM)	Transportation	Historic	State Route 84	Euro-American	Late Historic Constructed ca. 1936 A.D. 1900–1950	1	Determined Eligible	A, D	SHPO	NA	11/14/2003	WRI-S-1187
Route group 4	U3l	Butterfield Trail	Transportation	Historic	Trail	Euro-American	Unspecified	1	Determined Eligible		SHPO	173	8/13/1970	WRI-R-3541
Route group 4	U3l	AZ AA:12:875(ASM)	Utility	Historic	El Paso Natural Gas pipeline No. 1007	Euro-American	1930s	1	Determined Eligible	C, D	SHPO	NA	2/4/2004	WRI-S-1170
Route group 4	U3m	None	Industrial	Historic	Railroad feature			1	Unevaluated -- Mapped Resource					WRI-M-2127

Table G-1. Cultural Resources within the Representative Right-of-Way (Continued)

Route	Segment	Agency Number	Site Category	Occupation	Site Type	Culture Type	Affiliation	Resource Count	Eligibility	Criteria	Agency	HPD/Register Numbers	Det. Date	WestLand Number
Upgrade Section, cont'd.														
Route group 4	U3m	None	Other	Historic	Compound			18	Unevaluated -- Mapped Resource					WRI-M-4516
Route group 4	U3m	AZ Z:2:40(ASM)	Transportation	Historic	Railroad (Southern Pacific Railroad Mainline - Proponent Alternative)	Euro-American; Asian-American	1877–1880	1	Determined Eligible	A	SHPO	NA	12/5/2003	WRI-S-1442
Route group 4	U3m	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-2106
Route group 4	U3m	AZ AA:2:118(ASM)	Transportation	Historic	State Route 84	Euro-American	Late Historic Constructed ca. 1936 A.D. 1900–1950	1	Determined Eligible	A, D	SHPO	NA	11/14/2003	WRI-S-1187
Route group 4	U3m	AZ AA:11:240(ASM)	Unknown	Unknown	Unknown	Unknown	Unknown	1	Unknown					WRI-S-1141
Route group 4	U3m	AZ AA:1:95(ASM)	Utility	Historic	Maricopa-Saguaro 115 kV transmission	Euro-American	Late Historic 1948	1	Determined Not Eligible		SHPO	NA	5/14/2002	WRI-S-1136
Route group 4	U3m	AZ AA:8:366(ASM)	Utility	Historic	Saguaro-Oracle 115kV transmission line	Euro-American	Recent A.D. 1940–Present	1	Determined Not Eligible	A,B,C,D	SHPO	NA	11/25/2002	WRI-S-1188
Route group 4	U4	AZ BB:13:419(ASM)	Limited Activity	Prehistoric	artifact scatter	Native Archaeological Culture	12,000 B.C.–A.D. 1500	1	Unevaluated					WRI-S-1197
Route group 4	U4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0500
Route group 4	U4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0503
Route group 4	U4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0526
Route group 4	U4	None	Transportation	Historic	Road			1	Unevaluated -- Mapped Resource					WRI-M-0590
Route group 4	U4	AZ BB:13:542(ASM)	Transportation	Multi	Road with Feature	Unspecified	Unspecified	1	Unevaluated					WRI-S-1203

Appendix F

NATIONAL SCENIC AND HISTORIC TRAILS ASSESSMENT

NATIONAL SCENIC AND HISTORIC TRAILS ASSESSMENT

INTRODUCTION

National Scenic Trails (NSTs) and National Historic Trails (NHTs) are part of the National Trails System, which is a network of scenic, historical, and recreational trails created by the National Trails System Act of 1968 (16 United States Code [USC] 1241–1251). NSTs and NHTs are authorized and designated only by Act of Congress. NSTs are continuous and uninterrupted extended trails more than 100 miles long, so located as to provide for maximum enjoyment of the nationally significant resources, qualities, values, and associated settings as the primary use or uses of the area through which such trails may pass. The use of motorized vehicles by the general public along any NST is prohibited (16 USC 1246). NSTs may provide non-motorized routes with outstanding recreational opportunities. NHTs commemorate historic routes of exploration, migration, trade, communication, and military action (National Park Service [NPS] 2013), and must meet three criteria: 1) follow as closely as possible the actual route of historic use, 2) be of national significance, and 3) have significant potential for public recreation and/interpretation opportunities (16 USC 1242).

NSTs and NHTs are formally administered by various federal agencies; however, land ownership may be public or private. To adhere to Bureau of Land Management (BLM) guidance for National Trails, this appendix focuses on the inventory and impact assessment of 1) congressionally designated National Trails, 2) trails undergoing National Trail Feasibility Study (trails under study), and 3) trails that are deemed suitable for designation, per BLM manuals 6250, 6280, and 8353. It should be noted that all National Trails were inventoried and reviewed based on National Environmental Policy Act (NEPA) requirements (i.e., equal level of analysis regardless of jurisdiction); however, the trails were evaluated using BLM methodology as outlined in Manual 6280. National trails were also evaluated in terms of individual resources, including biological, cultural, recreational, visual, and land use (see chapters 3 and 4 of the environmental impact statement [EIS]).

REGULATORY FRAMEWORK

Federal agencies must consider the effects of their actions on NSTs and NHTs under the NEPA and the National Trails System Act of 1968 (16 USC 1246) which states that other uses along an NST or NHT that would not substantially interfere with the nature and purpose of the trail may be permitted by the Secretary charged with the administration of the trail. Reasonable efforts shall be made to provide sufficient access opportunities to such trails and, to the extent practicable, efforts shall be made to avoid activities incompatible with the purposes for which such trails were established (16 USC 1246). More specifically, the Secretary of the Interior, or the Secretary of Agriculture as the case may be, may grant easements and rights-of-way upon, over, under, across, or along any component of the National Trails System in accordance with the laws applicable to the National Park System and the National Forest System, respectively, provided that any conditions contained in such easements and rights-of-way shall be related to the policy and purposes of the National Trails System Act (16 USC 1248).

A designation as either an NST or NHT requires a two-step process: 1) Congressional authorization of a feasibility study, and 2) Congressional designation. While a trail is undergoing a National Trail Feasibility Study, or when a trail has been recommended as suitable for designation and Congress has not yet acted to designate the trail, the BLM shall manage the values, characteristics, and settings of the trail in accordance with the Federal Land Policy Management Act of 1976, as amended (FLPMA). Following congressional designation, the development of a trail comprehensive management plan (CMP) is required, which is used by various agencies in the development of land use planning documents (e.g., BLM Field

Office resource management plans [RMPs] and U.S. Forest Service [FS] land and resource management plans).

BLM implementation of the requirements established by the National Trails System Act can be found in the agency's National Trails System manual series—BLM Manuals 6250, 6280, and 8353 (BLM 2012a, 2012b, 2012c). These manuals provide administrative and management guidance.

- National Trails System Act of 1968
- *BLM Manual 6250 – National Scenic and Historic Trails Administration (Public)* addresses specific functions delegated to the BLM from the Secretary of the Interior pursuant to the National Trails System Act. Specifically, this manual describes how to conduct National Scenic or Historic Trail Feasibility Studies, how to administer an NST or NHT upon designation by Congress, and the responsibilities of National Scenic or Historic Trail administrators. This manual also identifies data and records management requirements.
- *BLM Manual 6280 – Management of National Scenic and Historic Trails and Trails Under Study or Recommended as Suitable for Congressional Designation (Public)* provides policies for the management of National Scenic and Historic Trails. Specifically, this manual identifies requirements for the management of trails undergoing National Trail Feasibility Study; trails that are recommended as suitable for National Trail designation through the National Trail Feasibility Study; inventory, planning, management, and monitoring of designated National Scenic and Historic Trails; and data and records management requirements for National Scenic and Historic Trails.
- *BLM Manual 8353 – Trail Management Areas – Secretarially Designated National Recreation, Water, and Connecting and Side Trails (Public)* addresses secretarially designated National Recreation Trails (including the National Water Trails) and Connecting and Side Trails, including requirements for cooperative relationships; trail marking; identifying, evaluating, and recommending trails; nominating trails through the submission of application packages; and data and records management.

For the purposes of NEPA and the Project-level analysis addressed in this EIS, BLM Manual 6280 served as the primary regulatory guidance (BLM 2012b). This manual describes the steps that are required to identify and manage NST and NHT resources within the broader regulatory framework governing BLM-administered lands. More specifically, BLM Manual 6280 provides policy direction regarding the BLM's management approach and the NEPA analysis requirements for congressionally designated trails and trails undergoing feasibility studies, and trails deemed suitable for designation.

As part of the NEPA analysis, for any implementation-level action proposed or that may potentially affect NSTs, NHTs, or trails under feasibility study, the BLM shall:

(i) For each alternative, describe and analyze the potential impacts to the nature and purposes of the National Trail, and the National Trail resources, qualities, values, and associated settings and the primary use or uses of the trail.

(ii) Describe the impacts to the national significance of National Trails, based on NHPA National Historic Landmark criteria and other National Trails System Act criteria, as well as impacts to the significance of properties that are eligible or listed on the National Register of Historic Places (NRHP), as applicable.

(iii) Ensure adequate public involvement in the BLM's management activities through the NEPA, land use planning, and/or other applicable processes.

(iv) Coordinate with the National Trail administering agency during the environmental review and land use planning processes regarding the establishment of the National Trail Management Corridor. It should be noted that no National Trail Management Corridors were established for the proposed Project in context with this appendix. However, a study corridor (analysis area) was developed to inventory and assess impacts to National Trails in terms of resource, values, qualities, and associated settings. The analysis area was established in consultation with the Trails "Stakeholder Group," which consisted of agency trail administrators, agency resource specialists, and public trail groups.

(v) To the greatest extent possible, consider opportunities for mitigation to a level commensurate with the adverse impact to the nature and purposes; resources, qualities, values, and associated settings; and the primary use or uses of the National Trail.

(vi) Include the following in the Decision Record or Record of Decision:

(a) Whether the proposed Project will substantially interfere or will be incompatible with the nature and purposes of the National Trail, including the resources, qualities, values, or associated settings, or the primary use or uses.

(b) A description of the action taken to authorize or deny an activity or the application of any best management practices or mitigation measures (BLM 2012b).

For trails under feasibility study, the NEPA analysis for the proposed Project will consider existing data, including data from the completed National Trail Feasibility Study (if available), data provided to the BLM by the agency conducting the National Trail Feasibility Study, or additional data collected as necessary for alternative formulation and analysis of the proposed Project (i.e., proposed Southline Transmission Line Project, herein called the Project). In evaluating whether to approve the proposed Project, the NEPA analysis will:

(i) Describe the values, characteristics, and settings of trails under study and trails recommended as suitable in the affected environment section of the NEPA document.

(ii) Analyze and describe any impacts of the proposed Project on the values, characteristics, and settings of trails under study or trails recommended as suitable.

(iii) Consider an alternative that would avoid adverse impacts to the values, characteristics, and settings of the trail under study or recommended as suitable and/or incorporate and consider applying design features to avoid adverse impacts.

(iv) When the proposed Project is anticipated to have a significant adverse impact, there must be coordination between the BLM State Office and the assigned National Trail Feasibility Study agency office. If the anticipated significant adverse impact cannot be avoided, the BLM State Office must contact the BLM Washington Office so that coordination with the study agency headquarters office can be initiated (BLM 2012b).

Other federal legislation or regulation applicable to NSTs and NHTs in the analysis area includes:

- *Federal Land Policy and Management Act of 1976, as amended* (43 USC 1701; Public Law [PL] 94-579). The FLPMA consolidates and articulates BLM management responsibilities and governs most uses of federal lands, including authorization to grant or renew rights-of-way. In accordance with the FLPMA, the BLM must make land use decisions based on principles of multiple use and sustained yield. As such, a grant of right-of-way (ROW) must be limited to its necessary use and must contain terms and conditions that reflect the agencies' management responsibilities under the FLPMA, including minimizing impacts on fish and wildlife habitat.

- *National Landscape Conservation System* (16 USC 7201–7203) was established in 2000 by a Department of Interior Secretarial Order, "in order to conserve, protect, and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations." The National Landscape Conservation System was made permanent and codified in the Omnibus Public Land Management Act of 2009 (PL 111-11, Title II). The system includes the following areas administered by the BLM: National Monuments, National Conservation Areas, Wilderness, Wilderness Study Areas (WSAs), Wild and Scenic Rivers, National Scenic and Historic Trails, Cooperative Management and Protection Areas, Outstanding Natural Areas, and Forest Reserves.
- *The National Historic Preservation Act of 1966, as amended* (16 USC 470; 36 Code of Federal Regulations 800) directs federal agencies to take into account the effects of their actions on historic properties and/or unevaluated cultural resources and provide the Advisory Council on Historic Preservation a reasonable opportunity to comment.
- *BLM Manual 8400 – Visual Resource Management* outlines the system used by the BLM to manage visual resources on BLM-administered lands, and includes an inventory of existing scenic values as well as management objectives that define the allowable levels of disturbance or visual contrast.

ISSUES IDENTIFIED FOR ANALYSIS

As noted in the introduction, in order to adhere to BLM guidance for National Trails, this appendix focuses on the inventory and impact assessment of 1) congressionally designated National Trails, 2) trails undergoing National Trail Feasibility Study (trails under study) and, 3) trails that are deemed suitable for designation per BLM Manuals 6250, 6280, and 8353.

Based on a screening of these three elements, four trails are considered in this appendix. Beginning in the eastern portion of the analysis area and proceeding west, these include the Continental Divide National Scenic Trail, the Arizona National Scenic Trail, the Juan Bautista de Anza National Historic Trail, and the Butterfield Overland Mail and Stage Route (Butterfield Trail) (figures F-1 and F-2). The Butterfield Trail occurs in both the eastern and western portions of the analysis area.

National Scenic Trails

Continental Divide National Scenic Trail

The Continental Divide National Scenic Trail (CDNST) extends between the Montana–Canada and New Mexico–Mexico borders, roughly following the mountains that form a watershed divide between the Mississippi River drainage to the east, and rivers flowing to the Pacific to the west. Established in 1978, it was designated to provide a scenic, high-quality, and primitive experience along a continuous and appealing route through diverse terrain for travel by hikers and equestrians (FS 2009). At the time of its establishment, it was intended to mimic the scenic trail concept of the Appalachian Trail and Pacific Crest Trail, two previously created National Scenic Trails spanning major north-south cordilleras of the mainland United States. The CDNST crosses FS, BLM, State, and private lands through New Mexico. The CDNST crosses through the town of Lordsburg, New Mexico and the Interstate 10 (I-10) corridor within the Project analysis area between the Pyramid Mountains and the Big Burro Mountains, all within developed/rural areas. The Mimbres RMP includes management prescriptions for these areas of the CDNST that occur on BLM-managed lands.

Arizona National Scenic Trail

The Arizona National Scenic Trail (Arizona NST) extends over 800 miles from the Utah–Arizona and Arizona–Mexico borders, across various ecosystems, terrain, and remote rural landscapes of the state. Conceptualized as the Arizona NST by Dale Shewalter in the 1980s, the route of this trail was identified and constructed in the 1990s and early 2000s under the lead of Arizona State Parks, with funding from the U.S. Forest Service, BLM, and NPS. The trail was designated as an NST in 2009 and the administration of the trail was assigned to the U.S. Forest Service; the final links completing it from end to end were constructed in late 2012. While trail feasibility studies have been produced for many trails since 1968, including the CDNST, the Arizona NST was exempted from this requirement due to 1) its location on primarily public land, 2) the fact that it was already established for much of its length, 3) its strong local, regional, and state advocates, and 4) its outstanding recreational opportunities.

A trailwide CMP must be developed by the lead agency for a congressionally designated National Trail. At this time, a CMP has yet to be developed for the Arizona NST. The United States Forest Service is the lead agency in the development of the CMP. BLM manages approximately 45 miles of the Arizona NST, all located outside of the analysis area. The trail crosses FS, BLM, NPS, State, and private lands from the Utah border to Mexico. It crosses the Project analysis area east of Tucson, at the I-10 corridor near Cienega Creek Natural Preserve between the Santa Rita and Rincon mountain ranges. The Arizona NST is located on State and privately owned lands in this location and does not cross BLM land within the analysis area.

National Historic Trails

Juan Bautista de Anza National Historic Trail

The Juan Bautista de Anza National Historic Trail (Anza NHT) commemorates the route taken by Anza in 1775–1776, when he led a group of colonists from Mexico to found a presidio and mission for New Spain at San Francisco Bay. Established in 1990, this congressionally designated historic trail administered by the NPS is approximately 1,200 miles long, extending from Nogales, Arizona to San Francisco, California (NPS 1996). For lands outside NPS units, local land managers and property owners take the lead in maintaining the Anza NHT in accordance with the CMP and coordinate interpretation with the NPS. The Anza NHT is associated with the following three components:

- Historic Corridor—the historic path traveled by the expedition
- Recreational Trail—a modern recreational trail developed by local land managers that generally parallels the historic trail corridor. Intended to be a continuous recreational trail from Nogales, Arizona to the San Francisco Bay Area
- Auto Tour Route—published and signed driving route that follows the historic corridor, connecting related historic sites

Only a small portion of the historic trail crosses federal land between Nogales and San Francisco. The trail primarily crosses private land in Arizona, with portions of the trail crossing BLM and State lands as the trail continues west to California. For the Project analysis area, the trail is generally located within the metropolitan area of Tucson along the Santa Cruz River, generally paralleling I-10 to the proposed Project's terminus near the town of Marana, Arizona.

Trails Recommended as Suitable for National Trail Designation

Butterfield Overland Mail and Stage Route

Obtaining congressional approval in 2009, the Butterfield Trail is currently under feasibility study by the Secretary of the Interior (Sec. 7209 of PL 111-11). As such, the nature and purpose of the trail is not defined but would be consistent with the National Trails System Act, which provides "for outdoor recreation needs of an expanding population" and promotes "the preservation of, public access to, travel within, and enjoyment and appreciation of the open-air outdoor areas and historic resources of the nation." The proposed Butterfield Trail commemorates the routes pioneered by John Butterfield and the Butterfield Overland Stage Company as they traveled over the "ox-box route" between St. Louis, Missouri and Memphis, Tennessee, ending in San Francisco, California. Within the Project analysis area, the Butterfield Trail extends from Las Cruces, New Mexico through Marana, Arizona, crossing BLM, State, and private lands through Arizona and New Mexico. Although the alignment provided by the NPS is still under study, the trail crosses BLM land near Deming and Lordsburg, New Mexico. The Mimbres RMP includes management prescriptions for these areas of the Butterfield Trail that occur on BLM-managed lands.

ANALYSIS METHODOLOGY

Introduction

For the Southline Project, a detailed methodology to conduct Project analysis for National Scenic and Historic Trails (August 2013) was developed by the contractor in coordination with BLM staff (Field Office and State Office [New Mexico and Arizona] National Trails System specialists). Inventory data were used to characterize the affected environment for all national scenic and historic trails, and trails under study or trails recommended as suitable, for all alternatives regardless of jurisdiction. Based on the guidance provided in BLM Manuals 6250 and 6280 and consultation with applicable National Trails System specialists, the following was considered: trail components, viewshed analyses, scenic resources, historic and cultural resources, recreation, natural resources, and other landscape elements as applicable. The following agency planning-level data were requested, and Project-level data were used where data gaps were identified out to 1 mile on either side of the proposed Project centerline. (This 2-mile-wide analysis area was developed in conjunction with BLM specialists and is consistent with other resource analysis areas (e.g., recreation, cultural, special designations, visual). Unique landscape features associated with the trail or trail interpretive recreation areas beyond 1 mile on either side of the proposed Project centerline were identified where appropriate.

- Planning-level Data
  - Visual Resource Inventory (VRI)
    - Scenic Quality Rating Units (SQRU)
    - Sensitivity Level Rating Unit (SLRU)
    - Visual Distance Zone
  - National Historic Trail federal protection components
    - High-potential route segments
    - High-potential historic sites

- National Scenic Trail components
    - Route segments
    - National Trail ROWs/corridor
- Recreation Spectrum Opportunity (ROS) data, where available
- National Scenic and Historic Trail routes and ROWs (16 USC 1246 (7)(a))

- Project-level data (i.e., derived from this EIS for applicable resources, qualities, values and associated settings)
    - Identification of recreation areas (i.e., Special Recreation Management Areas, trailheads, connector roads, interpretive kiosks, etc.), trail-associated viewing locations, and key observation points
    - Identification of historic points of interest related to the trail and NRHP-listed properties
    - Biological data that may include vegetation communities (i.e., wetlands, floodplains, and woodlands), rare species occurrences, critical habitats, and biological features such as habitat conservation areas, migration corridors, and biological core areas

Figures in this appendix include the overview maps above (see figures F-1 and F-2), an index map that illustrates the locations for the Southline Transmission Line Project Project-level National Trails System assessment (figure F-3) and detailed inventory map panels for visual and recreation resources (figures F-4 through F-24), and cultural, biological, and other natural resources (figures F-25 through F-45) in the analysis area. Composite impact assessment results are illustrated on map panels (figures F-46 through F-66).

Inventory (Affected Environment)

Trail Components

For each National Trail and alternative route being evaluated in a NEPA analysis, the affected environment identifies and describes 1) the nature and purpose of the National Trail, if available; 2) the trail's resources, qualities, values, and associated setting(s), 3) primary use(s), 4) the National Trail Right-of-Way and Management Corridor, if available 5) for NHT, Federal Protection Components, the analysis area was limited to the high-potential route segments, high-potential historic sites, and auto tour routes, and 6) National Trail–related NRHP properties (both eligible to and listed on the NRHP).

- **Nature and Purposes of the National Trail** – The nature and purposes are defined as the character, characteristics, and congressional intent for a designated National Trail, including the resources, qualities, values, and associated settings of the areas through which such trails may pass; the primary use or uses of a National Trail; and activities promoting the preservation of, public access to, travel within, and enjoyment and appreciation of such trails. Only those National Trails that have been through the comprehensive management planning process have a formal nature and purpose statement; however, a similar statement regarding the management of a National Trail can be found in the National Trails System Act, along with related Congressional Reports (if available), and will be used in lieu of the nature and purpose if such language exists.
- **National Trail Resources, Qualities, Values, and Associated Settings** – The resources, qualities, and values are defined as the significant scenic, historic, cultural, recreational, natural (including biological, geological, and scientific), and other landscape areas through which such trails may pass, as identified in the National Trails System Act. Associated settings are defined as the geographic extent of the resources, qualities, and values or landscape elements within the

surrounding environment that influence the trail experience and contribute to resource protection. In the context of an implementation action NEPA assessment, only those resources, qualities, values, and associated settings potentially affected by the proposed Project would be inventoried. Based on consultation with the BLM, a Trail analysis area for the proposed Project was defined as a 2-mile-wide corridor centered on the trail and clipped to lands within 1 mile of the transmission line alignment centerlines. (See figures F-1 and F-2 for the locations of the trail inventory.)

- **Primary Use or Uses** – The primary use or uses are defined as the authorized mode or modes of travel, and/or activities identified in the National Trails System Act, enabling legislation, or legislative history, through the trailwide CMP or approved RMP.
- **National Trail Right-of-way and Management Corridor** – The National Trail Right-of-way is described as the corridor selected by the National Trail administering agency in the trailwide CMP, which includes the area of land that is of sufficient width to encompass National Trail resources, qualities, values, and associated settings. The National Trail Management Corridor is described as the allocation established through the land use planning process for a public land area of sufficient width within which to encompass National Trail resources, qualities, values, and associated settings and the primary use or uses that are present or that are to be restored.
- **For NHTs, Federal Protection Components (including high-potential historic sites and high-potential historic route segments) and Auto Tour Routes** – Federal Protection Components are those selected high-potential historic sites and high-potential route segments and other land- and water-based components of a designated NHT located on federally owned land that meet the NHT criteria listed in the National Trails System Act, and that are identified in trailwide CMPs, RMPs, and implementation plans. Auto tour routes are defined as those roads that parallel the NHT and provide opportunities to commemorate and/or interpret the historic route as an alternate experience. These opportunities may occur inside or outside the National Trail Management Corridor. Auto tour route opportunities may include access to NHT high-potential historic sites and high-potential historic route segments, although it is not required. Auto tour routes are normally restricted to existing all-weather roads or paved highways and may be limited to specific use conditions, per BLM Manual 6280.
- **National Trail-related National Register of Historic Places Properties** – Includes properties formally determined as eligible for inclusion in and properties listed on the NRHP by the Secretary of the Interior, and all other significant properties that meet NRHP listing criteria. This includes any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior.

Viewshed Analysis

For NSTs, a viewshed analysis was conducted out to 5 miles from the continuous route alignment to determine an area where the most intense impacts would occur based on the construction, operation, and maintenance of the proposed Project. (This corridor width is the same as the visual resource analysis area identified for Project analysis.) For NHTs, a viewshed analysis was also conducted out to 5 miles from high-potential sites, high-potential segments, and the designated auto tour route. This analysis area allows for focusing the inventory on resources that may be affected by the proposed Project. The viewshed analysis identified landscape features that are seen and not seen from the National Trail. The viewshed was conducted using a geographic information system (GIS)-based visibility analysis technique and then verified during field investigations of affected National Trails. Specifically, the viewshed analyses were conducted:

- at existing recreation and interpretive developments and at critical points that reflect how a trail visitor interacts with the trail, including developed recreation areas such as trailheads, and natural features such as overlook points/pullouts and access points, where identified in the CMP;
- at areas with sensitive resources, qualities, values, and associated settings;
- at regularly spaced intervals along the National Trail tread, trace, and/or management corridor centerline to ensure no gaps in the viewshed analysis; and
- for NHTs, National Trail–related NRHP-eligible and NRHP-listed properties noted in the CMP; other significant historic trail-related features such as river crossings, springs, and stage stations (where applicable); high-potential historic sites and high-potential route segments; auto tour routes; and recreation trails (where applicable) that facilitate public access and opportunities for vicarious experiences.

SCENIC RESOURCES

Visual Resource Inventory – Bureau of Land Management Resource Management Plans

The BLM Visual Resource Management (VRM) system requires the inventory of scenic values and the establishment of management objectives for those values through a VRM planning process. The Visual Resource Inventory (VRI) process and its resulting information provide the information necessary to characterize the existing or affected environment for visual resources, and are required for management and Project-level decisions. The BLM's Manual H-8410-1 (BLM 1986) defines the criteria that define VRI components of scenic quality, SLRUs, distance zones, and VRI classifications. VRI data were provided by the BLM Field Offices (Las Cruces District, Safford, and Tucson) and incorporated into the inventory; and VRI data gaps (i.e., where agency VRI data do not exist or the BLM determines that existing data are insufficient) were identified and updated by the BLM Field Offices for inclusion in the Draft EIS. BLM Manual 6280 requires the use of BLM VRI data (scenic quality, sensitivity levels, and distance zones) to characterize the affected environment for all National Trails.

Scenic Quality

Scenic quality as defined by the BLM is the measure of the visual appeal of a tract of land. In the VRI process, public land is given an A, B, or C rating, based on the evaluation of the following seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. Class A scenery typically has a higher degree of landscape relief, diversity of water, and vegetation that harmoniously combine and result in a high level of aesthetic appeal. Class B scenery has less variety in the elements that comprise the landscape, but still has some diversity and visual interest. Class C scenery typically does not have much diversity in terms of landscape features, and rates the lowest from an aesthetic perspective. SQRUs are units of land that characterize the natural landscape setting. These settings are associated with similar features that harmonize with each other and result in a particular landscape character. These SQRUs may range in size from several thousand acres to 100 acres or less, depending on the homogeneity of the landscape features, and take into account man-made features that either enhance or detract from the scenic value. The use of SQRUs to characterize the existing setting of National Trails will provide a consistent definition of setting for all trail resources (visual, recreation, cultural, and biological).

Sensitivity Level Rating Units

SLRUs are a measure of public concern for the maintenance of scenic quality associated with a given tract of BLM land. Public lands are assigned high, medium, or low sensitivity by analyzing the various

indicators of public concern, including type of user, amount of use, public interest, adjacent land uses, and special areas, among other factors. Similar to SQRUs, SLRUs characterize the public value of the natural landscape setting and do not always correlate with the most scenic areas.

Distance Zones

Per BLM guidance, landscapes are subdivided into three distance zones based on relative visibility from public viewing locations (i.e., roads, residences, etc.). The three distance zones that the BLM uses to characterize the visibility of BLM-administered lands are foreground-middleground (0 to 5 miles), background (5–15 miles), and seldom seen (greater than 15 miles).

HISTORIC AND CULTURAL RESOURCES

Historic and cultural resource data pertaining to high-potential sites, high-potential segments, and auto tour routes were obtained from the BLM as outlined in the Anza CMP. For the cultural resources analysis conducted for the EIS, only a Class I records review was conducted. A detailed Class I records review in support of the proposed Project was conducted to identify prior inventories, research, and previously recorded sites within 1 mile of the Project reference centerline for all alternatives corridors considered in the EIS (2-mile corridor).

RECREATION

Land and resource use data that identify existing and planned land uses were collected within the analysis area. In addition, recreation data pertaining to trail-related viewing locations and key observation points were also collected within the analysis area, based on the results described in this EIS. Information was obtained from various federal, state, and local agency staff and documents, including:

- BLM RMPs concerning recreation resources, visual resources, cultural resources, and special management areas, including special recreation management areas, designated off-highway vehicle areas, Wilderness Study Areas, and other authorized land uses that could specifically pertain to National Trails
- New Mexico and Arizona State Parks and Fish and Game Departments
- City and County land use plans
- Aerial imagery
  - Digital Globe Satellite Imagery
  - ESRI©

NATURAL RESOURCES

Biological data collected for the EIS (see sections 3.8 and 4.8) were based in part on the results of public scoping and in consultation with the BLM. The following areas of concern were identified with regard to biological resources and were collected within the NST and NHT analysis areas:

- Migratory bird corridors (Pacific flyway) and Audubon Important Bird Areas
- Critical habitat (southwestern willow flycatcher, Mexican spotted owl, northern Mexican garter snake, and Gila chub)
- Riparian habitat and floodplain/cottonwood forest
- Habitat Conservation Areas and Biological Core Areas (Pima County)
- Migration and movement corridors

Based on consultation with BLM and FS trail administrators, NPS trail administrators, and local BLM Field Office resource specialists, vegetation communities occurring within each NST and NHT analysis area were identified and data were obtained from the Resource Geographic Information System (New Mexico) and Arizona Land Resource Information System. Landscape-defining characteristics, including prominent or distinctive aspects, qualities, and characteristics (i.e., wind potential), are identified as part of the rating for natural resources.

Other Landscape Elements

Existing conditions (i.e., cultural modifications such as developments, facilities, etc.) comprise the relatively intact settings for each NST and NHT that may be affected by the proposed Project. Within the NST and NHT analysis areas, existing conditions range from natural, unmodified settings to ones which are culturally modified to a great extent including existing transmission lines (both high- and low-voltage), substations, pipelines (water and high pressure natural gas), travel routes (i.e., road ROWs), residential and commercial development, and other man-made features that affect the natural character of settings. Existing conditions were evaluated by means of aerial photography and coordination with local Field Office specialists to determine the location where modern, recent modifications have affected natural settings, and to the relative degree that these conditions have altered the settings within the analysis area.

Regarding ROWs as they relate to cultural modifications, the Secretary, through the BLM, "may grant easements and rights-of-way upon, over, under, across, or along any component of the National Trails System in accordance with the laws applicable to...[the BLM public lands]...[p]rovided [t]hat any conditions contained in such easements and rights-of-way shall be related to the policy and purposes of...[the National Trails System Act]" (National Trails System Act Sec. 9(a)). To the greatest extent possible, for scenic and historic trails, the BLM shall consider locating proposed ROWs outside of Federal Protection Components, high-potential historic sites, and high-potential route segments; and for NSTs, to areas of comparative disturbance, in accordance with this policy. The BLM may approve proposed ROWs, subject to terms and conditions that are related to the policy and purposes of the National Trails System Act. Through the NEPA process for proposed ROWs, the BLM may permit ROWs that would not substantially interfere with National Trail purposes, and shall make efforts, to the extent practicable, to avoid ROWs that would be incompatible with the purposes for which that National Trail was established, in accordance with law and this policy.

Setting Description

The setting is defined as the geographic extent of the resources, qualities, and values or landscape elements within the surrounding environment that influence the trail experience and contribute to resource protection in context with the proposed Project alternative reference centerlines. For NSTs, the setting description identifies significant scenic or high visual qualities within the analysis area. For NHTs, the setting description identifies areas associated with high scenic quality that support the nature and purpose and/or relative freedom from modern intrusion within and adjacent to high-potential sites and segments.

Impact Assessment Methodology

This section focuses on the identification and characterization of scenic and historic trail impacts associated with the proposed Project. Impacts to National Trails would result from the construction and operation of the proposed transmission lines, substations, ancillary facilities, and access roads. The impact assessment was developed in consultation with the BLM and is consistent with and adheres to BLM guidance pertaining to NSTs and NHTs (BLM Manuals 6250 and 6280).

As part of the NEPA analysis, the proposed Project was evaluated to determine if it would substantially interfere with or be incompatible with the nature and purposes of any National Trails (see section 3.12 of the EIS for description of each National Trail) or equivalent statement (i.e., purpose of trail identified in the National Trails System Act and Congressional Reports). Significant impacts related to scenic and historic trails would be the result of high impacts on key inventoried resource qualities, values, and associated settings from the proposed Project that cannot be effectively mitigated. The following are general descriptions of the criteria for assessing the intensity of impacts that would result from the construction, operation, and maintenance of the proposed Project, and table F-1 presents the criteria used in the assessment.

- High Impacts—The intended experience of the trail, gleaned from the nature and purpose or similar language in the National Trails System Act, is no longer possible or is substantially compromised based on the construction and operation of the proposed Project. Impacts cannot be effectively mitigated.
- Moderate Impacts—The intended experience of the trail is affected but would not be substantially compromised. Mitigation may or may not be necessary.
- Low Impacts—The intended experience of the trail would be affected negligibly. Mitigation would probably not be necessary.

Table F-1. Assessing Intensity of Impacts to National Trails

Intensity of Impacts	Criteria for Assessing Intensity of Impacts
High	- Scenic Resources – Contrast produced by the proposed Project would demand attention and dominate views from the trail centerline where form, line, color, and texture of Project components would be incongruent with existing landscape or historic features. – High-quality, diverse, and rare or unique scenery (Class A or B) would be modified where the setting is a defining factor for the "high-potential route segments" or as seen from historic properties* and/or unevaluated cultural resources and/or interpretive areas, or scenic trail centerlines. - Historic and Cultural Resources – Characteristics of historic properties and/or unevaluated cultural resources located in the trail corridor and seen from the trail centerline would be modified to the extent that the NRHP eligibility of the trail segments and related historic properties and/or unevaluated cultural resources affected would be compromised. - Recreation, including Travel Management – Intact resource values, including recreation and National Trail–related travel management opportunities and values would be substantially compromised by the proposed Project. These values would no longer contribute to the character of the trail. - Natural Resources – Natural values, including any key contributing values and characteristics, would be substantially compromised by the proposed Project (i.e., a riparian area adjacent to a route segment follows what would be cleared for access roads). These values would no longer contribute to the character of the trail. - Other Landscape Elements – Presence of developments; facilities; landscape modifications; existing land uses; valid existing rights; surface, subsurface, or other interests in land ownership; and other variables such as sights, smells, and other experiences that may impact the trail experience. Areas where Project facilities would be located in proximity to, or parallel with (but not immediately adjacent to), landscape modifications that exhibit similar form, line, color, and texture.

Table F-1. Assessing Intensity of Impacts to National Trails (Continued)

Intensity of Impacts	Criteria for Assessing Intensity of Impacts
Moderate	- Scenic Resources – Contrast produced by the proposed Project would attract attention from viewers using the trail centerline, and Project components would be co-dominant with existing landscape features. – The inherent quality of interesting, but not outstanding, landscapes (Class B or C) would be modified as seen from historic properties and/or unevaluated cultural resources and/or interpretive areas, or scenic trail centerlines. - Historic and Cultural Resources – Characteristics of historic properties and/or unevaluated cultural resources located in the trail corridor and seen from the trail centerline would be modified to the extent that the NRHP eligibility of the trail segments affected may be compromised, but the effect could be minimized. - Recreation, including Travel Management – Intact resource values, including recreation and National Trail–related travel management opportunities and values, would be modified by the proposed Project but would remain suitably intact and continue to contribute to the character of the trail. - Natural Resources – Natural values, including any key contributing values and characteristics, would be modified by the proposed Project but would remain suitably intact and continue to contribute to the character of the trail. - Other Landscape Elements – Presence of developments; facilities; landscape modifications; existing land uses; valid existing rights; surface, subsurface, or other interests in land ownership; and other variables such as sights, smells, and other experiences that may impact the trail experience. – Areas where Project facilities would be located in proximity to, or parallel with (but not immediately adjacent to), landscape modifications that exhibit similar form, line, color, and texture.
Low	- Scenic Resources – Contrast produced by the proposed Project would not be readily apparent from trail centerlines and would be subordinate in the context of existing conditions. – Minimal change would occur to the existing character of interesting and common landscapes (Class B or C) as seen from historic properties and/or unevaluated cultural resources and/or interpretive areas, or scenic trail centerlines. - Historic and Cultural Resources – Characteristics of historic properties and/or unevaluated cultural resources located in the trail corridor and seen from the trail centerline and the trail segments affected would be modified, but their eligibility for listing on the NRHP would likely not be affected. - Recreation, including Travel Management – Intact resource values, including recreation and National Trail–related travel management opportunities and values, would be modified negligibly by the proposed Project. Contributing values would continue to define the character of the trail. - Natural Resources – Natural values, including any key contributing values and characteristics, would be modified negligibly by the proposed Project. Contributing values would continue to define the character of trail. - Other Landscape Elements – Presence of developments; facilities; landscape modifications; existing land uses; valid existing rights; surface, subsurface, or other interests in land ownership; and other variables such as sights, smells, and other experiences that may impact the trail experience. – Areas where the proposed Project would be located in proximity or parallel to an existing transmission line facility with similar landscape modifications and structural elements in regard to form, line, color, and texture, or screened from viewing locations associated with the trail such that the landscape is perceived to be unaltered.

* Historic Properties are defined in the National Historic Preservation Act of 1966, as amended, as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register, including artifacts, records, and material remains related to such a property or resource."

Initial Impacts

The intensity of a potential impact on the trail's nature and purpose, and resources, qualities, values, associated settings, and primary use or uses would be used as the basis for assessing initial impacts. The detailed methods to determine initial impacts are consistent with agency-approved analysis methods for the National Trails, as well as visual resources, land use and recreation, cultural resources, and

biological resources. (It should be noted that each National Trail has resources, qualities, values, associated settings, and primary use or uses that are unique to the trail; therefore, the resources, qualities, values, associated settings, and primary use or uses may differ between trails and may differ along different segments of the same trail.) The assessment of initial impacts takes into consideration standard mitigation or design features, including but not limited to using non-specular conductors, constructing the towers with dull gray galvanized steel, and employing overland construction techniques where vegetation and topographic conditions allow. A detailed list of standard mitigation measures can be found in the EIS in chapter 2.

RESIDUAL IMPACTS

Potential residual impacts would include direct ground disturbance and temporary increases in ambient noise levels in areas where the proposed transmission line intersect with the CDNST, Butterfield Trail, Arizona NST, and the Anza NHT. Potential increases in ambient noise levels would be temporary and would decrease with the completion of construction activities. Other potential impacts would include changes to the natural qualities, outstanding opportunities for solitude and primitive recreation, and values such as visual resources and visibility from the Trails. Because proposed Project facilities that intersect with Trails would be located adjacent to existing similar facilities, the residual impacts to the Trails would be minor.

Cumulative Effects

Cumulative effects to National Trails would be evaluated in the context of the trail's resources, qualities, values, associated settings, and primary use or uses in a manner similar to the proposed Project-level impact methodology. Direct and indirect effects would be assessed for both construction and operation activities associated with the proposed Project. Note that individual resource cumulative effects are discussed in section 4.20 in the EIS. To focus the analysis of cumulative effects as they relate to the proposed Project, the analysis area for NSTs would be limited to the continuous trail alignment within the Field Offices traversed by the proposed Project, in consideration of other reasonably foreseeable projects along the National Trail. For NHTs, the analysis area would be limited to the high-potential route segments, high-potential sites, and auto tour routes identified in the areas traversed by the proposed Project, in consideration of other reasonably foreseeable projects along the National Trail. The following methods summarize how cumulative effects will be evaluated for potentially affected National Trails.

TRAIL RESOURCES, QUALITIES, VALUES, ASSOCIATED SETTINGS, AND PRIMARY USE OR USES

1. Scenic and Visual Resources
    a. Cumulative effects of the incremental modification to the integrity of the associated settings and scenic values for which the National Trail was designated
    b. Cumulative effects to the naturally appearing landscapes associated with the NST or NHT, regardless of scenic quality rating
2. Cultural and Historic Resources
    a. Cumulative effects to historic/cultural resources consist of the loss of cultural artifacts, features, or sites that could have cultural significance or could yield important information about the National Trail
    b. Cumulative impacts to the historic settings, and those characteristics that support the historic setting

3. Recreation, including Travel Management
    a. Cumulative effects to high-quality recreation opportunities; relative freedom from intrusion; opportunities for vicarious experiences; and conservation, protection, and restoration of National Trail resources, qualities, values, and associated settings
    b. Cumulative effects to desired recreation setting characteristics
    c. Cumulative effects to the primary use or uses of the National Trail
    d. Cumulative effects to the travel systems in the area, including permanent access that could generate more movement in areas that would not have previously been accessible
4. Natural
    a. Cumulative effects to natural resources (biological, geological, and scientific) relate to ground disturbance and the resulting loss of biological, geological, or other scientific resources
    b. Cumulative effects to the natural settings that are the geographic extent of the natural landscape elements that influence the trail experience and contribute to resource protection
5. Other Landscape Elements
    a. Cumulative effects

REGIONAL SETTING

National Scenic Trails

Continental Divide National Scenic Trail

In southwestern New Mexico, the CDNST follows a route that ranges in elevation from approximately 4,200 to 8,050 feet above mean sea level (amsl) within the Mexican Highland and Datil subdivisions of the Basin and Range and Colorado Plateau physiographic provinces, respectively (Fenneman 1931). The Basin and Range Province is characterized by its isolated, roughly parallel mountain ranges separated by closed (undrained) desert basins. The mountain ranges often run 50 to 70 miles in length and generally trend north-south. The Mexican Highland subdivision is also characterized by basin and ranges and intervening desert plains; however, most of the area has external drainage as opposed to draining internally to basins or bolsons. Mexican Highland vegetation is characterized by creosote, cacti, and yucca at lower elevations, whereas sagebrush and greasewood are dominant at elevations higher than 3,500 feet amsl. The Datil subdivision of the Colorado Plateau contains a greater number of domed, volcanic features than elsewhere in the province and includes the San Mateo, Magdalena, and Black Mountain ranges. This subdivision is characterized by prairie grasslands and rolling piñon-juniper woodland, although the transition between Basin and Range to Colorado Plateau is not distinct. Most of the CDNST in southwestern New Mexico follows the ridgelines of these mountains and foothills, which contain semi-desert grassland vegetation characterized by grasses, shrubs, succulents, and juniper trees along the tops. The landforms in this region are commonly rounded or rolling hills and bajadas, with occasional cliffs or rock spires. Few diverse subdivisions are crossed by the CDNST in southern New Mexico.

Arizona National Scenic Trail

The Arizona NST begins at the Arizona–Mexico border, traversing the Basin and Range Province and Colorado Plateau before terminating at the Arizona–Utah border. In southern Arizona, the trail passes

through topography associated with the "Sky Islands," including the Santa Rita, Rincon, and Santa Catalina Mountains. These ranges run 15 to 25 miles in length trending north-south, which is characteristic of the Basin and Range. These mountain tops are typically occupied by conifer woodland and surrounded by semi-desert grassland at lower elevations, which give the appearance of mountain islands. Specific to the southern region of Arizona, vegetation along the Arizona NST may include a variety of tree species, such as paloverde, ironwood, and mesquite, commonly found along seasonal drainages. Rivers and wetter drainages may have occurrences of cottonwoods, willows, and saltcedar, which is an invasive species. Dense riparian areas are found concentrated along the Cienega Creek near Tucson.

National Historic Trails

Juan Bautista de Anza National Historic Trail

In Southern Arizona, the Anza NHT passes through a section of the Basin and Range province, the Sonoran Desert.

Mountain ranges that surround the Santa Cruz River corridor near Tucson include the Santa Catalina, Tucson, Tortolita, and the Santa Rita Mountains. Vegetation associated with the Sonoran Desert includes a variety of cacti and succulents; however, creosote is common, mixed with brittlebrush and other lowland desert shrubs. The Sonoran Desert Uplands are typically characterized by a variety of tree species, including paloverde, ironwood, and mesquite, which are commonly found along seasonal drainages. Rivers and wetter drainages may have occurrences of cottonwoods, willows, and saltcedar (an invasive species). Since the Anza NHT follows major river corridors such as the Santa Cruz River in southern Arizona, floodplains and wetland vegetation are common where portions of the river are not channelized or urbanized (i.e., Tucson and Marana).

Trails Recommended as Suitable for National Trail Designation

Butterfield Overland Mail and Stage Route

Similar to the Anza NHT, the Butterfield Trail traverses the Basin and Range province in New Mexico and Arizona. The Butterfield Trail crosses through the Mexican Highland subdivision of this province in New Mexico and the Sonoran Desert in Arizona. These subdivisions are characterized by smaller mountain ranges, rock pediments (sloping solid rock), and basins that typically have external drainage as opposed to draining internally to basins and bolsons. Mexican Highland vegetation is characterized by creosote, cacti, and yucca at lower elevations, whereas sagebrush is dominant at elevations higher than 3,500 feet amsl. Vegetation associated with the Sonoran Desert includes a variety of cacti and succulents; however, creosote is common mixed with brittlebrush and other lowland desert shrubs. The Sonoran Desert Uplands are typically characterized by a variety of tree species, including paloverde, ironwood, and mesquite, which are commonly found along seasonal drainages. Rivers and wetter drainages may have occurrences of cottonwoods, willows, and saltcedar (an invasive species). Throughout these subdivisions, the occurrences of springs provided water for historic-era trail users and were key to the establishment of stations along the stage route. Near Tucson, the Butterfield Trail followed a portion of the Santa Cruz River corridor, primarily because water was present throughout the year; thus floodplain and/or wetland vegetation are common. The majority of the Santa Cruz River in Tucson has been channelized or developed by industrial and residential uses and floodplain vegetation is marginal.

INVENTORY RESULTS

National Scenic Trails

Continental Divide National Scenic Trail

NATURE AND PURPOSE

One of the primary purposes of the CDNST is to provide a "continuous, appealing" route designed for travel by hikers and equestrians, as well as other compatible land uses. While in some instances the trail is located along roads that would allow motor vehicle use, the intention for future development is to relocate the trail entirely off-road, to limit use to non-motorized recreation. In 1997, a Forest Service Memorandum clarified this intent, stating that "It is the intent of the Forest Service that the CDNST will be for non-motorized recreation...Allowing motorized use on these newly constructed trail segments would substantially interfere with the nature and purpose of the CDNST" (FS 1997). In 2009, the amended CMP describes the nature and purposes of the CDNST as "to provide high-quality scenic, primitive hiking and horseback riding opportunities and to conserve natural, historic, and cultural resources along the CDNST corridor" (FS 2009:4).

RESOURCES, QUALITIES, AND VALUES, AND ASSOCIATED SETTINGS

Scenic Resources

Scenic Quality Rating Units

The CDNST analysis area near Lordsburg, New Mexico, traverses Class C scenic quality associated with Chihuahuan semi-desert plains. The Lordsburg Valley is characterized by low, sparse shrub vegetation that typically surrounds smaller mountain ranges and foothills. The adjacent Big Burro Mountains, located to the north, are associated with Class B scenic quality where unique pyramidal or conical peaks with steep rock cliffs are typical. From the Lordsburg Valley, the CDNST crosses through these mountains within the Gila National Forest north of Lordsburg.

Sensitivity Level Rating Units

The majority of the CDNST analysis area is associated with high sensitivity, which includes the I-10 corridor. Areas associated with moderate sensitivity include the Big Burro Mountains. Low sensitivity lands generally occur in flat valley areas with few local travel routes north of Lordsburg.

Distance Zones

The CDNST analysis area occurs within the foreground-middleground distance zone. Viewers associated with this distance zone include travel route viewers along 1-10 and other major travel routes in the Lordsburg vicinity.

Historic and Cultural Resources

The 2009 *Continental Divide National Scenic Trail Comprehensive Plan* (Comprehensive Plan) (FS 2009) does not identify specific historic or cultural resources associated with this segment of the CDNST, although the Butterfield Trail crosses the CDNST in the town of Lordsburg.

Recreation

Consultation with the BLM Las Cruces District confirmed that ROS data were not available within the CDNST analysis area. Project-level information relating to recreation viewers was used, as well as information in the Comprehensive Plan relating to desired visitor experiences and interpretive facilities. The Comprehensive Plan states that on lands administered by the BLM, the CDNST is considered a high sensitivity level travel route. There are no developed recreational facilities for the CDNST in the analysis area. Connecting travel routes may provide access for trail users and were inventoried as a resource value. Trail users in Lordsburg may be limited to access points near State Route 90 and local roads south of Lordsburg, including State Route 494 and Animas Street. The location of the trail through Lordsburg primarily provides the trail user services (e.g., shopping for supplies and accommodations) rather than primitive or semi-primitive non-motorized recreation experiences as identified in the Comprehensive Plan.

Natural Resources

The Comprehensive Plan does not identify specific natural resources, including biological, geological, and scientific resources for the CDNST in the analysis area. Based on the proposed Project-level data, the Lordsburg Valley is characterized by Chihuahuan semi-desert grassland vegetation. The desert foothills of the Big Burro Mountains support mostly grasses and shrubs, as well as occasional juniper, and a desert drainage dissecting it is occupied by xeroriparian scrub. There are no perennial streams, washes, intermittent streams, wetlands, or playas within the CDNST analysis area. The Animas Valley (wholly containing the smaller Lordsburg Valley) is bounded by the Peloncillo Mountains to the west, the Animas and Pyramid Mountains to the east, and Burro Mountains to the north.

Other Landscape Elements

The CDNST traverses the developed area of Lordsburg that is associated with urban residential, commercial, industrial, and rural residential development. I-10 is a major interstate travel corridor that bisects the town. Other major travel routes interconnecting with I-10 include State Route 90, which heads northeast to Silver City, and State Route 70, which heads northwest towards Duncan, Arizona. The CDNST analysis area south of Lordsburg is traversed by several underground pipelines; the West-wide Energy Corridor is also located south of these utilities. The CDNST analysis area north of Lordsburg is also traversed by several utilities, including a 115-kilovolt (kV) transmission line, a 345-kV transmission line, two pipelines, and the Hidalgo Substation. In this panoramic valley landscape, the development of Lordsburg is visible to trail users from within the analysis area.

Setting Description

The analysis area for the CDNST occurs primarily within the developed area of Lordsburg and the rural areas of Lordsburg Valley. In areas south of Lordsburg, cultural modifications that have locally modified the landscapes in the CDNST analysis area include local transportation routes (State Route 494 and Animas Road), development and residences associated with the city of Lordsburg, the I-10 corridor, underground pipelines, and the Southern Pacific Railroad. In addition, development associated with the ghost town of Shakespeare and the ghost town and associated abandoned mine of Valedon have locally modified the landscapes. The area north of Lordsburg in the CDNST analysis area is also traversed by several utilities, including a 115-kV transmission line, a 345-kV transmission line, two pipelines, and the Hidalgo Substation. The Comprehensive Plan acknowledges that isolated portions of the trail may pass through developed areas where there are few primitive or semi-primitive recreational opportunities. The adjacent mountain ranges and peaks surrounding the Lordsburg Valley may be the only landscapes associated with high scenic or visual quality for the CDNST in the Lordsburg vicinity. More natural

landscape settings occur for the trail north of Lordsburg near the Big Burro Mountains; however, cultural modifications such as the existing transmission lines and Hidalgo Substation are dominant.

PRIMARY USE(S)

The primary use of the CDNST is to provide recreational opportunities of national significance, as the 3,100-mile trail traverses from Mexico to Canada. The Comprehensive Plan identifies the CDNST as a trail for users to enjoy a greater diversity of physical, social, and managerial settings than found on any other extended NST.

NATIONAL TRAIL RIGHT-OF-WAY AND MANAGEMENT CORRIDOR

The Comprehensive Plan identifies a 50-mile-wide "zone of concern" that lies on either side of the geographical Continental Divide. The Comprehensive Plan states that initial trail location and subsequent relocation of ROWs may occur within this zone of concern without further Acts of Congress. It further states that the trail should be located as close to the geographic Continental Divide as possible, but as far away as necessary to provide an economically feasible, environmentally compatible route that offers safe travel and diverse recreational experiences. Based on this information, it is assumed that the trail ROW and management corridor could potentially occur within this zone of concern, although the width of these areas is not explicitly stated.

NATIONAL TRAIL–RELATED NATIONAL REGISTER OF HISTORIC PLACES PROPERTIES

There are no known NRHP properties associated with the CDNST analysis area.

Arizona National Scenic Trail

NATURE AND PURPOSE

Because the Arizona NST has not been described in a trail feasibility study, comprehensive plan, or CMP, the nature and purpose of the trail have yet to be defined in Federal policy. However, references to the trail in its 2009 congressional designation emphasize its intention as a non-motorized, multi-use recreational trail, in a manner consistent with the National Trails System Act of 1968. Senate Report 110-290 on S. 1304 (The Arizona National Scenic Trail Act), April 10, 2008, describes the Arizona NST's background and need: "The trail is intended to be a primitive, long distance trail that highlights the State's topographic, biologic, historic, and cultural diversity." In support of this designation, U.S. Senator John McCain (AZ) referred to the "rugged, spectacular scenery" and "the wide range of ecological diversity in the state" found along the trail, lending his support to its designation as an NST in order to "ensure the preservation of a corridor of open space."

RESOURCES, QUALITIES, AND VALUES, AND ASSOCIATED SETTINGS

Scenic Resources

Scenic Quality Rating Units

The Arizona NST analysis area near Vail, Arizona is characterized by more traditional Sonoran Desert vegetation, including saguaro, mixed cacti, and shrub species along with the occasional drainages, which typically contain paloverde or other desert trees. The topography within the Arizona NST analysis area is typically rolling with V-shaped ridgelines, and is associated with Class B scenery, as well as upper bajadas where the topography is more rolling, with large V-shaped dissections that resemble small, rolling

foothills, where gently sloping bajadas occur at the base of the adjacent Rincon and Empire Mountain ranges. Vegetation is typically diverse on these bajadas and may include mesquite, acacia, creosote, ocotillo, and cholla species. Slightly undulating terrain is dissected by washes and contains a greater variety of upland Sonoran Desert vegetation, including mesquite, paloverde, and ironwood trees. This area is a transitional area between Chihuahuan and Sonoran Desert species where cacti, yucca, agaves, and other shrub and grass species are mixed.

Sensitivity Level Rating Units

The analysis area for the Arizona NST is delineated as high sensitivity.

Distance Zones

The Arizona NST analysis area occurs within the foreground-middleground distance zone. Viewers associated with this distance zone include trail viewers, I-10, and other major travel routes.

Historic and Cultural Resources

Cultural resources associated with the Arizona NST corridor have not been fully inventoried, since a comprehensive plan or CMP is still undergoing development. The Butterfield Trail (recommended as suitable) historically occurred along the valley between the Rincon Mountains and Santa Rita Mountains and crosses the Arizona NST near Cienega Creek, approximately 6 miles north of where the proposed Project would cross the Arizona NST. Although the exact location of the Butterfield Trail in this area is not documented at this time, it is likely that the perennial waters of Cienega Creek were a key reason to establish the Cienega Creek Station for the overland route.

Recreation

Consultation with the BLM Tucson Field Office confirmed that ROS data were not available within the Arizona NST analysis area. Project-level information relating to recreation viewers was used.

The portion of the Arizona NST that occurs within the analysis area near Vail receives among the highest amount of use trailwide because of the close proximity to the Tucson metropolitan area and other recreation attractions such as Cienega Creek National Conservation Area, Colossal Cave, Saguaro National Park, and the Rincon Mountains Wilderness. The trail alignment passes through Colossal Cave Mountain Park (a Pima County recreation area), and trail users can access the cave by following a connecting unpaved road for approximately 1 mile. Other developed recreation facilities within this park include picnic areas and La Posta Quemada Ranch, which is a day ranch for horseback riding. Cienega Creek Natural Preserve is a Pima County recreation area that requires a permit to enter (refer to section 3.14 of this EIS). The Gabe Zimmerman Davidson Canyon trailhead provides parking and access to the preserve, as well as access to the Arizona NST, which traverses the preserve. Use of the trail is common in this area by birders, hikers, and equestrians, as well as by mountain bikers who commonly travel from Pistol Hill Road to the Cienega Creek. The town of Vail is identified by the Arizona Trail Association as a Gateway Community and is located to the northwest of the trail off I-10. Several travel routes in the area may serve as a resource value for the trail, including designated scenic routes State Route 83 (Patagonia Scenic Byway) and I-10 (Pima County designation), which provide regional access to the trail. Other local travel routes that serve as a resource value for the trail include the Old Spanish Trail, Pistol Hill Road, and Pantano Road.

Natural Resources

Based on Project-level data, the Arizona NST analysis area near Vail is characterized by gently sloping bajadas that occur at the base of the adjacent Rincon and Empire Mountain ranges. This area is also a

transition zone between the Sonoran and Chihuahuan Desert vegetation communities, which results in a mixed desert cacti landscape and semi-desert grassland. Cienega Creek is identified as an important water, wildlife, and recreation resource in southern Arizona. It is also a unique and rare low-elevation perennial water resource that contains mature cottonwood gallery forests and dense mesquite bosques. Diverse wildlife species are supported by Cienega Creek, including native fish, birds, and amphibians, many of which are rare or threatened and endangered. Cienega Creek is classified as an "outstanding state resource water" by the Arizona Department of Environmental Quality. Cottonwood gallery forests are found concentrated along the lower portions of Davidson Canyon and La Posta Quemada Wash. Ephemeral washes that cut across bajadas and into the surrounding valley landscapes support xeroriparian vegetation. These include the upper portions of Davidson Canyon and La Posta Quemada Wash. There tends to be less variety and density of riparian vegetation along these smaller drainageways.

Other Landscape Elements

There are numerous cultural modifications and existing utilities within the Arizona NST analysis area. These include a dirt road and shelters associated with Colossal Cave Mountain Park, I-10, three paved roads (Pantano Road, Charolais Road, and State Route 83), the Southern Pacific Railroad, two bridges for transportation infrastructure, and existing 345-kV transmission lines. In some instances, these features dominate the view, but rolling terrain partially screens these developed facilities. Residential development also occurs on the foothills of the Rincon Mountains, which is within the Arizona NST analysis area. Many of these features can be seen along the trail as it parallels Davidson Canyon between the vicinity of the Gabe Zimmerman trailhead and the trail's crossing of Charolais Road.

Setting Description

The Vail, Arizona landscape is characterized by rural residential development, rolling hills, and upper Sonoran Desert vegetation with cultural modifications evident near the trail. Three 345-kV transmission lines cross the analysis area and parallel the Arizona NST near Cienega Creek north of I-10. Three underground pipelines also cross the Arizona NST near I-10. South of I-10, several other transmission lines cross the trail, including 115-kV, 138-kV, 230-kV, and 345-kV transmission lines that share the same utility corridor entering Tucson from the east. Cienega Creek, Davidson Canyon, and the adjacent mountain ranges and peaks surrounding this area south of Tucson are associated with high scenic or visual quality for the trail. More natural landscape settings occur for the Arizona NST as it proceeds north through this developed rural area of Tucson and Vail into Saguaro National Park. Cultural modifications such as I-10 and utility corridors are evident and dominate this enclosed landscape.

PRIMARY USE(S)

A comprehensive plan or CMP for the Arizona NST has not been completed; therefore, primary use is not defined. Although Senate Report 110-290 on S.1304 (April 10, 2008) states that "[t]he primary uses are expected to be hiking, equestrian use, and mountain bicycling," and House Report No 90-1631 states that "the use of motorized vehicles by the general public along any national scenic trail shall be prohibited," motorized use does occur on the Arizona NST where it is located alongside existing roads, such as Tiger Mine Road.

NATIONAL TRAIL RIGHT-OF-WAY AND MANAGEMENT CORRIDOR

A comprehensive plan or CMP for the Arizona NST has not been completed; therefore, the trail ROW and Management Corridor are not defined.

NATIONAL TRAIL–RELATED NATIONAL REGISTER OF HISTORIC PLACES PROPERTIES

A comprehensive plan or CMP for the Arizona NST has not been completed; therefore, National Trail–related NRHP properties have not been identified.

National Historic Trails

Juan Bautista de Anza National Historic Trail

NATURE AND PURPOSE

The nature and purpose of the Anza NHT is described as a vision for "a traveler to be able to hike, ride horseback, bicycle, and drive on a marked route from Nogales to San Francisco and the loop in the eastern portion of San Francisco Bay" (NPS 1996:7). Along the way, the visitor can experience landscapes similar to those the expedition saw; learn stories of the expedition, its members, and descendants; better understand the American Indian role in the expedition and the diversity of their cultures; and appreciate the extent of the accomplishments of Juan Bautista de Anza and his colonizers.

RESOURCES, QUALITIES, AND VALUES, AND ASSOCIATED SETTINGS

Scenic Resources

Scenic Quality Rating Units

The Santa Cruz River comprises the majority of the Anza NHT analysis area within or near Tucson, Arizona. There is no BLM land associated with this trail corridor in the analysis area and the landscape immediately adjacent to the river has been developed. The river corridor has also been highly modified and is primarily channelized throughout its length in Tucson, including paving the banks of the river.

Sensitivity Level Rating Units

Moderate sensitivity is associated with the Anza NHT in the analysis area.

Distance Zones

The Anza NHT analysis area occurs within the foreground-middleground distance zone. Viewers associated with this distance zone are based primarily on travel route viewers along 1-10 and local Tucson streets.

Historic and Cultural Resources

Unlike the heavily traveled Butterfield Trail, the Anza NHT represents an exploratory and short-lived colonization route that is "remembered primarily for the expeditions that forged the land route which lead to the founding of the city of San Francisco" (Gough 2012). Due to this circumstance, evidence for the physical remains for the trail blazed by the two Anza expeditions is essentially non-existent. However, the NPS has designated a trail route and identified a number of historically significant sites throughout Arizona and California.

Criteria for historic sites consist of historically significant resources that exhibit at least one direct association with the Anza NHT, the presence of historical remains, scenic qualities, and few intrusions. Interpretive sites include "at least one significant, direct connection to the Anza expeditions, and a high

potential to commemorate the trail's significance or to interpret American Indian, Spanish colonial, or natural history related to the expedition, even though the sites may not retain their historic integrity" (NPS 1996).

Historically significant sites associated with the trail in Arizona, but not the trail analysis area, include historic missions and settlements such as the Mission San Xavier del Bac and various expedition campsites. NPS sites associated with the trail include Tumacácori National Historic Park and Casa Grande Ruins National Monument (NPS 1996).

Recreation

For the proposed Project, the Anza NHT is primarily associated with the developed area of Tucson; thus, data pertaining to ROS are not applicable. Project-level information relating to recreation viewers was used, as well as information in the CMP relating to desired visitor experiences and interpretive historic/cultural facilities.

The CMP identifies visitor use along the Anza NHT as opportunities to hike, bike, ride horseback, and tour by motor vehicle. Recreational retracement routes provide a multiple use, non-motorized, off-road continuous trail that connects federal components and high-potential segments. The Santa Cruz River is identified as an interpretive region or theme that corresponds to the six geographic areas along the trail between Nogales and San Francisco. This river park contains a developed recreational trail along the Santa Cruz River, which extends through the Tucson metropolitan area north through Marana. There are plans for recreational trail development within the river corridor within the Tucson metropolitan area. Within the Anza NHT analysis area, I-10 from Tucson to Marana is identified as the designated auto tour route (although it is not currently signed for the entire route) and is a Pima County–designated scenic road. An alternative auto tour route that generally follows Mission and Silverbell Roads travels near the historic corridor, and provides access to a recreational trail along the Santa Cruz River Parkway. There is a high-potential historic interpretive site in the Christopher Columbus Park north of the Santa Cruz River Park (interpretive signs and a new trailhead are located here).

Natural Resources

Since the Anza NHT primarily follows major river corridors in the analysis area, floodplains and wetland communities were common vegetation communities encountered by historic-era trail users. In the Sonoran Desert, the Santa Cruz River flowed both aboveground and belowground in large floodplains. Historically, water pumping for agricultural, residential, and urban use have contributed to the reduced flow, furthered by river channelization. Invasive tree species have also changed the vegetation community along the river. Threatened and endangered species that may occur within the trail analysis area would primarily be associated with cottonwood forest galleries or mesquite bosques habitat areas, which do not occur within the analysis area of the developed area of Tucson.

Other Landscape Elements

Cultural modifications within the Anza NHT analysis area include development associated with Tucson, such as industrial, commercial, and residential areas. Existing 115-kV and 138-kV transmission lines occur within portions of the Santa Cruz River parkway and are immediately adjacent to the Anza NHT. The I-10 corridor and channelized river modifications are also adjacent to the Anza NHT. The CMP acknowledges that many portions of the historic route pass through urban or highly developed areas where there is little or no semblance of how the landscape appeared during the Anza expedition.

Setting Description

The Anza NHT occurs within the developed area of Tucson, primarily along a channelized river corridor that parallels I-10 and several transmission lines, including the existing transmission line proposed by Southline as part of the Upgrade Section. The CMP acknowledges that many portions of the historic route pass through urban or highly developed areas where there is little or no semblance of how the landscape appeared during the Anza expedition. In this area, the Santa Cruz River Parkway is the developed Anza recreational trail. The adjacent mountain ranges and peaks surrounding Tucson may be the only landscapes associated with high scenic or visual quality for the Anza NHT in this area and are identified in the CMP as landscape features that correspond to expedition journals.

PRIMARY USE(S)

As defined in the CMP, "management objectives for visitor experience emphasize promotion of public understanding, appreciation, and enjoyment of the Anza Trail [Anza NHT] and outdoor recreation" (NPS 1996:2). These objectives are obtained by conveying the experience of the colonists in settings similar to those of 1775, providing accurate interpretation at certified locations, and linking historic sites and trail segments with a recreational trail and an auto route.

NATIONAL TRAIL RIGHT-OF-WAY AND MANAGEMENT CORRIDOR

The Anza NHT Right-of-way and Management Corridor is not explicitly identified in the CMP, with the exception of the following statement: "the Anza NHT is defined as a historic trail corridor, an area of varying widths depending upon the specifics of the terrain and the historic and archaeological evidence" (NPS 1996:3). The Anza NHT historic corridor and potential alignments of the Anza recreational trail are delineated in the Map Supplement to the CMP.

For NHTs, Federal Protection Components include high-potential route segments, high-potential sites, and auto tour routes.

NATIONAL TRAIL–RELATED NATIONAL REGISTER OF HISTORIC PLACES PROPERTIES

There are no National Trail–related NRHP properties within the Anza NHT analysis area.

Trails Recommended as Suitable for National Trail Designation

Butterfield Overland Mail and Stage Route (Historic)

The Butterfield Trail is currently being evaluated by the Secretary of the Interior (National Park Service) for potential nomination as an NHT. Resource protection and preservation of historic and cultural sites, as well as associated scenery, are anticipated if this trail is congressionally designated. Similar to other National Trails, the values, characteristics, and settings for Butterfield Trail would likely include scenic resources, historic and cultural resources, recreation, and other resources as subsequently described.

VALUES, CHARACTERISTICS, AND SETTINGS

Scenic Resources

Scenic Quality Rating Units

The majority of the Butterfield Trail analysis area between Las Cruces, New Mexico, and Willcox, Arizona traverses Class C scenic quality associated with Chihuahuan semi-desert plains. These flat plains or valleys are characterized by low, sparse shrub vegetation that typically surrounds smaller mountain ranges and foothills. These flat valley areas include the Deming, Lordsburg, and San Simon valleys. The adjacent mountain ranges are characterized by unique pyramidal or conical peaks with steep rock cliffs. These ranges include the Big Burro Mountains and Peloncillo Mountains, which are associated with Class B scenic quality. Lordsburg Mesa is also associated with Class B scenic quality where rolling hills are dissected by drainages containing a greater variety of desert vegetation. In Tucson, the landscape setting is highly developed; therefore, SQRUs are not delineated.

Sensitivity Level Rating Units

The majority of the Butterfield Trail analysis area is associated with high sensitivity and includes Cooke's Range, the I-10 corridor, the Peloncillo Mountains, and the Rincon Mountains. Areas associated with moderate sensitivity include other major travel routes that connect to I-10. Low sensitivity lands generally occur in flat valley areas, with few local travel routes near Lordsburg and the Arizona–New Mexico border and the metropolitan Tucson area.

Distance Zones

The Butterfield Trail analysis area occurs within the foreground-middleground distance zone. Viewers associated with this distance zone include travel route viewers along I-10 and other major travel routes.

Historic and Cultural Resources

The historic southern route of the Butterfield Trail extended some 2,800 miles from St. Louis, Missouri and Memphis, Tennessee to San Francisco, California. From 1858 to 1861, the Butterfield Overland Mail Company operated a stagecoach line and provided mail service along this route. Although the company was short-lived, the route remained the principal southern travel corridor to the Pacific coast until the construction of the Southern Pacific Railroad in the early 1880s.

In general, remaining trail sections consist of discontinuous segments of various lengths that have been identified within a specific geographic area. On rural landscapes, these segments may appear as swales or depressions that may exhibit traces of wagon ruts, or may consist of modern road alignments superimposed on the trail. Although a modern road alignment may have obscured or eliminated all traces of a former trail, the trail segment may retain aspects of its historic integrity in regards to setting, feeling, and location.

In addition to physical remains of the trail, a number of culturally and historically significant sites, indirectly or directly associated with the operation of the trail, lie along its length across New Mexico and Arizona. These sites may include, but are not limited to, natural springs, stage stations, trail/survey markers, military installations (camps and forts), and conflict sites (ambush/massacre and battlefield sites).

Selection of the trail route used by the Butterfield Overland Mail Company was contingent on a number of factors, including the availability of water. Due to this circumstance, many stage stations were

constructed in close proximity to natural water sources, such as Cooke's Spring and Cow Springs (Ojo de las Vacas) in New Mexico, and Dragoon Springs in Arizona. In most cases, use of the water resources at these locations has occurred for centuries, if not millennia. In addition to their historical significance, springs such as these are generally considered spiritually significant to Native Americans.

During its period of operation (1858–1861), the Butterfield Overland Mail Company constructed a number of home and swing stage stations along its length to resupply stages with fresh provisions, drivers, and teams. In general, stage stations were constructed at 20-mile intervals; however, distances varied due to the terrain and availability of water. Swing stations, also called changing or relay stations, were used to provide a change of teams for the coaches. These stations typically consisted of a single house structure and corral, and were not intended to provide services or amenities to passengers. On average, stagecoaches would spend 10 minutes at a swing station while the teams were changed out (Couchman 1990). Home stations (e.g., Mesilla Station), which occurred with less frequency along the route, provided more substantial amenities; in addition to teamsters, home stations typically housed a stationmaster, herders, harness makers, and blacksmiths. These locations typically afforded stage passengers the opportunity to purchase additional supplies.

The Butterfield Trail route was also a primary transportation corridor for military operations in the New Mexico Territory, and remained so throughout much of the late nineteenth century. Four historic military installations have been identified along the trail length: Fort Fillmore (Mesilla), Fort Cummings, Camp Mimbres, and Fort Bowie. Fort Fillmore and Fort Bowie served as stagecoach stops during the period the Butterfield Overland Mail Company was in operation, and both remained important posts throughout the Civil War and subsequent Apache Wars. Fort Cummings and Camp Mimbres were constructed after the Confederacy's failed New Mexico Campaign of 1862. Fort Cummings, constructed to protect the stage route and to control the Apachean groups in the region, remained in operation until the end of the Apache Wars. Camp Mimbres appears to have served only as a temporary cavalry camp for elements of the California Column, and was abandoned shortly after the war.

A number of historically significant events associated with civilian and military conflicts occurred along the Butterfield Trail route through western New Mexico and eastern Arizona. Although the locations for some these events are known, the majority of sites remain speculative or unidentified. In New Mexico, one of the most notorious stretches of the Butterfield Trail consisted of a 4-mile span extending through Cooke's Canyon. Throughout the 1860s, and even as late as 1880, the pass was infamous for Apache attacks and ambushes that left an estimated 400 emigrants, soldiers, and civilians dead by the roadside. In Arizona, a series of events associated with the New Mexico Campaign (1862) occurred along the Butterfield Trail, including the First and Second Battle of Dragoon Springs, the Battle of Picacho Pass, and the Battle of Apache Pass.

Recreation and Other Resources

Based on previous CMPs developed for the Juan Bautista de Anza NHT, it is likely that trail-related interpretation and education opportunities would be encouraged and supported. Recreational opportunities would likely involve similar companion trails for hiking, biking, or horseback riding in order to convey the experience of the historic-era travelers, in settings similar to those that once existed along the Butterfield Trail. In Lordsburg, the Butterfield Trail crosses the CDNST, which may provide some interpretive opportunities for both National Trails. In Arizona, the Butterfield Trail crosses the Arizona Trail and the Anza NHT in the Tucson vicinity, although there are no existing interpretive opportunities for the trail at these crossings. Major travel routes that cross the Butterfield Trail are limited to I-10 and State Route 26, which are considered a potential recreation resource value for this assessment.

Setting Description

A portion of the Butterfield Trail occurs primarily within the developed area of Lordsburg and the rural areas of Lordsburg Valley. Within the valley, several existing cultural modifications are evident, including the pipeline corridors to the south, I-10, and transmission line corridors to the north. The adjacent mountain ranges and peaks surrounding the Lordsburg Valley may be the only landscapes associated with high scenic or visual quality for the trail in this area. More natural landscape settings occur for the trail north of Lordsburg near the Big Burro Mountains; however, cultural modifications such as the existing transmission lines and Hidalgo Substation are dominant. Near the Arizona–New Mexico Border, the Butterfield Trail crosses through the Peloncillo Mountains, which are associated with high visual quality; however, an existing underground pipeline also passes through these mountains. In addition to the I-10 and rural residences associated with San Simon, this pipeline is one of the few cultural modifications in the trail analysis area. Portions of the West-wide Energy Corridor occur within the analysis area as well.

The trail analysis area near Vail includes several cultural modifications. Near the Butterfield Trail alignment, three 345-kV transmission lines traverse the analysis area and may parallel the trail alignment north of I-10. One underground pipeline also crosses the analysis area north of I-10. Cienega Creek and the adjacent mountain ranges and peaks surrounding this area south of Tucson are associated with high scenic or visual quality for the Butterfield Trail. Cultural modifications such as the I-10 and utility corridors are evident and dominate this loosely enclosed landscape. As the Butterfield Trail enters the urban area of Tucson, the landscape setting becomes increasingly developed and dominates the setting. The Butterfield Trail alignment under study also occurs within the developed area of Tucson, primarily within the Santa Cruz River, which is a channelized river corridor that is parallel to I-10 and several transmission lines. The adjacent mountain ranges and peaks surrounding Tucson may be the only landscapes associated with high scenic or visual quality for the historic trail in this area. More natural landscape settings occur for the Butterfield Trail alignment north of Tucson near the Tortolita Mountains; however, cultural modifications such as I-10 are evident, but not as dominant as the urban area of Tucson.

IMPACT ANALYSIS RESULTS

A summary table of each route group and the potential intersections with National Trails therein is included at the end of this section (table F-2). Map panels for visual and recreation resources (see figures F-4 through F-24); cultural, biological, and other natural resources (see figures F-25 through F-45); and composite impact assessment results (see figures F-46 through F-66) are provided at the end of this section.

Route Group 1: Afton Substation to Hidalgo Substation

National Historic Trails

There are no NHTs in the analysis area for route group 1.

National Scenic Trails

CONTINENTAL DIVIDE NATIONAL SCENIC TRAIL

Subroute 1.1

Scenic and Recreation Resources

The CDNST would be crossed by segment P4a (refer to table F-2, CDNST-1) of subroute 1.1. Table F-2 is provided at the end of this section. The point of intersection would be approximately 0.5 mile southwest of the existing Hidalgo Substation, on New Mexico State land. This area traverses Class C scenery associated with moderate sensitivity, where the CDNST crosses an existing 115-kV transmission line. The general form and line of the proposed Project would replicate the existing line visually, although the scale of the facilities are different; thereby minimizing the resulting level of contrast to scenic resources that would be traversed. Low impacts to these scenic resources are anticipated because the level of change associated with the proposed Project would be congruent with this landscape and its existing conditions.

Impacts are anticipated to be low and minor to the recreation proposed Project would be located along previously occupied ROWs within the Lordsburg Valley, and would not conflict with any recreation management prescribed by the Mimbres RMP. There are no trailheads, informational kiosks, or recreational opportunities of national significance along the segment of the CDNST that would be intersected by segment P4a. The Mimbres RMP specifies that "facilities will not be located parallel to the CDNST" (BLM 1993:5-49) The proposed crossing of the CDNST by segment P4a would be a perpendicular crossing, and the Project segment would not parallel the CDNST for any distance.

The CDNST is a recreation and conservation-oriented corridor that "provides high quality scenic, primitive hiking and horseback riding opportunities and to conserve natural, historic, and cultural resources along the CDNST corridor" (FS 2009:4). The trail analysis area northeast of Lordsburg is associated with the rural and existing utility development and is not reflective of a scenic or primitive hiking experience in terms of landscape setting. It is anticipated that primitive hiking or horseback riding recreation settings would not be substantially degraded as a result of the proposed Project. Further, the construction, operation, and maintenance of the proposed Project would not substantially interfere with the use and enjoyment of the CDNST at this location.

The proposed Project would not limit the agency's ability to manage the trail for the protection and conservation of natural, historic, or cultural resources, because these resources would not be substantially impacted by the proposed Project within the analysis area.

Historic and Cultural Resources

The 2009 Comprehensive Plan does not identify specific historic or cultural resources associated with this segment of the CDNST.

Trails Recommended as Suitable for National Trail Designation

BUTTERFIELD OVERLAND MAIL AND STAGE ROUTE (HISTORIC)

Subroutes 1.1 and 1.2

Scenic and Recreation Resources

Just south of the Langford Mountains, approximately 10 miles east of Lordsburg, segment P2 (refer to table F-2, Butterfield-1) would cross the Butterfield Trail, in Class C scenery associated with high to moderate sensitivity while in the same viewshed as an existing 115-kV transmission line and I-10. Similarly, segment S8 (refer to table F-2, Butterfield-2) of subroute 1.2 would cross the Butterfield Trail in Class C scenery, paralleling the existing highway corridor for New Mexico State Route (NM) 113. Both intersections would occur on New Mexico State land. High sensitivity is associated with Big Burro Mountain landscape to the north and would result in low-moderate impacts to these scenic resources within the trail analysis area. Moderate sensitivity is associated with the foothills of the Lordsburg Valley plains to the west, and would result in low impacts to these scenic resources for a small portion of the proposed Project within the trail analysis area. Travel route viewers along I-10 where the Butterfield Trail crosses the highway would have direct and unobstructed views of the proposed Project in the foreground/middleground; however, it would be viewed in context with the existing utility corridor, resulting in low-moderate impacts. Although the scale of the proposed facilities would be different, the proposed Project would replicate these existing visual features, thereby reducing the level of contrast and resulting in low impacts to scenic resources of the Butterfield Trail at this location.

Since there are no known recreation values associated with the Butterfield Trail at these segments, impacts are not anticipated.

Historic and Cultural Resources

The intersections with the proposed Project at these locations would not affect the ability to manage the trail if designated an NHT, nor would it require relocation of a National Trail Management Corridor. Subroutes 1.1 and 1.2 would have minor impacts on the characteristics that make the trail worthy of designation as an NHT. Segment P2 (refer to table F-2, Butterfield-1 and figure F-4) would cross the Butterfield Trail adjacent to a Butterfield Trail Related Segment. "Butterfield Trail Related Segments" are defined as areas of the Butterfield Trail that have known locations either from existing studies, physical evidence, or are managed for interpretive use. Likewise, the proposed Project could have minor impacts on potential Federal Protection Components, including high-potential route segments located on public land, as well as to potential NRHP-listed properties, including remnants and artifacts from the associated period of use that may be eligible to or listed on the NRHP, which qualify as possible high-potential historic sites or high-potential route segments. The proposed Project would not limit the agency's ability to manage the trail for the purpose of identifying and protecting the historic route and its historic remnants and artifacts for public use and enjoyment. The Mimbres RMP specifies that "facilities will not be located within ¼ mile of any stage station on the Butterfield Trail." (BLM 1993:5-47). The nearest stage station (Barney's Station) is located in the city of Lordsburg, approximately 15 miles to the west. Based on these criteria, the proposed Project would have a low impact on high-sensitivity, historic segments or sites associated with the Butterfield Trail as a proposed NHT, at this location.

Biological, Natural, and Other Resources

Impacts to biological or natural resources associated with the trail are anticipated to be low for the proposed Project, because there are no identified biological, geological, and scientific resources for the trail analysis area. Impacts and ground disturbance where the proposed Project would parallel an existing

utility corridor can be minimized through the application of best management practices during construction (subroutes 1.1 and 1.2).

Route Group 1 Summary

Route group 1 would result in low to low-moderate impacts to inventoried resources, values, and settings of the CDNST and Butterfield Trail. The majority of the proposed Project would parallel and be viewed in context with several existing transmission lines and facilities as well as the transportation corridor along NM 113. Overall, based on the results of the impact assessment, subroutes 1.1 and 1.2 would not substantially compromise the CDNST or Butterfield Trail's values, characteristics, and settings.

Table F-2 below provides a summary of the proposed Project's potential intersections with National Trails for all route groups.

Table F-2. National Trails System Resource Inventory Data—All Route Groups

Intersection Name	Land Ownership	Proposed Southline Segment or Local Alternative that would Cross Trail	Route Group	Subroute
Butterfield-1	New Mexico State Land Department	P2 (included under Agency Preferred Alternative)	Route group 1	Subroute 1.1
Butterfield-2	New Mexico State Land Department	S8	Route group 1	Subroute 1.2
CDNST-1	New Mexico State Land Department	P4a (included under Agency Preferred Alternative)	Route group 1	Subroute 1.1
CDNST-2	BLM – Las Cruces District	Local Alternative D	Route group 1	Route group 1 Local Alternatives
Butterfield-3	New Mexico State Land Department	P4c	Route group 2	Subroute 2.1
Butterfield-4	BLM – Las Cruces District	Local Alternative LD2	Route group 2	Route group 2 Local Alternatives
Butterfield-5	BLM – Las Cruces District	Local Alternative LD3a (included under Agency Preferred Alternative)	Route group 2	Route group 2 Local Alternatives
Butterfield-6	BLM – Safford Field Office	P5b (included under Agency Preferred Alternative)	Route group 2	Subroute 2.1
Butterfield-7	BLM – Safford Field Office	Local Alternative E	Route group 2	Subroute 2.1
Butterfield-8	Private	LD1	Route group 2	Route group 2 Local Alternatives
Butterfield-9	Private	P7a	Route group 2	Route group 2 Route Variations
Butterfield-10	Private	P7b	Route group 2	Route group 2 Route Variations
Butterfield-11	Private	P7a	Route group 2	Route group 2 Route Variations
Butterfield-12	Private	U1a (included under Agency Preferred Alternative)	Route group 3	Subroute 3.1
Butterfield-13	Arizona State Land Department	Local Alternative H	Route group 3	Route group 3 Local Alternatives
Butterfield-14	Arizona State Land Department	U2 (included under Agency Preferred Alternative)	Route group 3	Subroute 3.1
ANST-1	Arizona State Land Department	U3a (included under Agency Preferred Alternative)	Route group 3	Subroute 3.1

Table F-2. National Trails System Resource Inventory Data—All Route Groups (Continued)

Intersection Name	Land Ownership	Proposed Southline Segment or Local Alternative that would Cross Trail	Route Group	Subroute
Butterfield-15	Private	U2 (included under Agency Preferred Alternative)	Route group 3	Subroute 3.1
Butterfield-16	Private	Local Alternative H	Route group 3	Route group 3 Local Alternatives
Anza-1	Private	U3c (included under Agency Preferred Alternative)	Route group 4	Subroute 4.1
Anza-2	Private	Local Alternative TH3 Option B	Route group 4	Route group 4 Local Alternatives
Anza-3	Private	Local Alternative TH3b	Route group 4	Route group 4 Local Alternatives
Anza-4	Private	Local Alternative TH3b	Route group 4	Route group 4 Local Alternatives
Butterfield-17	Private	Local Alternative TH3b	Route group 4	Route group 4 Local Alternatives
Anza-5	Private	Local Alternative TH3b	Route group 4	Route group 4 Local Alternatives
Anza-6	Private	U3i (included under Agency Preferred Alternative)	Route group 4	Subroute 4.1
Butterfield-18	Private	U3h (included under Agency Preferred Alternative)	Route group 4	Subroute 4.1
Butterfield-19	Private	U3i (included under Agency Preferred Alternative)	Route group 4	Subroute 4.1
Anza-7	Private	U3i (included under Agency Preferred Alternative)	Route group 4	Subroute 4.1
Anza-8	Arizona State Land Department	U3k (included under Agency Preferred Alternative)	Route group 4	Subroute 4.1
Butterfield-20	Private	U3l (included under Agency Preferred Alternative)	Route group 4	Subroute 4.1

Route Group 2: Hidalgo Substation to Apache Substation

National Historic Trails

There are no NHTs in the analysis area for route group 2.

National Scenic Trails

CONTINENTAL DIVIDE NATIONAL SCENIC TRAIL

Route Group 1 Local Alternatives

Scenic and Recreation Resources

The CDNST would be crossed in by local alternative D (refer to table F-2, CDNST-2) of route group 1 local alternatives. The point of intersection would be approximately 2 miles south of the town of Lordsburg, New Mexico, 0.5 mile south of an existing utility corridor on BLM-land managed by the Las Cruces District (Mimbres RMP).

The analysis area for local alternative D traverses Class B scenery associated with moderate sensitivity. The general form and line of the proposed Project would introduce a new line visually, changing the scale but within foreground views of similar facilities; thereby minimizing the resulting level of contrast to scenic resources that would be traversed. Low impacts to these scenic resources are anticipated because the level of change associated with the proposed Project would be congruent with this landscape and its existing conditions.

Impacts are anticipated to be low and minor to the recreation resources in the analysis area for the proposed Project. Low impacts are anticipated because the proposed Project would be located along previously occupied ROWs within the Lordsburg Valley, and would not conflict with any recreation management prescribed by the Mimbres RMP. There are no trailheads, informational kiosks, or recreational opportunities of national significance along the segment of the CDNST that would be intersected by segment P4a. The Mimbres RMP specifies that "facilities will not be located parallel to the CDNST" (BLM 1993:5-49).
The proposed crossing of the CDNST by alternative D would be a perpendicular crossing and the proposed Project alternative route would not parallel the CDNST for any distance.

Historic and Cultural Resources

The 2009 Comprehensive Plan does not identify specific historic or cultural resources associated with this segment of the CDNST.

Trails Recommended as Suitable for National Trail Designation

BUTTERFIELD OVERLAND MAIL AND STAGE ROUTE (HISTORIC)

Subroute 2.1

Scenic and Recreation Resources

Approximately 6 miles east of Lordsburg, segment P4c (refer to table F-2, Butterfield-3) would cross the Butterfield Trail on New Mexico State land, in Class C scenery associated with high to moderate sensitivity while in the same viewshed as an existing 115-kV transmission line and I-10. Segment P5b (refer to table F-2, Butterfield-6) of subroute 2.1 would cross the Butterfield Trail in Class B scenery in the Peloncillo Mountains on BLM land. High sensitivity associated with the Lordsburg landscape to the east would result in low-moderate impacts to these scenic resources within the trail analysis area. Moderate sensitivity is associated with the foothills of the Peloncillo Mountains to the west, and would result in low impacts to these scenic resources for a small portion of the proposed Project within the trail analysis area. Travel route viewers along I-10 where the Butterfield Trail crosses the highway would have direct and unobstructed views of the proposed Project in the foreground/middleground; however, it would be viewed in context with the existing utility corridor, resulting in low-moderate impacts. Although the scale of the proposed facilities would be different, the proposed Project would replicate these existing visual features, thereby reducing the level of contrast and resulting in low impacts to scenic resources of the Butterfield Trail at this location.

Since there are no known recreation values associated with the Butterfield Trail at these segments, impacts are not anticipated.

Historic and Cultural Resources

The intersections with the proposed Project at these locations would not affect the ability to manage the trail if designated an NHT, nor would it require relocation of a National Trail Management Corridor,

since one has not been designated. Subroute 2.1 would have moderate impacts on the characteristics that make the trail worthy of designation as an NHT. Segment P5b (refer to table F-2, Butterfield-6 and figure F-11) would cross the Butterfield Trail adjacent to a Butterfield Trail Related Segment. Likewise, the proposed Project could have moderate impacts on potential Federal Protection Components, including high-potential route segments located on public land, as well as on potential NHT properties, including remnants and artifacts from the associated period of use that may be eligible for or listed on the NRHP to qualify as possible high-potential historic sites or high-potential route segments. The proposed Project would not limit the agency's ability to manage the trail for the purpose of identifying and protecting the historic route and its historic remnants and artifacts for public use and enjoyment. The Mimbres RMP specifies that "facilities will not be located within ¼ mile of any stage station on the Butterfield Trail" (BLM 1993:5-47#). The nearest stage station is located at Fort Bowie (Apache Springs Station), approximately 20 miles to the southwest. Based on these criteria, the proposed Project would have a low impact on high-sensitivity, historic segments or sites associated with the Butterfield Trail at this location.

Biological, Natural, and Other Resources

Impacts to biological or natural resources associated with the trail are anticipated to be low for the proposed Project, because there are no identified biological, geological, and scientific resources for the trail analysis area. Impacts and ground disturbance where the proposed Project would parallel an existing utility corridor can be minimized through the application of best management practices during construction.

Subroute 2.2

Scenic and Recreation Resources

Just southwest of the Peloncillo Mountains, approximately 1 miles north of I-10, alternative E (refer to table F-2, Butterfield-7) of subroute 2.2 would cross the Butterfield Trail, in Class C scenery associated with high to moderate sensitivity while in the same viewshed as I-10. The intersection would occur on BLM lands managed by the Safford Field Office. High sensitivity associated with the Peloncillo Mountains landscape to the north would result in low-moderate impacts to these scenic resources within the trail analysis area. Moderate sensitivity is associated with the foothills of the San Simon Valley plains to the west, and would result in low impacts to these scenic resources for a small portion of the proposed Project within the trail analysis area. Travel route viewers along I-10 where the Butterfield Trail crosses the highway would have direct and unobstructed views of the proposed Project in the foreground/ middleground; however, it would be viewed in context with the existing utility corridor, resulting in low-moderate impacts. Although the scale of the proposed facilities would be different, the proposed Project would replicate these existing visual features, thereby reducing the level of contrast and resulting in low impacts to scenic resources of the Butterfield at this location.

Since there are no known recreation values associated with the Butterfield Trail at these segments, impacts are not anticipated.

Historic and Cultural Resources

The intersections with the proposed Project at these locations would not affect the ability to manage the trail if designated an NHT, nor would it require relocation of a National Trail Management Corridor. Subroute 2.2 would have minor impacts on the characteristics that make the trail worthy of designation as an NHT. Likewise, the proposed Project could have minor impacts on potential Federal Protection Components, including high-potential route segments located on public land, as well as on potential NHT properties, including remnants and artifacts from the associated period of use that may be eligible for or listed on the NRHP to qualify as possible high-potential historic sites or high-potential route segments.

The proposed Project would not limit the agency's ability to manage the trail for the purpose of identifying and protecting the historic route and its historic remnants and artifacts for public use and enjoyment. The Safford RMP does not include resource management prescriptions at this location. The nearest stage station is located at Fort Bowie, approximately 18 miles to the southwest. Based on these criteria, the proposed Project would have a low impact on high-sensitivity, historic segments or sites associated with the Butterfield Trail at this location.

Biological, Natural, and Other Resources

Impacts to biological or natural resources associated with the trail are anticipated to be low for the proposed Project, because there are no identified biological, geological, and scientific resources for the trail analysis area. Impacts and ground disturbance where the proposed Project would parallel an existing utility corridor can be minimized through the application of best management practices during construction.

Route Group 2 Local Alternatives and Route Variations

Scenic and Recreation Resources

Just west of the Lordsburg playa, approximately 15 miles west of Lordsburg, local alternative LD3a (refer to table F-2, Butterfield-5) would cross the Butterfield Trail in Class C scenery associated with high to moderate sensitivity. The viewshed does not include other transmission lines or pipelines. The intersection would occur on New Mexico State lands. High sensitivity is associated with BLM lands and the Peloncillo Mountains landscape to the west of LD3a and would result in low impacts to these scenic resources within the trail analysis area. Moderate sensitivity is associated with the Lordsburg playa to the east of LD3a within the trail analysis area. Travel route viewers along I-10 where the Butterfield Trail crosses the highway would have partially unobstructed views of the proposed Project in the background; however, it would be viewed in context of other existing utility corridors also visible in the background, resulting in low-moderate impacts. Although the scale of the proposed facilities would be different, the proposed Project would replicate these existing visual features, thereby reducing the level of contrast and resulting in low impacts to scenic resources of the Butterfield Trail at this location.

Local alternative LD1 (refer to table F-2, Butterfield-8) would intersect the Butterfield Trail on privately owned lands, adjacent to cultivated agricultural fields. Local alternative LD1 would intersect the Butterfield Trail in Class C scenery associated with high to moderate sensitivity while in the same viewshed as I-10. High sensitivity associated with the Peloncillo Mountains landscape to the north would result in low-moderate impacts to these scenic resources within the trail analysis area. Moderate sensitivity is associated with the foothills of the San Simon Valley plains to the west, and would result in low impacts to these scenic resources for a small portion of the proposed Project within the trail analysis area. Travel route viewers along I-10 where the Butterfield Trail crosses the highway would have direct and unobstructed views of the proposed Project in the foreground/middleground; however, it would be viewed in context with the existing utility corridor, resulting in low-moderate impacts. Although the scale of the proposed facilities would be different, the proposed Project would replicate these existing visual features, thereby reducing the level of contrast and resulting in low impacts to scenic resources of the Butterfield Trail at this location.

Local alternative LD2 (refer to table F-2, Butterfield-4) would intersect the Butterfield Trail on BLM-managed lands. Local alternative LD2 would cross and roughly parallel the Butterfield Trail, in Class C scenery associated with high to moderate sensitivity. The viewshed does not include other transmission lines or pipelines. Local alternative LD2 would cross between the north and south Lordsburg Playas, somewhat paralleling the Butterfield Trail (see figure F-9). The scale of the proposed facilities would be different, and the proposed Project would introduce new visual features, thereby increasing the level of

contrast and resulting in moderate impacts to scenic resources of the Butterfield Trail at this location. The crossing of the Butterfield Trail by LD2 would be in direct conflict with management prescriptions of the Mimbres RMP, which states ROW "facilities will not be located parallel to the CDNST or Butterfield Trail" (BLM 1993). The Butterfield Trail is located on BLM lands at the Butterfield-4 crossing, and thus this management prescription would apply. Impacts to the Butterfield trail along LD2 would be major and long-term, since the proposed Project would parallel the trail for approximately 3 miles.

Route variation P7a and P7b would intersect the Butterfield Trail (refer to table F-2, Butterfield-9, Butterfield-10 and Butterfield-11) on private lands. Recreation activities in this vicinity are limited since the area is currently comprised of agricultural fields with center-pivot irrigation systems in use.

Historic and Cultural Resources

The intersections with the proposed Project at these locations would not affect the ability to manage the trail if designated an NHT, nor would it require relocation of a National Trail Management Corridor. Local alternatives LD1, LD2, and LD3a would have minor to moderate impacts on the characteristics that make the trail worthy of designation as an NHT. Likewise, the proposed Project could have minor impacts on potential Federal Protection Components, including high-potential route segments located on public land, as well as to potential NRHP properties, including remnants and artifacts from the associated period of use that may be eligible for or listed on the NRHP to qualify as possible high-potential historic sites or high-potential route segments. The proposed Project would not limit the agency's ability to manage the trail for the purpose of identifying and protecting the historic route and its historic remnants and artifacts for public use and enjoyment. The Mimbres RMP specifies that "facilities will not be located within ¼ mile of any stage station on the Butterfield Trail" (BLM 1993:5-47). The nearest stage station is located in Lordsburg (Barney's Station) approximately 10 miles to the east. Based on these criteria, the proposed Project would have a low impact on high-sensitivity, historic segments or sites associated with the Butterfield Trail at this location. There are no known historic, cultural resources, or Trail Related Segments at the intersections of the Butterfield Trail with the route variations.

Biological, Natural, and Other Resources

Impacts to biological or natural resources associated with the trail are anticipated to be low for the proposed Project, because there are no identified biological, geological, and scientific resources for the trail analysis area. Impacts and ground disturbance where the proposed Project would parallel an existing utility corridor can be minimized through the application of best management practices during construction.

Route Group 2 Summary

Route group 2 would result in low impacts to inventoried resources, values, and settings of the CDNST and Butterfield Trail. The majority of the proposed Project would parallel and be viewed in context with several existing transmission lines and facilities as well as the transportation corridor along NM 113. Of route group 2 potential intersections with trails, local alternative LD2 would have the greatest impacts to the Butterfield Trail since it would occur in areas that do not contain existing transmission lines, have been identified as avoidance areas by the Mimbres RMP, and would parallel (as opposed to crossing perpendicularly) the Butterfield Trail for approximately 4 miles.

Overall, based on the results of the impact assessment, route group 2 would not substantially compromise the CDNST's values, characteristics, and settings. In the area where LD2 would parallel the Butterfield Trail for approximately 4 miles, there would be moderate impacts to the values and settings of the Butterfield Trail.

Route Group 3: Apache Substation to Pantano Substation

National Historic Trails

There are no NHTs in the analysis area for route group 3.

National Scenic Trails

Scenic and Recreation Resources

Approximately 10 miles southeast of the town of Vail, Arizona, segment U3a (refer to table F-2, ANST-1) would cross the Arizona NST on Arizona State land, in Class B scenery associated with high to moderate sensitivity while in the same viewshed as an existing 115-kV transmission line and I-10. Users of the Arizona NST would have direct foreground views of the proposed Project; however, it would be viewed in context with the existing utility corridor, resulting in low impacts (the alignments for the Southline Project were specifically located so as to be co-located within or along existing rights-of-ways, thereby limiting new impacts to views). Other recreation areas in the analysis area include Cienega Creek Natural Preserve, Bar V Ranch, Empire Ranch, and Davidson Canyon. Although the scale of the proposed facilities would be different, the proposed Project would replicate these existing visual features, thereby reducing the level of contrast and resulting in low impacts to scenic resources of the Arizona NST at this location.

Historic and Cultural Resources

Since there are no known recreation values associated with the Arizona NST at these segments, impacts are not anticipated.

Biological, Natural, and Other Resources

Cienega Creek is a perennial water source identified as a Pima County Biological Core area, which would include segment U3a. Although the segment would span this area and not include transmission line towers, minor impacts are anticipated since special-status species are supported by the Biological Core area, as well as the presence of riparian areas.

Other impacts to biological or natural resources associated with the Arizona NST are anticipated to be low for the proposed Project, because there are no identified geological and scientific resources for the trail within the analysis area that would include the intersection with segment U3a. Impacts and ground disturbance where the proposed Project would parallel an existing utility corridor can be minimized through the application of best management practices during construction.

Trails Recommended as Suitable for National Trail Designation

BUTTERFIELD OVERLAND MAIL AND STAGE ROUTE (HISTORIC)

Subroute 3.1

Scenic and Recreation Resources

Approximately 17 miles southwest of the town of Willcox, Arizona, segment U1a (refer to table F-2, Butterfield-12) would cross the Butterfield Trail on privately owned land, in Class B scenery associated with high to moderate sensitivity while in the same viewshed as an existing 69-kV transmission line and I-10. Travel route viewers along I-10 where the Butterfield Trail crosses the highway would have direct

and unobstructed views of the proposed Project in the foreground/middleground; however, it would be viewed in context with the existing utility corridor, resulting in low-moderate impacts. Although the scale of the proposed facilities would be different, the proposed Project would replicate these existing visual features, thereby reducing the level of contrast and resulting in low impacts to scenic resources of the Butterfield Trail at this location. Impacts for both areas of the Butterfield Trail analysis area that would intersect with segment U2 (refer to table F-2, Butterfield-14 and Butterfield-15) of subroute 3.1, would be similar except the intersections would occur on Arizona State lands. However, subroute 3.1 would parallel the Butterfield Trail for approximately four miles. There are no management prescriptions in place that would prohibit actions from paralleling the Butterfield Trail since the Butterfield Trail management planning is ongoing, and since these locations are located upon Arizona State and private lands that do not currently include management prescriptions for the Butterfield Trail.

Since there are no known recreation values associated with the Butterfield Trail at these segments, impacts are not anticipated.

Historic and Cultural Resources

The intersections with the proposed Project at these locations would not affect the ability to manage the trail if designated an NHT, nor would it require relocation of a National Trail Management Corridor. Subroute 3.1 would have minor impacts on the characteristics that make the trail worthy of designation as an NHT. Likewise, the proposed Project could have minor impacts on potential Federal Protection Components, including high-potential route segments located on public land, as well as to potential NHT properties, including remnants and artifacts from the associated period of use that may be eligible for or listed on the NRHP to qualify as possible high-potential historic sites or high-potential route segments. The proposed Project would not limit the agency's ability to manage the trail for the purpose of identifying and protecting the historic route and its historic remnants and artifacts for public use and enjoyment. None of the intersections of the Butterfield Trail with subroute 3.1 would occur on BLM-managed lands. The nearest stage station is located at Cienega Creek, approximately 20 miles to the west. Based on these criteria, the proposed Project would have a low impact on high-sensitivity, historic segments or sites associated with the Butterfield Trail at this location.

Biological, Natural, and Other Resources

Impacts to biological or natural resources associated with the trail are anticipated to be low for the proposed Project, because there are no identified biological, geological, and scientific resources for the trail analysis area. Impacts and ground disturbance where the proposed Project would parallel an existing utility corridor can be minimized through the application of best management practices during construction.

Route Group 3 Local Alternatives

Scenic and Recreation Resources

Approximately 1 mile north of I-10, alternative H (refer to table F-2, Butterfield-13 and Butterfield-16) would cross the Butterfield Trail in two separate locations, on Arizona State land and on private land, respectively, in Class B scenery associated with high to moderate sensitivity while in the same viewshed as an existing 230-kV transmission line and I-10. Moderate sensitivity is associated with the foothills of the Rincon Mountains to the northwest, and would result in low impacts to these scenic resources for a small portion of the proposed Project within the trail analysis area. Travel route viewers along I-10 where the Butterfield Trail crosses the highway would have direct and unobstructed views of the proposed Project in the foreground/middleground; however, it would be viewed in context with the existing utility corridor, resulting in low-moderate impacts. Although the scale of the proposed facilities would be

different, the proposed Project would replicate these existing visual features, thereby reducing the level of contrast and resulting in low impacts to scenic resources of the Butterfield Trail at this location.

Since there are no known recreation values associated with the Butterfield Trail at these segments, impacts are not anticipated.

Historic and Cultural Resources

The intersections with the proposed Project at these locations would not affect the ability to manage the trail if designated an NHT, nor would it require relocation of a National Trail Management Corridor. Alternative H would have minor impacts on the characteristics that make the trail worthy of designation as an NHT. Likewise, the proposed Project could have minor impacts on potential Federal Protection Components, including high-potential route segments located on public land, as well as to potential NHT properties, including remnants and artifacts from the associated period of use that may be eligible for or listed on the NRHP to qualify as possible high-potential historic sites or high-potential route segments. The proposed Project would not limit the agency's ability to manage the trail for the purpose of identifying and protecting the historic route and its historic remnants and artifacts for public use and enjoyment. The nearest stage station is located at Fort Bowie, approximately 100 miles to the east. Based on these criteria, the proposed Project would have a low impact on high-sensitivity, historic segments or sites associated with the Butterfield Trail at this location.

Biological, Natural, and Other Resources

Impacts to biological or natural resources associated with the trail are anticipated to be low for the proposed Project, because there are no identified biological, geological, and scientific resources for the trail analysis area. Impacts and ground disturbance where the proposed Project would parallel an existing utility corridor can be minimized through the application of best management practices during construction.

Route Group 3 Summary

Route group 3 would result in low impacts to inventoried resources, values, and settings of the Arizona NST and the Butterfield Trail. The majority of the proposed Project would parallel and be viewed in context with several existing transmission lines and facilities as well as the transportation corridor along I-10. Overall, based on the results of the impact assessment, route group 3 would not substantially compromise the Arizona NST or the Butterfield Trail's values, characteristics, and settings.

Route Group 4: Pantano Substation to Saguaro Substation

National Historic Trails

JUAN BAUTISTA DE ANZA NATIONAL HISTORIC TRAIL

Subroute 4.1

Scenic and Recreation Resources

Segments U3c (refer to table F-2, Anza-1), U3i (refer to table F-2, Anza-6 and Anza-7), and U3k (refer to table F-2, Anza-8), would cross the Anza NHT in areas that already contain 115-kV transmission lines. Subroute 4.1 would cross the Anza NHT in the Tucson area in four locations (segment U3i would be crossed twice in separate locations), all upon private land, except for segment U3k which would intersect

the Anza NHT on Arizona State land. The scenery has not been classified in these areas, but generally has low sensitivity that is associated with highly urbanized areas. Travel route viewers along I-10 and local Tucson streets where the Anza NHT crosses would have direct and unobstructed views of the proposed Project in the foreground; however, it would be viewed in context with the existing utility corridor and urban areas, resulting in low impacts. Although the scale of the proposed facilities would be different, the proposed Project would replicate these existing visual features, thereby reducing the level of contrast and resulting in low impacts to scenic resources of the Anza NHT at these locations.

There are no known recreation values associated with the Anza NHT at these segments that would be intersected by the proposed Project; therefore impacts are not anticipated.

Historic and Cultural Resources

No high-potential sites or segments of the Anza NHT have been identified along subroute 4.1 that would be impacted by the proposed Project intersections of the Anza NHT. The NHT visual analysis for the Anza NHT examined known trail-related cultural resources within 3 miles of the centerlines; no sites were identified in the analysis area.

Biological, Natural, and Other Resources

Impacts to biological or natural resources associated with the Anza NHT are anticipated to be low for subroute 4.1, because there are no identified biological, geological, or scientific resources for the Anza NHT in the analysis area. Further, subroute 4.1 would intersect the Anza NHT in largely urbanized areas of metropolitan Tucson, and no BLM biological or natural land management prescriptions are in place within the analysis area.

Route Group 4 Local Alternatives

Scenic and Recreation Resources

Local alternatives TH3 Option B (refer to table F-2, Anza-2) and TH3b (refer to table F-2, Anza-3, Anza-4, and Anza-5) would cross the Anza NHT in areas that already contain 115-kV transmission lines (local alternative TH3b would cross the Anza NHT three times in separate locations). Route group 4 Alternatives would cross the Anza NHT in the Tucson area in four locations, all on private land.
The scenery has not been classified in these areas, but generally has low sensitivity that is associated with highly urbanized areas. Travel route viewers along I-10 and local Tucson streets where the Anza NHT crosses would have direct and unobstructed views of the proposed Project in the foreground; however, it would be viewed in context with the existing utility corridor and urban areas, resulting in low impacts. Although the scale of the proposed facilities would be different, the proposed Project would replicate these existing visual features, thereby reducing the level of contrast and resulting in low impacts to scenic resources of the Anza NHT at these locations.

There are no known recreation values associated with the Anza NHT at these segments that would be intersected by the proposed Project; therefore impacts are not anticipated.

Historic and Cultural Resources

No high-potential sites or segments of the Anza NHT have been identified along the route group 4 local alternatives that would be impacted by the proposed Project intersections of the Anza NHT. The NHT visual analysis for the Anza NHT examined known trail-related cultural resources within 3 miles of the centerlines; no sites were identified in the analysis area.

Biological, Natural, and Other Resources

Impacts to biological or natural resources associated with the Anza NHT are anticipated to be low for the route group 4 local alternatives, because there are no identified biological, geological, or scientific resources for the Anza NHT in the analysis area. Further, the route group 4 local alternatives would intersect the Anza NHT in largely urbanized areas of metropolitan Tucson, and no BLM biological or natural land management prescriptions are in place within the analysis area.

National Scenic Trails

ARIZONA NATIONAL SCENIC TRAIL

Subroute 4.1

There are no NSTs in the analysis area for route group 4.

Trails Recommended as Suitable for National Trail Designation

BUTTERFIELD OVERLAND MAIL AND STAGE ROUTE (HISTORIC)

Subroute 4.1 and Local Alternatives

Scenic and Recreation Resources

The proposed Project would cross the Butterfield Trail in the Tucson area in four locations, all upon private land. Local alternative TH3b (refer to table F-2, Butterfield-17), and segments U3h (refer to table F-2, Butterfield-18), U3i (refer to table F-2, Butterfield-19), and U3l (refer to table F-2, Butterfield-20) would cross the Butterfield Trail in areas that already contain 115-kV transmission lines. The scenery has not been classified in these areas, but generally has low sensitivity that is associated with highly urbanized areas. Travel route viewers along I-10 and local Tucson streets where the Butterfield Trail crosses would have direct and unobstructed views of the proposed Project in the foreground; however, it would be viewed in context with the existing utility corridor and urban areas, resulting in low impacts. Although the scale of the proposed facilities would be different, the proposed Project would replicate these existing visual features, thereby reducing the level of contrast and resulting in low impacts to scenic resources of the Butterfield Trail at these locations.

Since there are no known recreation values associated with the Butterfield Trail at these segments, impacts are not anticipated.

Historic and Cultural Resources

The intersections with the proposed Project at these locations would not affect the ability to manage the trail if designated an NHT, nor would it require relocation of a National Trail Management Corridor since none has been designated. Subroute 4.1 and route group 4 Local Alternatives would have minor impacts on the characteristics that make the trail worthy of designation as an NHT. Likewise, the proposed Project could have minor impacts on potential Federal Protection Components, including high-potential route segments located on public land, as well as to potential NHT properties, including remnants and artifacts from the associated period of use that may be eligible for or listed on the NRHP to qualify as possible high-potential historic sites or high-potential route segments. The proposed Project would not limit the agency's ability to manage the trail for the purpose of identifying and protecting the historic route and its historic remnants and artifacts for public use and enjoyment. The nearest stage station is located at Fort Bowie, approximately 100 miles to the east. Based on these criteria, the proposed Project would have a

low impact on high-sensitivity, historic segments or sites associated with the Butterfield Trail at this location.

Biological, Natural, and Other Resources

Impacts to biological or natural resources associated with the Anza NHT are anticipated to be low for subroute 4.1 and local alternatives, because there are no identified biological, geological, or scientific resources for the Butterfield Trail in the analysis area. Further, the route group 4 local alternatives would intersect the Butterfield Trail in largely urbanized areas of metropolitan Tucson, and no BLM biological or natural land management prescriptions are in place within the analysis area.

Route Group 4 Summary

Route group 4 would result in low impacts to inventoried resources, values, and settings of the Anza NHT and Butterfield Trail. The majority of the proposed Project would parallel and be viewed in context with several existing transmission lines and facilities as well as the transportation corridor along I-10. Further, there would be no ROW expansion between the Del Bac and Rattlesnake substations. Overall, based on the results of the impact assessment, route group 4 would not substantially compromise the Anza NHT or the Butterfield Trail's values, characteristics, and settings.

Agency Preferred Alternative

Short-term, minor impacts would occur at the intersections of segments P2, P4a, LD3a, P5b, U1a, U2, U3a, U3i, U3h, U3k, and U3l and National Trails or Trails Recommended as Suitable for National Trail Designation during construction, as described above.

National Scenic Trails

The CDNST would be crossed once by the Agency Preferred Alternative, at segment P4a; impacts would be the same as described under subroute 1.1 above (refer to figures F-6, F-27, and F-48).

The Arizona NST would be crossed once by the Agency Preferred Alternative, at segment U3a; impacts would be the same as described under subroute 3.1 above (refer to figures F-19, F-40, and F-61).

National Historic Trails

The Anza NHT would be crossed three times by the Agency Preferred Alternative; twice by segment U3i and once by segment U3k; impacts would be the same as described under subroute 4.1 above (refer to figures F-22, F-24, F-43, F-45, F-64, and F-66)

Trails Recommended as Suitable for National Trail Designation

The Butterfield Trail would be crossed eleven times by the Agency Preferred Alternative. Impacts of the intersection of segment P2 and the Butterfield Trail would be the same as described under subroute 1.1 above (refer to figures F-4, F-24, and F-46). Impacts to the intersection of segment P5b would be the same as described under subroute 2.1 above (refer to figures F-10, F-30, and F-52). Impacts of the intersection of segment LD3a and the Butterfield Trail would be the same as described under route group 2 above (refer to figures F-9, F-29, and F-51 for LD3a and figures F-12, F-13, F-32, F-33, and F-54 intersections, respectively). Impacts of the intersection of segment U1a and the Butterfield Trail would be the same as described under subroute 3.1 above (refer to figures F-15, F-35, and F-56). Segment U2 would cross the Butterfield Trail twice; impacts would be the same as described

under subroute 3.1 above (refer to figures F-16, F-17, F-37, F-38, F-57, and F-59). The Butterfield Trail would be crossed by segments U3h, U3i, and U3l; impacts at these intersections would be the same as described under subroute 4.1 (refer to figures F-22, F-23, F-43, F-44, F-64, and F-65).

Cumulative Effects

In addition to direct and indirect effects, this section addresses the cumulative effects of the proposed Project that would result from the construction and operation of the Project, combined with other reasonably foreseeable future actions. For detailed process and methods for analysis, scoping and Project issues, parameters, identification of past, present, future, and reasonably foreseeable future actions, land uses, and projects, including energy development forecast analysis, see section 4.21 of this EIS.

Cumulative effects to National Scenic and Historic Trails were evaluated in the context of a trail's resources, qualities, values, associated settings, and primary use or uses in a manner similar to the impacts described under "Impact Analysis Results" in this appendix. However, for the cumulative effects assessment and discussion, it is assumed that the resources, qualities, values, and associated settings are similar to portions of the trails that were inventoried and assessed in this appendix. Cumulative effects are interdisciplinary, multijurisdictional, and usually do not conform to political boundaries.
The geographical extent for the National Scenic and Historic Trails cumulative effects analysis for the proposed Project was a 1-mile buffer on each side of the centerline, as well as the entire length of the continuous trail within the Field Offices traversed by the Project. For NHTs, the analysis area was limited to the high-potential route segments, high-potential historic sites, and auto tour routes identified in the areas traversed by the proposed Project, in consideration of other reasonably foreseeable projects along the National Trail. Past, present, and reasonably foreseeable future actions that were considered for this analysis are described in section 4.21 of this EIS. The following is a summary of cumulative effects on National Scenic and Historic Trails for the proposed Project during construction and operation (refer to table F-3 at the end of this section).

Scenic and Recreation Resources

Cumulative effects to scenic and recreation resources relate to the modification of landscape scenery and the viewsheds associated with public viewing areas. Cumulative effects to scenic resources could result from: 1) the incremental modification of landscape character (i.e., settings) in natural areas, and 2) altering the viewsheds associated with trail-related public viewing locations based on the construction and operation of the proposed Project in context with past, present, and reasonably foreseeable future actions. Cumulative impacts to recreation resources may occur as a result of the construction and operation of the proposed Project, from reasonably foreseeable future projects that could include the development of new and temporary access roads and staging yards, as well as the operation of industrial-scale renewable projects, both wind and solar, as described in the cumulative effects (section 4.21) of this EIS. These cumulative effects to recreation resources, values, and qualities can be both experiential (i.e., primitive nature of trail is altered by the indirect introduction of off-highway vehicle use) and physical (i.e., the actual ROW of a trail [or associated linkages] is modified in a manner that the intended land use is changed). The Hidalgo substation construction activities would have a cumulative effect to the recreation setting of the CDNST during construction activity. The pre-existing Hidalgo substation currently limits the recreation setting to a modified landscape, but future construction of additional transmission ROWs (e.g., SunZia) and substation tie-ins may degrade the recreation setting further with the addition of access roads or transmission line towers and spans. The Hidalgo substation is located upon private land. The CDNST passes by the Hidalgo substation on private lands 0.3 mile south of the substation, in a disturbed setting. BLM lands that include a management corridor for the CDNST are

located approximately 0.7 mile to the east of the substation. Cumulative effects for scenic and recreation resources in context with National Trails would occur over the life of the proposed Project.

CUMULATIVE EFFECTS ANALYSIS FOR THE PROPOSED SOUTHLINE PROJECT

Generally, construction activities associated with the proposed Project would include: upgrading or construction of access roads, clearing and grading activities for the ROW, excavating and installation of foundations, assembling structures with temporary and permanent pad sites, stringing conductors and shield wires, and clean-up and reclamation of affected areas. Some activities associated with construction, such as access roads, pad sites, and staging areas (as identified in the POD) would be temporary. Areas disturbed by temporary construction activities (i.e., access roads, staging areas, temporary pad, or pulling and tensioning sites) would not be required for routine maintenance activities during operation. These temporary areas will be identified in the POD and restored at the end of construction. Project-related access identified for closure near National Trails would be restored at the end of construction. Temporary construction activities would result in cumulative effects that would contribute incrementally from the reasonably foreseeable actions. Operation activities associated with the proposed Project would be ongoing and long-term, and would occur along the ROW for the life of the Project. The proposed transmission line structures, substations, and associated long-term access would be permanent and require routine maintenance, including vegetation maintenance in areas where forests occur. Operation of the reasonably foreseeable actions would permanently alter the scenic resources and change the viewsheds associated with recreation resources for the life of the proposed Project. Although the transmission line would cross the Arizona NST and CDNST on existing utility corridors, the difference in scale of the structures will be noticeable, and the length of time trail users are under transmission lines and exposed to transmission line noise and foreground visual impacts will be longer. Additional reasonably foreseeable future actions may further the degradation of the CDNST trail corridor setting near the Hidalgo substation. Therefore all possible mitigation measures would be implemented to minimize experiential and visual impacts such as using towers that oxidize to a natural patina, and spacing towers for maximum possible distance from trail and/or matching structure spans. Construction of additional roads crossing NSTs and disturbance of the trail tread would be avoided. NSTs are intended to be in non-motorized settings where feasible and mitigation would include measures to prevent motor vehicles of any kind from accessing NSTs during or after construction, and prevent public use of Project created routes within 0.25 mile of NSTs after Project completion.

Reasonably foreseeable actions that would likely have direct cumulative effects to visual resources during construction of the proposed Project include residential development, agricultural development, airport and military infrastructure development, and transportation corridor development. Construction would require grading and/or removal of vegetation, which would introduce landscape contrast into the analysis area. These developments, when added to direct effects of the proposed Project, would incrementally convert the natural landscape into a developed or urban landscape that would adversely affect the scenery over time. Specific projects that would alter landscape scenery for the National Trails include residential development (Vail, Arizona in the Arizona NST vicinity). Other types of reasonably foreseeable actions within the analysis area that are more industrial include mining and mineral development, utility development such as high-voltage transmission lines, power generation stations, and substations. These developments, when added to direct effects of the proposed Project, would incrementally convert natural landscapes into industrial landscapes, which over time would adversely affect scenic resources associated with National Trails in those locations.

In the context of the proposed Project, cumulative effects to scenic resources would occur based on the industrialization of natural-appearing landscapes and the modification of views from sensitive recreation resources. In addition, conservation, protection, and restoration of National Trail resources would be incrementally affected by reasonably foreseeable actions within the analysis area. The primary use or uses

of NSTs could be adversely affected by unauthorized off-highway vehicle use if selective mitigation measures were not successful. The primary use or uses of NHTs along auto tour routes could be adversely affected by reasonably foreseeable actions if the route designation was changed in the Anza NHT CMP. Namely, if auto tour routes were changed in the Anza NHT CMP, some trail segments may become high potential segments, or may no longer be managed as a high potential segment.

Specific projects that would have the greatest effect on scenic resources include the not yet constructed SunZia Southwest Transmission Line Project (CDNST, Arizona NST, Anza NHT, and Butterfield Trail). This Project would potentially be constructed in the some of the same corridors as the proposed Project, and therefore would contribute to the modification of scenic resources associated with the analysis area. Although construction of these projects would not occur at the same time as the proposed Southline Project, the introduction of these reasonably foreseeable actions (linear projects) would increase dominance along the Project analysis area and would affect scenic resources and recreation viewers. If these projects are consolidated, then construction disturbance would be focused within a specific area (e.g., at Butterfield-1 and CDNST-1), rather than multiple projects occurring at intermittent locations. Cumulative effects would be greater where they are not consolidated because more trail-related resources, qualities, values, and associated settings may be affected by these actions (e.g., the Arizona NST would not be crossed by the proposed Project and Sunzia in the same locations). Where these projects may be consolidated, cumulative effects during construction could be further reduced if structure spans were matched (where feasible), potential ROW distance minimized, and restoration of temporary construction areas (i.e., access roads) occurred.

Reasonably foreseeable actions within the proposed Project's analysis area that could contribute to cumulative effects include the Avra Valley Solar Project (Anza NHT, Arizona NST, Butterfield Trail), UA Tech Park Thermal Storage Demonstration Project (Arizona NST, Butterfield Trail), and Fotowatio Solar Project (Anza NHT, Arizona NST, Butterfield Trail). These projects would result in construction modifications that would adversely affect scenic resources associated with the trail, by introducing numerous vertical and geometric structures within a largely flat and horizontal landscape. In addition to effects on scenery, the introduction of the proposed Project in context with these other projects would have a cumulative effect on recreation viewers using the National Trail, including but not limited to the developed recreational trail, local travel routes, and recreation resources associated with the trail. The intensity of cumulative effects would vary based on distance from the trail viewers to the facility, presence of man-made features in the landscape, and proposed Project visibility.

National Trails provide a recreational and visual experience that is continuous across jurisdictions and beyond the boundaries of a given project area. The permanent and irreversible effects of the proposed Project, combined with the effects of other projects occurring throughout the trail corridor could contribute to an overall degradation of the national trail experience. Among other proposed projects that would substantially impact visual quality are the proposed Rosemont Copper Mine Project, 12 miles south of the analysis area, and the proposed Tailings Storage Facility for Ray Mine in the Ripsey Wash area, 70 miles north of the analysis area. Other past, present, and reasonably foreseeable projects such as mines, transportation corridors, fiber-optic lines, rail, and other land-disturbing projects would result in adverse cumulative effects to both scenic and recreation resources. Cumulative effects could possibly be reduced by consolidating, to the extent practicable, like facilities and sharing access whenever possible.

CUMULATIVE EFFECTS ANALYSIS, INCLUDING ENERGY DEVELOPMENT SCENARIOS

Cumulative effects to scenic and recreation resources also considered the potential for renewable energy development in the vicinity of the proposed Project. Although the visual influence of the proposed Project would not necessarily encompass the entirety of the renewable energy development areas (i.e., direct

effects), the typical scale of renewable energy projects requires a large area of effect, as compared to transmission line projects. Therefore, it is reasonable to assess the potential renewable energy development zones in context with the proposed Project from a cumulative effects aspect. Following are cumulative effects for construction and operation based on potential wind and solar energy development.

Potential wind and solar development could occur in both New Mexico and Arizona in the vicinity of the proposed Project. These types of development typically require surface disturbance that result in strong visual contrast. Based on current solar technology, vegetation would be removed within the footprint of potential solar facilities, which adversely effects landscape scenery. Over time, each additional solar facility (and associated transmission line) would incrementally convert the character of affected landscapes from natural to industrial. In addition, cumulative effects to recreation viewers within the vicinity of the solar development areas would occur based on what type of solar technology would be implemented. Photovoltaic technology has a relatively low profile, such that viewer impacts are reduced. Concentrating Solar Trough, or "Power Tower," technologies have components that are typically high profile and increase potential impacts to viewers. Other anticipated cumulative effects resulting from potential solar facilities, per the *Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States* (BLM and Department of Energy [DOE] 2010), include: effects to night skies associated with illumination requirements for maintenance and nighttime operation; effects to sensitive viewsheds, based on the introduction of glint and glare, depending on the type of solar technology developed; and effects to landscape setting, based on the formal geometric shapes associated with industrial-scale facilities. Although the identified reasonably foreseeable actions are unlikely to physically impact the trail (i.e., resulting in the need to relocate the trail due to the Project footprint), experiential impacts to recreation viewers would occur due to large wind farms or solar facilities within proximity of the trail. Similar to reasonably foreseeable actions that are linear (i.e., transmission line, pipeline), the resources, qualities, values, and associated settings would have cumulative effects throughout the analysis area. Where feasible, consolidation of associated transmission lines for these actions would be recommended as a mitigation measure to reduce cumulative effects. Mitigation may also include trail education kiosks or, as identified by the Trail Administrator, off-site mitigation could be specified on a case-by-case basis. Mitigation measures for future actions that may physically impact the trail could include visual buffers along the trail, or locating these actions farther from the trail to physically preserve trail-related resources, although experiential impacts would still occur for recreation viewers.

Historic and Cultural Resources

Incremental impacts to cultural resources result from past, present, and reasonably foreseeable future projects. Ground disturbance associated with linear facilities, such as transportation corridors (i.e., I-10, NM 9, I-19), Union Pacific Railroad, and Santa Fe Railroad) has had major incremental cumulative effects because many transportation corridors follow older trails or corridors that were used historically. For example, portions of Anza NHT that parallel I-19, and the historical alignment of the Butterfield Trail that parallels a portion of I-10, may have been partially or wholly destroyed because of the development of transportation corridors. The proposed alternative routes would extend across segments of several historical trails of various levels of significance. Although the proposed Project would not physically impact the existing trails, a potential remains for visual impacts. Although the proposed Project would have a small incremental effect on historic trails as a whole, the cumulative effect of linear projects either crossing or paralleling historic trails would result in incremental degradation to the historic feeling and setting of these trails and to opportunities for future generations to experience landscapes as early travelers would have seen them.

Biological, Natural, and Other Resources

Construction of the proposed Project would have low and minor effects to natural resources, in common with other current and future developments in the region. Cumulative effects to natural resources relates to ground disturbance and the resulting loss of biological, geological, and scientific resources. Similar to historic and cultural cumulative impacts, many biological and natural resource impacts have already occurred along the Anza NHT and Butterfield Trail from past transportation development projects. Cumulative effects for scenic natural resources related to the trail would occur over the life of the proposed Project.

CUMULATIVE EFFECTS ANALYSIS FOR THE PROPOSED SOUTHLINE PROJECT

Ground disturbance and the resulting loss of biological, geological, and scientific resources is an effect common to all new development, and in most cases, results in additive cumulative effects to these resources. Related direct effects restricted to the vicinity of construction in the analysis area include associated noise and disturbance of local wildlife. The proposed Project would contribute to ongoing loss of natural habitat in the cumulative effects analysis area where ground disturbance is required, although this is mitigated where possible by siting the proposed Project near existing areas of disturbance. Any future development may contribute to habitat loss, although most reasonably foreseeable actions within the analysis area are likely to be near previously disturbed areas. In general, most types of development avoid high-sensitivity habitats of high quality. Some indirect effects of construction can result in off-site effects that are greater than the additive effects of habitat loss within a construction area. Initially, invasion of noxious weeds and other non-native plants tends to concentrate around areas of recently disturbed ground, expanding outward into undisturbed habitat under favorable conditions. Each additional ground-disturbing activity provides a new potential foothold for invasive plants, and could allow effects to extend rapidly beyond the initial area of disturbance. Erosion, particularly where construction occurs in steep terrain or near surface water, may result in silt being carried downstream, potentially altering stream substrate and aquatic habitat. Although these effects may occur with current and future development in the cumulative effects analysis area for National Trails, standard and selective mitigation measures for the proposed Project would minimize any contribution to these cumulative effects to the extent feasible.

Effects of operation of the proposed Project include those related to the presence of access roads and associated maintenance activities, and the presence of transmission structures and lines in the environment. In general, locating multiple linear utilities in the same area minimizes cumulative effects on biological resources. Total ground disturbance is reduced because access roads may serve multiple projects, and other effects to biological resources such as maintenance activities, recreational or other use of access roads, and risk of invasive plant spread would affect a smaller portion of the landscape than if utilities were widely separated. However, utility corridors may create edge effects or act as dispersal barriers, and so co-locating utilities is not universally beneficial to all types of biological resources (i.e., vegetation, wildlife, etc.). However, the benefits of reducing total ground disturbance when multiple linear utilities are co-located may outweigh the negative effects of increased local intensity of disturbance in many cases (see section 4.21 for detailed cumulative effects to biological resources).

CUMULATIVE EFFECTS ANALYSIS, INCLUDING ENERGY DEVELOPMENT SCENARIOS

Development and operation of wind energy facilities have several types of impacts in common with construction and operation of the proposed Project. Ground disturbance, maintenance activities, generation-tie transmission lines, the risk of invasive plant colonization, and construction activities are impacts associated with wind energy that are similar to the development of major transmission lines.

Wind turbines and major transmission lines create collision hazards for birds. However, the risk posed by transmission lines is relatively dispersed, except where a line would cross major migration corridors. Siting wind energy facilities away from major migration corridors reduces the collision risk to migratory birds, but may still affect resident birds. Impacts associated with solar development are much more intensive than those associated with wind energy or transmission lines. Solar fields are generally large and contiguous, from tens to hundreds of acres, and often require complete vegetation removal and elimination of all wildlife habitats within the Project footprint (BLM and DOE 2010).

Engineering constraints require placement of solar fields in large, level areas. Although sensitive montane and riparian habitats are not generally impacted by solar development, a number of species associated with level valley bottoms in the Sonoran Desert are threatened by ongoing urban and agricultural development of those areas. Solar energy development, when not located on previously disturbed land, contributes to the decline of these biological resources. The incremental impact of the proposed Project with solar development would result in moderate impacts to habitats.

Table F-3. Summary of Direct, Indirect, and Cumulative Effects

	Past Actions	Present Actions	Proposed Project	Future Actions	Cumulative Effect
National Trails and trails under study	Prehistoric and historic migration and exploration. Ranching and mining roads.	Recreation activity anticipated to remain at current seasonal levels; there is a noticeable increase in recreational activities during the summer.	Minor, temporary decrease in trails setting and desired experiences during construction only. During operation and maintenance, trail activity would be anticipated to remain at current levels.	Moderate, long-term decrease in trail settings during construction as well as operation and maintenance.	Minor cumulative effect during construction and operation.

The National Trails Assessment Project-level impact assessment figures are provided below, beginning with figure F-3, Panel Index Map illustrating the intersections for Project-level National Trails System assessment. Map panels for visual and recreation resources are illustrated on figures F-4 through F-24; map panels for cultural, biological, and other natural resources are illustrated on figures F-25 through F-45; and map panels for the composite impact assessment results are illustrated on figures F-46 through F-66.

Figure F-1. New Build Section National Trails System.

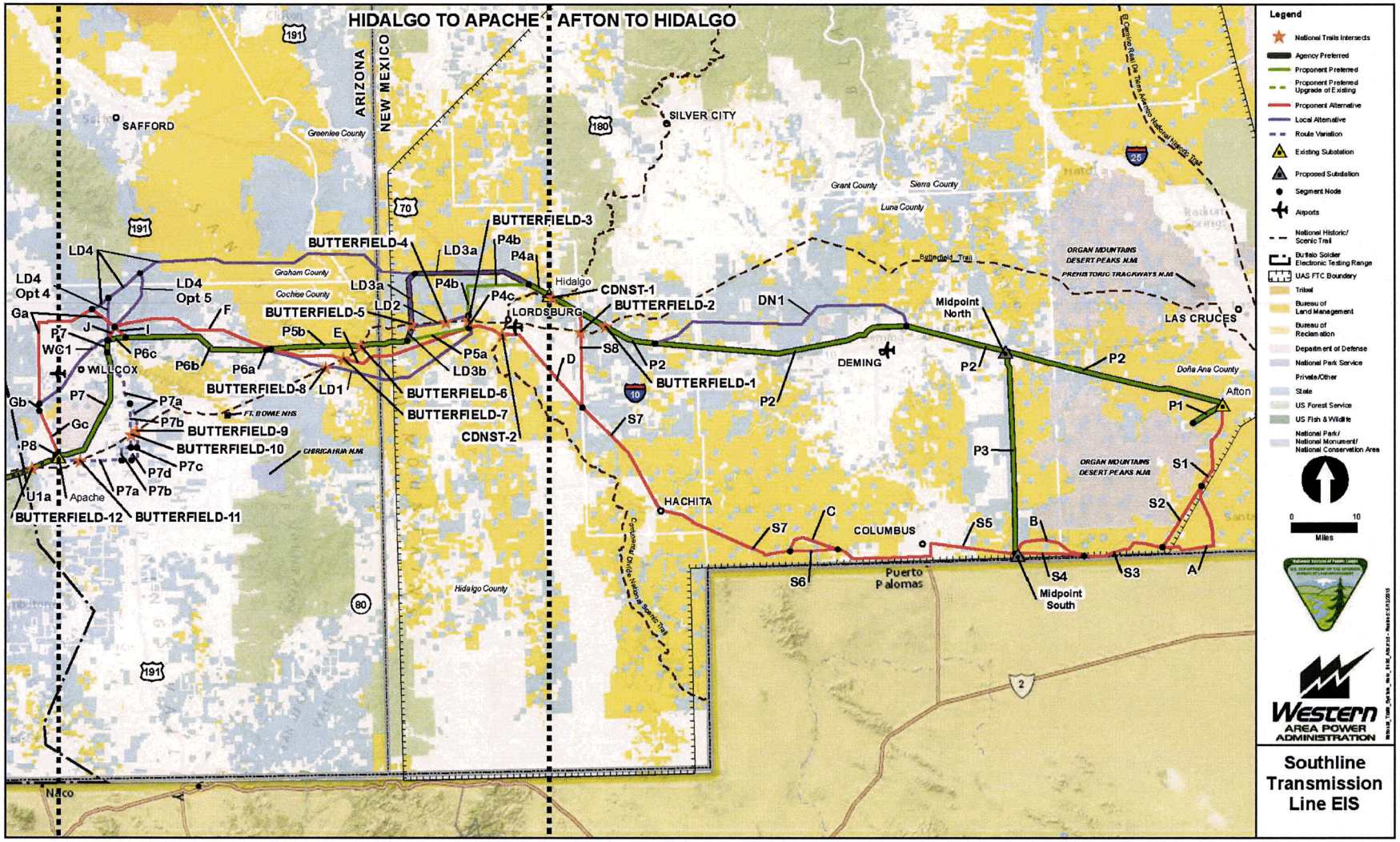


Figure F-2. Upgrade Section National Trails System.

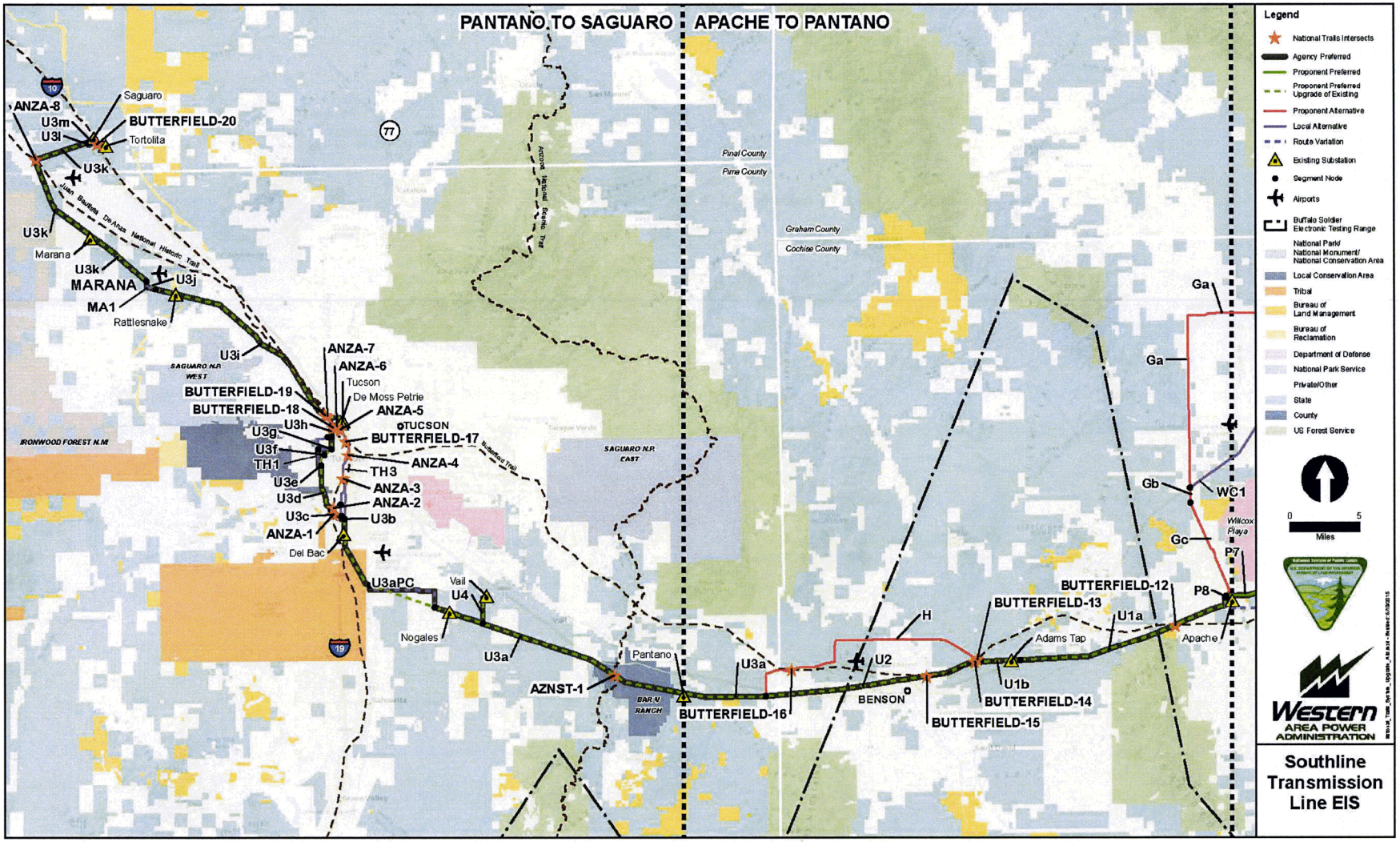


Figure F-3. Panel Index Map illustrating the intersections for Project-level National Trail System assessment.

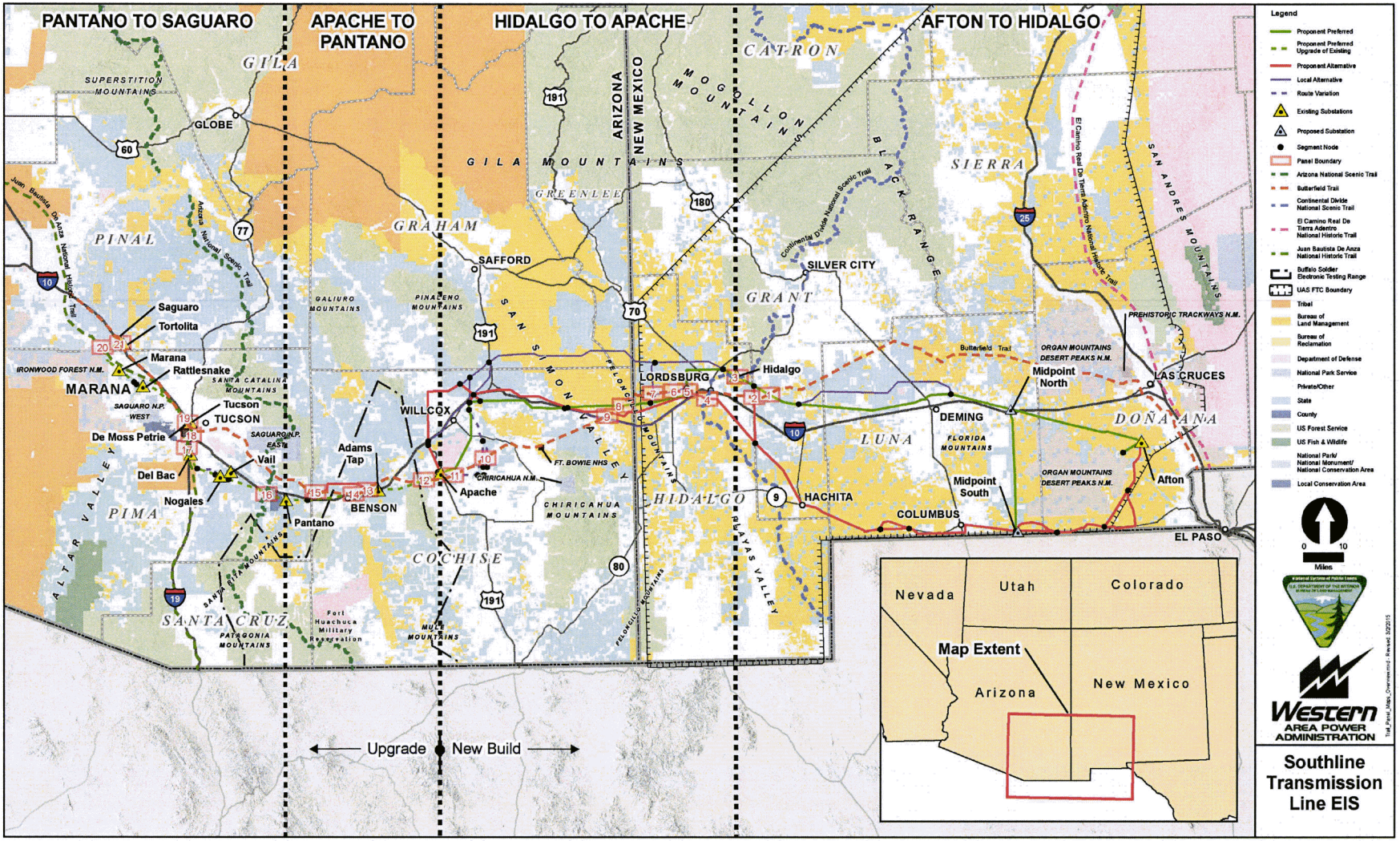


Figure F-4. Detailed trail inventory for visual and recreation resources (Panel 1).

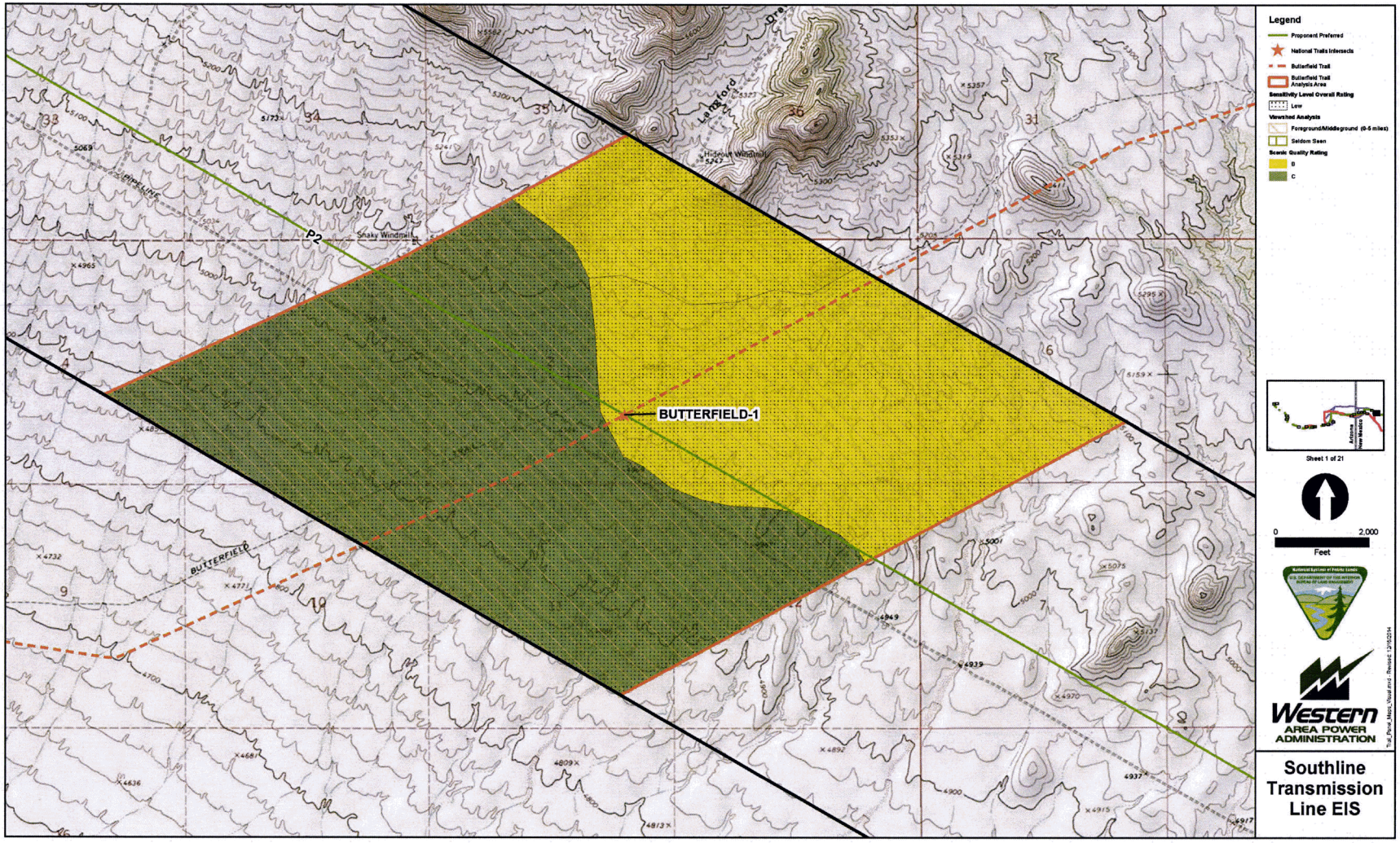


Figure F-5. Detailed trail inventory for visual and recreation resources (Panel 2).

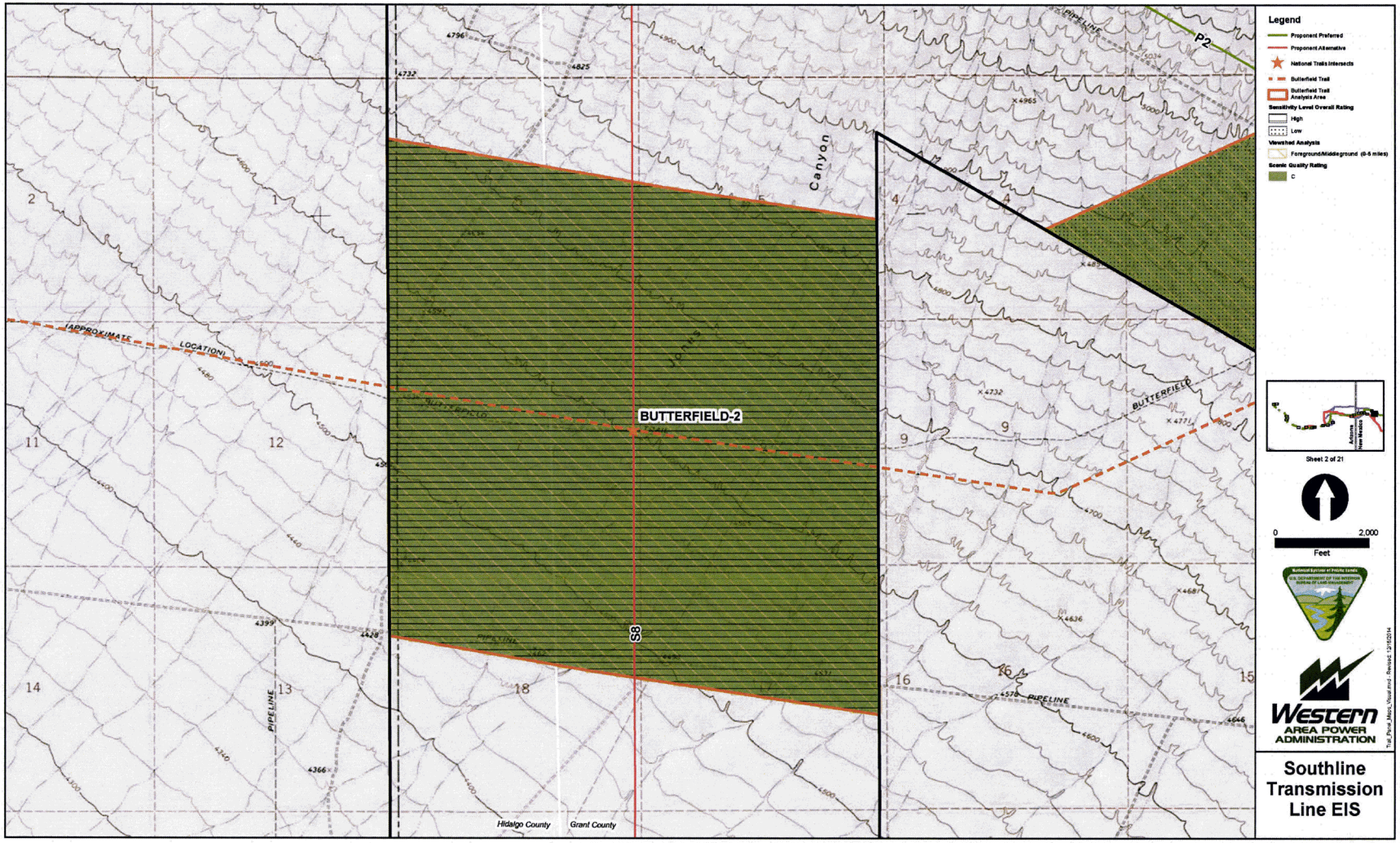


Figure F-6. Detailed trail inventory for visual and recreation resources (Panel 3).

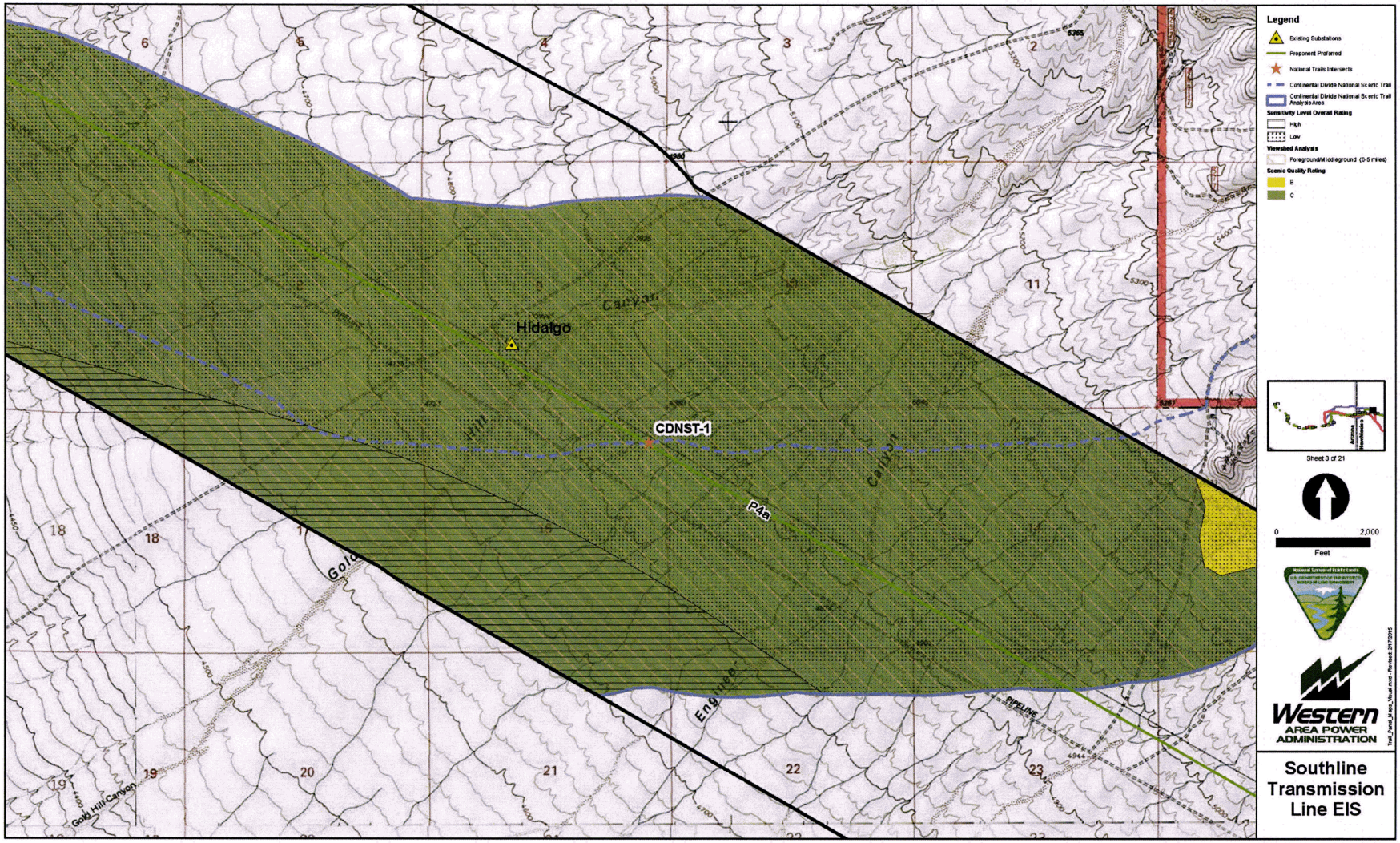


Figure F-7. Detailed trail inventory for visual and recreation resources (Panel 4).

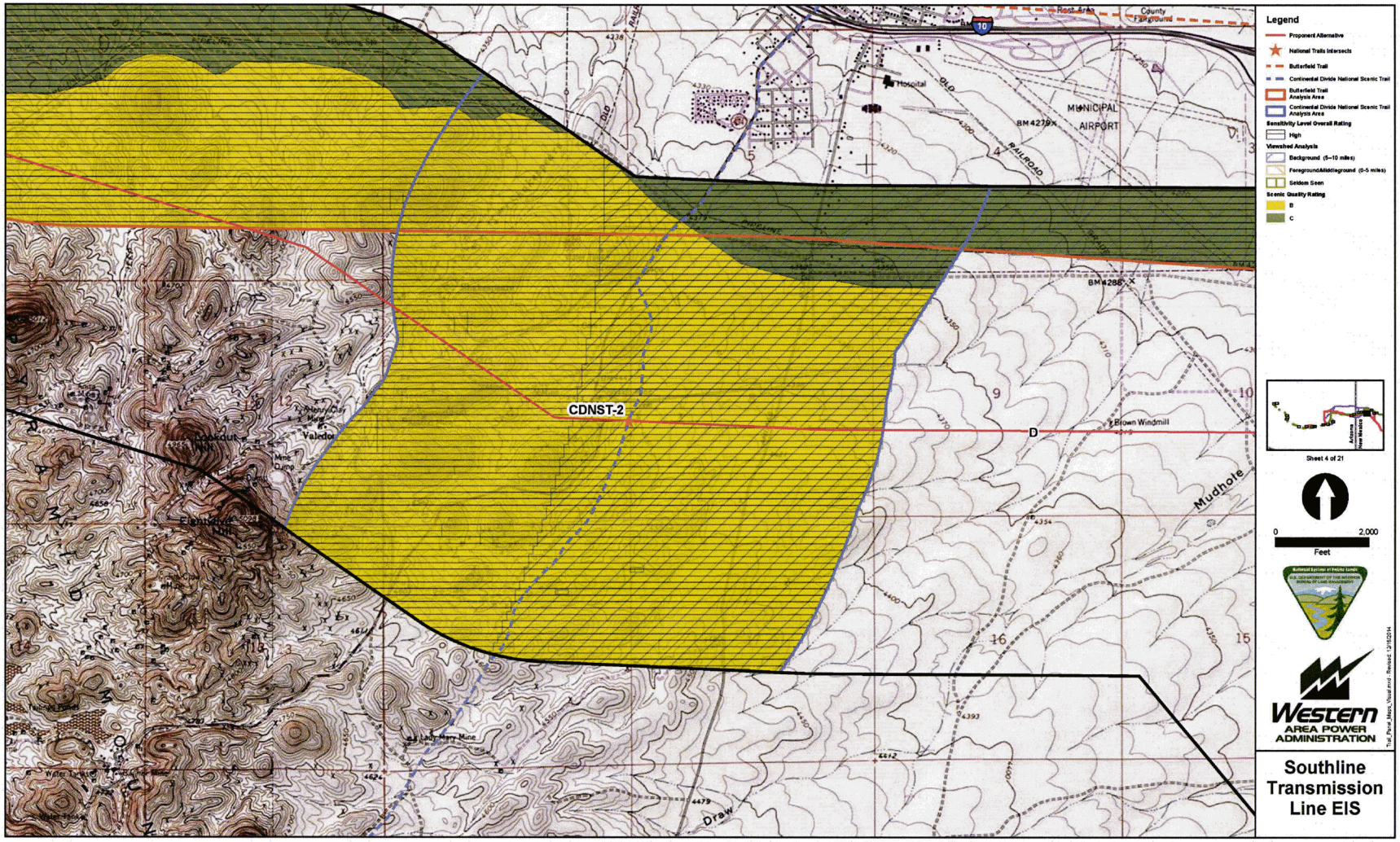


Figure F-8. Detailed trail inventory for visual and recreation resources (Panel 5).

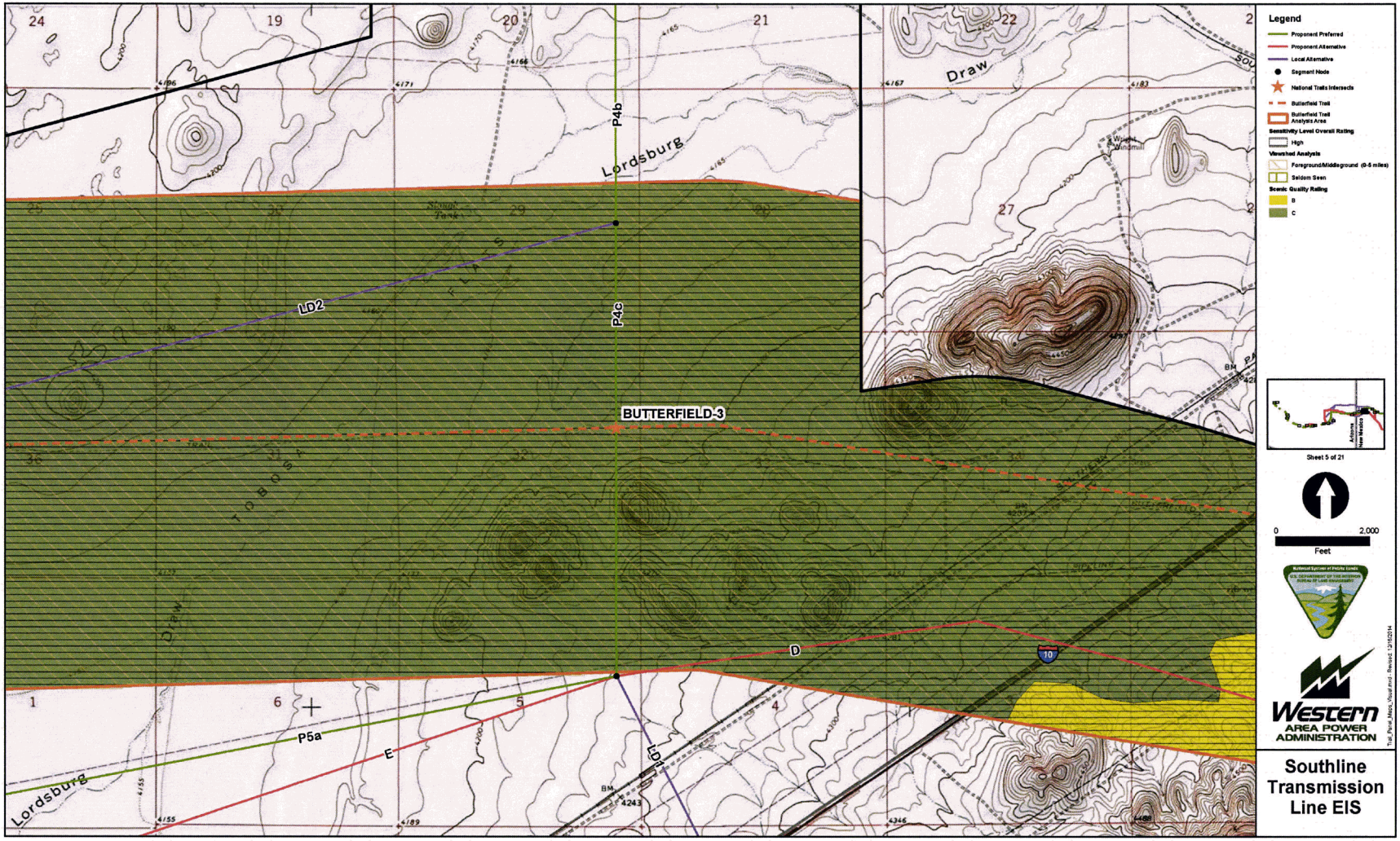


Figure F-9. Detailed trail inventory for visual and recreation resources (Panel 6).

Figure F-10. Detailed trail inventory for visual and recreation resources (Panel 7).

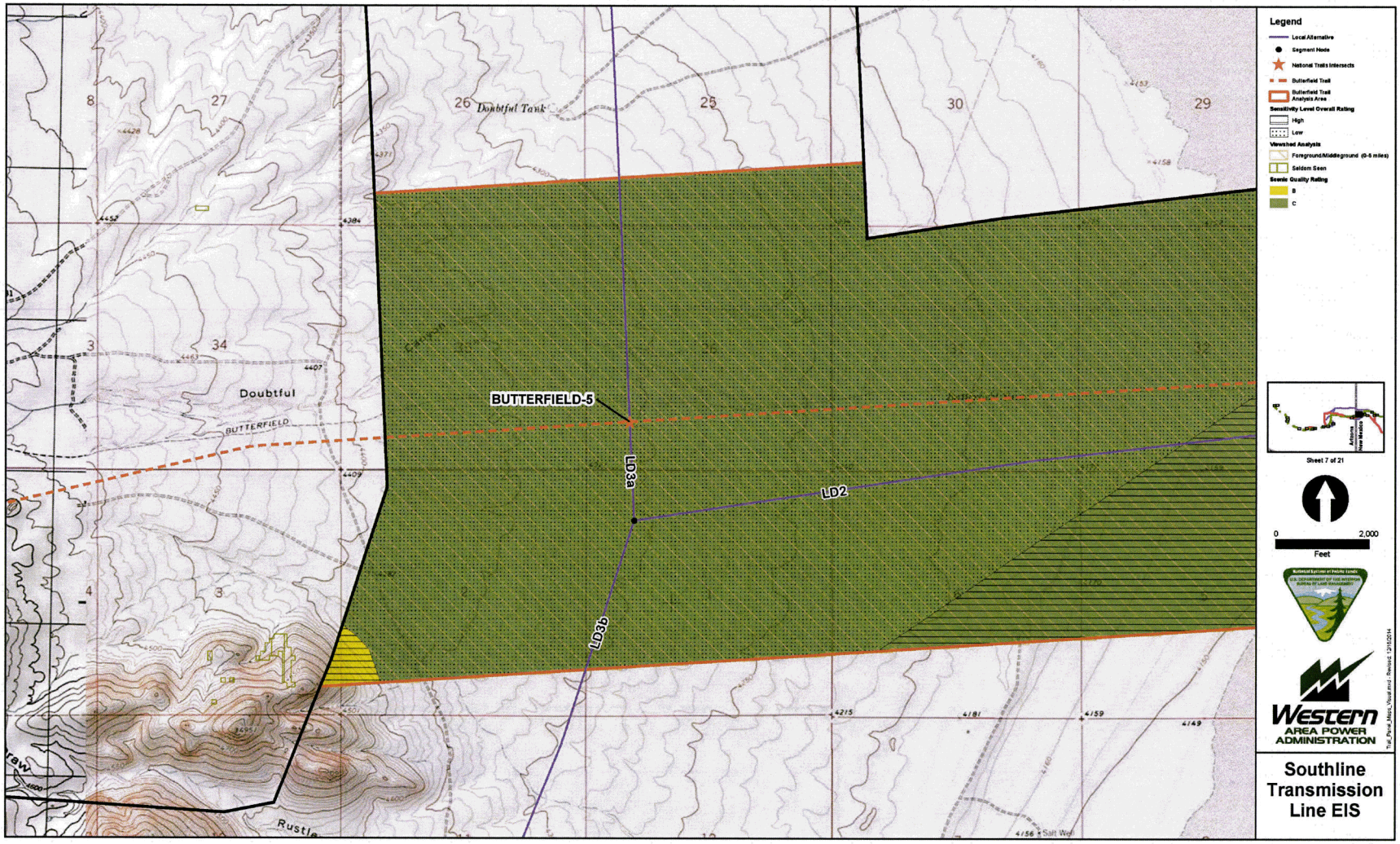


Figure F-11. Detailed trail inventory for visual and recreation resources (Panel 8).

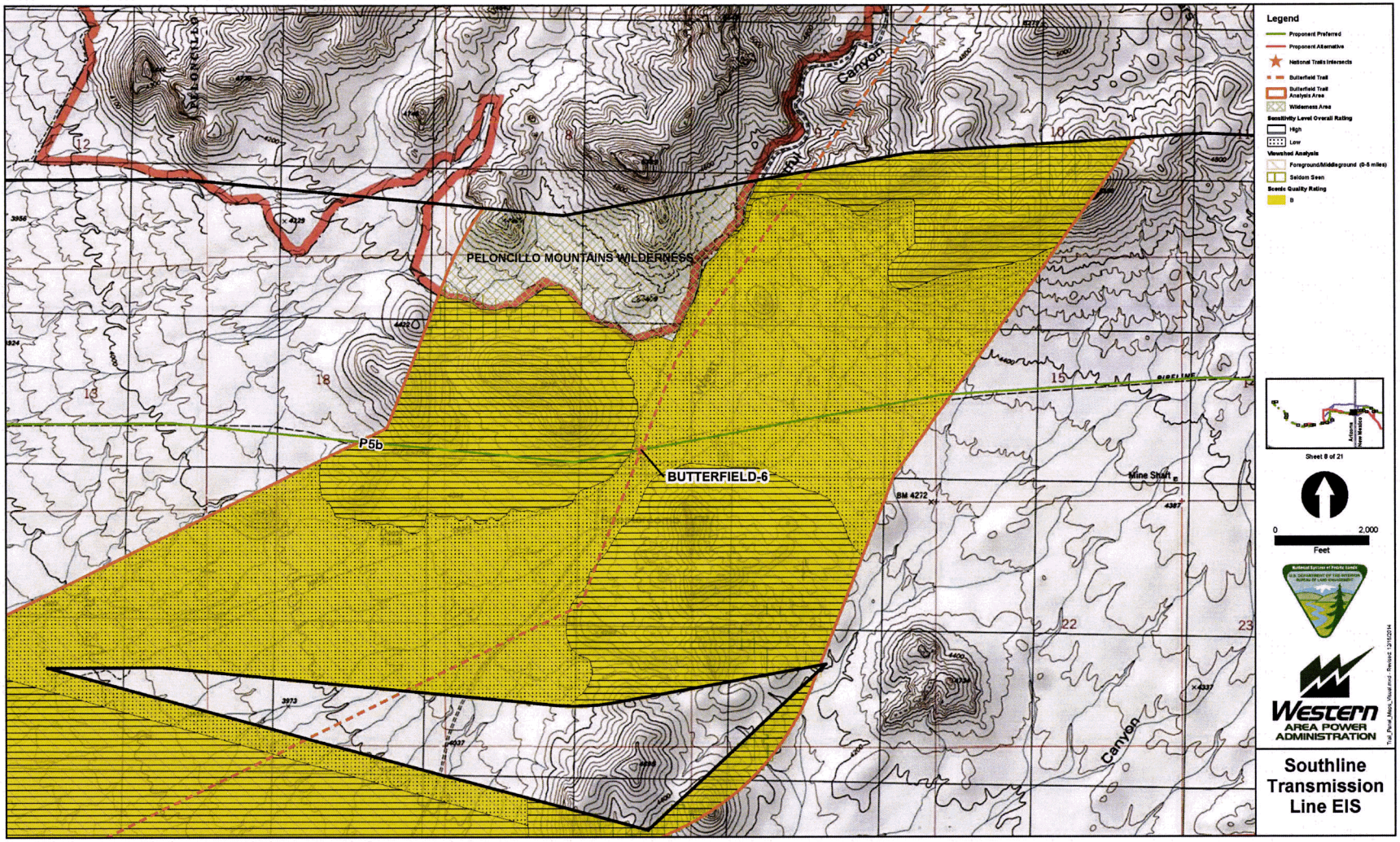


Figure F-12. Detailed trail inventory for visual and recreation resources (Panel 9).

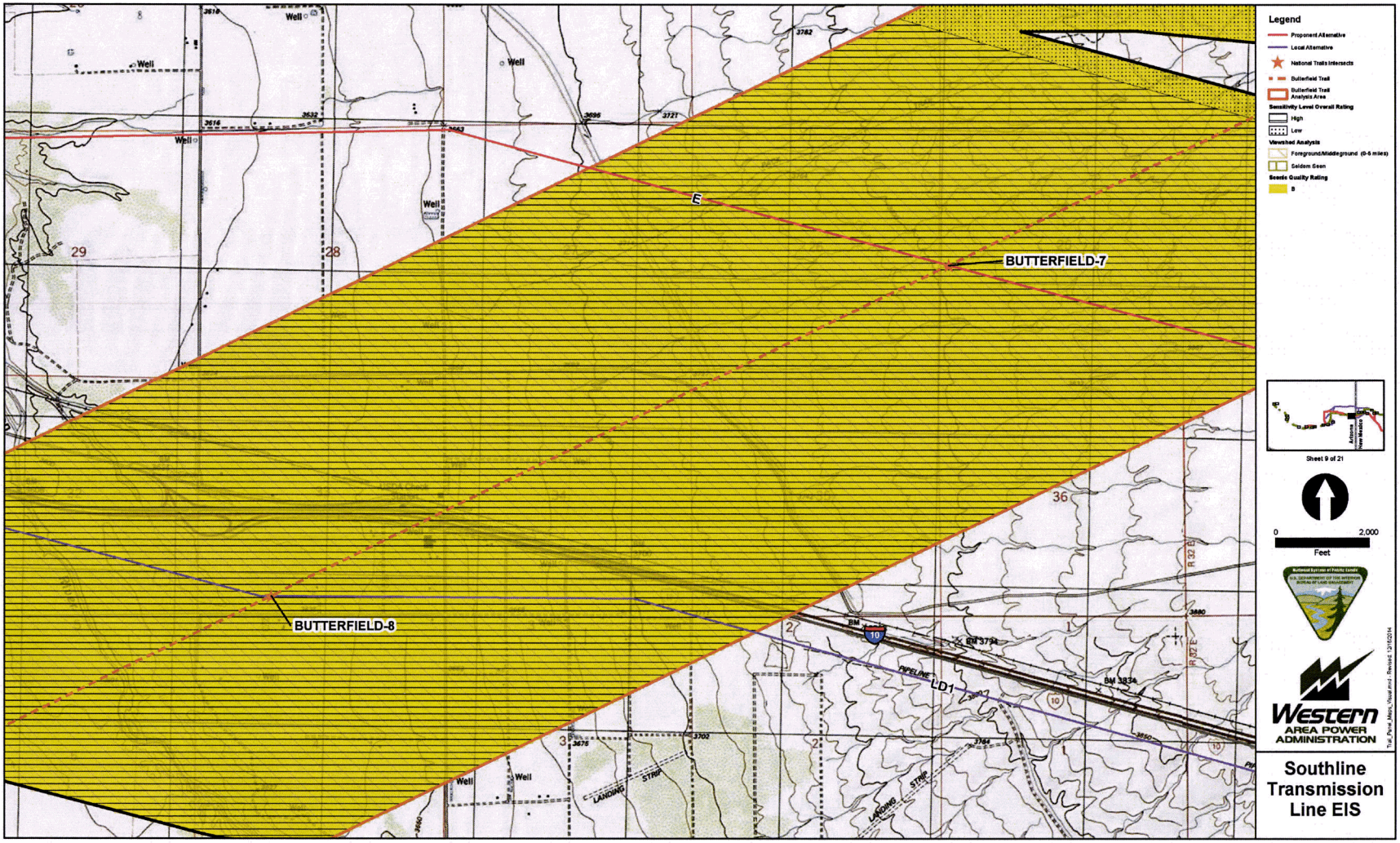


Figure F-13. Detailed trail inventory for visual and recreation resources (Panel 10).

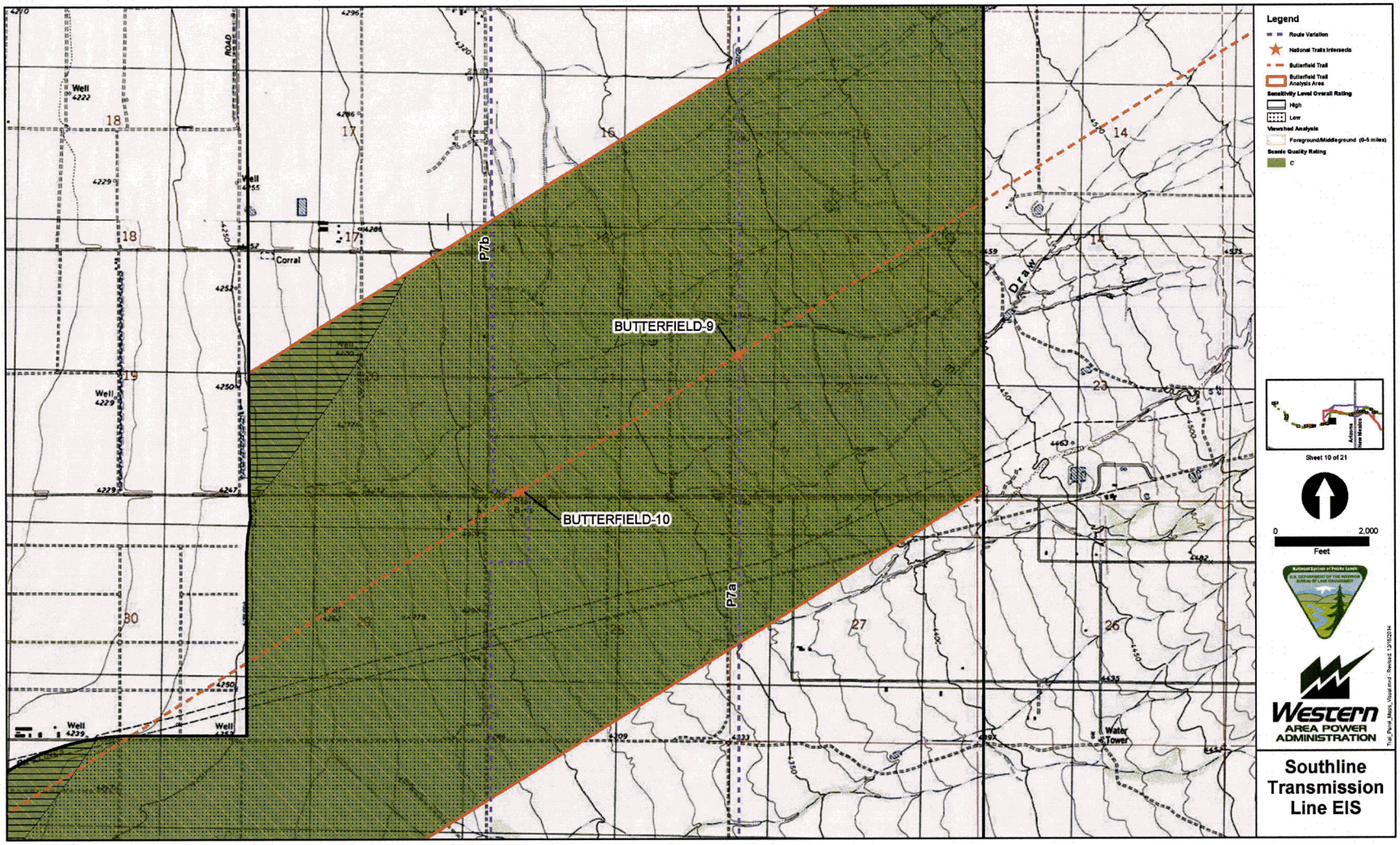


Figure F-14. Detailed trail inventory for visual and recreation resources (Panel 11).

Figure F-15. Detailed trail inventory for visual and recreation resources (Panel 12.)

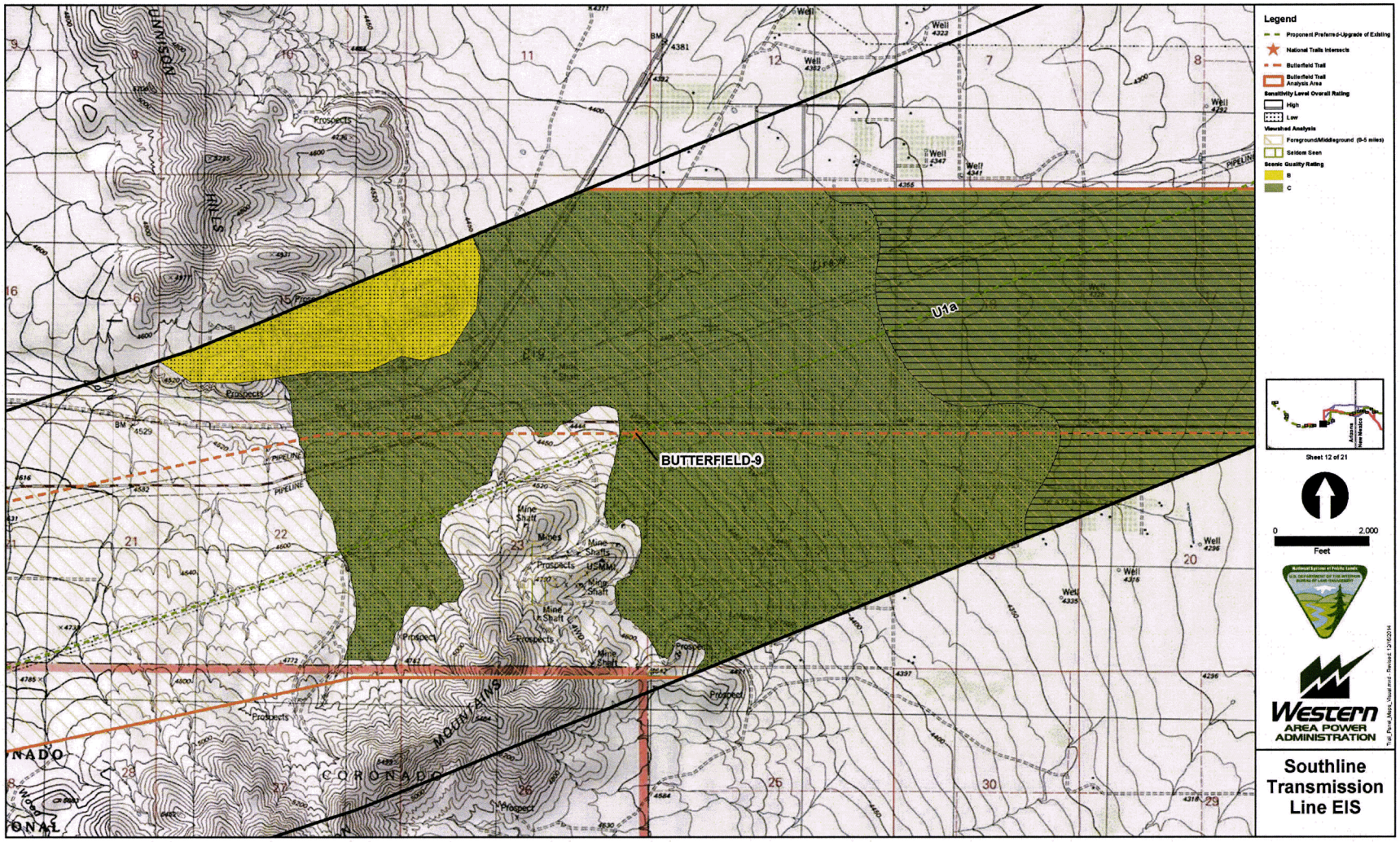


Figure F-16. Detailed trail inventory for visual and recreation resources (Panel 13).

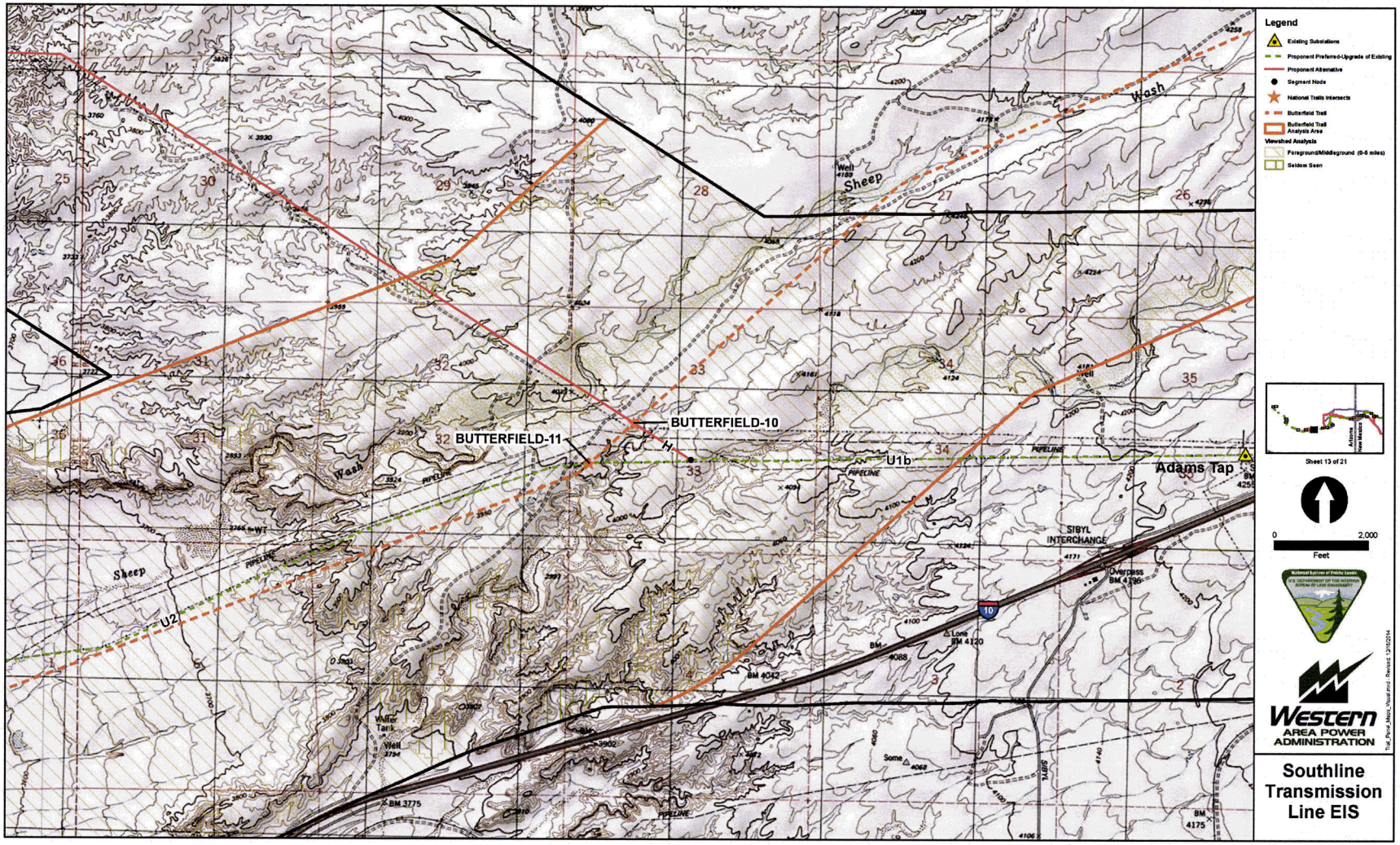


Figure F-17. Detailed trail inventory for visual and recreation resources (Panel 14).

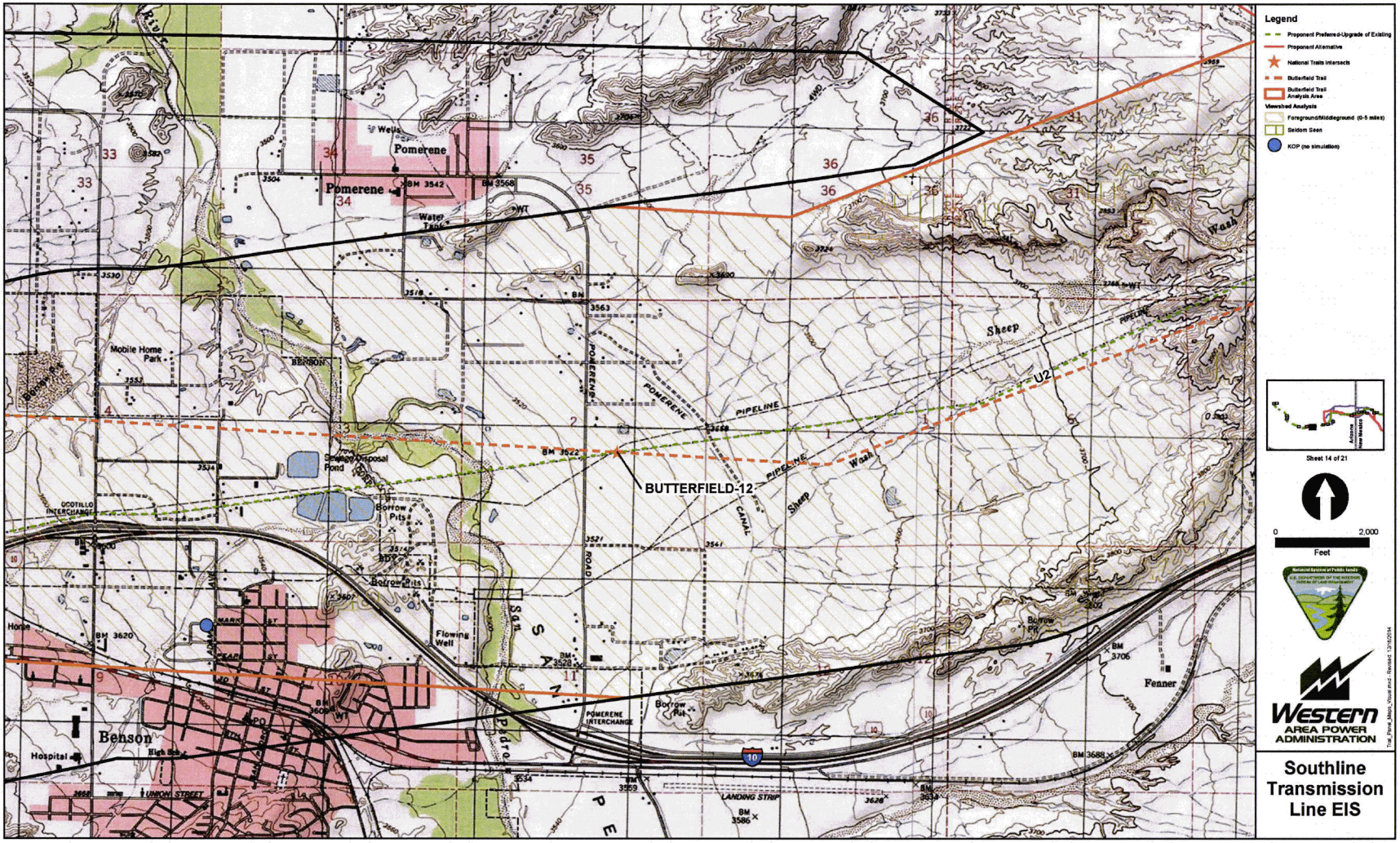


Figure F-18. Detailed trail inventory for visual and recreation resources (Panel 15).

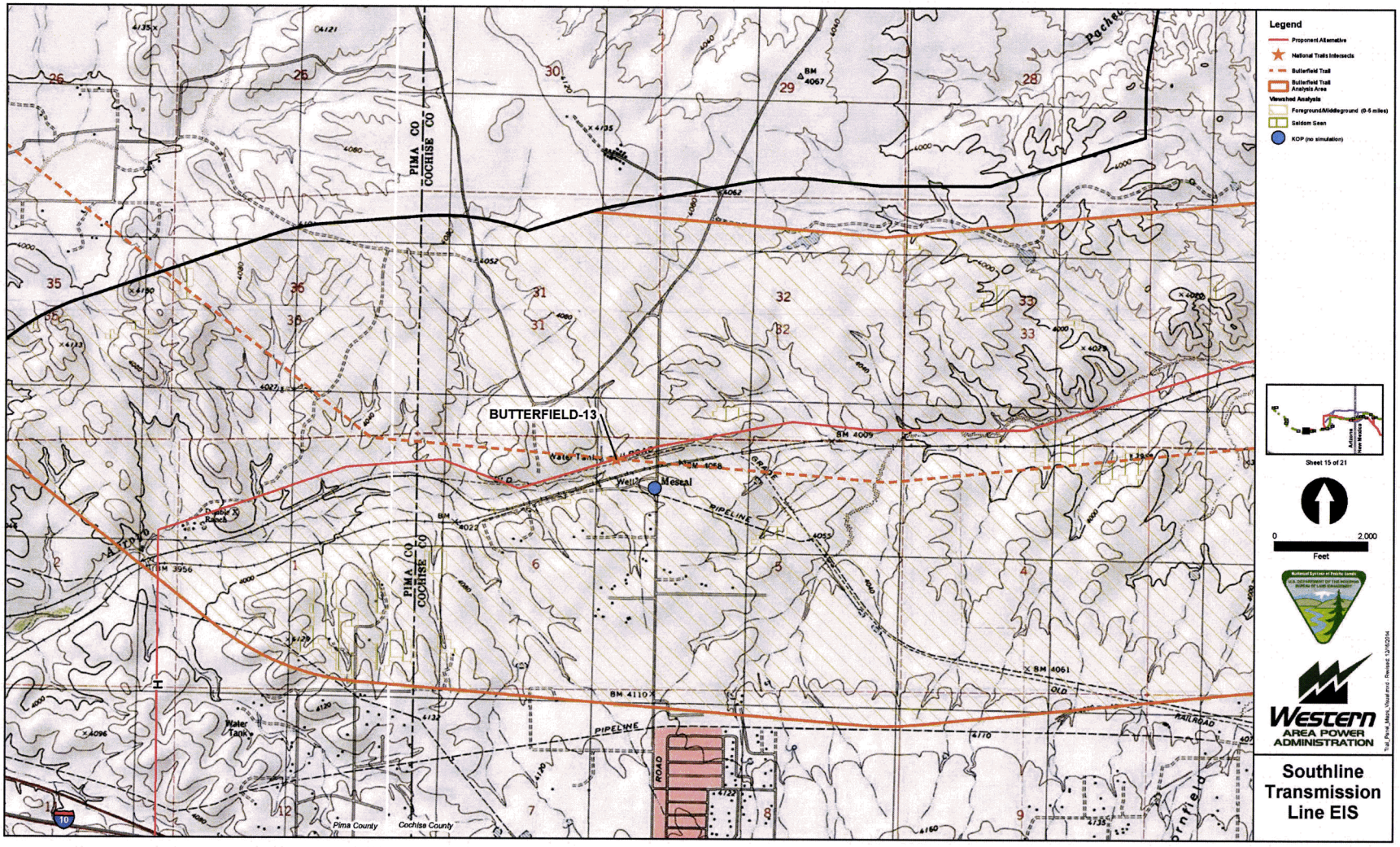


Figure F-19. Detailed trail inventory for visual and recreation resources (Panel 16).

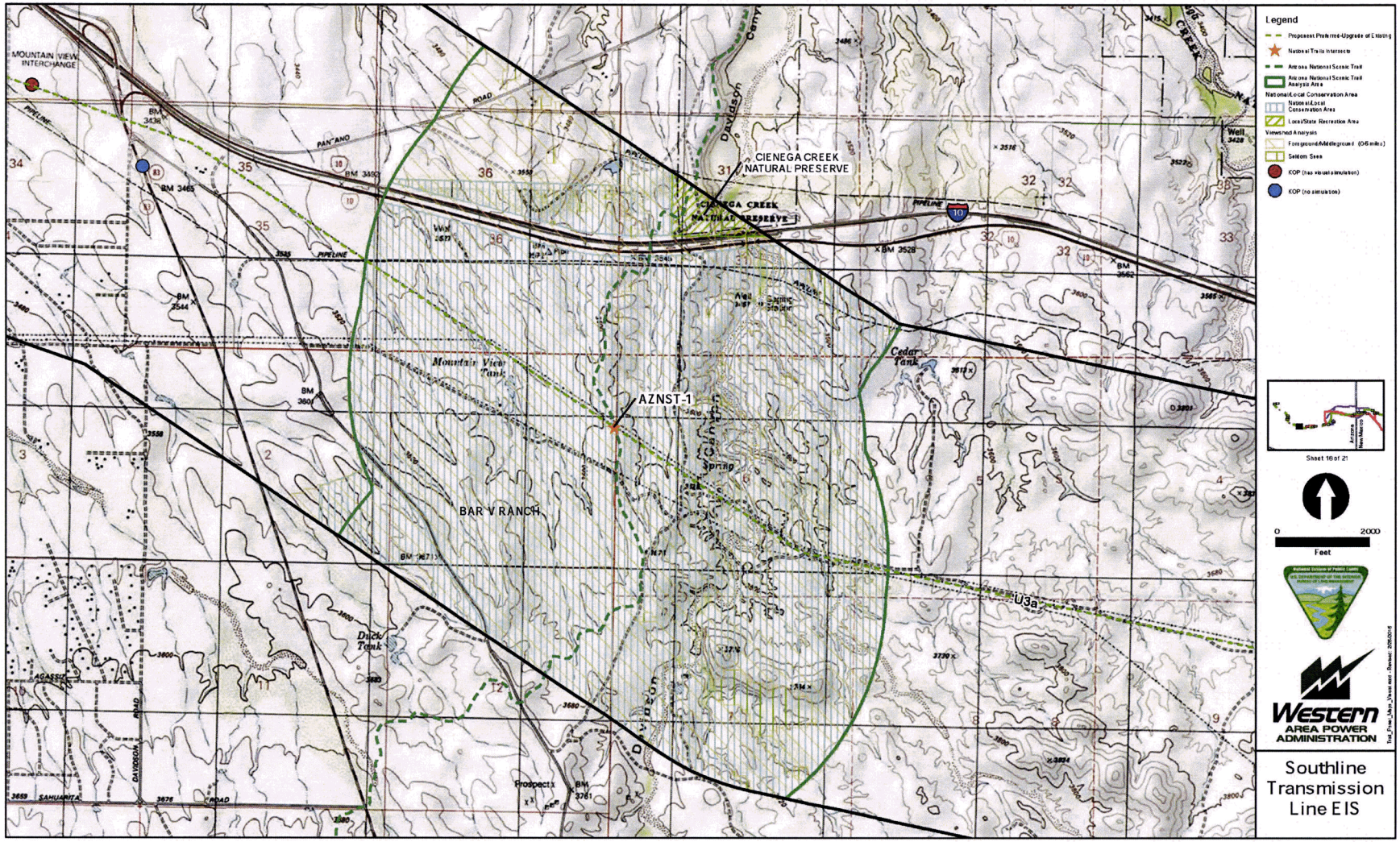


Figure F-20. Detailed trail inventory for visual and recreation resources (Panel 17).

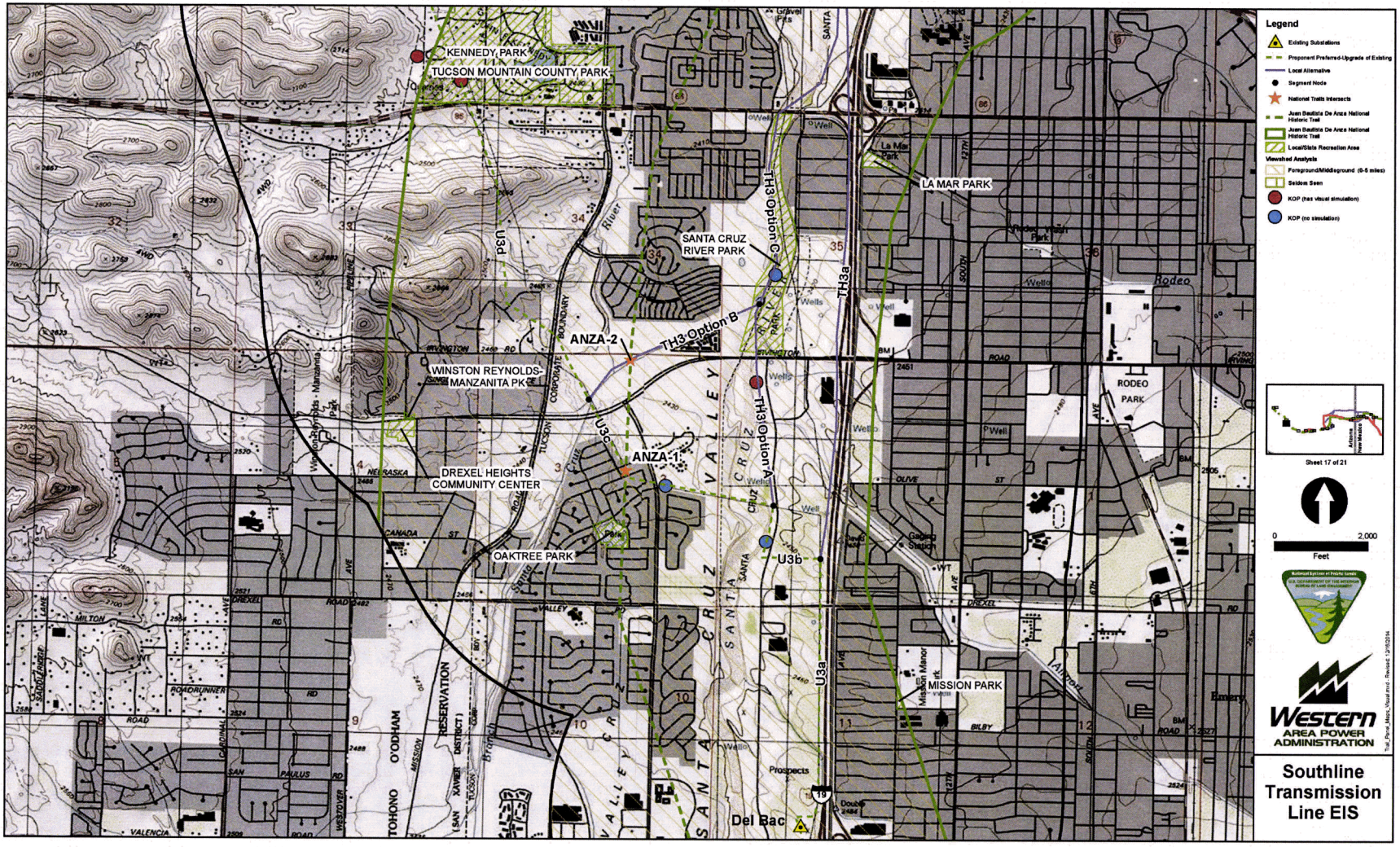


Figure F-21. Detailed trail inventory for visual and recreation resources (Panel 18).

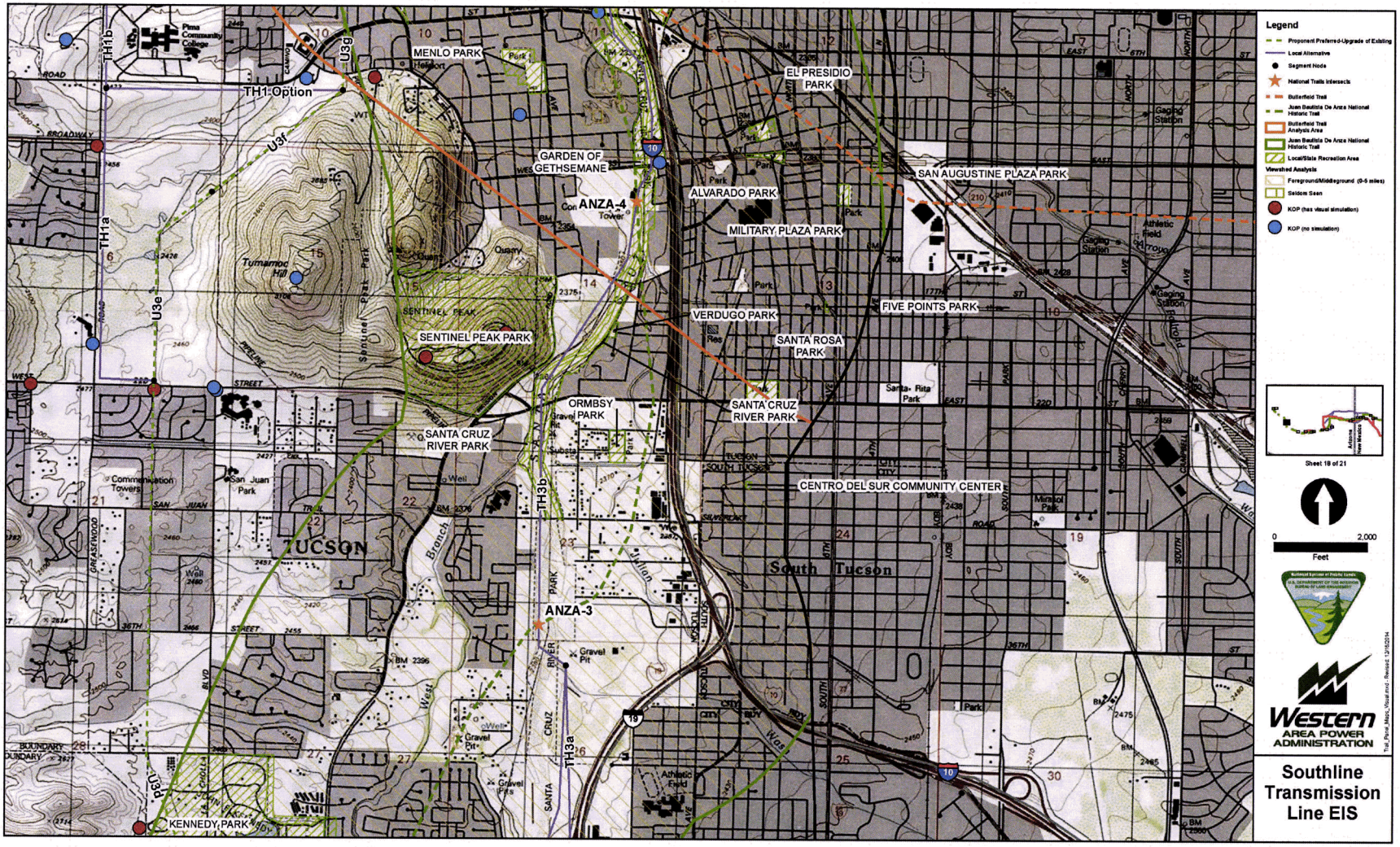


Figure F-22. Detailed trail inventory for visual and recreation resources (Panel 19).

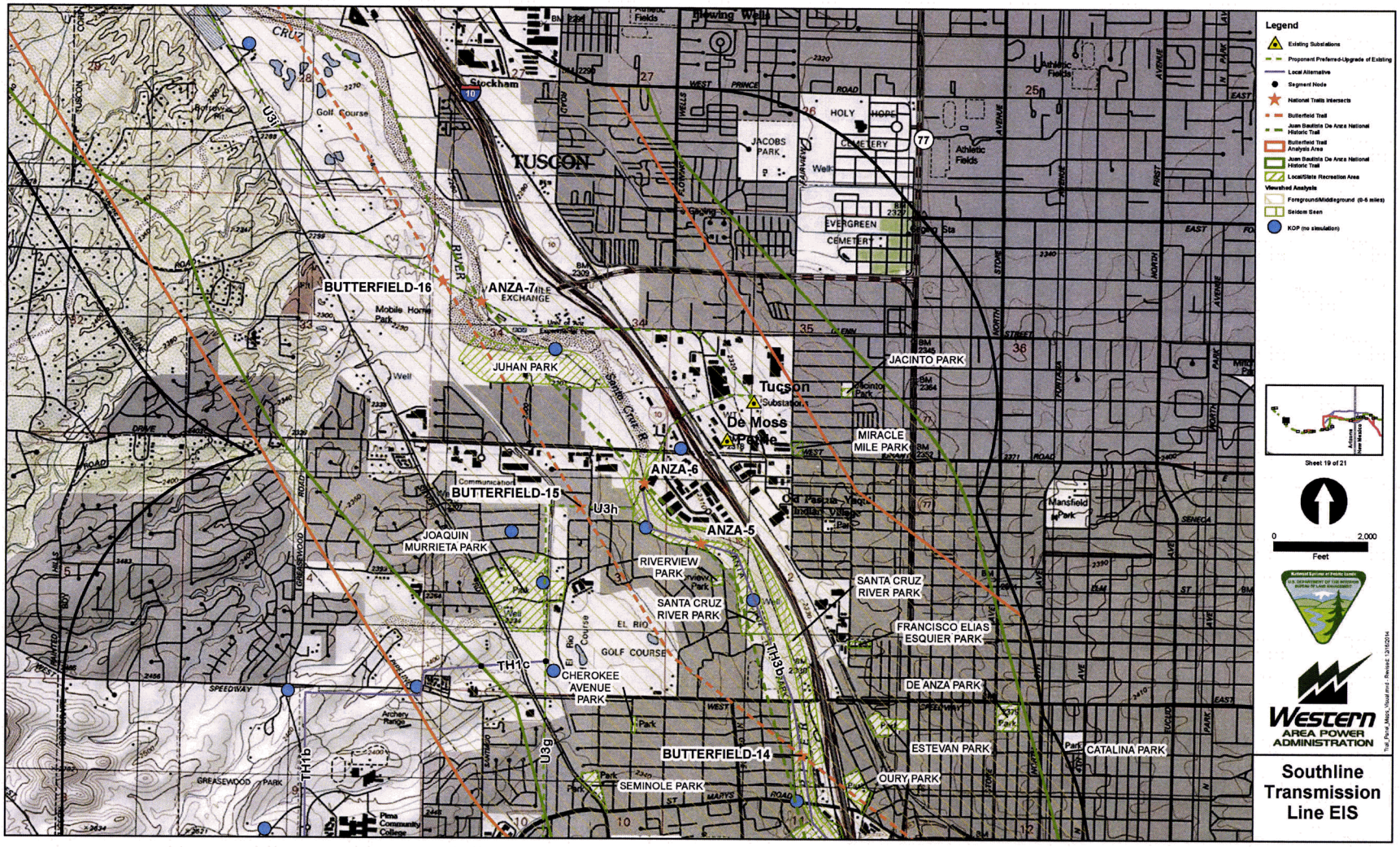


Figure F-23. Detailed trail inventory for visual and recreation resources (Panel 20).

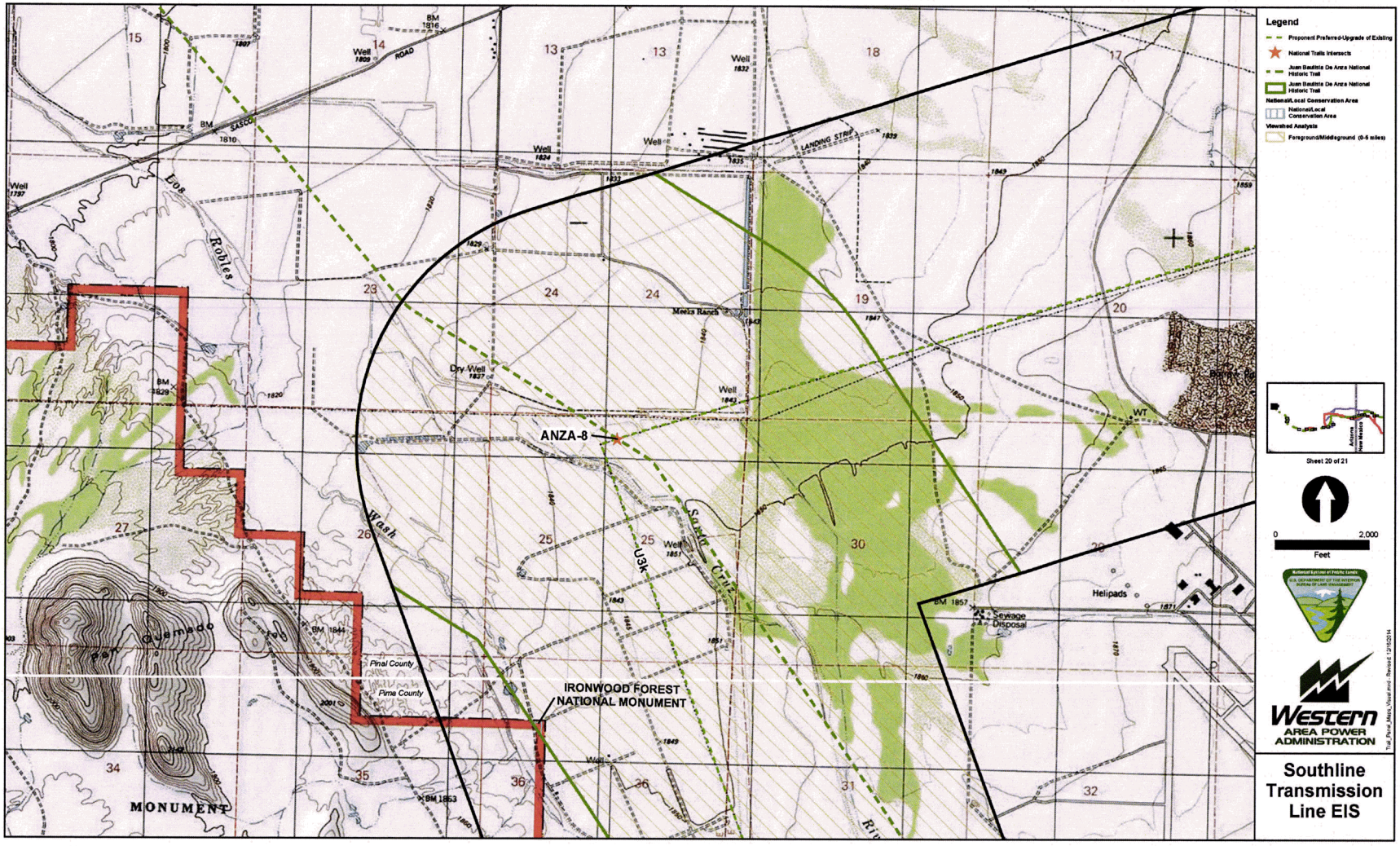


Figure F-24. Detailed trail inventory for visual and recreation resources (Panel 21).

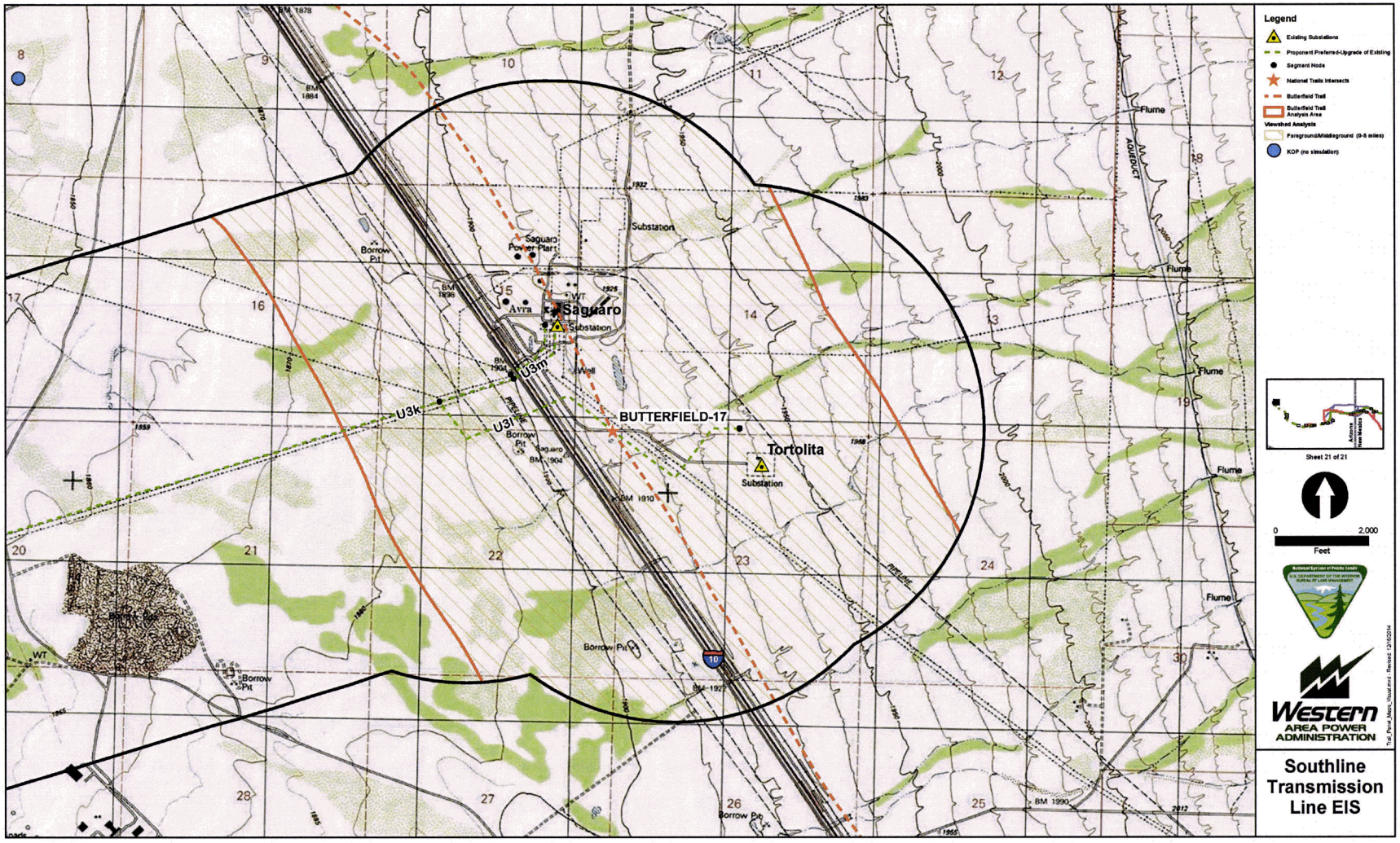


Figure F-25. Detailed trail inventory for cultural, biological, and other natural resources (Panel 1).

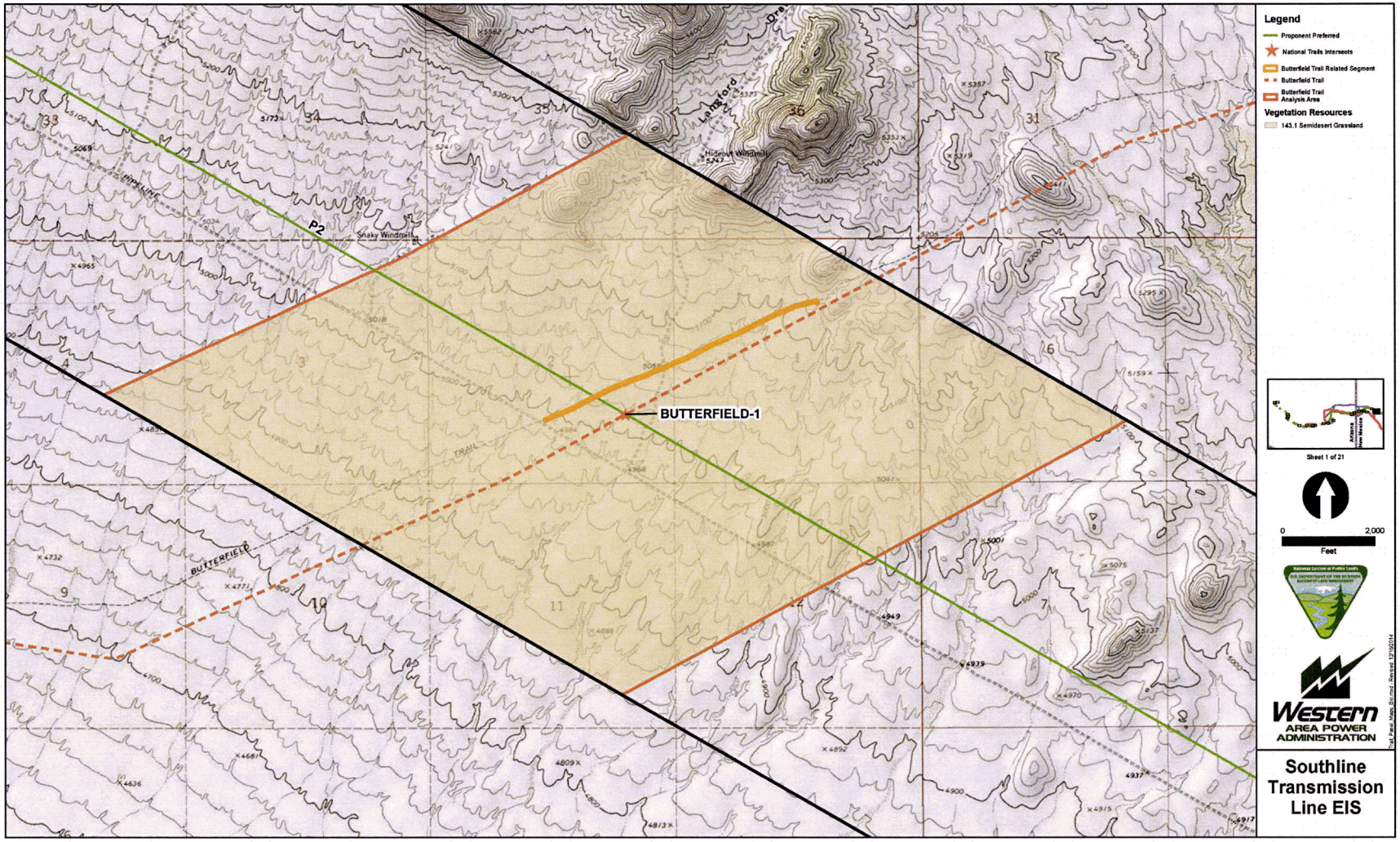


Figure F-26. Detailed trail inventory for cultural, biological, and other natural resources (Panel 2).

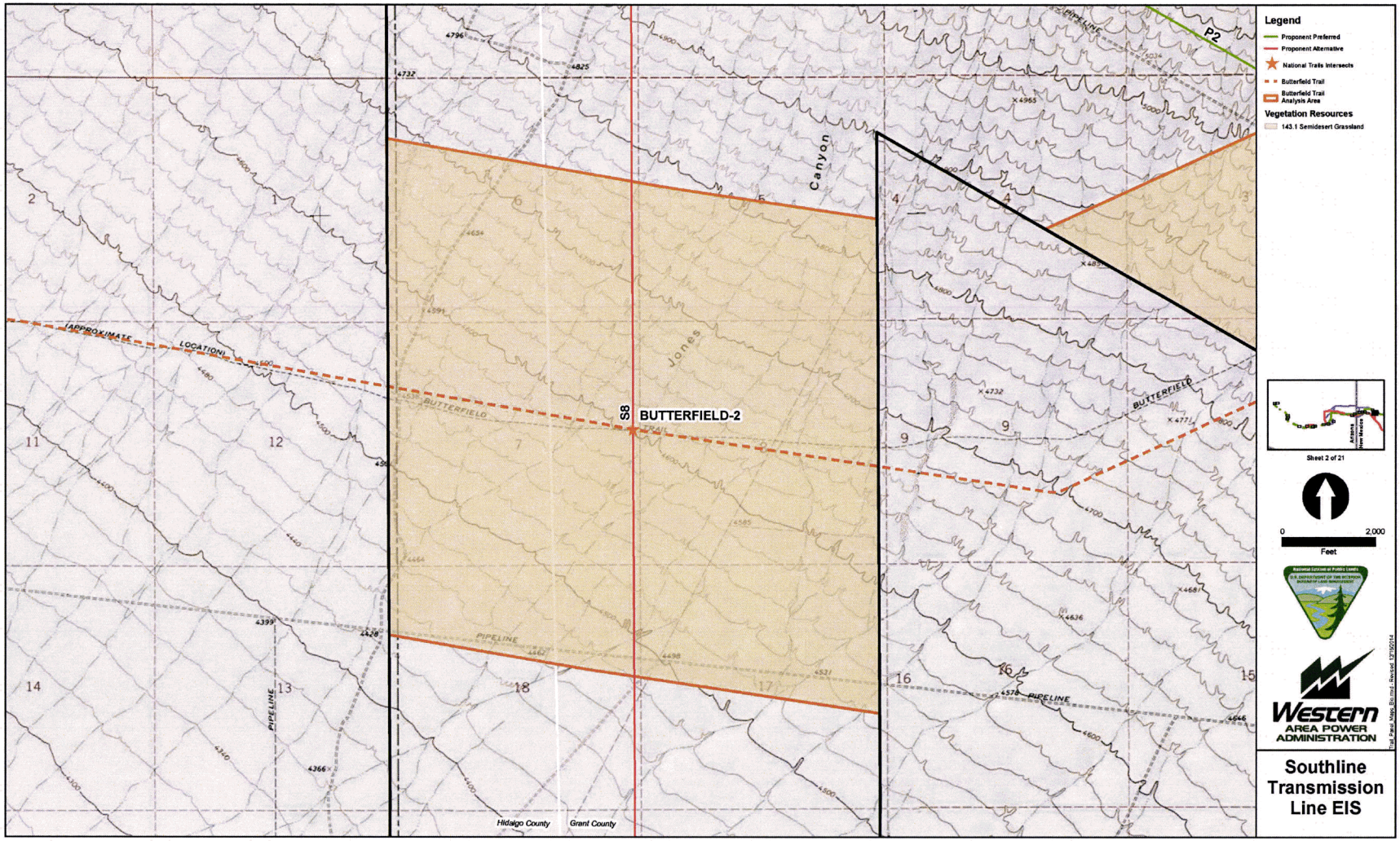


Figure F-27. Detailed trail inventory for cultural, biological, and other natural resources (Panel 3).

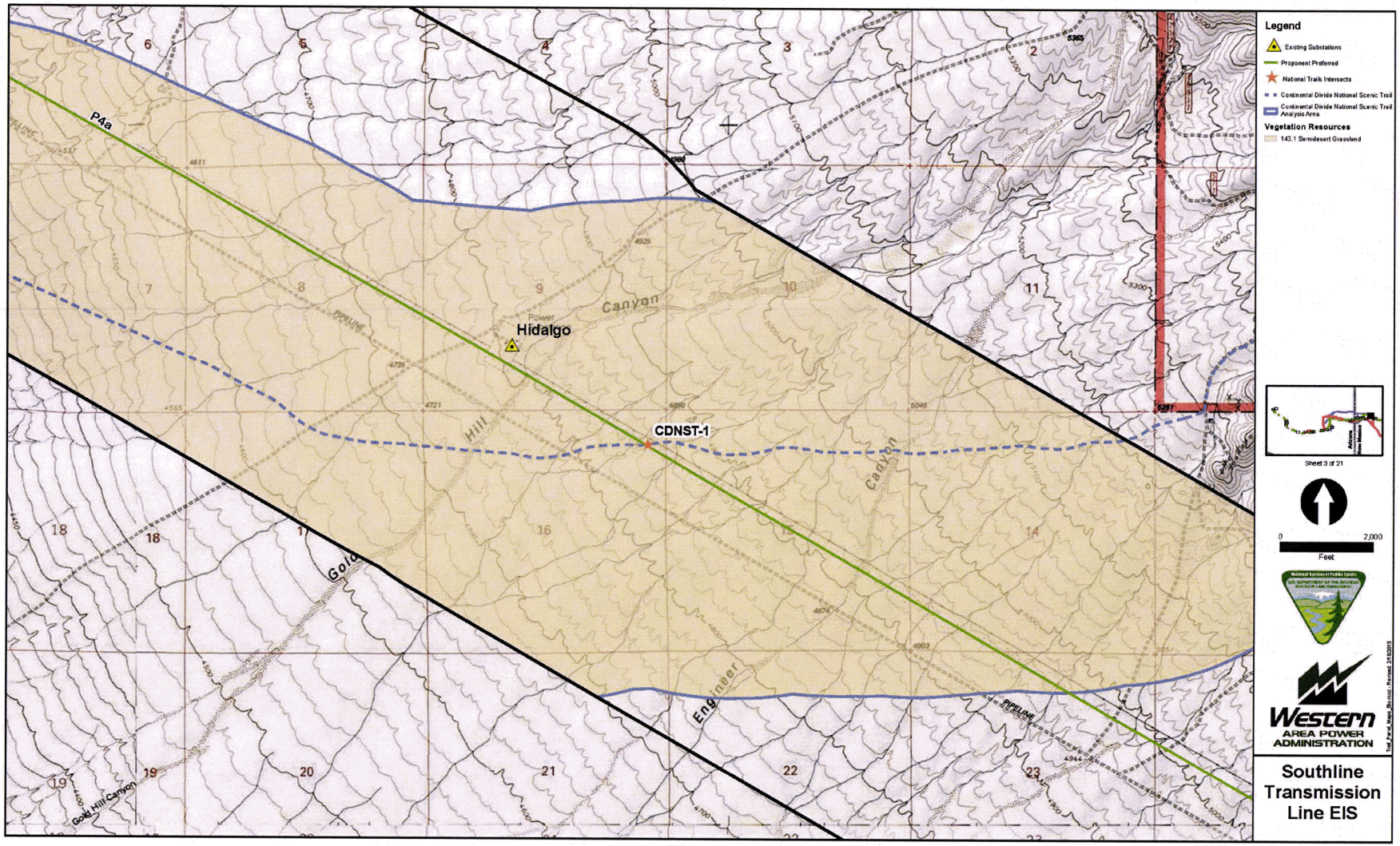


Figure F-28. Detailed trail inventory for cultural, biological, and other natural resources (Panel 4).

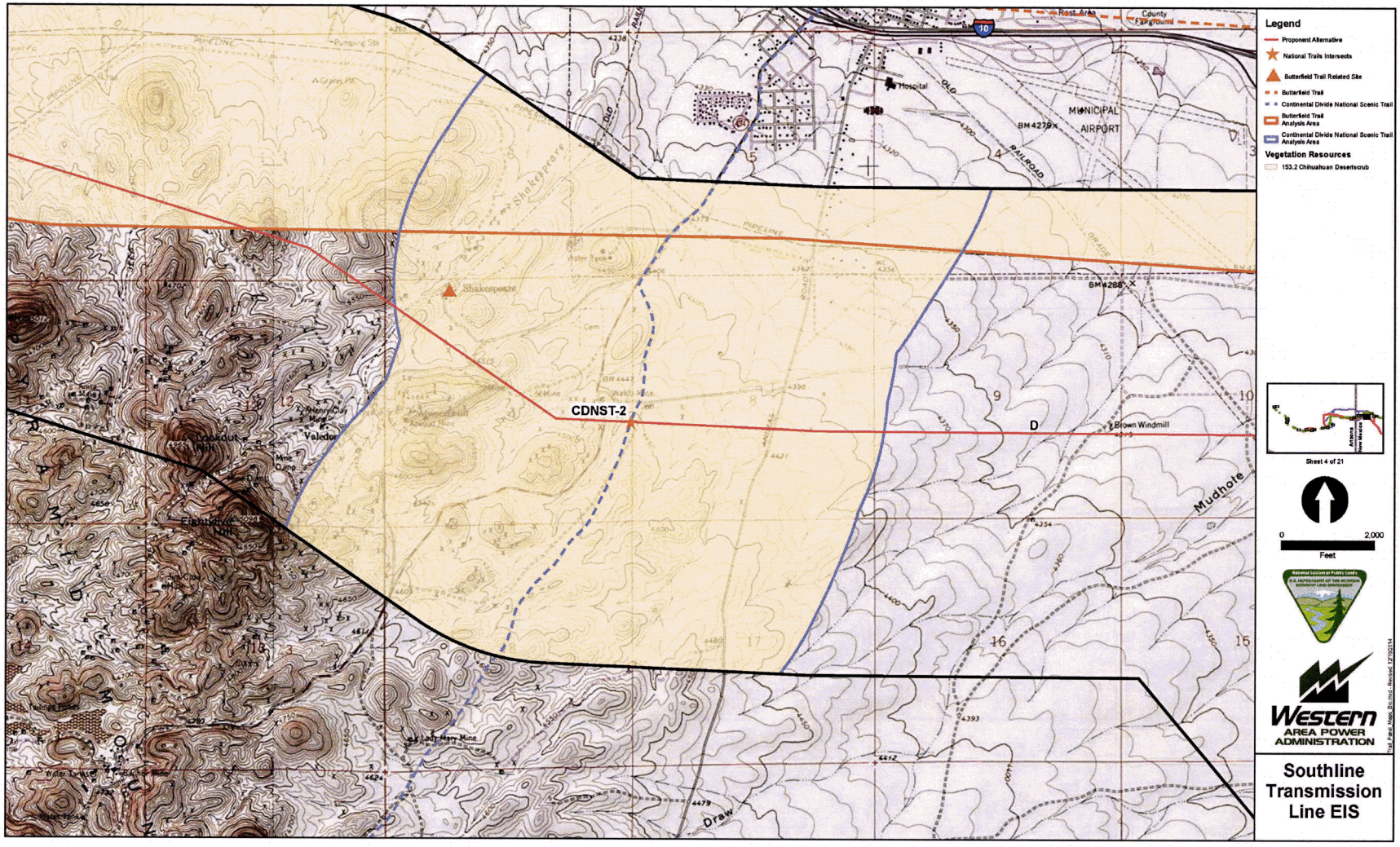


Figure F-29. Detailed trail inventory for cultural, biological, and other natural resources (Panel 5).

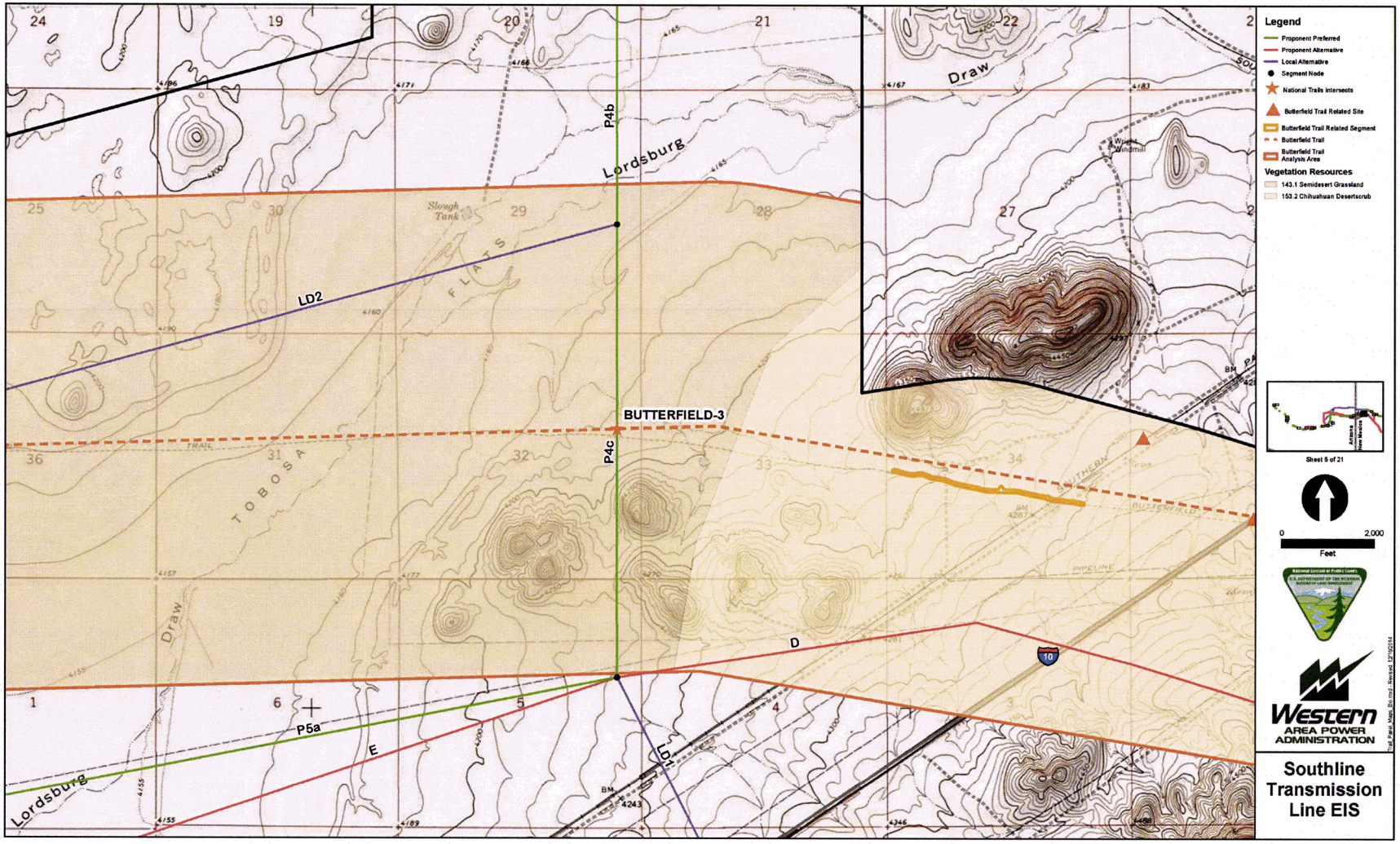


Figure F-30. Detailed trail inventory for cultural, biological, and other natural resources (Panel 6).

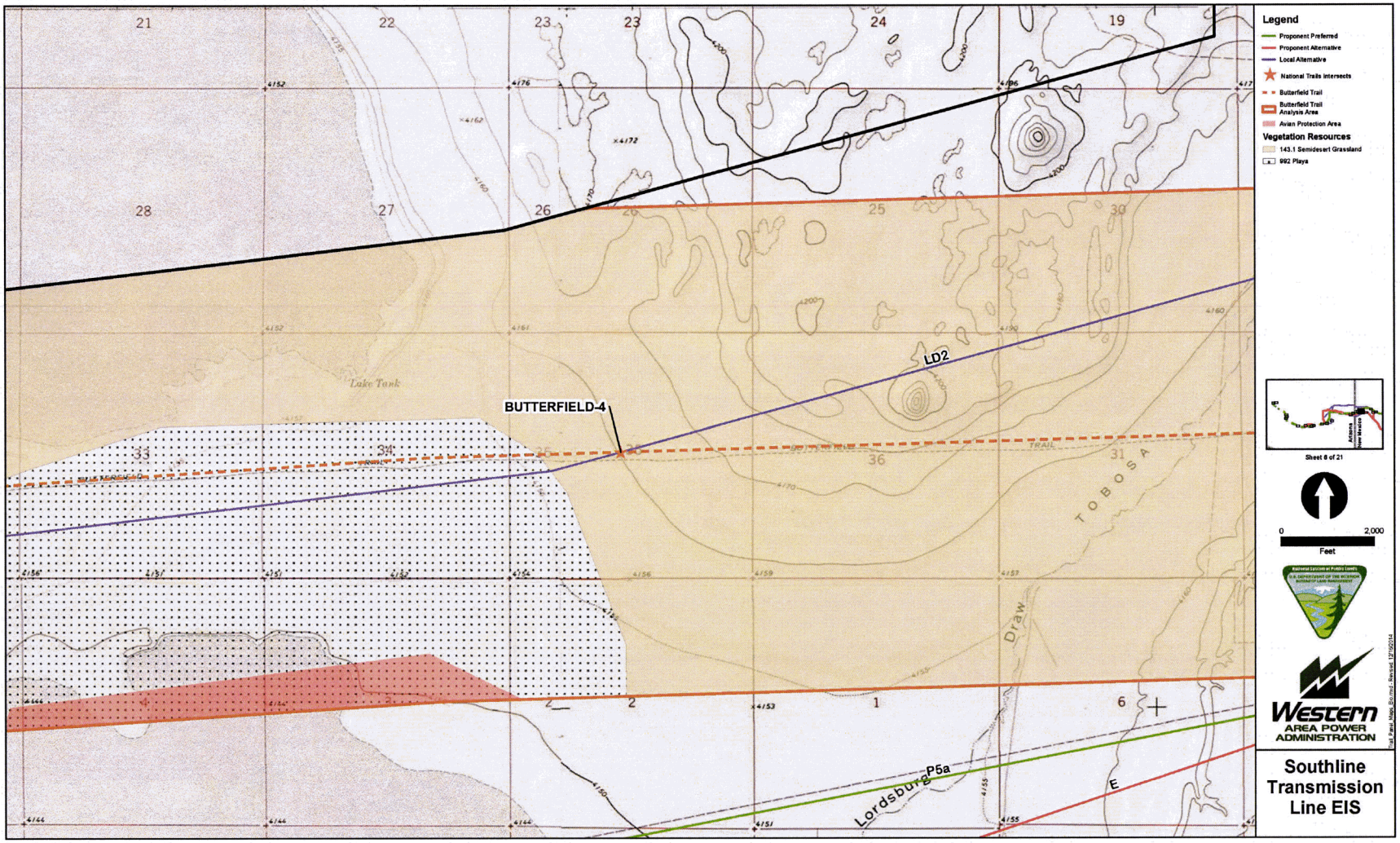


Figure F-31. Detailed trail inventory for cultural, biological, and other natural resources (Panel 7).

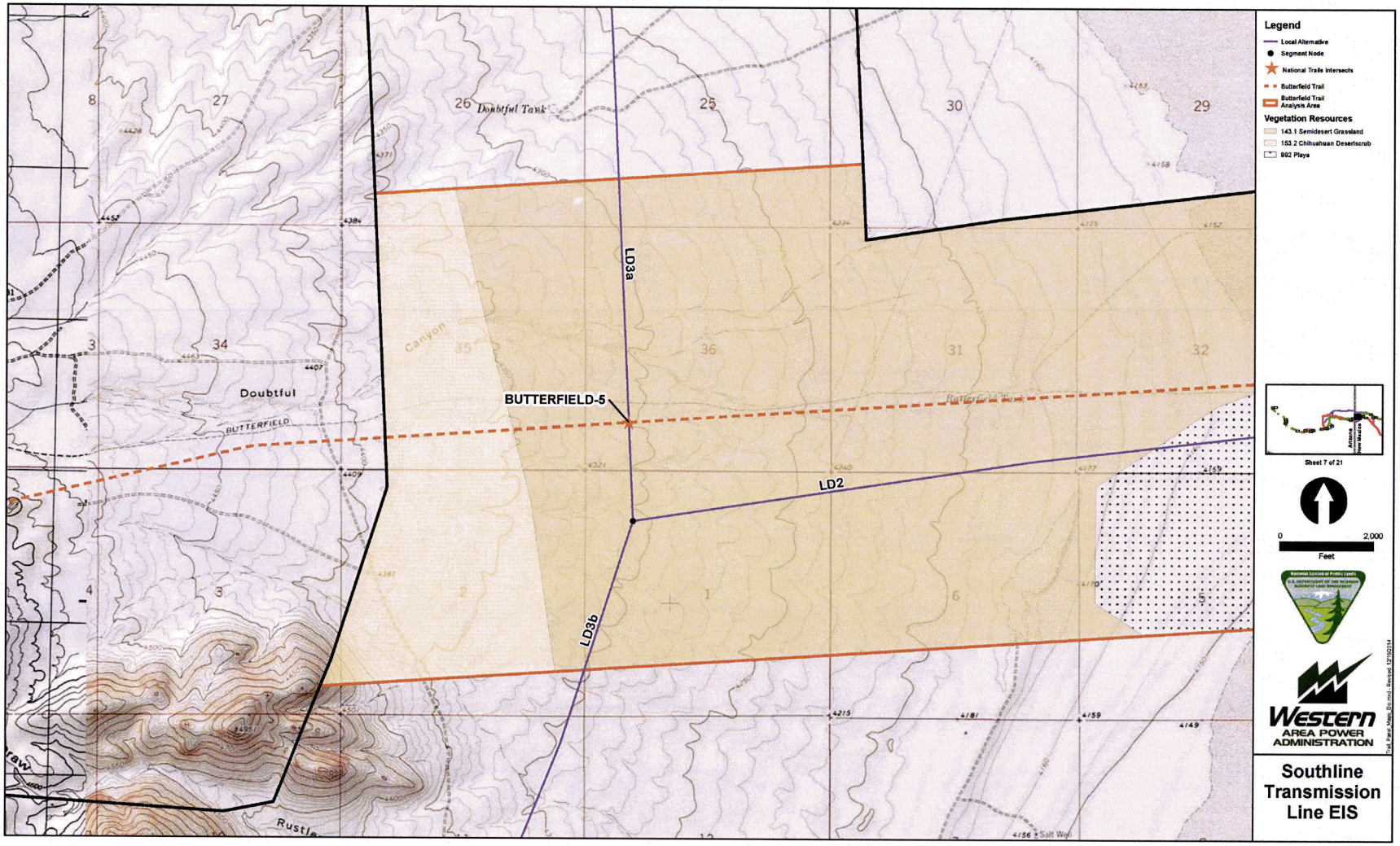


Figure F-32. Detailed trail inventory for cultural, biological, and other natural resources (Panel 8).

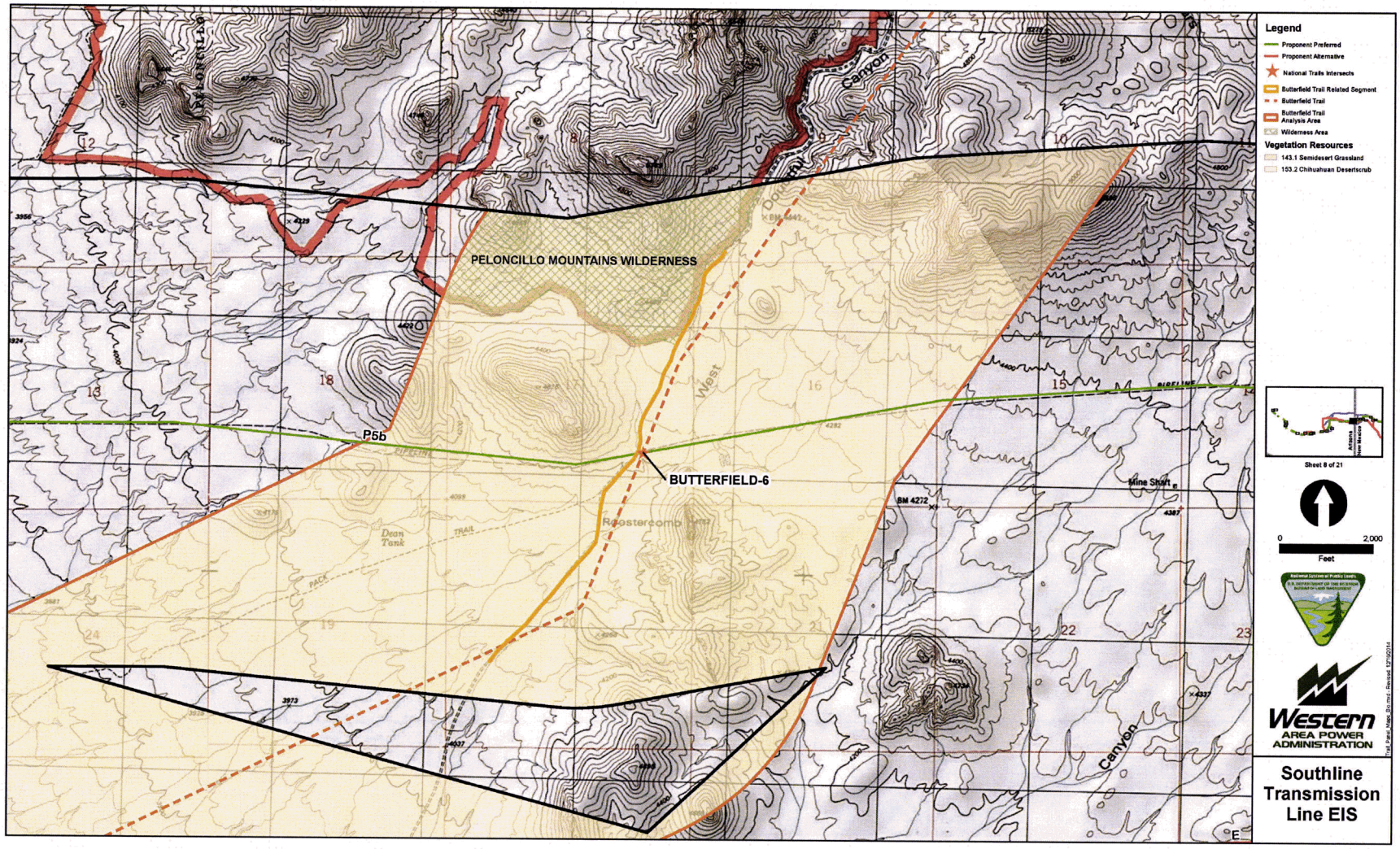


Figure F-33. Detailed trail inventory for cultural, biological, and other natural resources (Panel 9).

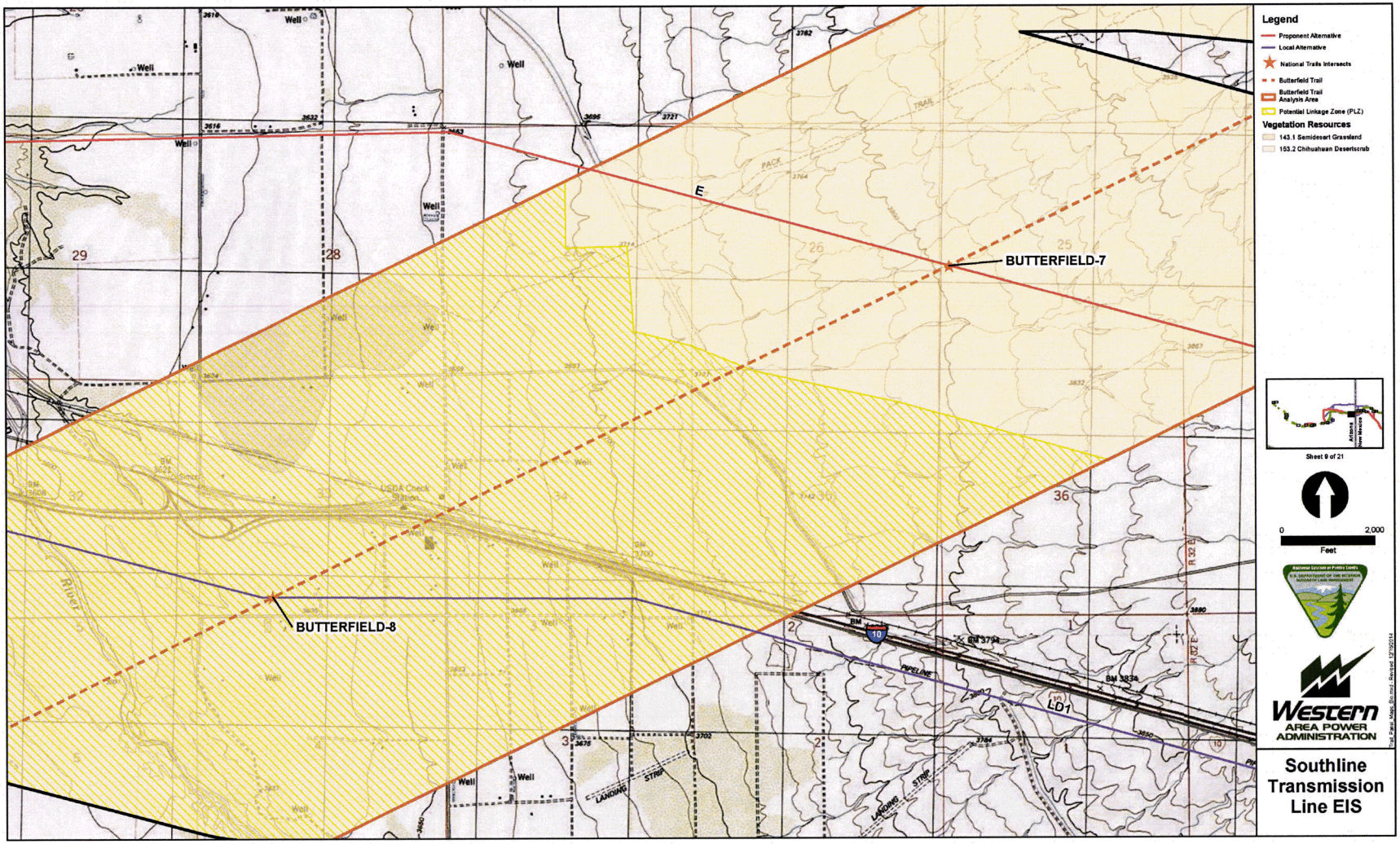


Figure F-34. Detailed trail inventory for cultural, biological, and other natural resources (Panel 10).

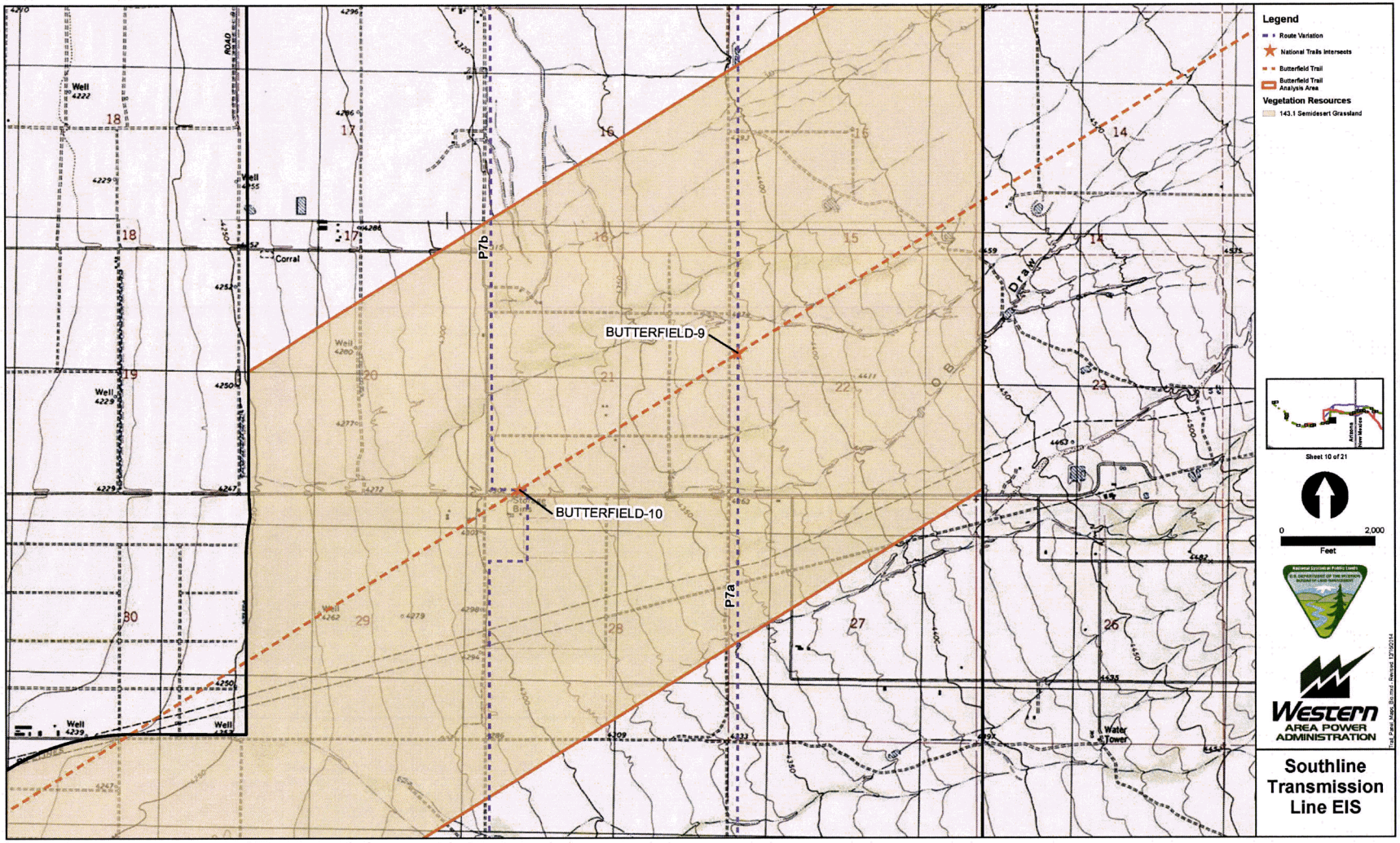


Figure F-35. Detailed trail inventory for cultural, biological, and other natural resources (Panel 11).

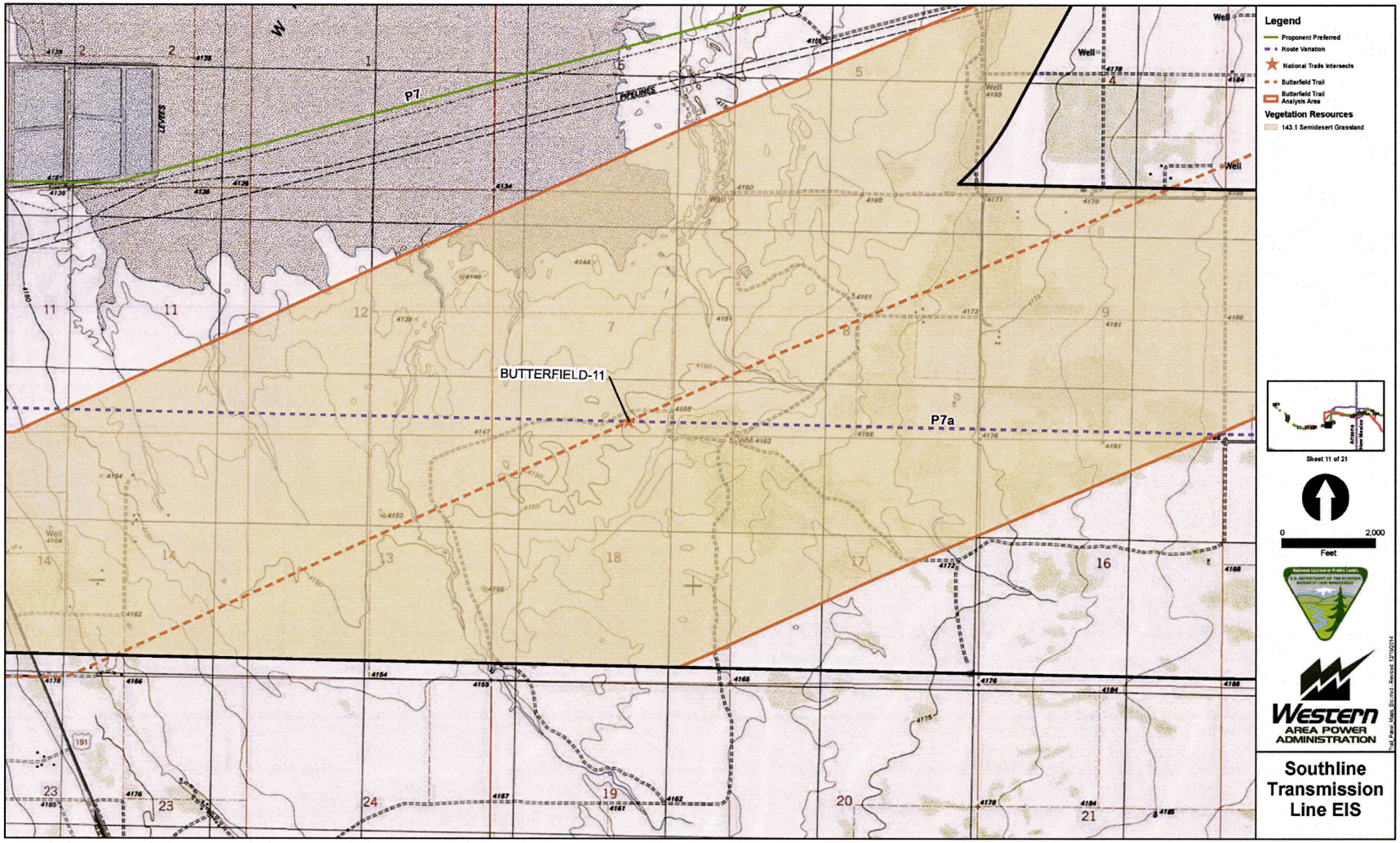


Figure F-36. Detailed trail inventory for cultural, biological, and other natural resources (Panel 12).

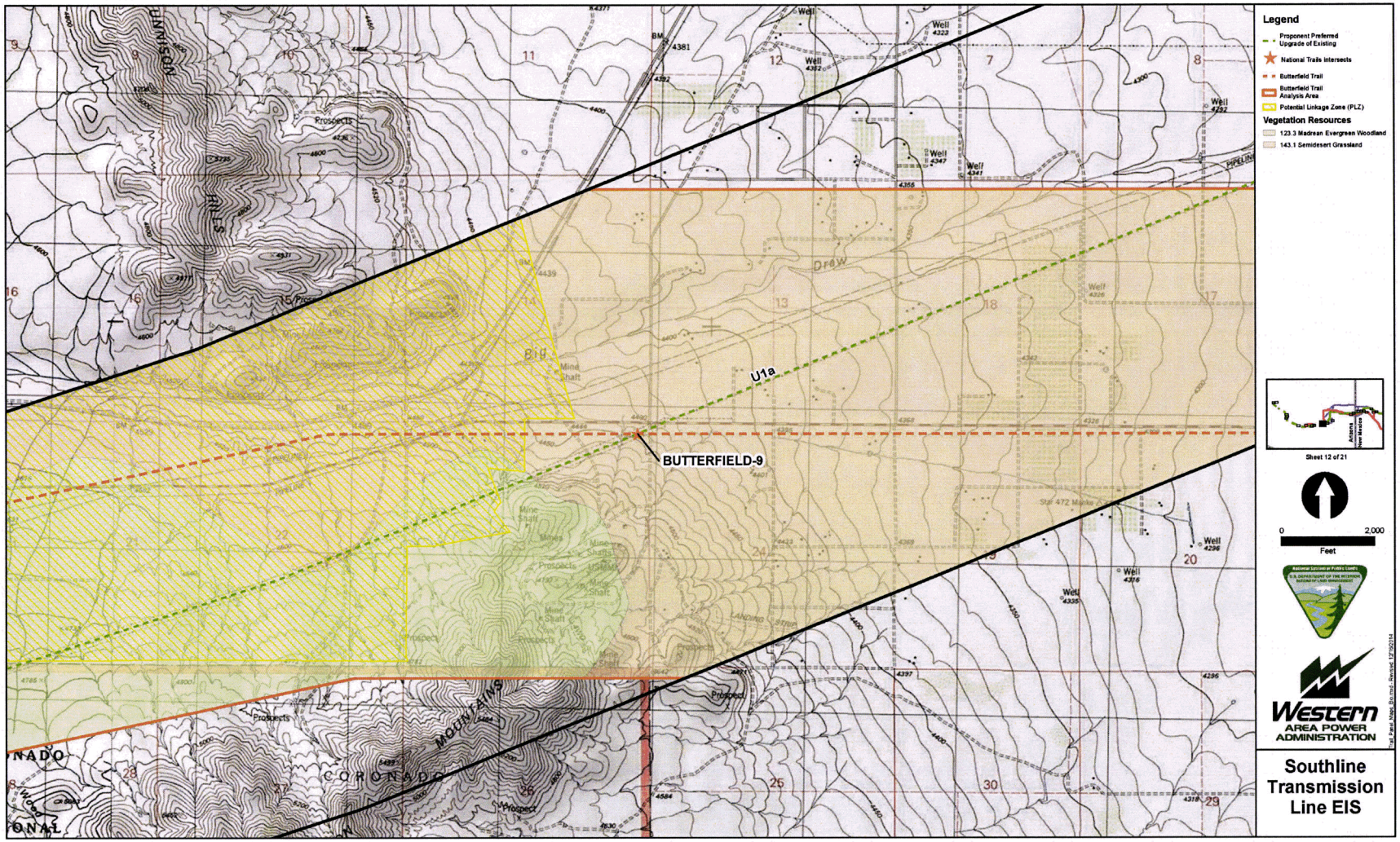


Figure F-37. Detailed trail inventory for cultural, biological, and other natural resources (Panel 13).

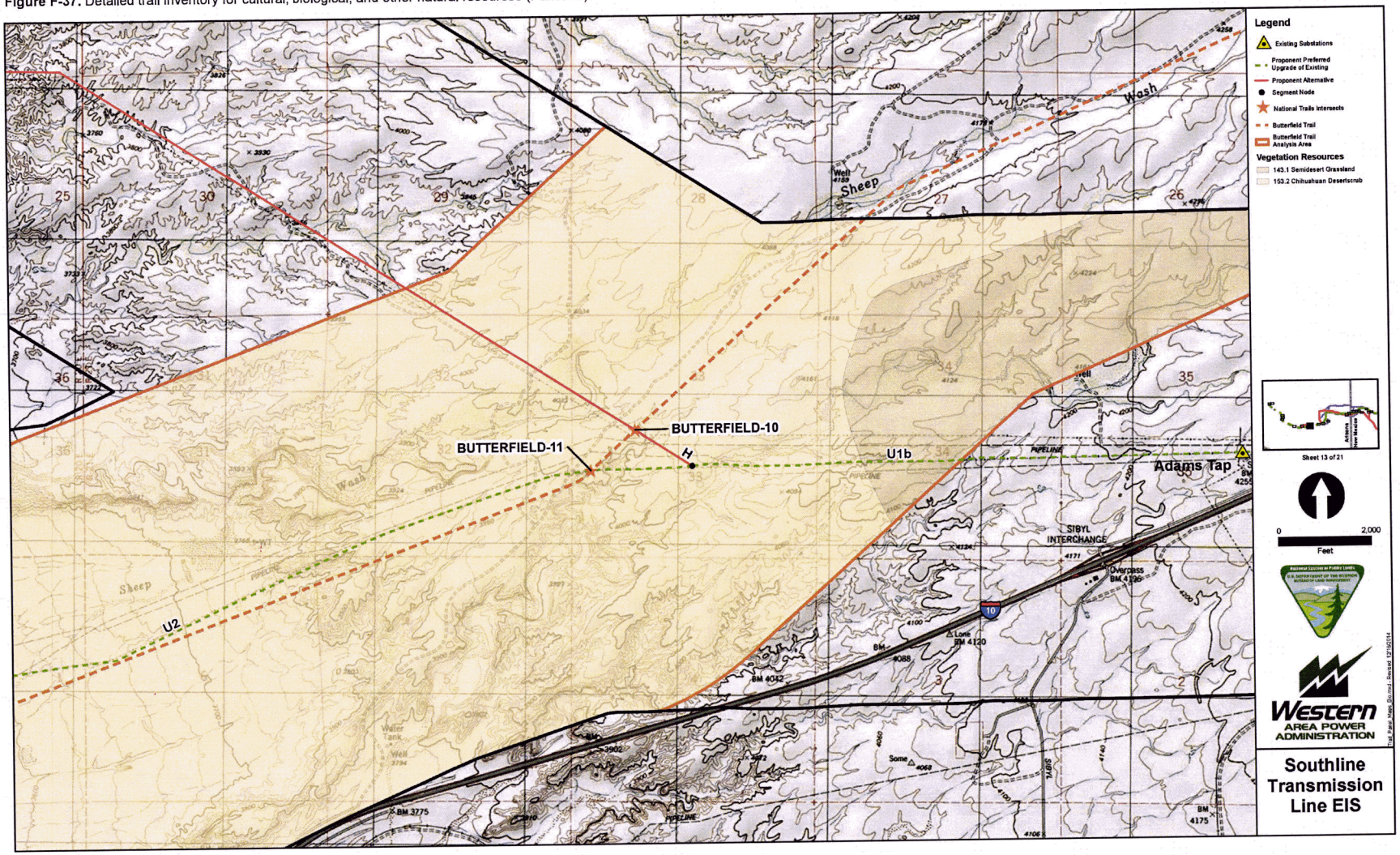


Figure F-38. Detailed trail inventory for cultural, biological, and other natural resources (Panel 14).

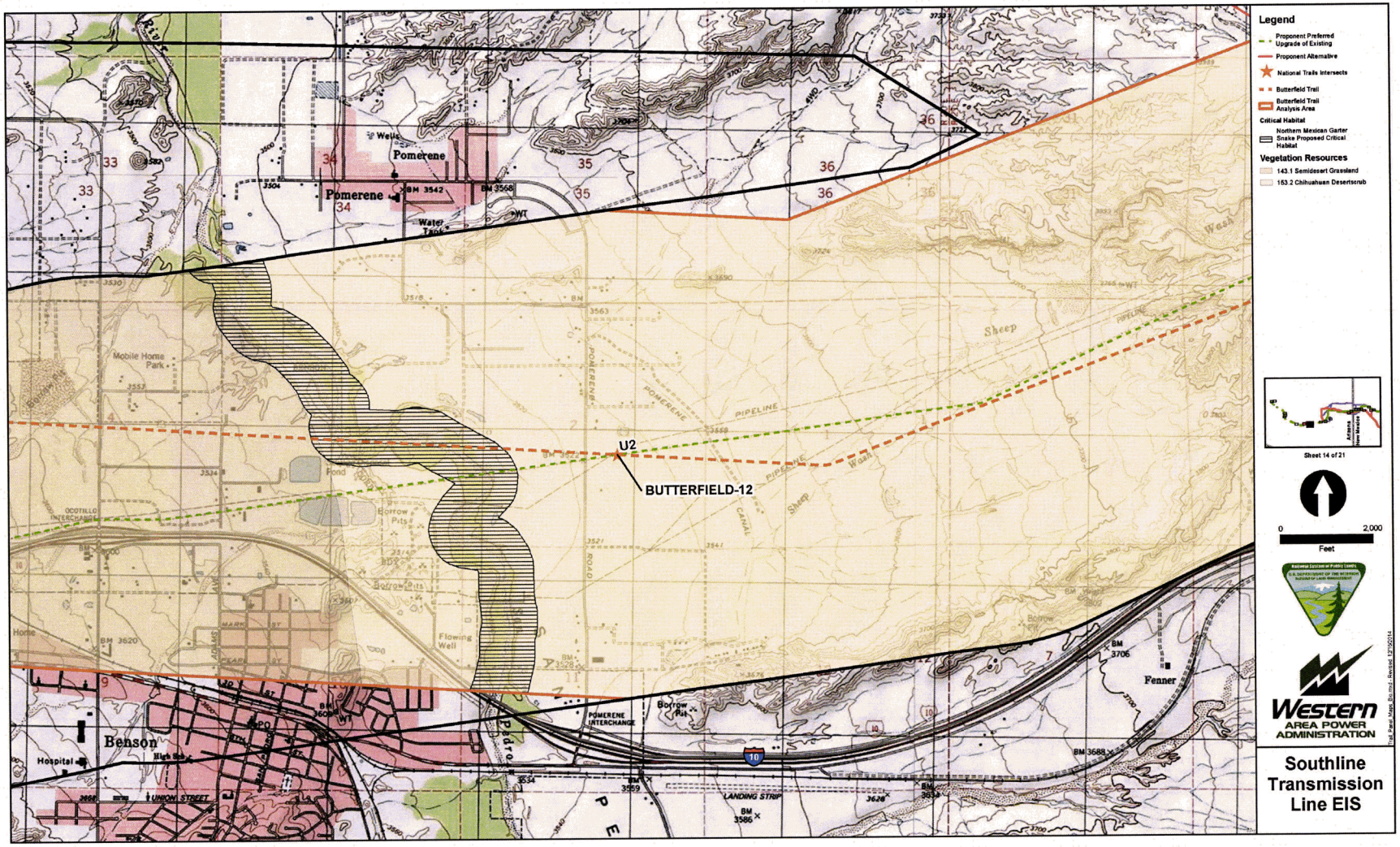


Figure F-39. Detailed trail inventory for cultural, biological, and other natural resources (Panel 15).

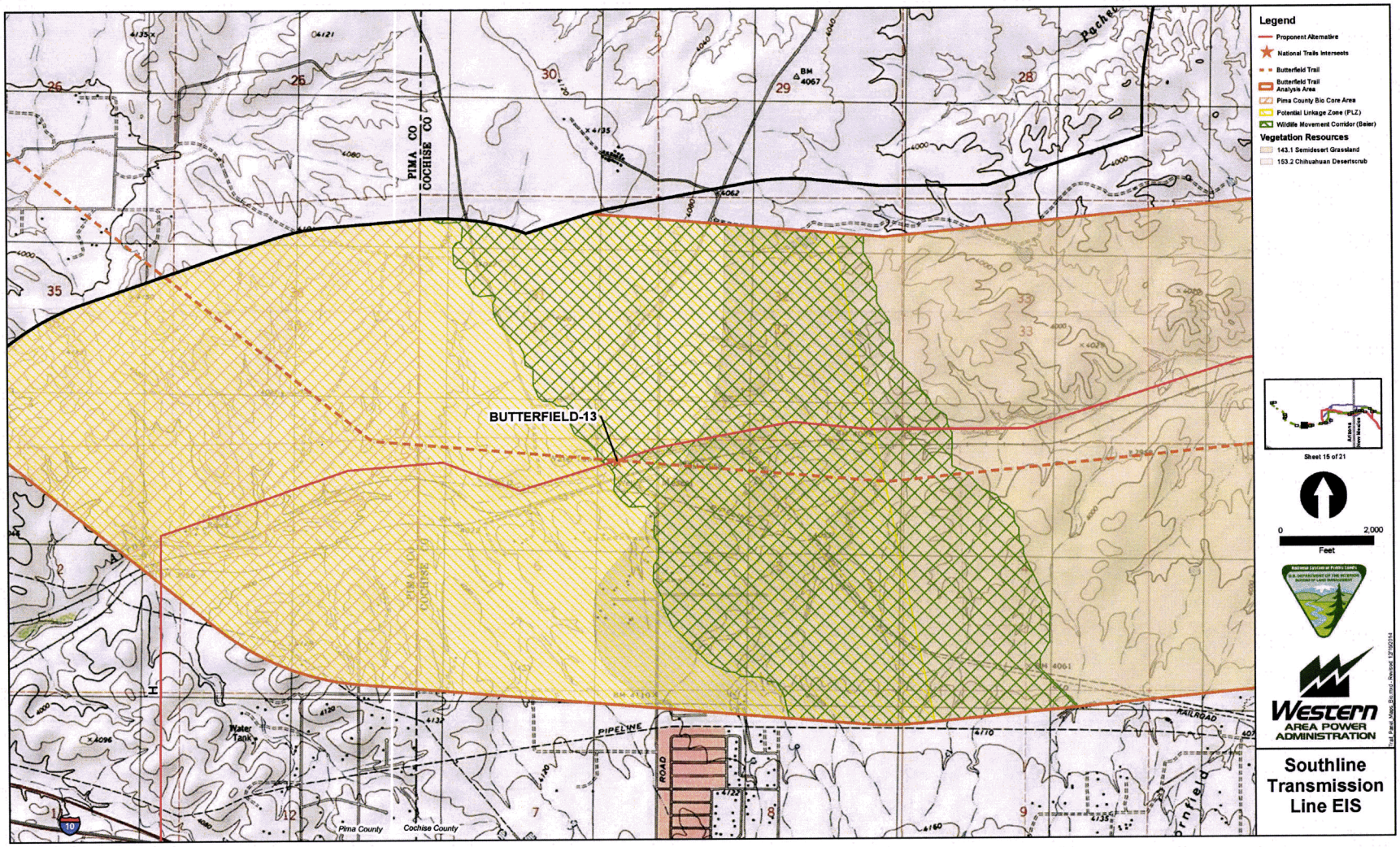


Figure F-40. Detailed trail inventory for cultural, biological, and other natural resources (Panel 16).

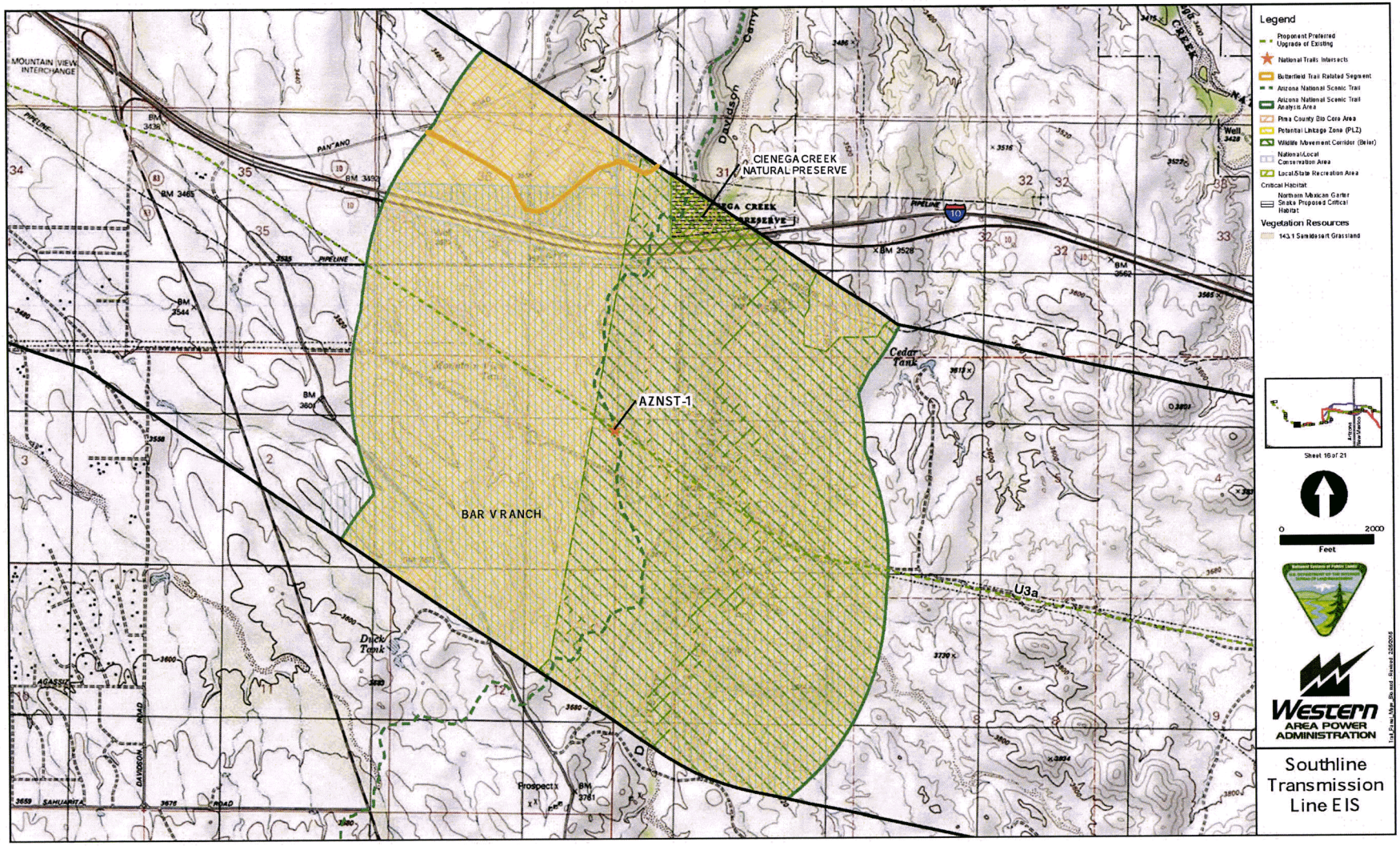


Figure F-41. Detailed trail inventory for cultural, biological, and other natural resources (Panel 17).

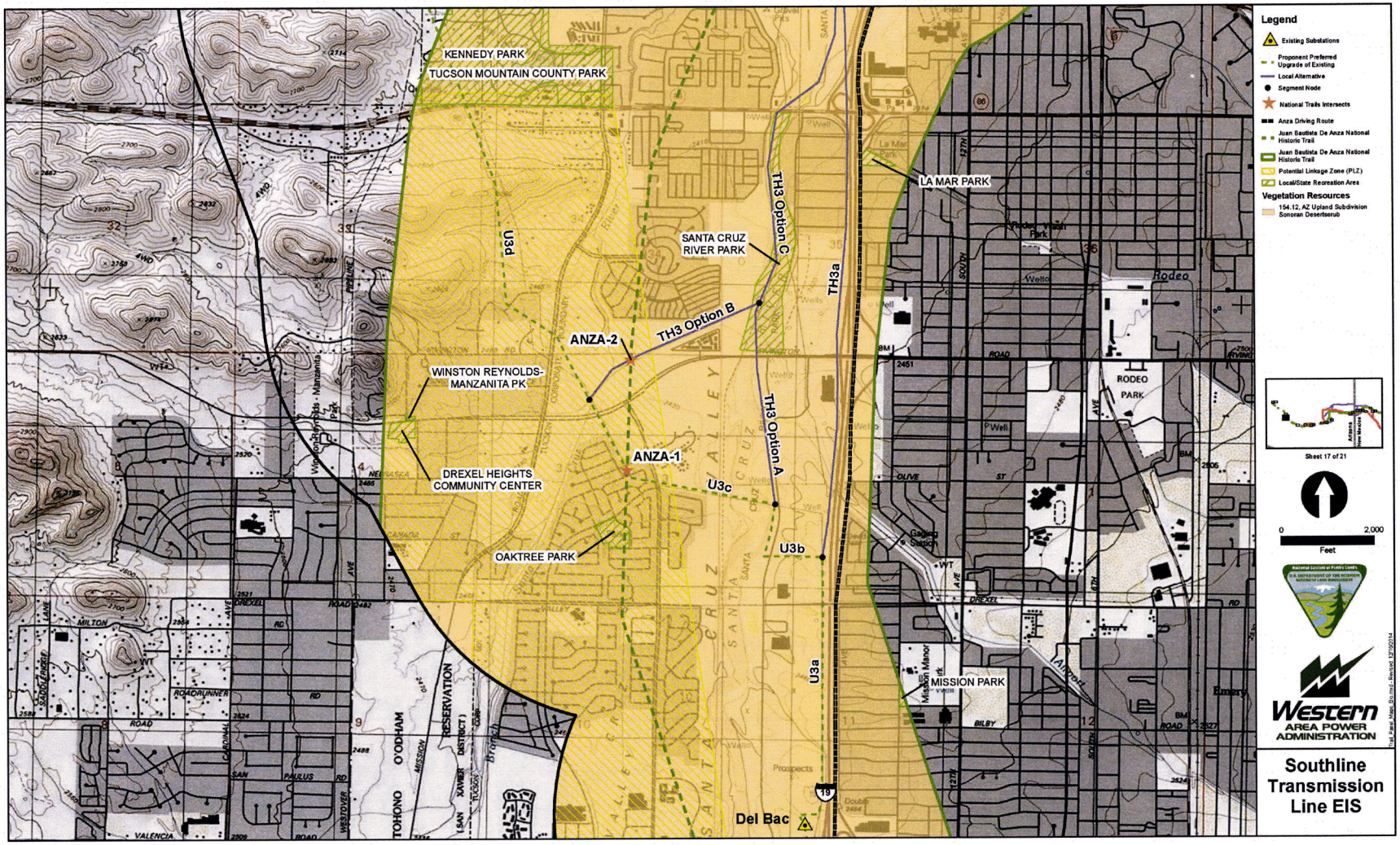


Figure F-42. Detailed trail inventory for cultural, biological, and other natural resources (Panel 18).

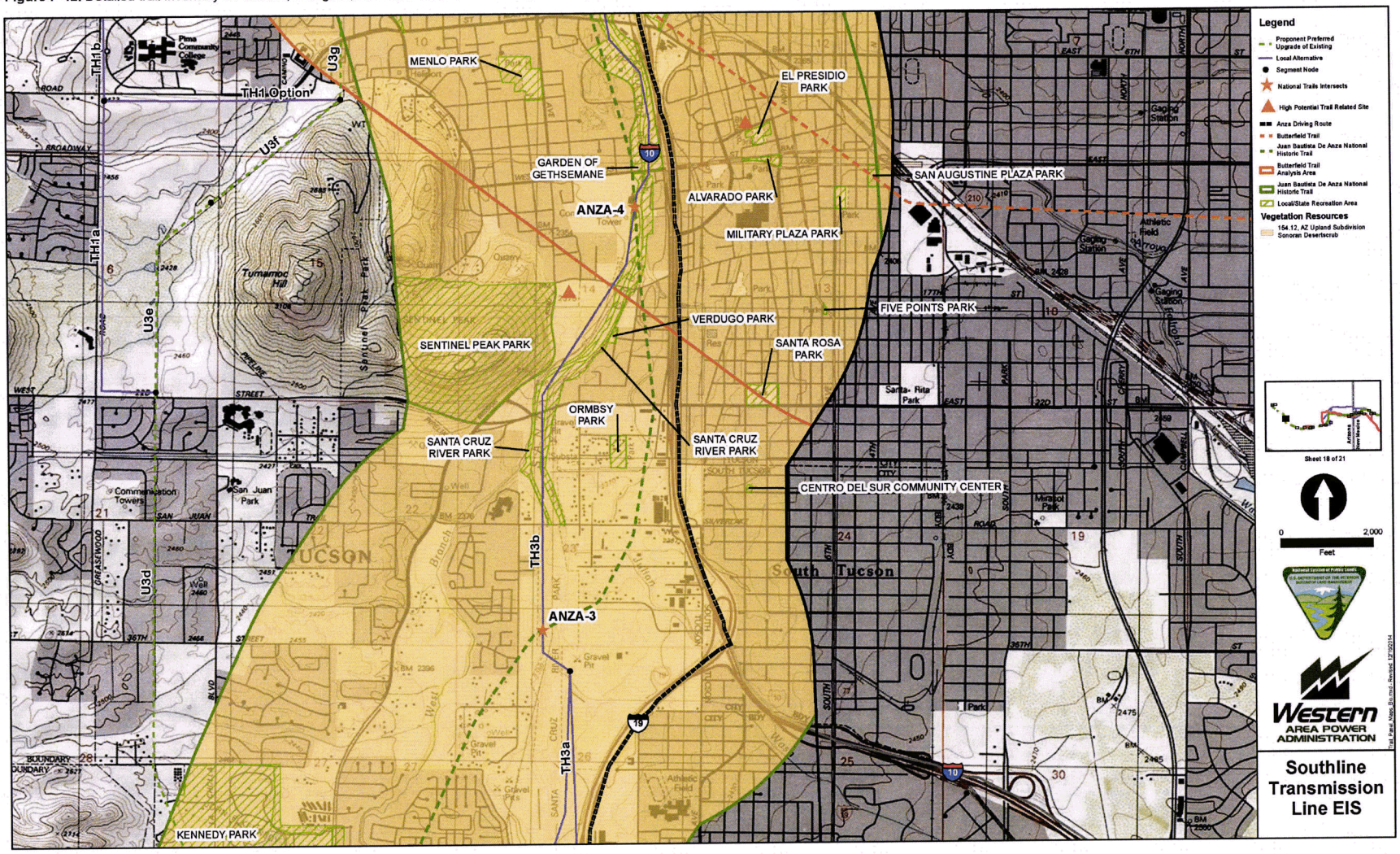


Figure F-43. Detailed trail inventory for cultural, biological, and other natural resources (Panel 19).

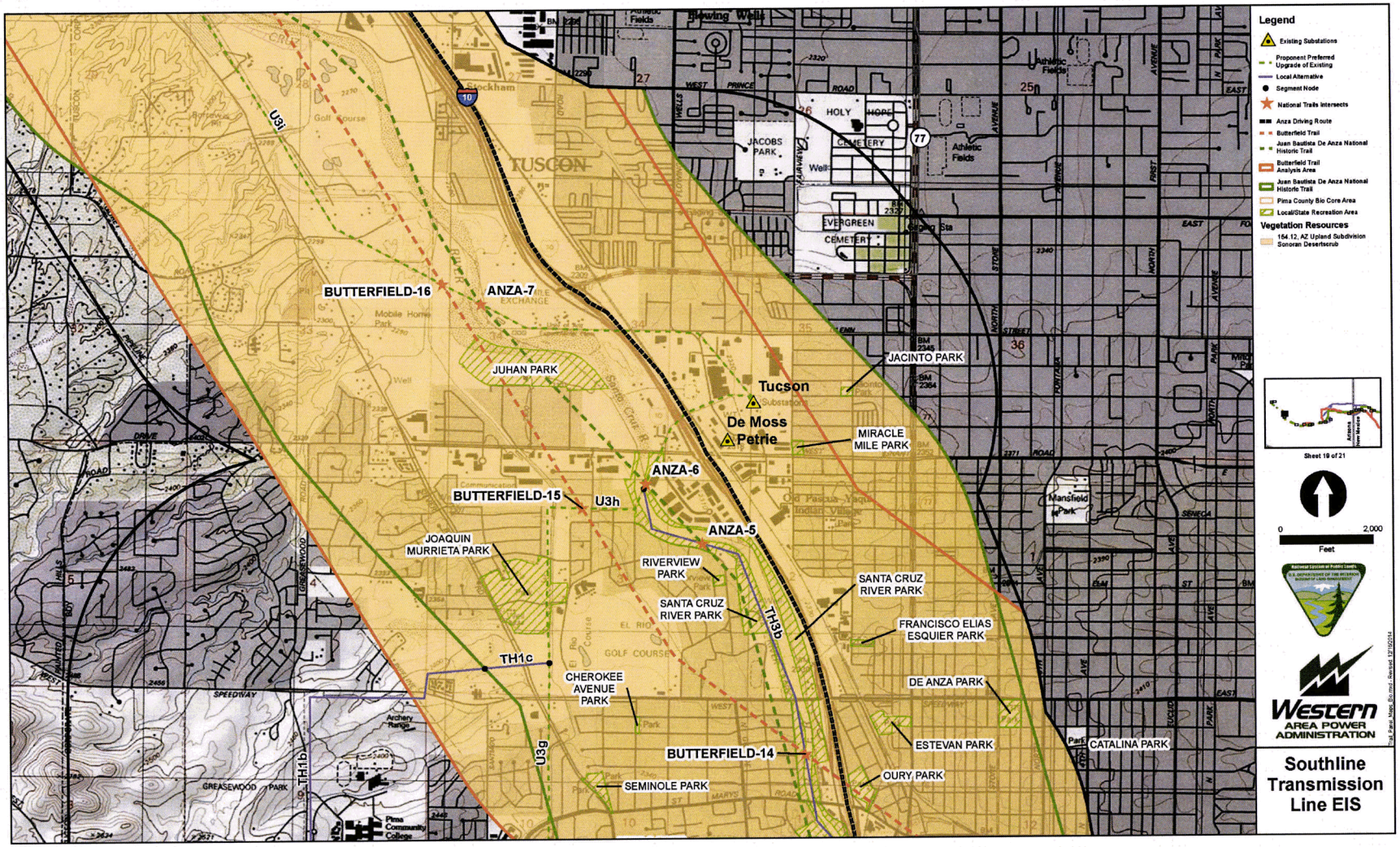


Figure F-44. Detailed trail inventory for cultural, biological, and other natural resources (Panel 20).

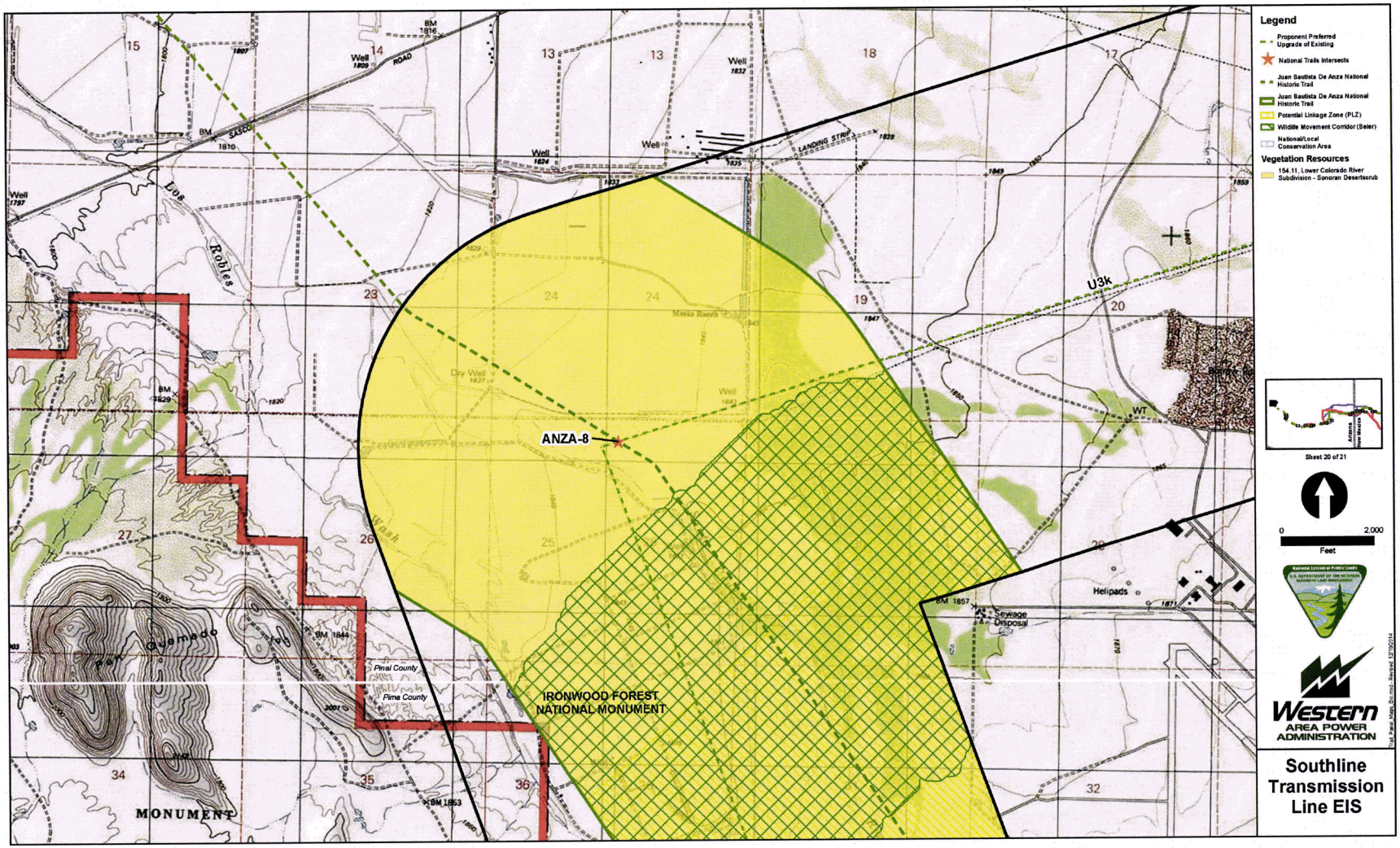


Figure F-45. Detailed trail inventory for cultural, biological, and other natural resources (Panel 21).

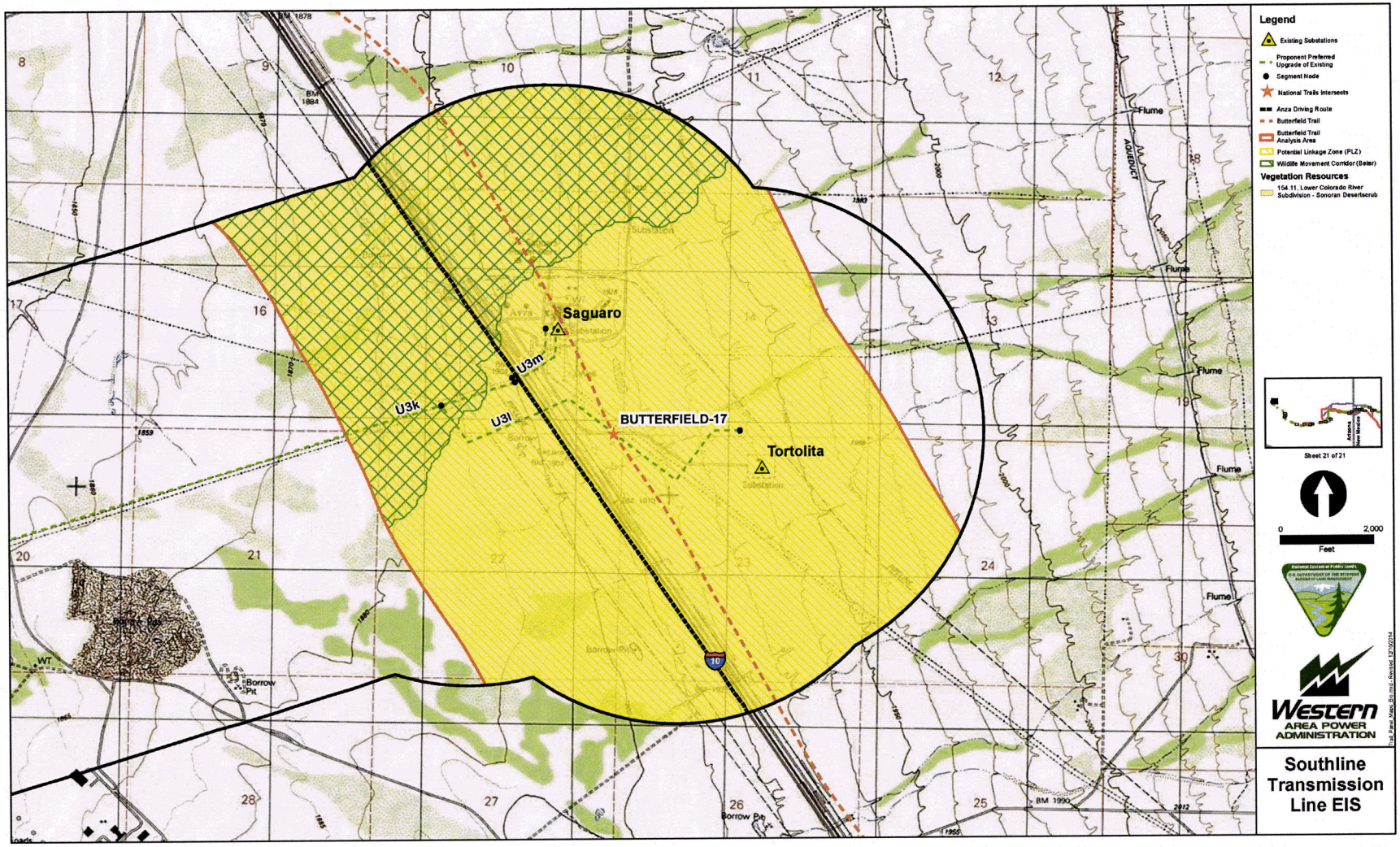


Figure F-46. Composite impact assessment results (Panel 1).

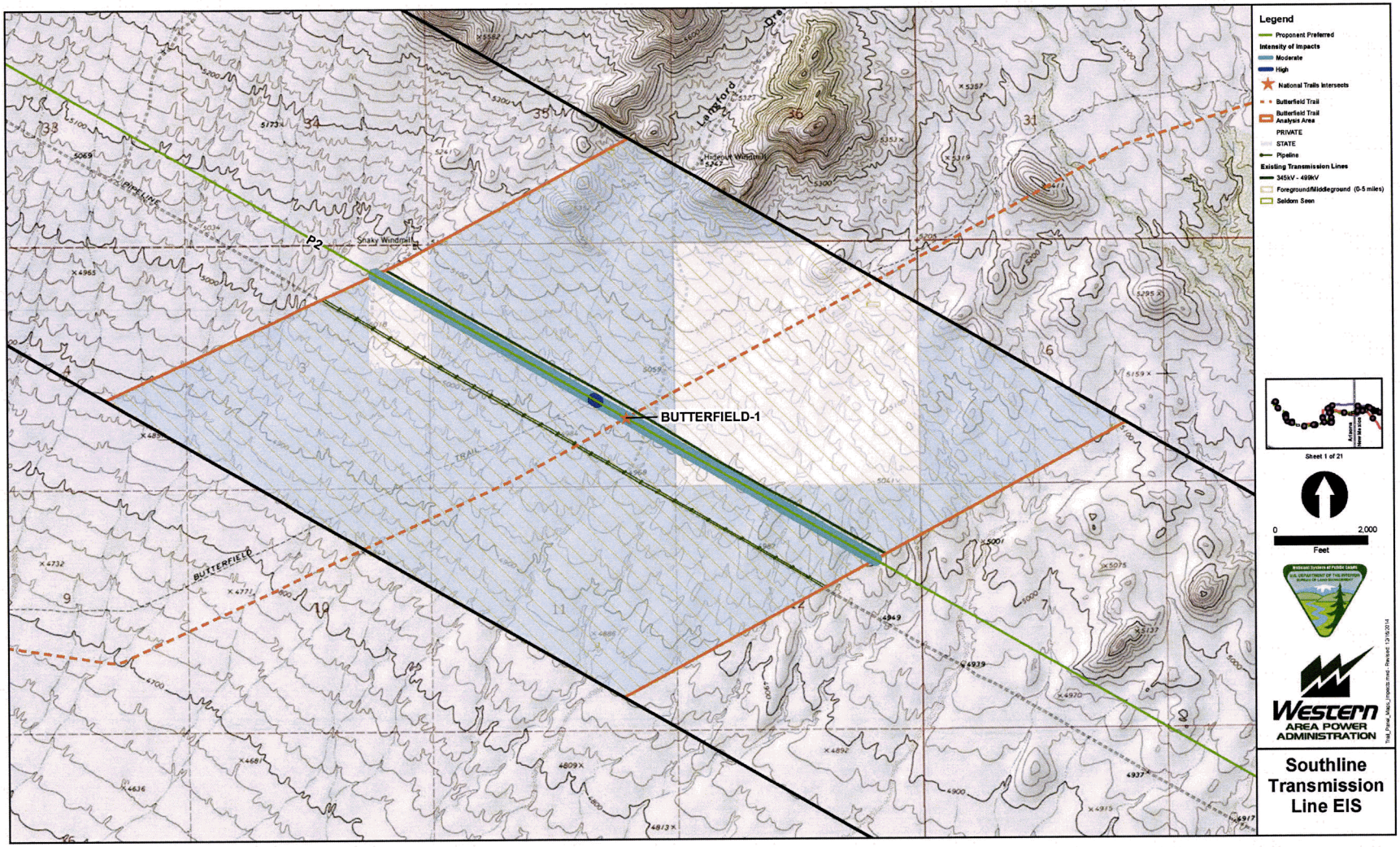


Figure F-47. Composite impact assessment results (Panel 2).

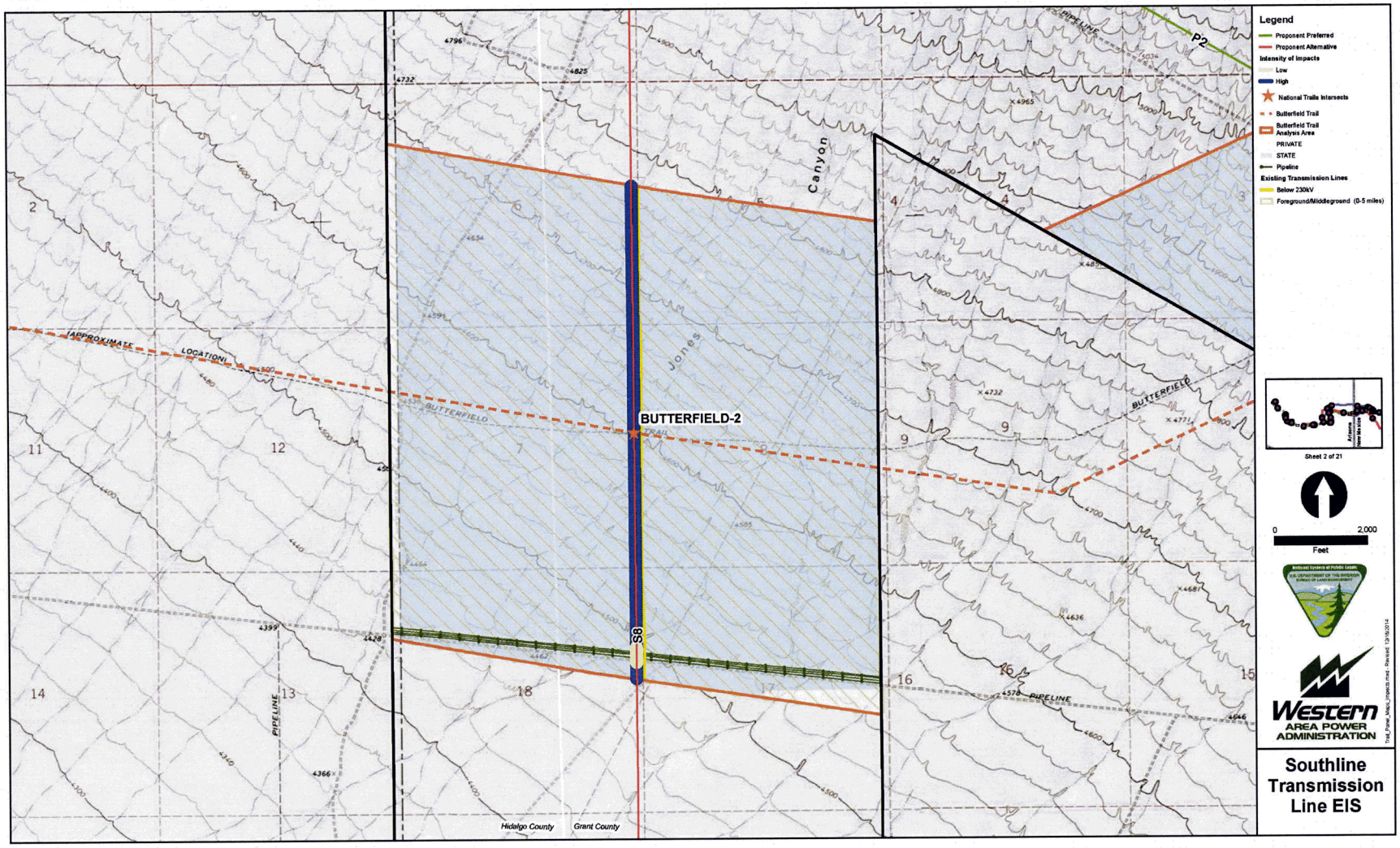


Figure F-48. Composite impact assessment results (Panel 3).

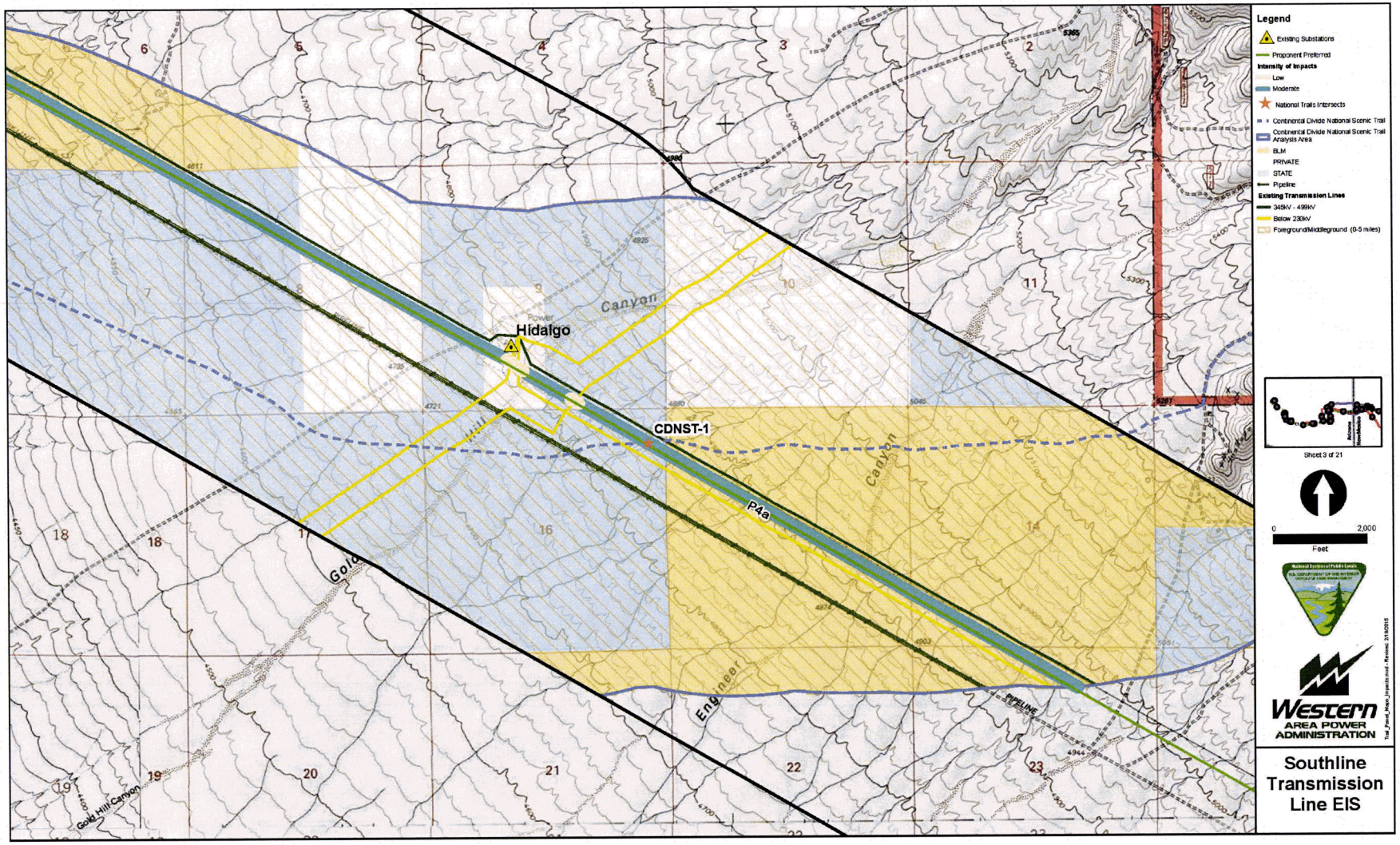


Figure F-49. Composite impact assessment results (Panel 4).

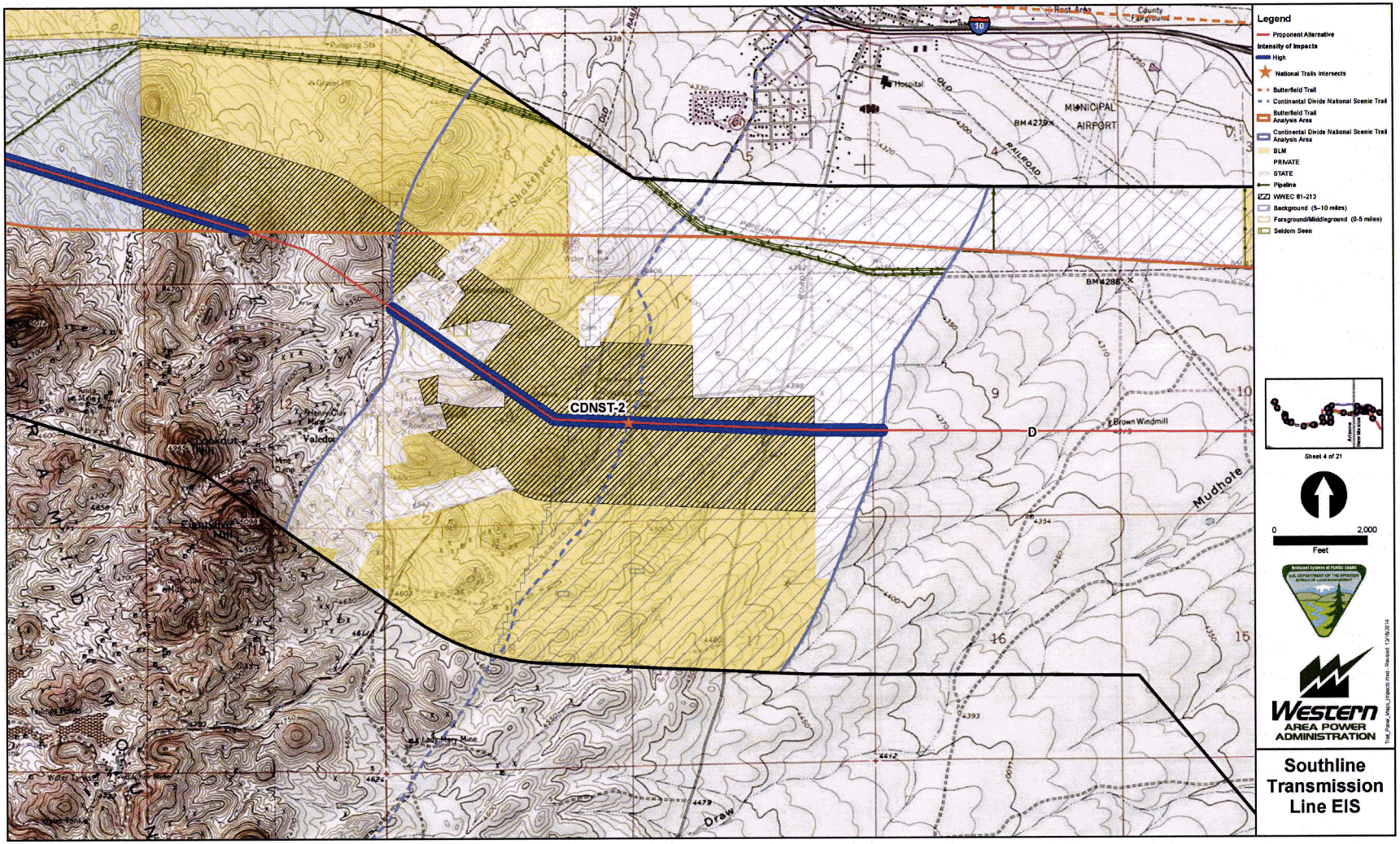


Figure F-50. Composite impact assessment results (Panel 5).

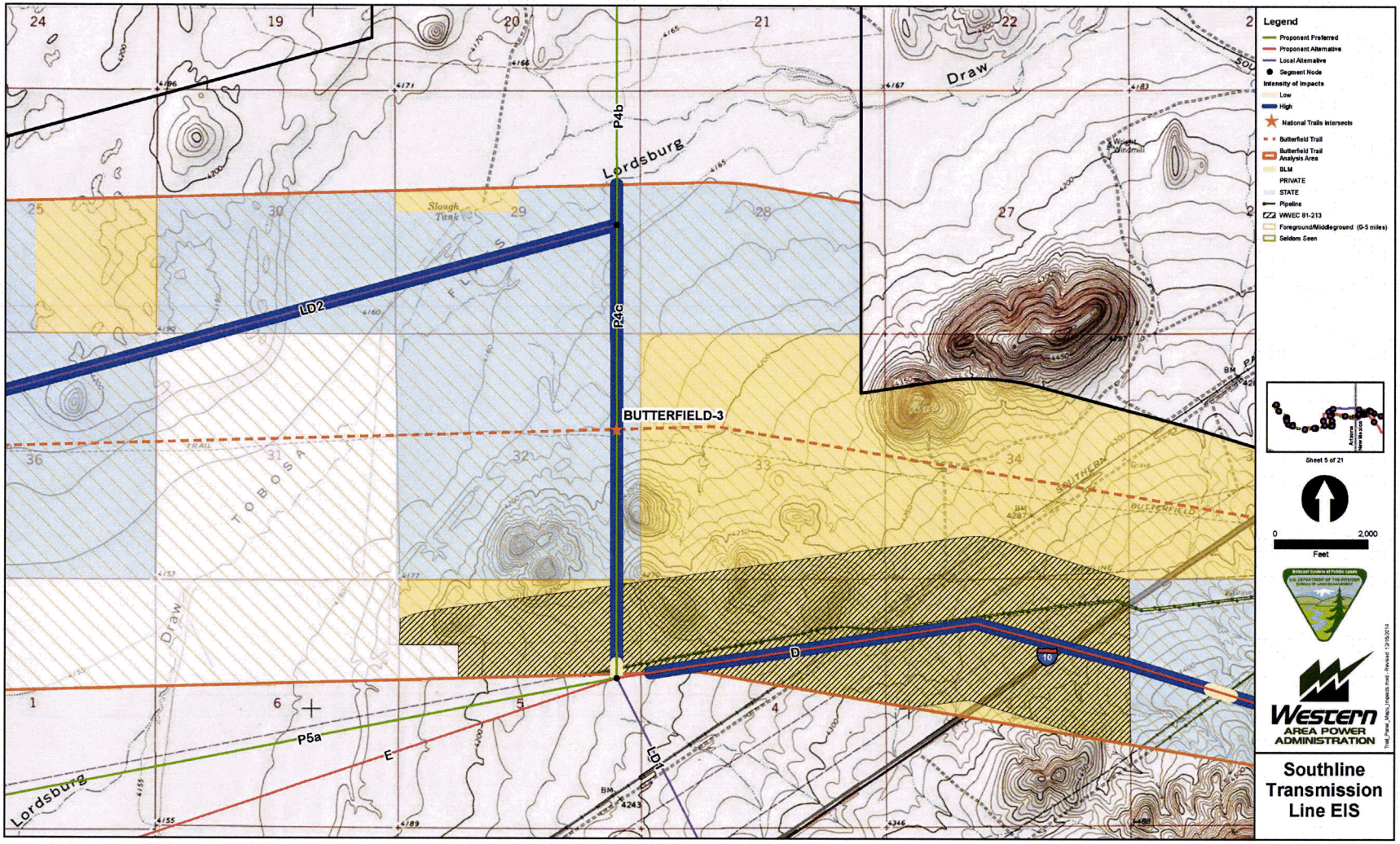


Figure F-51. Composite impact assessment results (Panel 6).

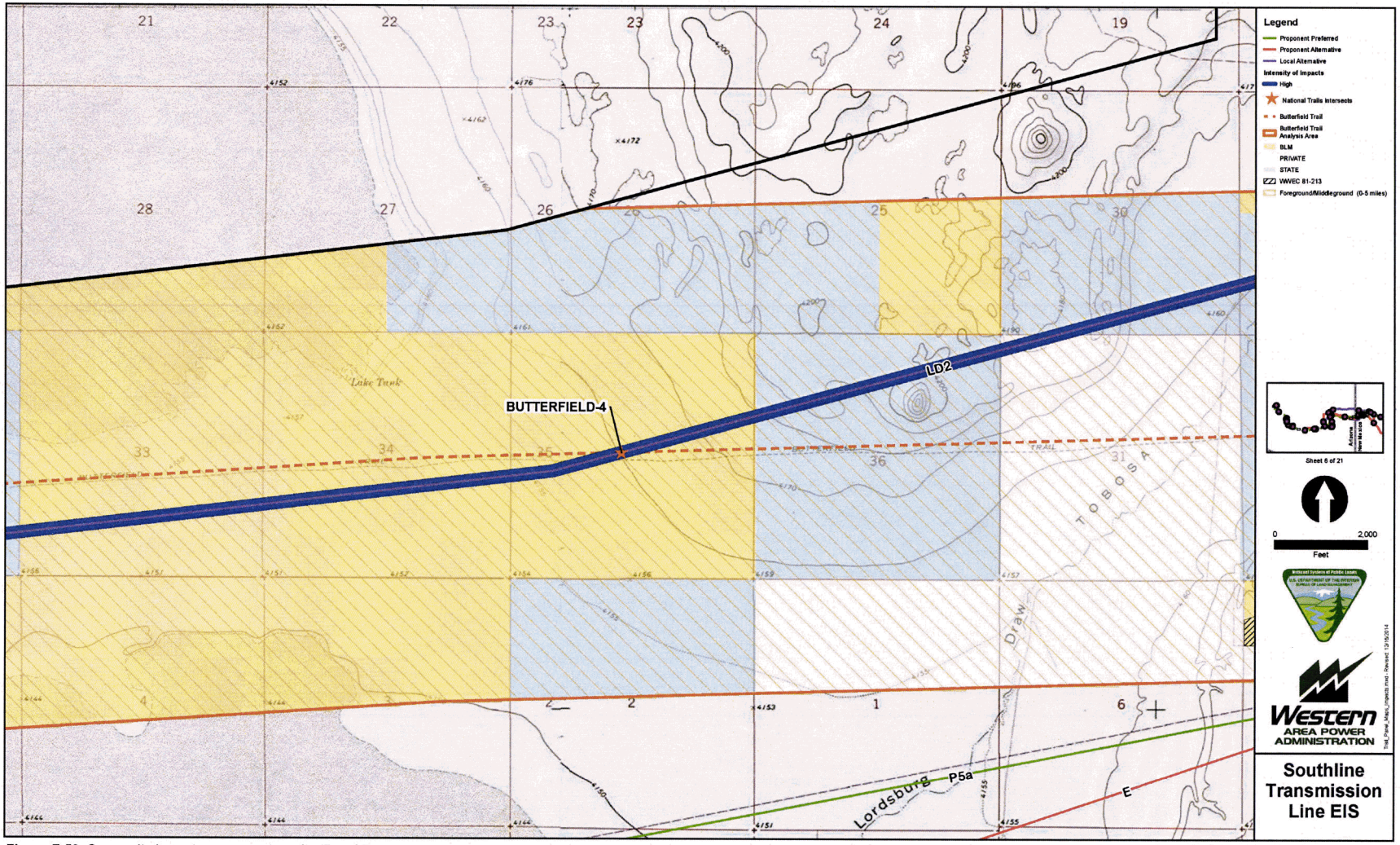


Figure F-52. Composite impact assessment results (Panel 7).

Figure F-52. Composite impact assessment results (Panel 7).

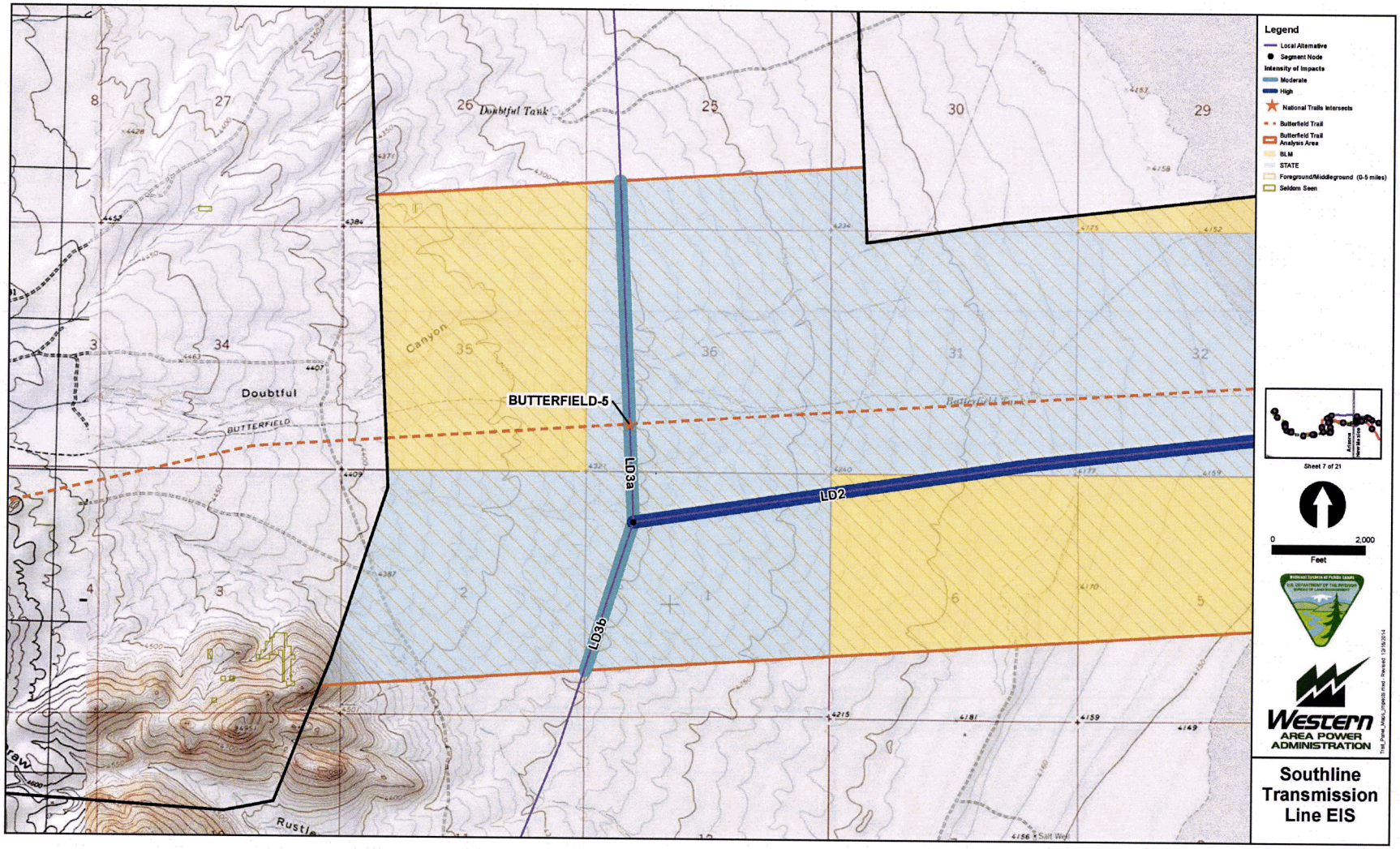


Figure F-53. Composite impact assessment results (Panel 8).

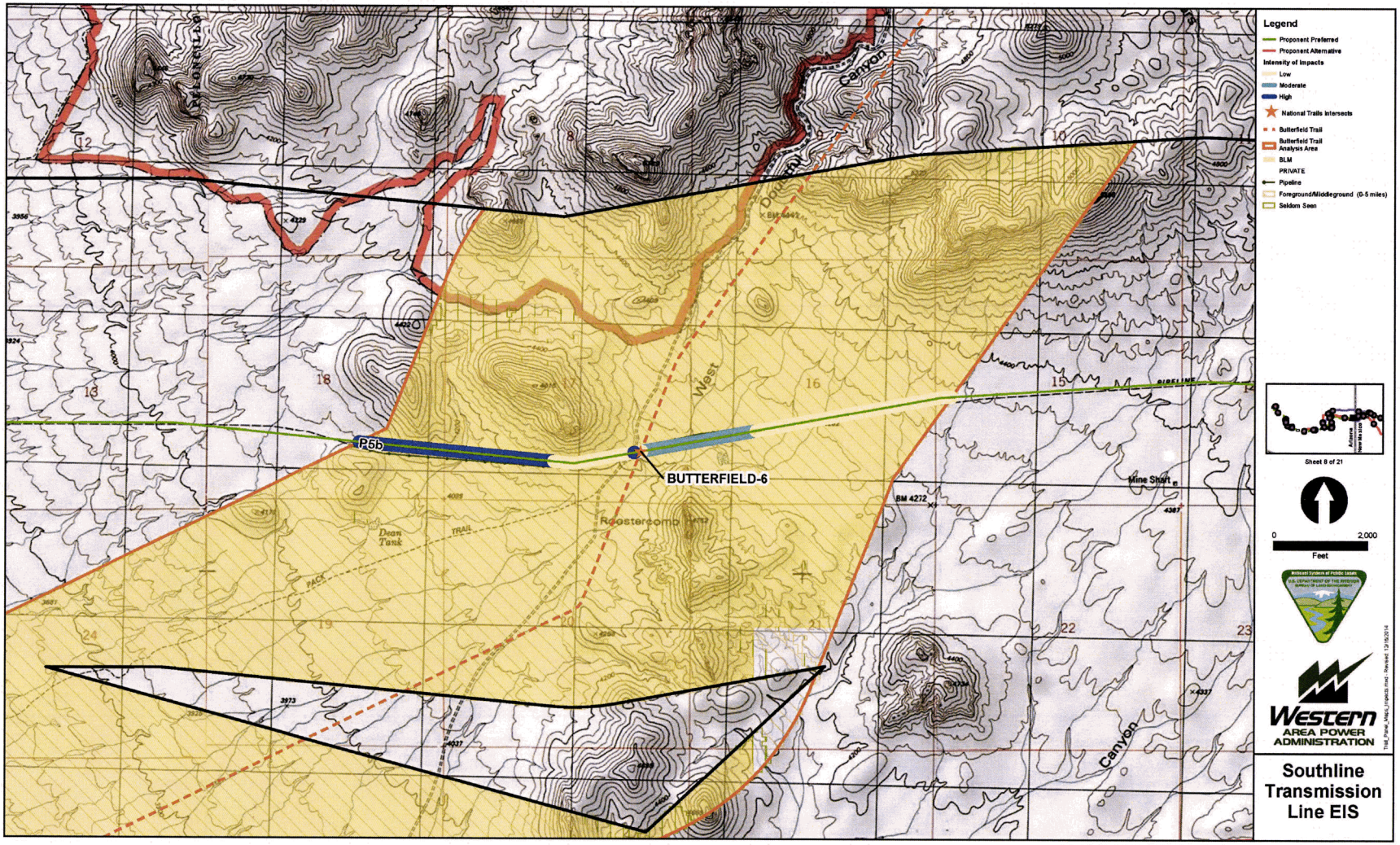


Figure F-54. Composite impact assessment results (Panel 9).

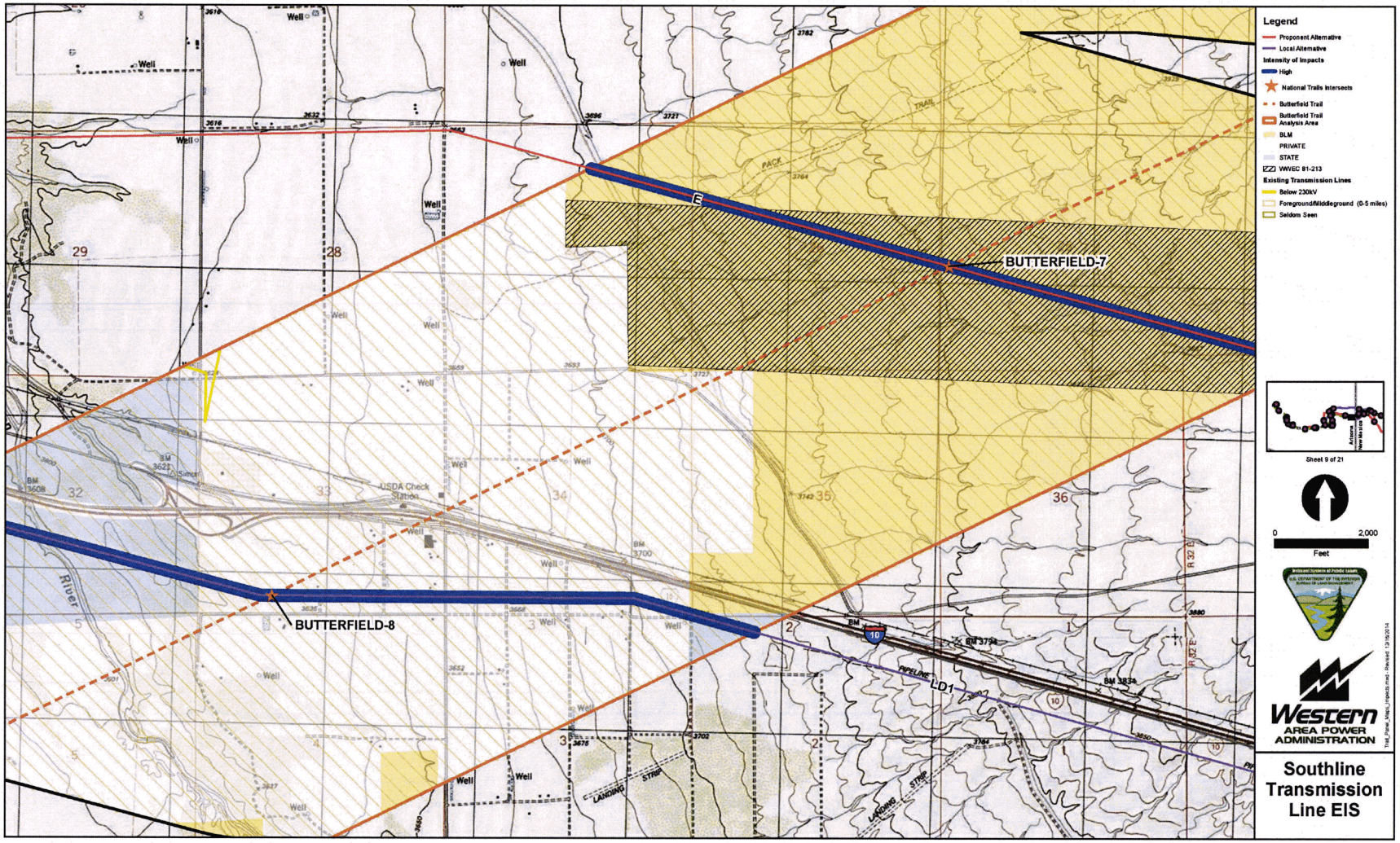


Figure F-55. Composite impact assessment results (Panel 10).

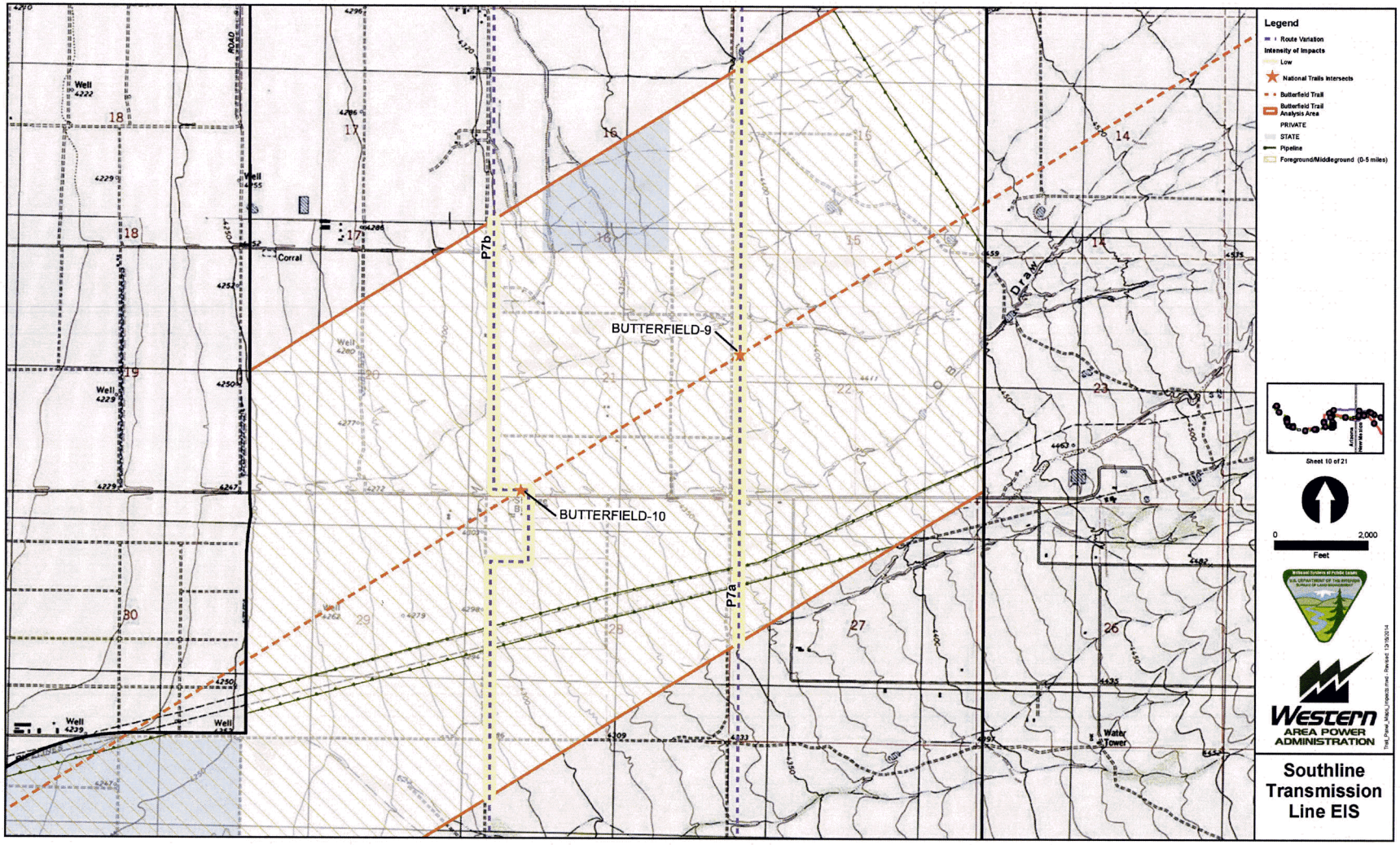


Figure F-56. Composite impact assessment results (Panel 11).

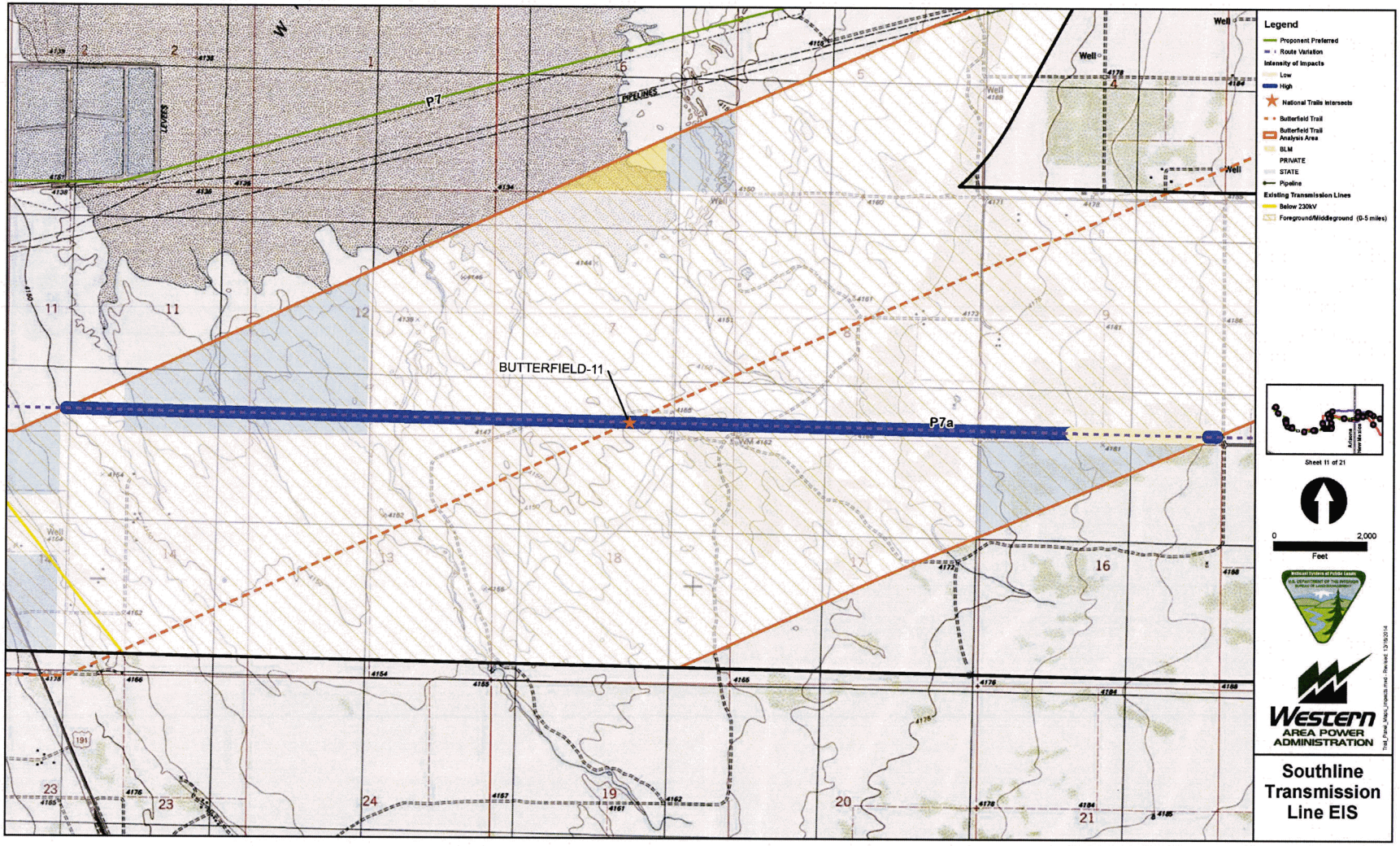


Figure F-57. Composite impact assessment results (Panel 12.)

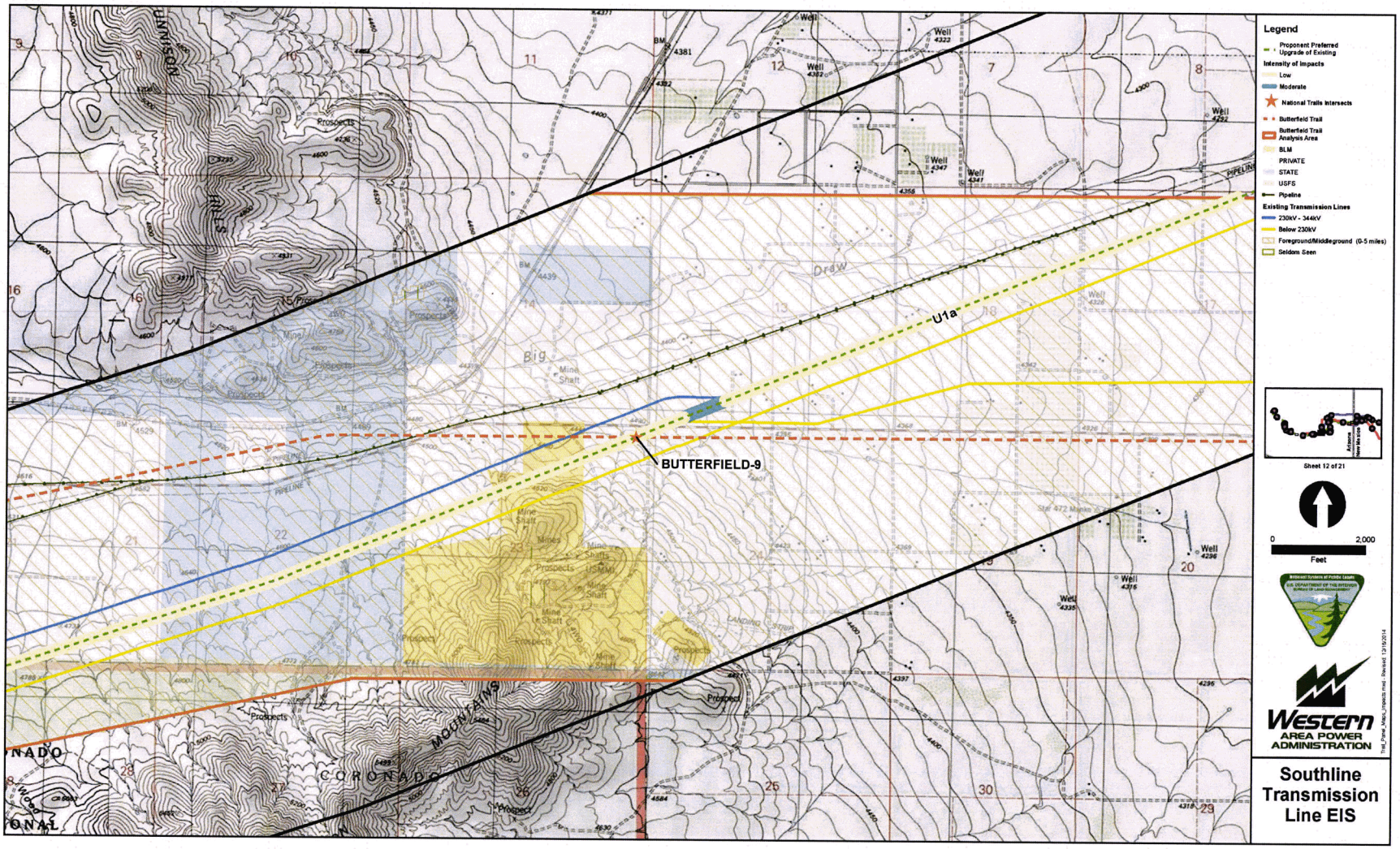


Figure F-58. Composite impact assessment results (Panel 13).

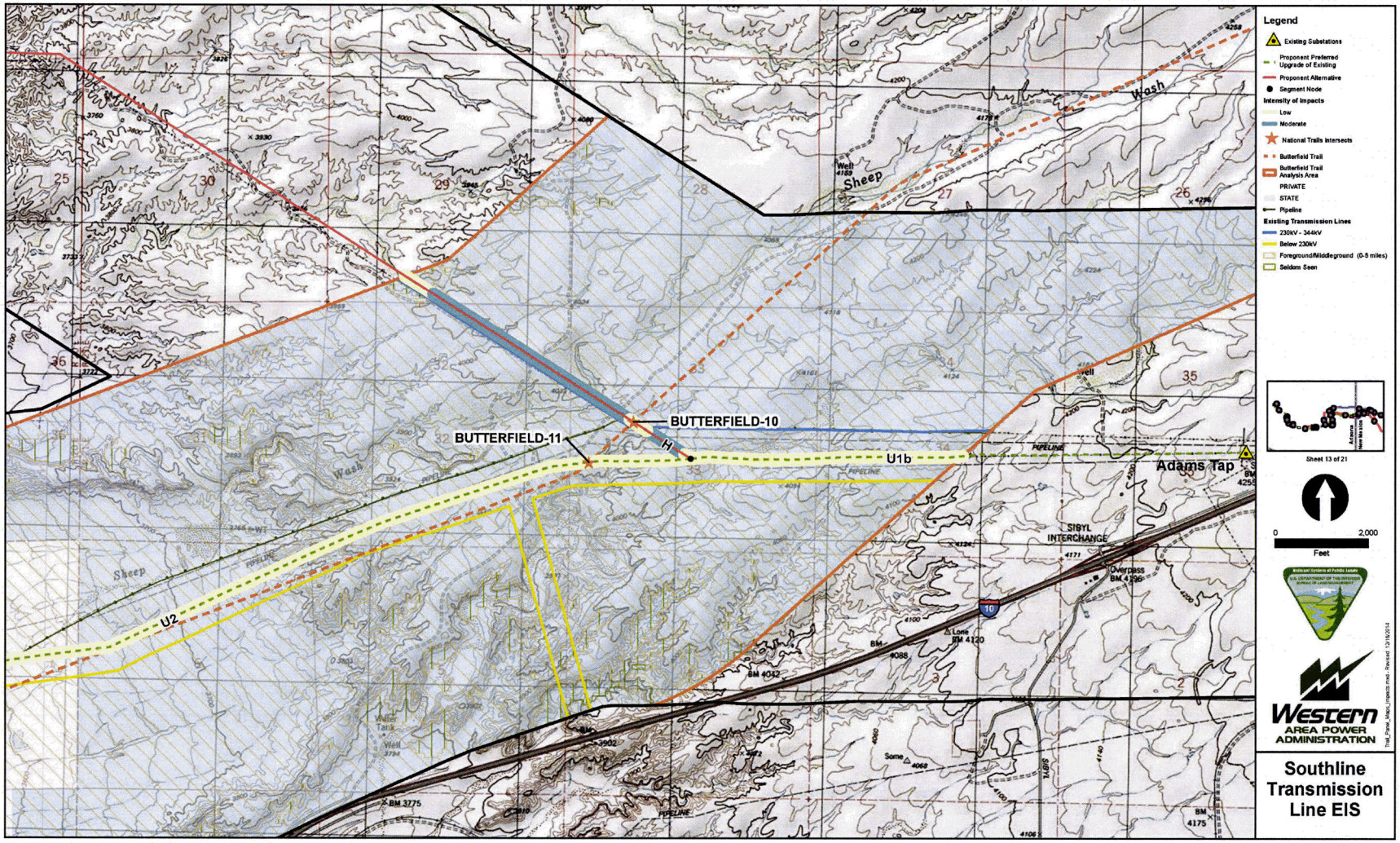


Figure F-59. Composite impact assessment results (Panel 14).

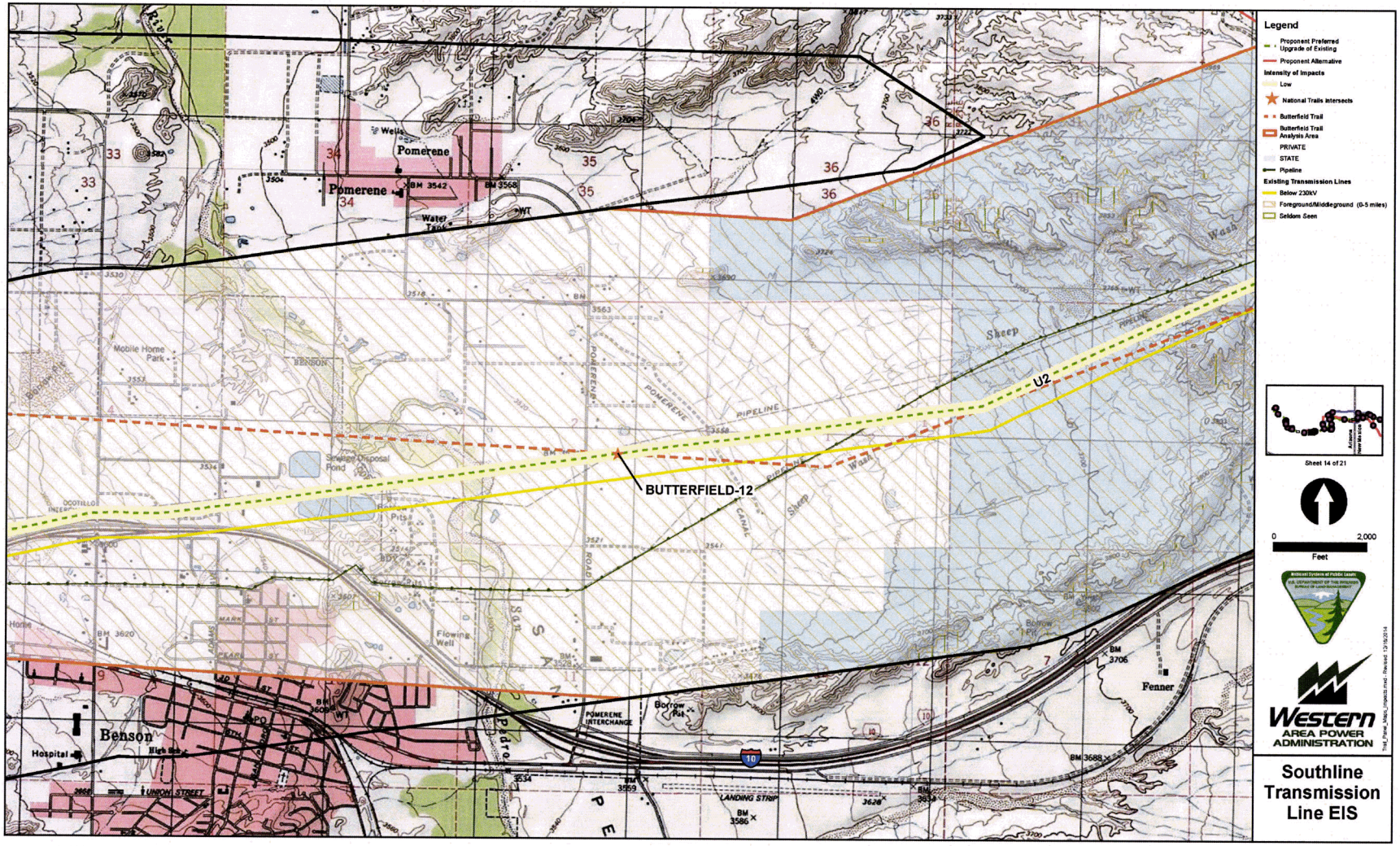


Figure F-60. Composite impact assessment results (Panel 15).

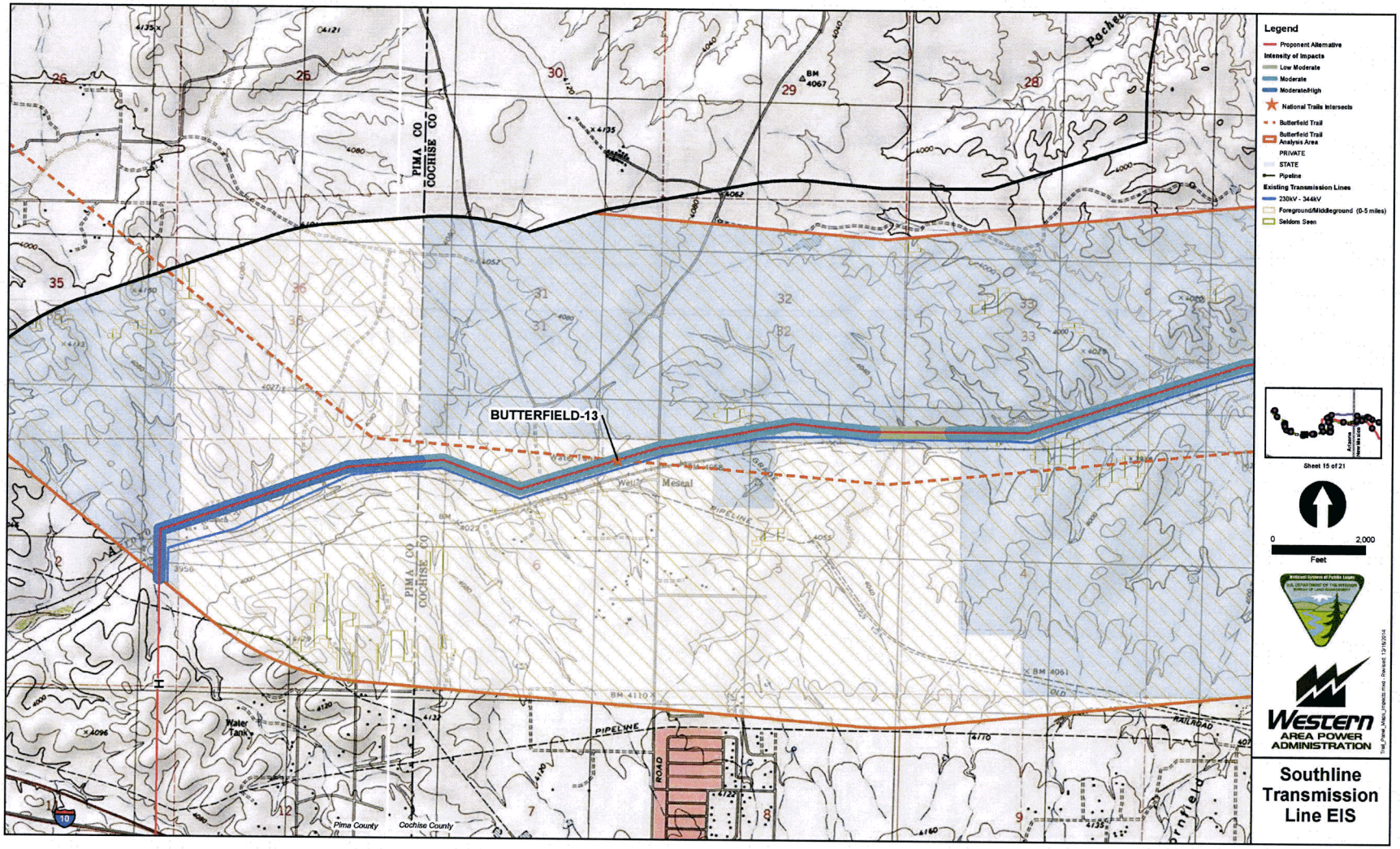


Figure F-61. Composite impact assessment results (Panel 16).

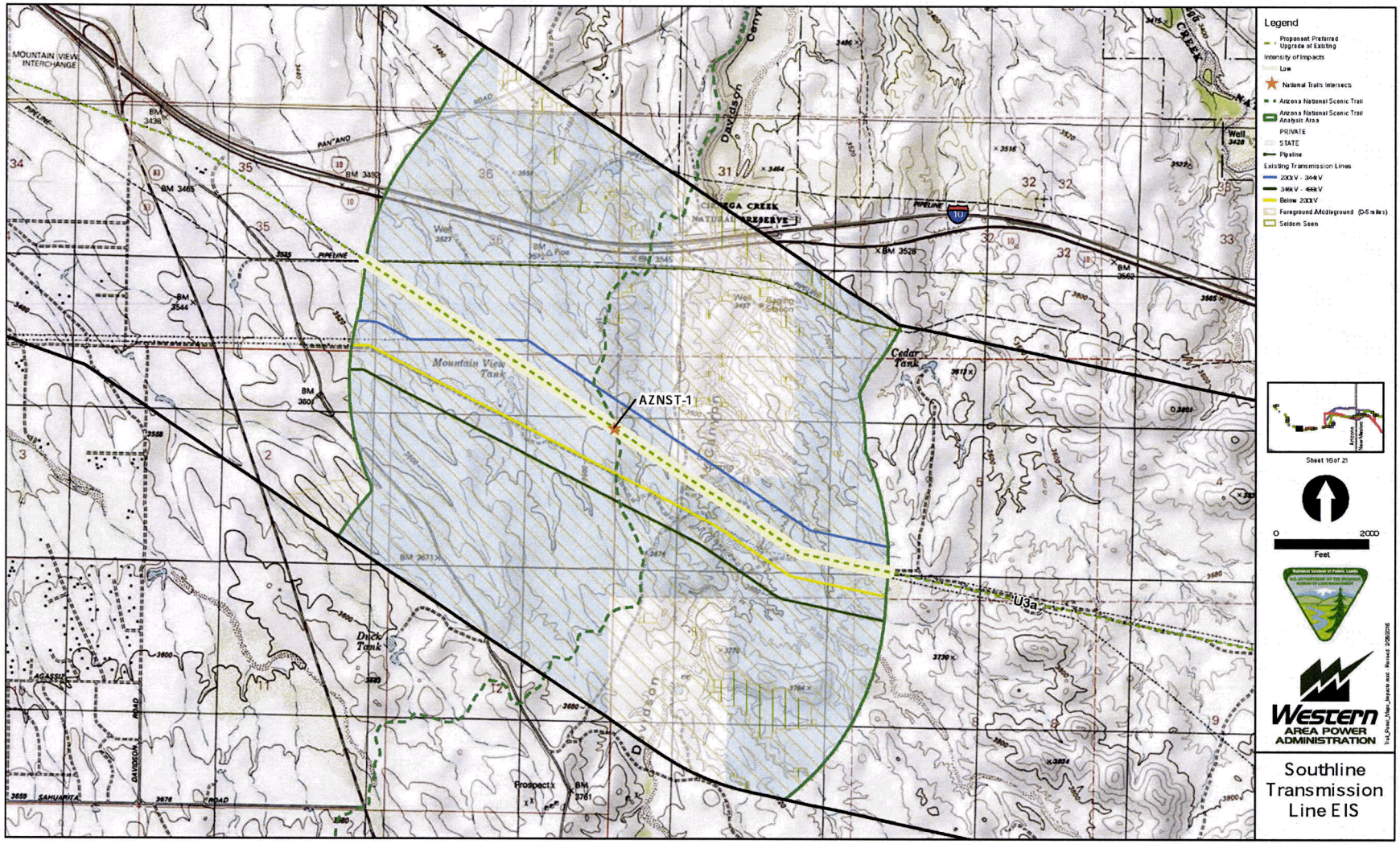


Figure F-62. Composite impact assessment results (Panel 17).

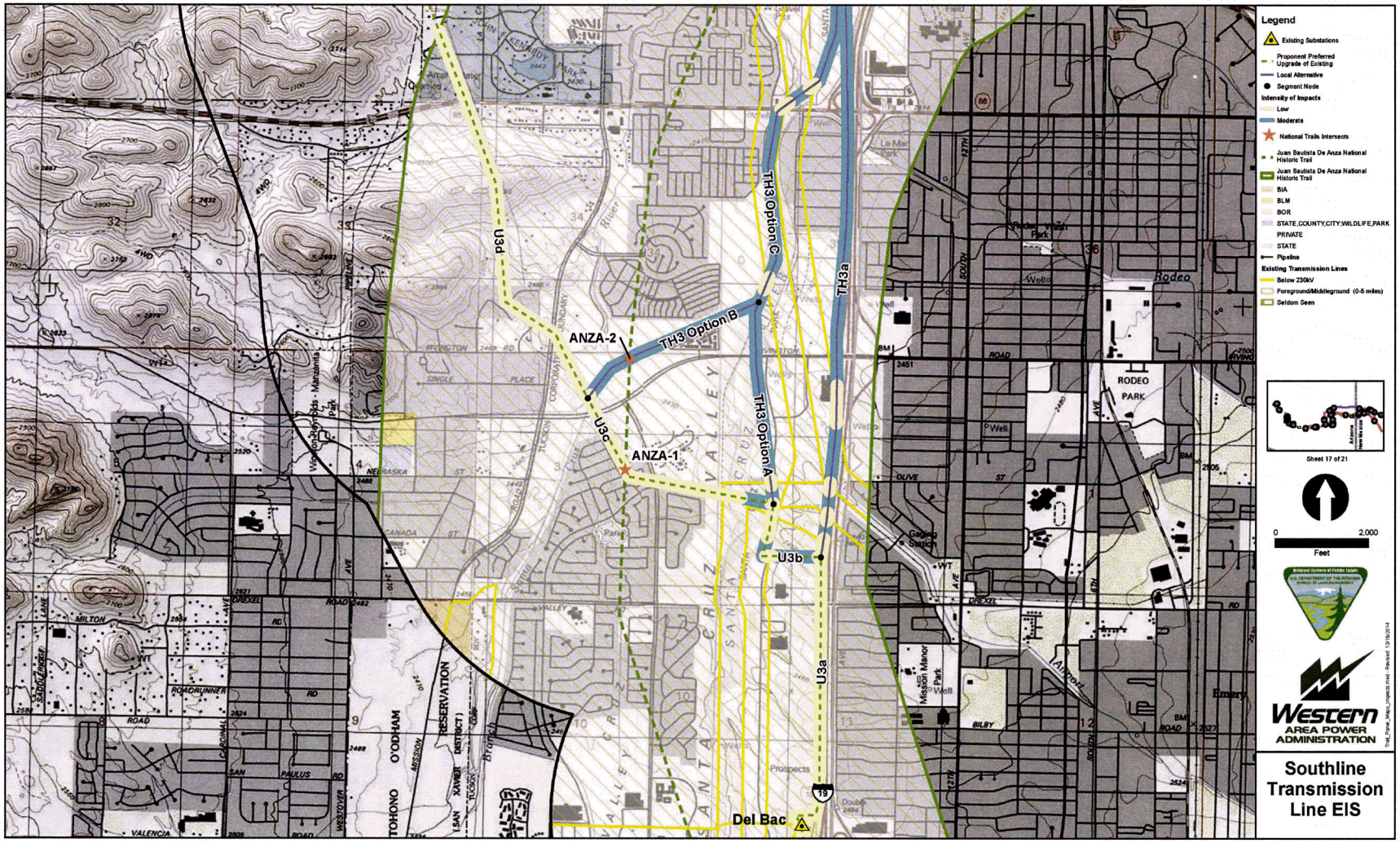
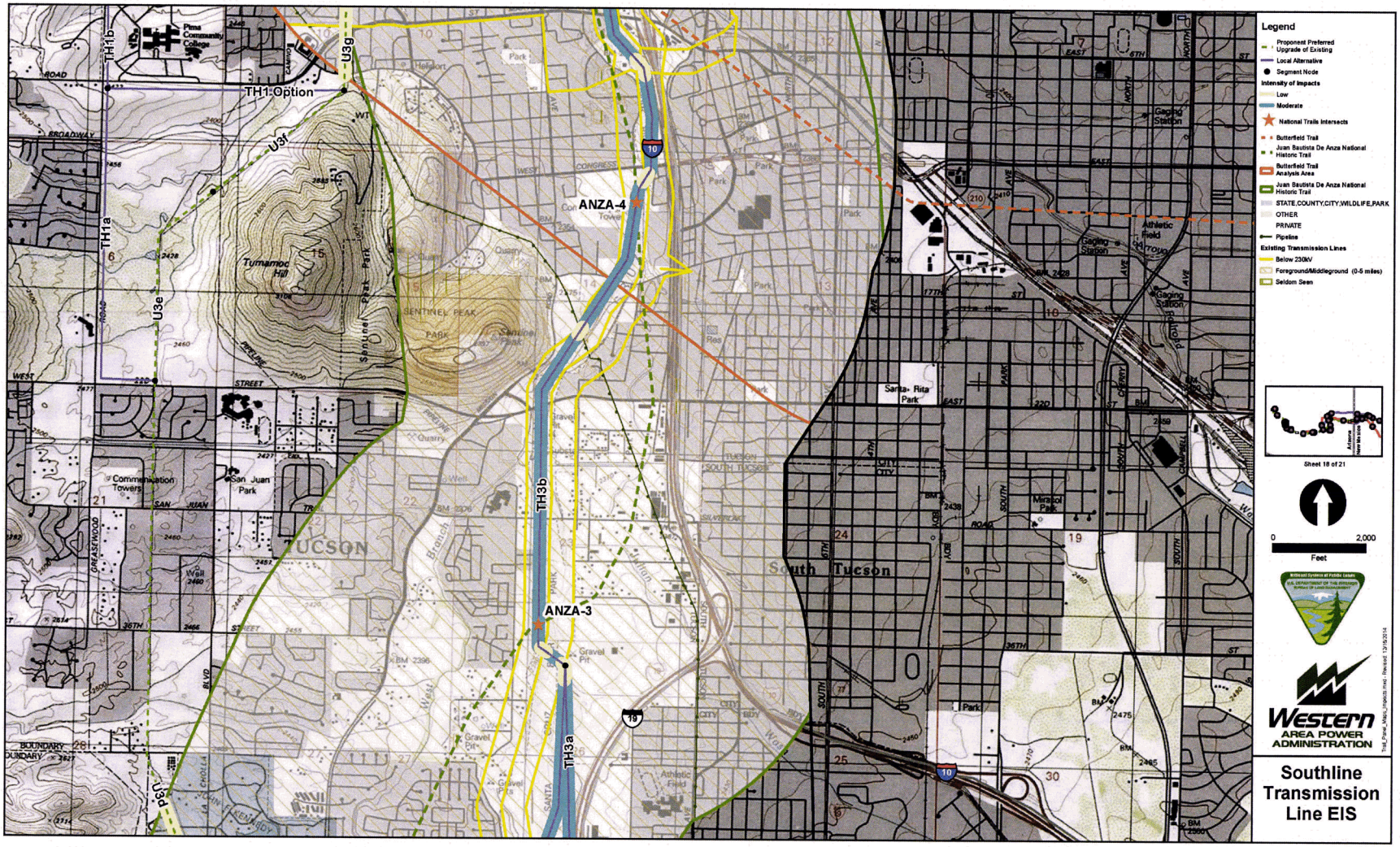


Figure F-63. Composite impact assessment results (Panel 18).



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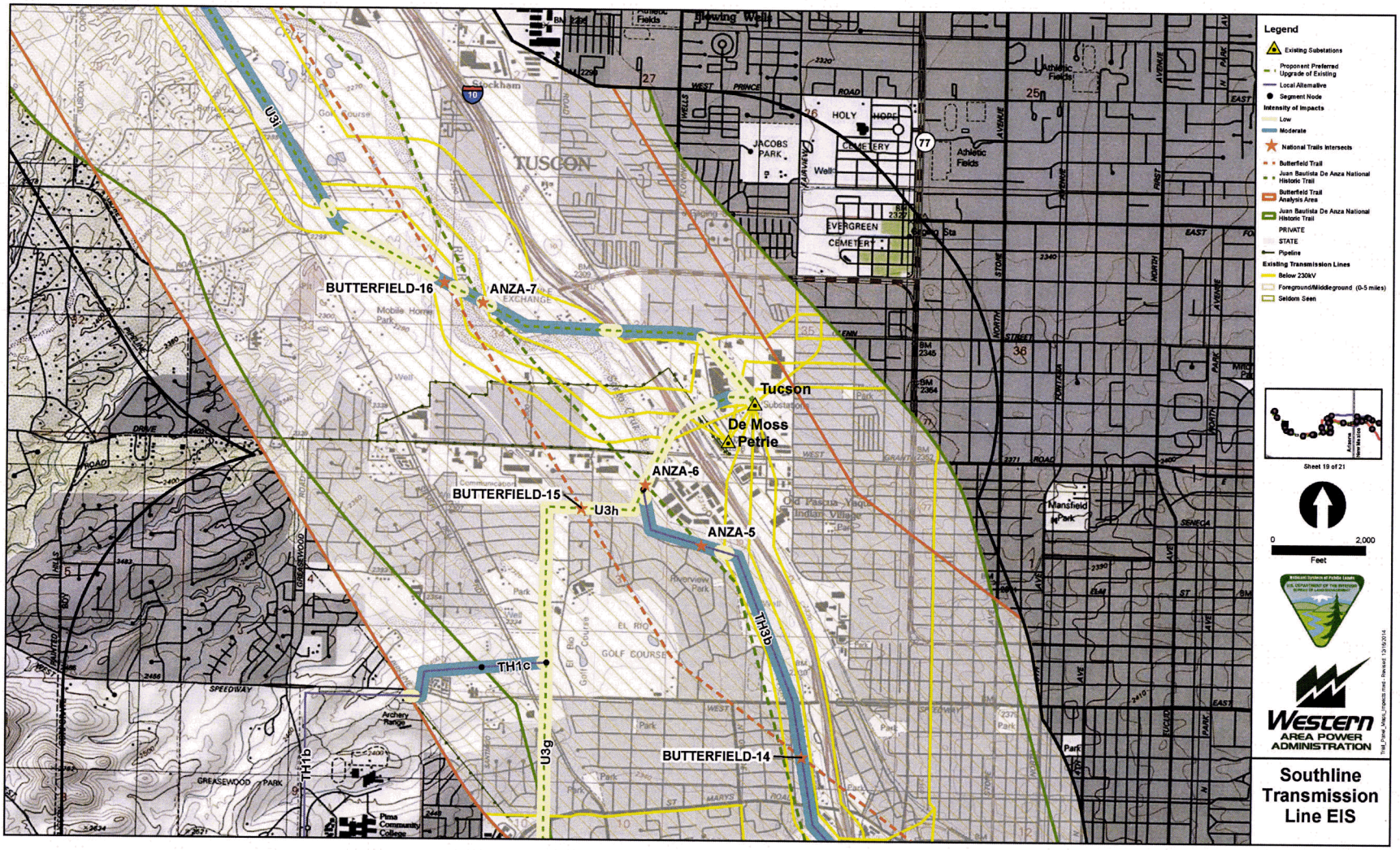


Figure F-65. Composite impact assessment results (Panel 20).

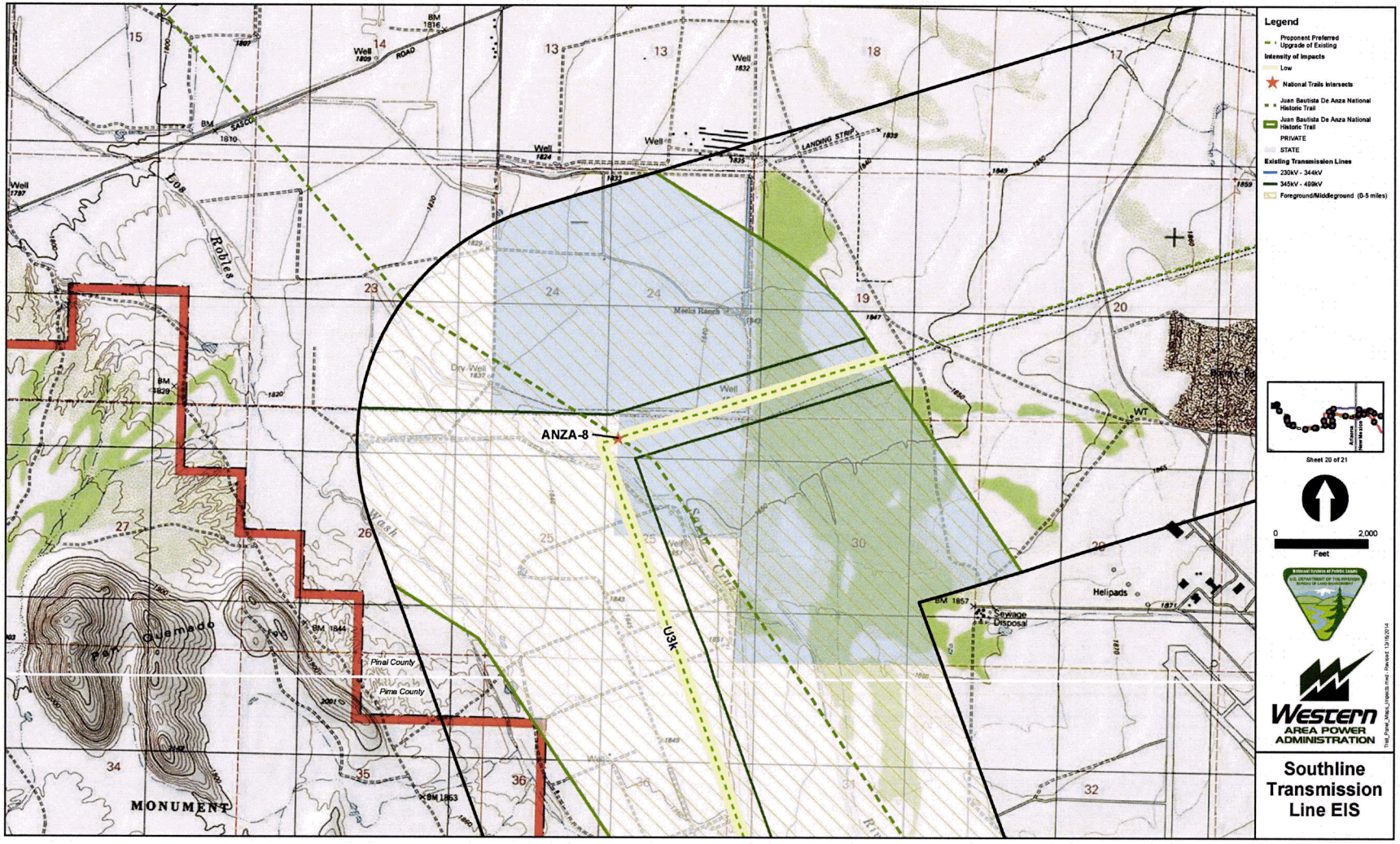
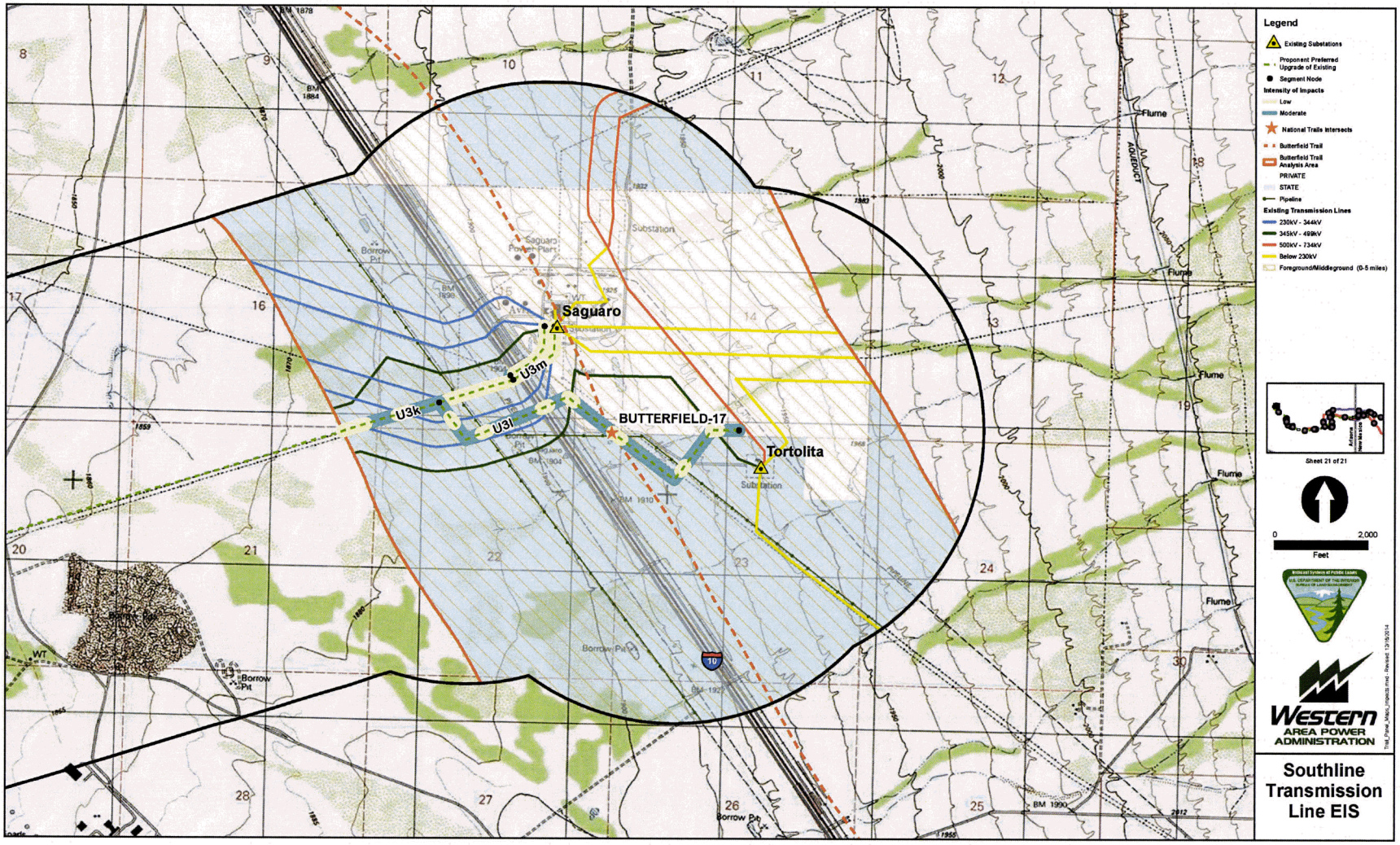


Figure F-66. Composite impact assessment results (Panel 21).



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Appendix E

FEDERAL ENDANGERED SPECIES ACT LISTED SPECIES IN THE ANALYSIS AREA

Table E-1. Potential for Occurrence of Federal Endangered Species Act Listed, Proposed, and Candidate Species in the Analysis Area

Species Common Name (Scientific [Latin] Name)	Species Group	Federal Status							State Status		Local Status		Species and Range	Habitat	Potential to Occur in Portions of the Analysis Area in which It Is Listed as a Special Status Species
		ESA (County)	MBTA	BLM (Field Office/District)	USFS Douglas District of CNF	BCC	BMC	BGEPA	SCGN	NM	SDCP	Special Designation Area(s)			
Arizona treefrog (Huachuca/Canelo Distinct Population Segment) (*Hyla wrightorum*)	Amphibian	Candidate (Cochise)			MIS				AGFD Tier 1a, NMDGF	PVS	Designated Critical Habitat; not within Project ROW		In Arizona, this small frog is known from north of Mogollon Rim and, disjunctly, in the Huachuca Mountains and Canelo Hills of southeastern Arizona (FWS 2008aa). Elevations range from 5,000 to 8,500 feet (FWS 2013a).	In Arizona, found in Madrean oak woodland and savannah, pine-oak woodland, and mixed conifer forest (FWS 2008aa).	None. The proposed Project and all action alternatives are distant from the known populations of this species in the Huachuca and Canelo Mountains.
Chiricahua leopard frog (*Lithobates [Rana] chiricahuensis*)	Amphibian	Threatened (Grant, Hidalgo, Luna, Greenlee, Graham, Cochise, Pima)											The northern population of this small ranid frog extends from central Arizona east and southward along Mogollon Rim while southern population is in the mountains and valleys south of the Gila River in the southeastern part of the State (AGFD 2011aa). In New Mexico, it is most abundant in Gila and San Francisco River drainages (BISON-M 2012ad). Elevations range from 3,300 to 8,900 feet (FWS 2013a).	Springs, streams in upper portions of watersheds, and livestock tanks free from non-native predators or in marginal habitats (FWS 2013a).	Unlikely. While the proposed Project crosses through the geographical range of the species, it does not cross perennial water that has the potential to support this species.
Sonoran tiger salamander (*Ambystoma mavortium stebbinsi*)	Amphibian	Endangered (Cochise)			MIS				AGFD Tier 1a	PVS	Designated Critical Habitat; not within Project ROW		In Arizona, this salamander is known from San Rafael Valley of Santa Cruz County (AGFD 2010aa). Elevations range from 4,000 to 6,300 feet (FWS 2013a).	Stock tanks and impounded cienegas, rodent burrows, rotted logs, and other moist cover sites (AGFD 2003aa).	None. The proposed Project and all action alternatives are distant from the known populations of this species.
Cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*)	Bird	Delisted/Petitioned for listing/Under Review (Pima, Pinal)	Yes	Gila	Sensitive				AGFD Tier 1a				South-central Arizona, primarily in Pima County. No records from Cochise County (AGFD 2012aa). Elevations below 4,000 feet (FWS 2013b).	Resident of desert woodlands with tall canopy cover. Primarily found in Sonoran desertscrub and occasionally in riparian drainages and woodlands within semidesert grassland communities. Prefers to nest in cavities of saguaro cacti but has been found in low-density suburban developments that include natural open spaces (AGFD 2001ac).	Possible. The analysis area is within the typical range of the species and suitable habitat parameters may be present.
California least tern (*Sterna antillarum browni*)	Bird	Endangered (Pima)	Yes			Yes							Breeding documented in Maricopa County, while transient migrants have been recorded in Pima and Mojave counties, Arizona (FWS 2009aa). Elevations below than 2,000 feet (FWS 2013b).	Open, bare, or sparsely vegetated sand, sandbars, gravel pits, or exposed flats along shorelines of inland rivers, lakes, reservoirs, or drainage systems (FWS 2009aa).	Unlikely. Although suitable habitat parameters may be present, the analysis area is not within the species' typical range.

Table E-1. Potential for Occurrence of Federal Endangered Species Act Listed, Proposed, and Candidate Species in the Analysis Area (Continued)

Species Common Name (Scientific [Latin] Name)	Species Group	Federal Status							State Status		Local Status		Species and Range	Habitat	Potential to Occur in Portions of the Analysis Area in which It Is Listed as a Special Status Species
		ESA (County)	MBTA	BLM (Field Office/District)	USFS Douglas District of CNF	BCC	BMC	BGEPA	SCGN	NM	SDCP	Special Designation Area(s)			
Least tern (Interior population) (*Sterna antillarum*)	Bird	Endangered (Doña Ana)	Yes				Yes		NMDGF				Known to nest at or near Bitter Lake National Wildlife Reserve north of Roswell, New Mexico. Occasional migrant to Eddy County, New Mexico (BISON-M 2009ab).	Shallow water areas of rivers, streams, and lakes. Requires sandy and relatively open areas for nesting (BISON-M 2009ab).	Unlikely. Although suitable habitat parameters may be present, the analysis area is not within the species' typical range.
Masked bobwhite (*Colinus virginianus ridgewayi*)	Bird	Endangered (Pima)					Yes		AGFD Tier 1a				This bird species has been re-introduced to the Buenos Aires National Wildlife Refuge in the Altar Valley near the Arizona and Mexico border (AGFD 2012aa) at elevations range from 1,000 to 4,000 feet (FWS 2013b).	Desert grasslands with diversity of dense native grasses, forbs, and brush (FWS 2013b).	None. The proposed Project and all action alternatives are distant from the known populations of this species.
Mexican spotted owl (*Strix occidentalis lucida*)	Bird	Threatened (Graham, Grant, Greenlee, Hidalgo, Cochise, Pima, Pinal)	Yes				Yes		AGFD Tier 1a, NMDGF			Designated Critical Habitat; not within Project ROW	Patchily distributed in forested areas throughout most of Arizona (AGFD 2004ah). Occurs statewide in New Mexico (BISON-M 2010ag). Elevations range from 4,100 to 9,000 feet (FWS 2012a). AGFD HDMS unpublished records show a range of 2,720 to 9,600 feet (AGFD 2005aa).	Nests in canyons and dense forests with multilayered foliage structure. Cool microclimates appear to be important (FWS 2012a). Adults may or may not leave their territories in the winter (FWS 2012a). Riparian forests may be important for movement (AGFD 2005aa).	None. The proposed Project and all action alternatives are distant from the known populations of this species and habitats in the Project ROW are not similar to those known to be used by this species.
Northern aplomado falcon (*Falco femoralis septentrionalis*)	Bird	Endangered/Experimental, Non-essential Population (Doña Ana, Grant, Hidalgo, Luna, Cochise)	Yes				Yes		AGFD Tier 1a, NMDGF	Endangered			This raptor is designated as a nonessential experimental population in Arizona and New Mexico (FWS 2013a). In Arizona, this species is extremely rare (AGFD 2001ab). In New Mexico, the few nests documented were in yucca grasslands (BISON-M 2010aa). Elevations range from 3,500 to 9,000 feet (FWS 2013a).	Grasslands and savannas (AGFD 2001ab). Nests in trees or tall shrubs in yucca grasslands in New Mexico (BISON-M 2010aa).	Possible. The analysis area is within the typical range of the species and suitable habitat parameters may be present.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Bird	Endangered (Doña Ana, Grant, Hidalgo, Luna, Greenlee, Graham, Cochise, Pima, Pinal)	Yes				Yes		AGFD Tier 1a, NMDGF	Endangered	PVS	Designated Critical Habitat; not within Project ROW	In Arizona, this bird is found in the middle to lower San Pedro River, along the Little Colorado, Gila, Verde, and Salt rivers (AGFD 2002aa, 2012aa). In New Mexico, this species is found statewide during migration (BISON-M 2012aa). Elevations below 8,500 feet (FWS 2013a).	Cottonwood/willow and tamarisk vegetation communities along rivers and streams (AGFD 2002aa).	Possible. The analysis area is within the typical range of the species and suitable habitat parameters may be present.

Table E-1. Potential for Occurrence of Federal Endangered Species Act Listed, Proposed, and Candidate Species in the Analysis Area (Continued)

Species Common Name (Scientific [Latin] Name)	Species Group	Federal Status							State Status		Local Status		Species and Range	Habitat	Potential to Occur in Portions of the Analysis Area in which It Is Listed as a Special Status Species
		ESA (County)	MBTA	BLM (Field Office/District)	USFS Douglas District of CNF	BCC	BMC	BGEPA	SCGN	NM	SDCP	Special Designation Area(s)			
Sprague's pipit (*Anthus spragueii*)	Bird	Candidate (Hidalgo, Cochise)	Yes			Yes	Yes, Focal		AGFD Tier 1b, NMDGF				Winters in grasslands of the San Rafael, Sonoita, and Sulphur Spring valleys in southeastern Arizona (AGFD 2010ab, 2012aa). Occasionally reported in extreme southwestern Hidalgo County, New Mexico (BISON-M 2011aa). Elevations below 5,000 feet (FWS 2013a).	Native grasslands with vegetation of intermediate height and lacking woody shrubs (FWS 2013a).	Possible. The analysis area is within the typical range of the species and suitable habitat parameters may be present.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	Bird	Threatened (Greenlee, Graham, Cochise, Pima, Pinal, Doña Ana, Grant, Hidalgo, Luna)	Yes		Sensitive	Yes	Yes		AGFD Tier 1a, NMDGF		PVS	Proposed critical habitat at crossing of Cienega Creek and about 0.5 mile south of the crossing of the San Pedro River.	All counties of Arizona but generally found in southern and central portions (AGFD 2011ab, 2012aa). Statewide in New Mexico (BISON-M 2011ab). Elevations below 6,500 feet (FWS 2013a, 2013c).	Large blocks of mature riparian woodlands (cottonwood, willow, or tamarisk galleries) (AGFD 2011ab).	Possible. The analysis area is within the typical range of the species and suitable habitat parameters may be present.
Whooping crane (*Grus americana*)	Bird	Endangered/Experimental, Non-essential Population (Doña Ana, Grant, Hidalgo, Luna)	Yes				Yes						Extirpated from Arizona (FWS 2013j). Occur in Bosque del Apache National Wildlife Refuge on Rio Grande River near Socorro New Mexico during the winter (BISON-M 2012ab). Elevation of approximately 4,500 feet (FWS 2013j).	This large bird is found in marshes, prairies, croplands, river bottoms and potholes (BISON-M 2010ab). Seasonally migrate from Canada to Texas following a 2,400 mile by 220 mile corridor (FWS 2012aa).	None. This species is not known to occur in the counties in which the Project ROW is located.
Yuma clapper rail (*Rallus longirostris yumanensis*)	Bird	Endangered (Pinal)	Yes				Yes		AGFD Tier 1a				This large marsh bird species is primarily found along the Colorado River from Yuma to Lake Mead. Also known from the Virgin, Bill Williams, and lower, Salt, Verde, and Gila Rivers. Populations along the Gila River may be migratory (FWS 2010a). Elevations below 4,500 feet (FWS 2013g).	Fresh water and brackish marshes with tall, dense emergent vegetation (FWS 2013g).	None. The proposed Project and all action alternatives are distant from the known populations of this species.
Apache (Arizona) trout (*Oncorhynchus gilae apache*)	Fish	Threatened (Greenlee, Graham)											This fish is restricted to streams in the upper Salt, Gila, Blue, and Little Colorado drainages in the White Mountains on the White Mountain Apache Indian Reservation and in the Apache-Sitgreaves National Forest (FWS 2008).	This fish is found in mixed-conifer forests and mountain meadows at elevations above 5,000 feet amsl in small, cold, high-gradient streams on substrates that consist of boulders, rocks, and gravel with some sand or silt (FWS 2008).	None. The proposed Project and all action alternatives are distant from the drainages from which this species is known.

Table E-1. Potential for Occurrence of Federal Endangered Species Act Listed, Proposed, and Candidate Species in the Analysis Area (Continued)

Species Common Name (Scientific [Latin] Name)	Species Group	Federal Status							State Status		Local Status		Species and Range	Habitat	Potential to Occur in Portions of the Analysis Area in which It Is Listed as a Special Status Species
		ESA (County)	MBTA	BLM (Field Office/District)	USFS Douglas District of CNF	BCC	BMC	BGEPA	SCGN	NM	SDCP	Special Designation Area(s)			
Beautiful shiner (*Cyprinella formosa*)	Fish	Threatened (Grant, Luna, Cochise)										Designated Critical Habitat; not within Project ROW	This small fish is found in the San Bernardino National Wildlife Refuge in extreme southeastern Arizona along the U.S. and Mexico border (AGFD 2004ai). Extirpated from New Mexico (BISON-M 2012ab). Elevations below 4,500 feet (FWS 2013a).	Small to medium sized streams and ponds with sand, gravel, and rock bottoms (AGFD 2001ad; FWS 2013a).	None. The proposed Project and all action alternatives are distant from the known populations of this species (more than 59 miles north of San Bernardino National Wildlife Refuge).
Chihuahua chub (*Gila nigrescens*)	Fish	Threatened (Grant)							NMDGF	Endangered			This fish is currently found in the Mimbres River of New Mexico between Allie Canyon and below Post Office in town of Mimbres, New Mexico (BISON-M 2009ad).The New Mexico population is limited mainly to the Archuleta/Moreno Spring along the Mimbres River.	Small to medium-sized streams in areas with cover including undercut banks, uprooted trees, or solid objects. Cienegas. In areas with adjacent rapid velocity flows (BISON-M 2009ad).	None. The proposed Project and all action alternatives are distant from the known populations of this species. The proposed Project crosses the Mimbres River near Deming New Mexico, more than 45 river miles downstream of the known populations.
Desert pupfish (*Cyprinodon macularius*)	Fish	Endangered (Graham, Cochise, Pima, Pinal)							AGFD Tier 1a		PVS	Designated Critical Habitat; not within Project ROW	One natural population exists in Arizona at Quitobaquito Spring in Pima County (FWS 2010b). Introduced populations are found in Cold **Springs in Graham County**, AD Wash in Yavapai County, and Finley Tank in Santa Cruz County (AGFD 2001ae, 2004aj). Historic range is more widespread. Refugia populations (9 in total) are found in private ponds and aquariums (AGFD 2001ae). Elevations below 4,000 feet (FWS 2013a). AGFD HDMS unpublished records show a range of 1,200 to 3,450 feet (AGFD 2001ae).	Inhabit shallow springs, small streams, and marshes. Tolerates saline and warm water (FWS 2013a).	None. The proposed Project and all action alternatives are distant from the known populations of this species.

Table E-1. Potential for Occurrence of Federal Endangered Species Act Listed, Proposed, and Candidate Species in the Analysis Area (Continued)

Species Common Name (Scientific [Latin] Name)	Species Group	Federal Status							State Status		Local Status		Species and Range	Habitat	Potential to Occur in Portions of the Analysis Area in which It Is Listed as a Special Status Species
		ESA (County)	MBTA	BLM (Field Office/District)	USFS Douglas District of CNF	BCC	BMC	BGEPA	SCGN	NM	SDCP	Special Designation Area(s)			
Gila chub (*Gila intermedia*)	Fish	Endangered (Grant, Greenlee, Graham, Cochise, Pima, Pinal)		Sensitive	MIS				AGFD Tier 1a, NMDGF	Endangered	PVS	Designated Critical Habitat; none within Project ROW	In Arizona, this fish is known from small springs or headwater streams serving as tributaries of Santa Cruz (Cienega Creek, Sabino Canyon, and Sheehy Spring) and San Pedro River (Bass, O'Donnell and Redfield Canyons, Babocomari River and Turkey Creek) drainages (AGFD 2002ac, 2012aa). In New Mexico, relict populations may exist in Mule and Turkey Creeks although they may have been extirpated from the State (BISON-M 2009ac). Elevation range from 2,000 to 5,500 feet (FWS 2013a). Arizona records show a range from 2,720 to 5,420 feet (AGFD 2002ac).	Pools, springs, cienegas, and streams. Common riparian plants associated with these populations include willow (*Salix* spp.), tamarisk (*Tamarix* spp.), cottonwoods (*Populus* spp.), seep-willow (*Baccharis glutinosa*), and ash (*Fraxinus* spp.). Typical aquatic vegetation includes watercress (*Nasturtium officianale*), horsetail (*Equisetum* spp.), rushes (*Juncus* spp.), and speedwell (*Veronica anagallis-aquatica*) (FWS 2008b, 2013a).	Unlikely. Although the analysis area is within the species' typical range, suitable habitat parameters are not present. Designated critical habitat for the species is located along Cienega Creek downstream (north) of the proposed Project.
Gila topminnow (*Poeciliopsis occidentalis occidentalis*)	Fish	Endangered (Grant, Cochise,Graham, Pima, Pinal)			MIS				AGFD Tier 1a, NMDGF	Threatened	PVS		This small fish was once very common throughout its range, now occurs in several localities in the Gila River drainage, and one locality in the Bill Williams River drainage in Arizona (AGFD 2001ah, 2012aa; FWS 2008d).This species has been reared and released at more than 200 sites. In New Mexico, this fish was re-introduced in the Red Rock Wildlife Management Area located 25 miles north of Lordsburg, New Mexico (BISON-M 2009ah). Elevations 3,500 to 6,500 feet (FWS 2013a).	Small streams, springs, and cienegas in vegetated shallows with aquatic vegetation and debris for cover. Can tolerate relatively high water temperatures and low dissolved oxygen. (FWS 2008d, 2013a).	Unlikely. Although the analysis area is within the species' typical range, suitable habitat parameters are not present.
Gila trout (*Oncorhynchus gilae gilae*)	Fish	Threatened (Grant, GrahamGreenlee)							AGFD Tier 1a, NMDGF	Threatened			This fish is found throughout the upper Gila drainage in New Mexico and historically in the Verde and Agua Fria drainages of Arizona (AGFD 2002af; BISON-M 2009ag). Introduced in Dude Creek, Arizona and currently inhabits 13 streams in New Mexico. Elevations range from 5,570 to 9,200 feet (BISON-M 2009ag).	Small, cool, clear mountain streams with vegetation cover (AGFD 2002af).	None The proposed Project and all action alternatives are distant from the known populations of this species. The proposed Project crosses the Mimbres River near Deming New Mexico, more than 50 river miles downstream of the known populations in McKnight Creek of the Mimbres River Basin.

Table E-1. Potential for Occurrence of Federal Endangered Species Act Listed, Proposed, and Candidate Species in the Analysis Area (Continued)

Species Common Name (Scientific [Latin] Name)	Species Group	Federal Status							State Status		Local Status		Species and Range	Habitat	Potential to Occur in Portions of the Analysis Area in which It Is Listed as a Special Status Species
		ESA (County)	MBTA	BLM (Field Office/District)	USFS Douglas District of CNF	BCC	BMC	BGEPA	SCGN	NM	SDCP	Special Designation Area(s)			
Headwater chub (*Gila nigra*)	Fish	Candidate (Grant, Graham)							AGFD Tier 1b, NMDGF	Endangered			This fish reaches a maximum size of about 12 inches and is endemic to the Gila River basin of Arizona and New Mexico in the middle and headwater reaches of middle-sized streams (AGFD 2010ac; BISON-M 2011ac). Known from 13 streams within Yavapai, Gila, and Graham counties of Arizona (FWS 2006aa). In New Mexico, populations are known in the Gila River mainstem above Mangus Creek confluence (AGFD 2004ak). Elevations range from 3,000 to 6,700 feet (FWS 2012d).	Medium-sized streams in large, deep pools often associated with cover such as undercut banks or deep places created by trees or rocks (FWS 2006aa).	None. The proposed Project and all action alternatives are distant from the known populations of this species.
Loach minnow (*Tiaroga cobitis*)	Fish	Endangered (Grant, Hidalgo, Greenlee, Graham, Cochise, Pinal)							AGFD Tier 1a, NMDGF	Endangered		Designated Critical Habitat; not within Project ROW	This small fish was once common throughout much of the Gila River system including portions of the Gila, Blue, Tularosa, White, Verde, Salt, San Pedro, and San Francisco rivers in Arizona and New Mexico, as well as some of their tributaries. Present populations are geographically isolated and inhabit the upstream ends of their historical range (FWS 2012ab) at elevations below 8,000 feet (FWS 2012ab).	Benthic species of small to large perennial streams with swift shallow water over cobble and gravel. Recurrent flooding and natural hydrography is important (UFSWS 2012ab).	None. The proposed Project and all action alternatives are distant from the known populations of this species.
Razorback sucker (*Xyrauchen texanus*)	Fish	Endangered (Graham, Greenlee, Pinal)							AGFD Tier 1a, NMDGF			Designated Critical Habitat; not within Project ROW	This large fish is found in Lake Mohave, Green River Basin and the Upper Colorado River Basin (AGFD 2002ag, 2012ac) at elevations below 6,000 feet (FWS 2009ab). Historically razorback suckers inhabited the Colorado, Gila, Salt, Verde, and San Pedro Rivers. Presently natural adult populations exist only in Lake Mohave, Lake Mead, and Lake Havasu.	Riverine and lacustrine areas, generally not in fast-moving water and may use backwaters (FWS 2009ab).	None. The proposed Project and all action alternatives are distant from the known populations of this species.
Rio Grande silvery minnow (*Hybognathus amarus*)	Fish	Endangered (Doña Ana)							NMDGF				This small fish currently occurs in the Rio Grande River from Cochiti Pueblo downstream to the inflow of Elephant Butte Reservoir in New Mexico (BISON-M 2009af).	Low-gradient, large streams with shifting sands or silty bottoms (BISON-M 2009af).	None. The proposed Project and all action alternatives are distant from the known populations of this species.

Table E-1. Potential for Occurrence of Federal Endangered Species Act Listed, Proposed, and Candidate Species in the Analysis Area (Continued)

Species Common Name (Scientific [Latin] Name)	Species Group	Federal Status							State Status		Local Status		Species and Range	Habitat	Potential to Occur in Portions of the Analysis Area in which It Is Listed as a Special Status Species
		ESA (County)	MBTA	BLM (Field Office/District)	USFS Douglas District of CNF	BCC	BMC	BGEPA	SCGN	NM	SDCP	Special Designation Area(s)			
Roundtail chub (*Gila robusta*)	Fish	Candidate (Grant, Hidalgo, Greenlee, Graham, Pinal)		Sensitive					AGFD Tier 1b, NMDGF	Endangered			In Arizona, this fish occurs in tributaries of the Little Colorado, Bill Williams, Salt, Verde, Gila (Eagle Creek), and San Pedro (Aravaipa Creek) rivers (AGFD 2002ad). Upper Gila River (San Francisco and Zuni rivers) and San Juan drainage and Animas River in New Mexico. Elevations range from 1,000 to 5,200 feet (BISON-M 2009ae).	Cool to warm waters of rivers and streams, often occupy the deepest pools and eddies of large streams. (FWS 2010c).	None. The proposed Project and all action alternatives are distant from the known populations of this species.
Spikedace (*Meda fulgida*)	Fish	Endangered (Grant, Hidalgo, Greenlee, Graham, Cochise, Pinal)			MIS				AGFD Tier 1a, NMDGF	Endangered		Designated Critical Habitat; not within Project ROW	This small fish occurs in Aravaipa Creek, Eagle Creek, upper Verde River system in Arizona, and the upper Gila River system in New Mexico (FWS 2012ad) at elevations below 6,000 feet (FWS 2013a).	Medium to large perennial streams with moderate to swift velocity waters over cobble and gravel substrate. Recurrent flooding and natural hydrograph important to withstand invading exotic species (FWS 2013a).	None. The proposed Project and all action alternatives are distant from the known populations of this species.
Woundfin (*Plagopterus argentissimus*)	Fish	Experimental Population, Non-Essential (Graham, Greenlee)							AGFD Tier 1a				This small fish occurs in the Virgin River mainstem in northwestern Arizona.	Swift portions and main channels of turbid, warm streams with shifting sandy bottoms (AGFD 2000).	Unlikely. While the proposed Project crosses through the geographical range of the species, it does not cross perennial water that has the potential to support this species.
Yaqui catfish (*Ictalurus pricei*)	Fish	Threatened (Cochise)							AGFD Tier 1a			Designated Critical Habitat; not within Project ROW	This medium sized fish was extirpated from the US, a small population was re-introduced onto the San Bernardino National Wildlife Refuge in 1997 (FWS 2010d). Elevations range from 4,000 to 5,000 feet (FWS 2013a).	Moderate to large streams with slow current over sand and rock bottoms (FWS 2013a).	None. The proposed Project and all action alternatives are distant from the known populations of this species (more than 59 miles north of San Bernardino National Wildlife Refuge).
Yaqui chub (*Gila purpurea*)	Fish	Endangered (Cochise)							AGFD Tier 1a			Designated Critical Habitat; not within Project ROW	This fish is known from one artesian well in the San Bernardino Creek National Wildlife Refuge and were introduced in Lesley Creek in Leslie Canyon National Wildlife Refuge in Cochise County, Arizona (AGFD 2001af, 2012aa). Elevations range from 4,000 to 6,000 feet (FWS 2013a).	Deep pools of small streams near undercut bands and debris; pools associated with springheads, and artificial ponds (FWS 2013a).	None. The proposed Project and all action alternatives are distant from the known populations of this species.

Table E-1. Potential for Occurrence of Federal Endangered Species Act Listed, Proposed, and Candidate Species in the Analysis Area (Continued)

Species Common Name (Scientific [Latin] Name)	Species Group	Federal Status							State Status		Local Status		Species and Range	Habitat	Potential to Occur in Portions of the Analysis Area in which It Is Listed as a Special Status Species
		ESA (County)	MBTA	BLM (Field Office/District)	USFS Douglas District of CNF	BCC	BMC	BGEPA	SCGN	NM	SDCP	Special Designation Area(s)			
Yaqui topminnow (*Poeciliopsis occidentalis sonoriensis*)	Fish	Endangered (Cochise)							AGFD Tier 1a				In Arizona, this small fish is known from the Rio Yaqui basin in the San Bernardino Wildlife Refuge (AGFD 2012aa; FWS 2010e), at elevations less than 4,500 feet (FWS 2013a).	Small to moderate-sized streams, springs, and cienegas. Generally found in shallow areas with aquatic vegetation or debris. Tolerates relatively high water temperatures and low dissolved oxygen (FWS 2013a).	None. The proposed Project and all action alternatives are distant from the known populations of this species.
Cooke's Peak woodlandsnail (*Ashmunella macromphala*)	Invertebrate	Petitioned for listing/Under Review (Luna)		Sensitive						Threatened			This small terrestrial snail is found on talus slopes of Cooke's Peak on the Black Range north of the town of Deming, and in OK Canyon of New Mexico (BISON-M 2010ad). Elevations range from 6,900 to 7,000 feet (BISON-M 2010ad).	Inhabits edge of talus slopes surrounded by oak trees (BISON-M 2010ad).	None. The proposed Project and all action alternatives are distant from the known populations of this species (more than 12 miles south of Cooke's Peak).
Doña Ana talussnail (*Sonorella todseni*)	Invertebrate	Petitioned for Listing/Under Review (Doña Ana)		Sensitive					NMDGF	Threatened			This small terrestrial snail is known to be restricted to the Doña Ana Mountains north of Las Cruces, New Mexico (BISON-M 2010ah; FWS 2009ac). Elevations average 5,760 feet.	Talus in mountainous areas with live oaks and xeric-adapted shrubs (BISON-M 2010ah).	None. The proposed Project and all action alternatives are distant from the highly restricted range of this species.
Huachuca springsnail (*Pyrgulopsis thompsoni*)	Invertebrate	Candidate (Cochise)											This very tiny snail is found in Springs in southern Santa Cruz and Cochise Counties, Arizona, and Sonora, Mexico (AGFD 2007ab). Elevation range of 4,500-7,200 feet (FWS 2010f).	Found on firm substances in aquatic areas, small springs with vegetation and slow to moderate flows (FWS 2013a).	None. The proposed Project and all action alternatives are distant from the known populations of this species in southern Cochise County.
San Bernardino springsnail (*Pyrgulopsis bernardina*)	Invertebrate	Threatened (Cochise)							AGFD Tier 1b				This small snail is found in small seeps near San Bernardino Ranch in Arizona (AGFD 2006ac, 2007ab). Elevation of 3,806 feet (FWS 2013a).	Inhabits springs with firm substrate composed of cobble, gravel, woody debris, and aquatic vegetation (FWS 2013a).	None The proposed Project and all action alternatives are distant from the known populations of this species (more than 50 miles north of San Bernardino Ranch).
San Xavier talussnail (*Sonorella eremita*)	Invertebrate	Conservation Agreement (Pima)							AGFD Tier 1a			Conservation Area	This small terrestrial snail inhabits San Xavier Hill (White Hill) east of the town of San Xavier, Arizona (AGFD 2003ac). Elevations range from 3,850 to 3,920 feet (FWS 2013b).	Deep, northwest-facing limestone rockslides (FWS 2013b).	None. The proposed Project and all action alternatives are more than 10 miles from the known population of this species.
Three Fork's springsnail (*Pyrgulopsis trivialis*)	Invertebrate	Endangered (Greenlee)		Sensitive									Springs at Three Forks on the Black River, and tributaries of the Black River (Boneyard Creek and Bog) .	Springs and spring-fed creeks with firm substrate (AGFD 2013c).	None. The proposed Project and all action alternatives are distant from the highly restricted range of this species.

Table E-1. Potential for Occurrence of Federal Endangered Species Act Listed, Proposed, and Candidate Species in the Analysis Area (Continued)

Species Common Name (Scientific [Latin] Name)	Species Group	Federal Status							State Status		Local Status		Species and Range	Habitat	Potential to Occur in Portions of the Analysis Area in which It Is Listed as a Special Status Species
		ESA (County)	MBTA	BLM (Field Office/District)	USFS Douglas District of CNF	BCC	BMC	BGEPA	SCGN	NM	SDCP	Special Designation Area(s)			
Wet Canyon talussnail (*Sonorella macrophallus*)	Invertebrate	Conservation Agreement (Graham)											Talus slopes in heavily vegetated area of Wet Canyon (Pinaleño Mountains) (FWS 2007).	Talus must be deep and largely free of excess sedimentation with stable moisture conditions. This species cannot be distinguished from other Sonorella species without dissection (FWS 2007).	None. The proposed Project and all action alternatives are distant from the highly restricted range of this species.
Black-footed ferret (*Mustela nigripes*)	Mammal	Endangered (Grant)							AGFD Tier 1a				In 1992, this small mammal was reportedly the rarest mammal species in North America, no known natural populations exist in Arizona or New Mexico (BISON-M 2011ad). Two re-introduction sites in Arizona (Aubrey Valley and Espee Ranch) and one in New Mexico (Vermejo Park Ranch) (FWS 2012ae).	Mixed shrub at lower elevations below the mesas. Associated with prairie dogs, there only known food source (BISON-M 2011ad).	None. This species is extremely rare, there are no known prairie dog colonies within the proposed Project, and the Project ROW is distant from any re-introduction sites.
Jaguar (*Panthera onca*)	Mammal	Endangered (Hidalgo, Cochise, Pima)							AGFD Tier 1a, NMDGF			Proposed Critical Habitat; none in the Project ROW	The largest native cat to the Western Hemisphere, it historically is known from as far north as central Arizona, but currently known from Santa Rita, Baboquivari Mountains and the Peloncillo Mountains of Arizona. Rare in New Mexico (AGFD 2004av, 2012aa; FWS 2013a). Elevations range from 1,600 to 9,000 feet (FWS 2013a).	Found in Sonoran desertscrub up through subalpine conifer forest (FWS 2013a).	Unlikely. Although suitable habitat parameters may be present, the analysis area is not within the species' typical range. Proposed critical habitat for the jaguar would occur in route groups 2, 3 and 4. In route group 2, it would be 40 miles south of the proposed Project and all action alternatives, in route group 3 it would be 3 miles south, and in route group 4 it would be 5 miles south of proposed critical habitat.
Lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*)	Mammal	Endangered (Hidalgo, Greenlee, Graham, Cochise, Pima, Pinal)							AGFD Tier 1a, NMDGF	Threatened	PVS		This nectar feeding bat is found in central California, southern Arizona, and New Mexico (AGFD 2011ad, 2012aa). In New Mexico, this species is found in Guadalupe Canyon and Clanton Canyon of the Peloncillo Mountains and at OK Bar Ranch, Doubly Adobe Canyon, and Robertson Ranch in the Animas Mountains of extreme southwestern Hidalgo County (BISON-M 2012ac). Roosts are found in several sky island mountains in southeastern Arizona including Big Dragoon, Rincon, and Santa Catalina Mountains (AGFD 2012aa). Elevations range from 1,600 to 11,500 feet (FWS 2013a).	Desertscrub habitat with agave and columnar cacti present as food source. Roosts in caves and abandoned mines (FWS 2013a).	Possible. The analysis area is within the typical range of the species and suitable habitat parameters may be present.

Table E-1. Potential for Occurrence of Federal Endangered Species Act Listed, Proposed, and Candidate Species in the Analysis Area (Continued)

Species Common Name (Scientific [Latin] Name)	Species Group	Federal Status							State Status		Local Status		Species and Range	Habitat	Potential to Occur in Portions of the Analysis Area in which It Is Listed as a Special Status Species
		ESA (County)	MBTA	BLM (Field Office/District)	USFS Douglas District of CNF	BCC	BMC	BGEPA	SCGN	NM	SDCP	Special Designation Area(s)			
Mexican gray wolf (*Canis lupus baileyi*)	Mammal	Endangered/Experimental, Non-essential Population (Grant, Hidalgo, Greenlee)							AGFD Tier 1a, NMDGF	Endangered			This wolf has been re-introduced into the Blue Range Wolf Recovery Area on the AZ/NM border (BISON-M 2010af). This species has been found historically in southeastern Arizona, New Mexico and West Texas, and south to Mexico (AGFD 2001aj). Elevations range from approx. 4,000 to 9,000 feet (BISON-M 2010af).	Forested and grasslands areas with an abundance of large prey (BISON-M 2010af).	Unlikely. Although the analysis area is within the dispersal distances of the species, no habitat suitable for wolf habitation is present. Any wolves present in the analysis area would be dispersing and the analysis area is not within the species' typical occupied range.
Mexican long-nosed bat (*Leptonycteris nivalis*)	Mammal	Endangered (Hidalgo, Cochise)							NMDGF	Endangered	PVS		Roost sites for this bat are found in the Peloncillo and Chiricahua Mountains of western Hidalgo County, New Mexico as well as eastern Cochise County, Arizona. Elevations range from 4,600 to 6,200 feet (BISON-M 2010ac).	Caves and mines near ocotillo, yucca, agave, manzanita, oaks, and juniper (BISON-M 2010ac).	Possible. The analysis area is within the typical range of the species and suitable habitat parameters may be present.
Mount Graham red squirrel (*Tamiascurus hudsonicus grahamensis*)	Mammal	Endangered (Graham)											This rare squirrel's distribution is limited to higher elevation spruce-fir and old growth Douglas-fir forests in the Pinaleno Mountains (FWS 2013i).	Montane conifer forests from spruce-fir to mixed conifer (FWS 2013i).	None. The proposed Project is distant from the highly restricted range of this species.
New Mexico meadow jumping mouse (*Zapus hudsonius luteus*)	Mammal	Endangered (Graham, Greenlee)										Proposed Critical Habitat; none within Project ROW	This mouse is endemic to New Mexico, Arizona, and a small area of southern Colorado (FWS 2007a). In Arizona, populations occupy the White Mountains in southern Apache County and in northern Greenlee County. In New Mexico, they have been found in the San Juan, Sangre de Cristo, Jemez, and Sacramento Mountains, the Rio Grande Valley, and the lower Rio Chama Valley (FWS 2013l).	This small rodent nests in dry soils but uses moist, streamside, dense riparian/wetland vegetation from elevations ranging from 4,500 to 8,000 feet amsl, only using two riparian community types: persistent emergent herbaceous wetlands and scrub-shrub wetlands (riparian area along perennial streams that are composed of willows and alders.) Uses microhabitats of patches or stringers of tall dense sedges on moist soil along the edge of permanent water (FWS 2013l).	None. The proposed Project is distant from the mountains and valleys from which populations of this species are found.
Ocelot (*Leopardus [Felis] pardalis*)	Mammal	Endangered (Graham, Cochise, Pima, Pinal)							AGFD Tier 1a				This small cat species occurs within a limited region in the United States (remnant populations in southern Texas, and transient populations in southeastern Arizona). Present south to Argentina (AGFD 2010ae). Elevations below 8,000 feet (FWS 2013a).	Inhabits desertscrub of Arizona. Humid tropical forests and savannas in areas south of the U.S. (FWS 2013a).	Unlikely. Although suitable habitat parameters may be present, the analysis area is not within the species' typical range.

Table E-1. Potential for Occurrence of Federal Endangered Species Act Listed, Proposed, and Candidate Species in the Analysis Area (Continued)

Species Common Name (Scientific [Latin] Name)	Species Group	Federal Status							State Status		Local Status		Species and Range	Habitat	Potential to Occur in Portions of the Analysis Area in which It Is Listed as a Special Status Species
		ESA (County)	MBTA	BLM (Field Office/District)	USFS Douglas District of CNF	BCC	BMC	BGEPA	SCGN	NM	SDCP	Special Designation Area(s)			
Sonoran pronghorn (*Antilocapra americana sonoriensis*)	Mammal	Endangered (Pima)					Yes		AGFD Tier 1a, NMDGF			Within the 10 (j) area for Sonoran pronghorn recovery	In southwestern Arizona, this large mammal is found in a small population, south of Interstate 8, west of Highway 85, and east of the Copper and Cabeza Prieta Mountains (AGFD 2002ah, 2004at) at elevations ranging from 2,000 to 4,000 feet (FWS 2013b).	Broad, intermountain, alluvial valleys with creosote-bursage and palo verde-mixed cacti associations (FWS 2013b).	None. The proposed Project is distant from the known populations of this species.
New Mexico ridge-nosed rattlesnake (*Crotalus willardi obscurus*)	Reptile	Threatened (Hidalgo, Cochise)							AGFD Tier 1a, NMDGF	Endangered		Designated Critical Habitat; not within Project ROW	This rattlesnake is found in the Peloncillo Mountains of Arizona and New Mexico, and the Animas Mountains of New Mexico (AGFD 2001ak) in the extreme southwestern New Mexico and extreme southeastern Arizona (FWS 2002). Elevations range from 5,000 to 6,600 feet (FWS 2013a).	Canyon bottoms with pine-oak communities (FWS 2013a).	None. The proposed Project is more than 30 miles north of the known populations of this species.
Northern Mexican gartersnake (*Thamnophis eques megalops*)	Reptile	Threatened (Grant, Hidalgo, Graham, Greenlee Cochise, Pima, Pinal)			Sensitive				AGFD Tier 1b	Endangered	PVS	Proposed Critical Habitat present at the crossings of the San Pedro River and Cienega Creek	This small semi-aquatic snake is likely extirpated from New Mexico and is likely extant in fragmented populations within the middle/upper Verde River drainage, middle/lower Tonto Creek, and the Cienega Creek drainage, as well as, a small number of isolated wetland habitats in southeastern Arizona (AGFD 2012ae; FWS 2013m). Elevations range from 130 to 8,500 feet (FWS 2013a).	Inhabits cienegas, stock tanks, large-river riparian woodlands and forests, streamside gallery forests (FWS 2013a).	Possible. The analysis area is within the typical range of the species and suitable habitat parameters may be present.
Sonoran desert tortoise (*Gopherus [agassizii] morafkai*)*	Reptile	Candidate (Graham, Cochise, Pima, Pinal)			Sensitive						PVS		In Arizona, the Mojave population is present north and west of the Colorado River, the Sonoran population occurs south and east of the Colorado River (AGFD 2004ax, 2010ag). Elevations range from less than 7,800 feet (FWS 2013a).	Rocky (often steep) hillsides and bajadas of Mojave and Sonoran Desertscrub but may encroach into desert grassland, juniper woodland, interior chaparral habitats, and even pine communities. Washes and valley bottoms may be used in dispersal (FWS 2013a).	Possible. The analysis area is within the typical range of the species and suitable habitat parameters may be present.
Sonoyta mud turtle (*Kinosternon sonoriense longifermorale*)	Reptile	Candidate (Pima)							AGFD Tier 1a				This turtle occupies stream habitat at Quitobaquito Springs in Organ Pipe Cactus National Monument, Arizona and a few locations in nearby Rio Sonoyta of Sonora, Mexico (AGFD 2005ad). Elevation at Quitobaquito Springs is 1,100 feet (FWS 2013b).	Inhabits ponds and streams (FWS 2013b).	None. The proposed Project is distant from the known populations of this species.

* On October 6, 2015, FWS determined the Sonoran desert tortoise does not warrant protection under the ESA as a candidate species.

Table E-1. Potential for Occurrence of Federal Endangered Species Act Listed, Proposed, and Candidate Species in the Analysis Area (Continued)

Species Common Name (Scientific [Latin] Name)	Species Group	Federal Status							State Status		Local Status		Species and Range	Habitat	Potential to Occur in Portions of the Analysis Area in which It Is Listed as a Special Status Species
		ESA (County)	MBTA	BLM (Field Office/District)	USFS Douglas District of CNF	BCC	BMC	BGEPA	SCGN	NM	SDCP	Special Designation Area(s)			
Tucson shovel-nosed snake (*Chionactis occipitalis klauberi*)	Reptile	September 2014 Determined to not warrant listing under the ESA.		Sensitive					AGFD Tier 1b		PVS		This small snake is restricted to south-central Arizona in Pima, western Pinal, and eastern Maricopa counties (AGFD 2010af, 2012aa). Known to occur west of Tucson northward along Avra Valley (AGFD 2010af). Elevations range from 785 to 1,662 feet (FWS 2013b).	Found in Sonoran desertscrub, in which it is associated with soft, sandy soils having sparse gravel (FWS 2010, 2013b).	Possible. The analysis area is within the typical range of the species and suitable habitat parameters may be present.

Table E-2. Potential for Occurrence of Federal Endangered Species Act Listed Species in Each Route Group and Alternatives

		Route Group 1 Afton to Hidalgo				Route Group 2 Hidalgo to Apache														
Species Common Name (Scientific [Latin] Name)	Species Group	Agency Preferred	Proponent Preferred	Proponent's Alternative	DN1 Alternative	Agency Preferred	Proponent Preferred	Proponent's Alternative	LD1 Alternative	LD2 Alternative	LD3a Alternative	LD3b Alternative	LD4 Alternative	LD4 Option 4 Alternative	LD4 Option 5 Alternative	WC1 Alternative	P7a Route Variation	P7b Route Variation	P7c Route Variation	P7d Route Variation
Mexican spotted owl (*Strix occidentalis lucida*)	Bird	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Sonoran desert tortoise (*Gopherus [agassizii] morafkai*)	Reptile	None	None	None	None	None	Unlikely	Unlikely	None	None	None	None	None	None	None	None	None	None	None	None
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	Bird	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Northern Mexican gartersnake (*Thamnophis eques megalops*)	Reptile	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Sprague's pipit (*Anthus spragueii*)	Bird	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Unlikely	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible
Cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*)	Bird	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Bird	None	None	None	None	None	Possible	Possible	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	None	None	None	None
Lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*)	Mammal	None	None	None	None	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible
Northern aplomado falcon (*Falco femoralis septentrionalis*)	Bird	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Unlikely	Possible	Possible	Possible	Possible	Possible	Possible	None	None	None	None	None
Ocelot (*Leopardus [Felis] pardalis*)	Mammal	None	None	None	None	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	None	None	None	None	None	None	None	None	None
Least tern (Interior population) (*Sterna antillerum*)	Bird	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
Gila chub (*Gila intermedia*)	Fish	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Gila topminnow (*Poeciliopsis occidentalis occidentalis*)	Fish	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Jaguar (*Panthera onca*)	Mammal	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
California least tern (*Sterna antillarum browni*)	Bird	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Chiricahua leopard frog (*Lithobates [Rana] chiricahuensis*)	Amphibian	None	None	None	None	Unlikely	Possible	Possible	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	None	None	None	None

Table E-3. Potential for Occurrence of Federal Endangered Species Act Listed Species in Each Route Group and Alternatives

		Route Group 3 Apache to Pantano			Route Group 4 Pantano to Saguaro											
Species Common Name (Scientific [Latin] Name)	Species Group	Agency Preferred	Proponent Preferred	Alternative H	Agency Preferred	Proponent Preferred	Proponent's Alternative	U3aPC Route Variation	TH1a Alternative	TH1b Alternative	TH1 Option Alternative	TH3a Alternative	TH3b Alternative	TH3 Option A Alternative	TH3 Option B Alternative	MA1 Alternative
Mexican spotted owl (*Strix occidentalis lucida*)	Bird	Unlikely	Unlikely	None	None	None	None	None	None	None	None	None	None	None	None	None
Sonoran desert tortoise (*Gopherus [agassizii] morafkai*)	Reptile	Possible	Possible	Possible	Possible	Possible	N/A	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Unlikely
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	Bird	Possible	Possible	None	Possible	Possible	Possible	None	None	None	None	None	None	None	None	None
Northern Mexican gartersnake (*Thamnophis eques megalops*)	Reptile	Possible; proposed CH in the San Pedro River and Cienega Creek	Possible; proposed CH in the San Pedro River and Cienega Creek	Possible; proposed CH in the San Pedro River	None	None	None	None	None	None	None	None	None	None	None	None
Sprague's pipit (*Anthus spragueii*)	Bird	Possible	Possible	Possible	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	None
Cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*)	Bird	None	None	None	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	None
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Bird	Possible	Possible	None	Possible	Possible	Possible	None	None	None	None	None	None	None	None	None
Lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*)	Mammal	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Possible
Northern aplomado falcon (*Falco femoralis septentrionalis*)	Bird	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Ocelot (*Leopardus [Felis] pardalis*)	Mammal	Unlikely	Unlikely	None	Unlikely	Unlikely	Unlikely	Unlikely	None	None	None	None	None	None	None	None
Least tern (Interior population) (*Sterna antillarum*)	Bird	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Gila chub (*Gila intermedia*)	Fish	Unlikely	Unlikely	None	Unlikely	Unlikely	Unlikely	None	None	None	None	None	None	None	None	None
Gila topminnow (Poeciliopsis occidentalis occidentalis)	Fish	Unlikely	Unlikely	None	Unlikely	Unlikely	Unlikely	None	None	None	None	None	None	None	None	None
Jaguar (Panthera onca)	Mammal	Unlikely	Unlikely	None	Unlikely	Unlikely	Unlikely	Unlikely	None	None	None	None	None	None	None	None
California least tern (Sterna antillarum browni)	Bird	None	None	None	Unlikely	Unlikely	Unlikely	Unlikely	None	None	None	None	None	None	None	None
Chiricahua leopard frog (Lithobates [Rana] chiricahuensis)	Amphibian	Unlikely	Unlikely	None	Unlikely	Unlikely	Unlikely	Unlikely	None	None	None	None	None	None	None	None

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Appendix D

SPECIAL STATUS PLANT SPECIES AND NOXIOUS WEED SPECIES IN THE ANALYSIS AREA

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Agavaceae	Agave	murpheyi	Murphey's century plant (Hohokam agave, or Murphey agave)		BLM Sensitive (Phoenix District)		State Protected Species (Pinal)				Present in low numbers in desert foothills of Central Arizona (BLM, 2010). The only known Pinal County locality is along Queen Creek near Superior, Arizona (AGFD, 2003d; AGFD, 2004m). Elevation range 1,300 to 3,200 feet (AGFD, 2003d).	Inhabits benches or alluvial terraces on gentle bajada slopes above major drainages. Found within the Lower Colorado and Arizona Upland subdivisions of the Sonoran Desert where former agricultural areas were managed by the Hohokam Indians (AGFD, 2003d).	Unlikely. The analysis area is outside the known geographic range for this species but may contain suitable desertscrub habitat.
Agavaceae	Agave	parviflora	Smallflower century plant (Santa Cruz striped agave Agave)				State Protected Species (Pima)				Santa Cruz and southern Pima counties, Arizona, and northern Mexico. Elevation range 3,600 to 4,600 feet (ARPC, 2001).	Open slopes in grasslands and oak woodlands (AGFD, 2003f; ARPC, 2001).	None. The analysis area is outside the highly restricted known range of this species.
Agavaceae	Agave	toumeyana var. bella	Tourney's century plant (Toumey agave)				State Protected Species (Pinal) Salvage Restricted				Galiuro, Sierra Ancha, Superstition, Pinal, and New River mountains and Fish Creek Hill in Arizona (SEINet, 2012). Elevation range 2,625 to 5,577 feet (FNA, 2012s).	Desertscrub and chaparral areas (Kearney and Peebles, 1960) and pinyon-juniper woodlands in rocky limestone or basalt slope substrates (FNA, 2012s).	None. The analysis area is outside the highly restricted known geographic range of this species.
Agavaceae	Agave	schottii var. treleasei	Trelease's century plant (Trelease agave)			CNF Sensitive	State Protected Species (Pima)				Known from the Santa Catalina Mountains, Pima County (ARPC, 2001). Possibly in Cochise County (ARPC, 2001). Elevation range 3,600 to 6,500 feet (ARPC, 2001).	Grasslands, juniper-oak woodlands, and higher elevations of desertscrub (AGFD, 2005f; ARPC, 2001).	None. The analysis area is outside the highly restricted known geographic range of this species.
Apiaceae	Lilaeopsis	schaffneriana ssp. recurva	Huachuca water umbel	Endangered (Cochise, Pima)			State Protected Species (Cochise, Pima, Pinal) Highly safeguarded		SDCP plant species	Critical Habitat: Portions of the San Pedro River upstream from St. David and several canyons in or near the Huachuca Mountains (USFWS 2012f).	Southeastern Arizona, southwestern New Mexico, and Sonora, Mexico (AGFD, 2003b; AGFD, 2004b). Disjunct populations in Cochise and Santa Cruz counties exist along the Santa Cruz and San Pedro Rivers, Sonoita Creek, and Scotia, Sunnyside, Garden, and Bear Canyons. Elevation range 3,500 to 6,500 feet (USFWS, 2012a).	Inhabits cienegas, perennial low gradient streams, and wetlands (USFWS, 2012a).	Possible. The analysis area is within the geographic and elevation range for this species. This species has been reported within 3 miles of the proposed route in Arizona (AGFD-HDMS 2013). Possible. The analysis area is within the geographic and elevation range of this species and may contain suitable habitat. Species is known to be present on San Pedro River and Cienega Creek.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Apocynaceae	Amsonia	kearneyana	Kearney's bluestar	Endangered (Pima)							Restricted to west-facing drainages in the Baboquivari Mountains of Arizona. Elevation range 3,600 to 3,800 feet (USFWS, 2012b).	Stable, partially shaded, coarse alluvium along dry washes in the desertscrub-grassland transition zone (USFWS, 2012b).	None. The analysis area may contain dry wash habitat but is outside the highly restricted known geographic range for this species.
Apocynaceae	Amsonia	grandiflora	Arizona bluestar (Large-flowered blue star)				State Protected Species (Pima) Highly safeguarded				Patagonia, Atascosa, and Pajarito mountains in southern Arizona, and Sonora, Mexico. Elevation range 3,900 to 4,500 feet (ARPC, 2001).	Full sun or partial shade in oak woodlands on canyon sides and bottoms near Emory and Mexican blue oaks (ARPC, 2001).	None. The analysis area is outside the highly restricted known geographic range of this species in Arizona and lacks well-developed oak woodland habitat.
Asclepiadaceae	Asclepias	lemmonii	Lemmon's milkweed			CNF Sensitive					Found in southeastern Arizona and Chihuahua and Sonora, Mexico. Known from the Baboquivari, Santa Rita, Huachuca, and Chiricahua mountains. Elevation range 5,050 to 7,300 feet in Arizona (AGFD, 2006o).	Inhabits canyons, dry slopes, burned areas, and roadsides within Madrean evergreen, pine-oak, and oak woodland communities (AGFD, 2006o).	None. The analysis area, including the portion within CNF, is outside the known geographic and elevational range of this species in Arizona and lacks well-developed woodland habitat.
Aspleniaceae	Asplenium	[Ceterach] dalhousiae	Countess Dalhousie's spleenwort (Dalhouse spleenwort)		BLM Sensitive (Tucson Field Office)						Currently found in Mule and Huachuca mountains of Cochise County and Baboquivari Mountains in Pima County, Arizona. Elevation range 4,000 to 6,000 feet (AGFD, 2004j).	Occupies cliff face seeps in the Mule Mountains (BLM, 2010). Inhabits Sky Islands in shady, rocky, moist ravines in Madrean oak woodlands (AGFD, 2004j).	None. The analysis area is outside the known geographic range for this species and lacks oak woodland habitat.
Asteraceae	Perityle	ajoensis	Ajo rock daisy				State Protected Species (Pima, Pinal) Salvage Restricted				Ajo Mountains of Arizona. Elevation range 2,600 to 4,800 feet (ARPC, 2001).	Vertical cliffs or boulder faces on the north- or west-facing aspects (ARPC, 2001).	None. The analysis area is outside the known geographic but within the elevational range for this species, but lacks vertical cliff faces.
Asteraceae	Erigeron	arisolius	Arid throne fleabane			CNF Sensitive					Cochise, Pima and Santa Cruz counties, Arizona, and Sonora, Mexico. Restricted to Chiricahua and Huachuca mountains in Cochise County (AGFD, 2001i; 2004r), and possibly in southwestern New Mexico. Elevation range 4,265 to 5,650 feet (AGFD, 2001i).	Moist, rocky soils in grasslands or grassy opening in oak woodlands (AGFD, 2001i).	None. The portion of the analysis area within CNF is outside the known geographic range of this species and lacks moist habitat.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Asteraceae	Pectis	imberbis	Beardless chinchweed			CNF Sensitive					Southern Arizona, and western Chihuahua and eastern Sonora, Mexico. In Arizona, found in the Canelo Hills and the Atascosa, Patagonia, Santa Rita, and Huachuca mountains. Elevation range 3,600 to 6,475 feet (AGFD, 2000d).	Eroded granite in oak grasslands. Also found along road cuts (AGFD, 2000d).	None. The portion of the analysis area within CNF is outside the known geographic range of this species and lacks suitable oak grassland habitat.
Asteraceae	Erigeron	kuschei	Chiricahua fleabane			CNF Sensitive, ANPPL Salvage Restricted	State Protected Species (Cochise) Salvage Restricted				Restricted to four sites in the Chiricahua Mountains. Elevation range 7,000 to 9,500 feet (ARPC, 2001).	Moss-covered, north-facing, shaded, granitic cliffs and rock ledges (ARPC, 2001).	None. The analysis area, including the portion within CNF, is outside the highly restricted known geographic and elevational range for this species.
Asteraceae	Perityle	cochisensis	Cochise rockdaisy (Chiricahua rock daisy)			CNF Sensitive, ANPPL Salvage Restricted					Reported from Dos Cabezas and Chiricahua mountains, Cochise County. Elevation range 5,500 to 7,000 feet (ARPC, 2001).	Moist, north-facing cliff faces (ARPC, 2001).	None. The analysis area, including the portion within CNF, is outside the highly restricted known geographic and elevational range of this species.
Asteraceae	Perityle	ambrosiifolia	Lace-leaved rockdaisy (Clifton rock daisy)		BLM Sensitive	CNF Sensitive	State Protected Species (Cochise) Salvage Restricted				Limited to Eagle Creek and San Francisco River, Greenlee County, Arizona. Elevation range 1,800 to 4,900 feet (AGFD, 2005c).	Narrow range of cliff faces within Gila Conglomerate (BLM, 2010). Inhabits pinyon-juniper grassland (AGFD, 2005c).	None. The analysis area is outside the highly restricted known geographic range for this species.
Asteraceae	Erigeron	piscaticus	Fish Creek fleabane		BLM Sensitive (Tucson Field Office)	CNF Sensitive	State Protected Species (Pima) Salvage Restricted				Known to occur only from Galiuro Mountains in Graham County to Santa Catalina Mountains in Pima County. Elevation range 2,250 to 3,500 feet (AGFD, 2001d).	Moist, sandy canyon bottoms with perennial streams (AGFD, 2001d).	None. The analysis area is outside the highly restricted known geographic range for this species and lacks moist canyon habitat.
Asteraceae	Heterotheca	rutteri	Rutter's false golden aster (Huachuca golden aster)		BLM Sensitive (Tucson/Safford Field Offices)	CNF Sensitive					Known from only 11 locations in Arizona, including Altar Valley, Sonoita, Canelo Hills, and the Huachuca and Patagonia mountains. Elevation range 3,560 to 5,275 feet (AGFD, 2001f).	Open grasslands, road cuts, and disturbed sites (AGFD, 2001f).	None. The analysis area is outside the highly restricted known geographic range for this species.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Asteraceae	Senecio	multidentatus var. huachucanus	Huachuca Mountain ragwort (Huachuca groundsel)			CNF Sensitive, ANPPL Salvage Restricted	State Protected Species (Cochise) Highly safeguarded				Southern Arizona and Sonora, Mexico. In Arizona, known from Santa Rita, Huachuca, and Chiricahua mountains. Elevation range 7,000 to 9,500 feet (ARPC, 2001).	Moist loamy soils associated with granite rock outcroppings. Found on north-facing, shaded slopes in oak-pine and pine-fir forests (ARPC, 2001).	None. The analysis area, including the portion within CNF, is outside the known geographic and elevational range of this species and lacks oak-pine or pine-fir forested habitat.
Asteraceae	Erigeron	lemmonii	Lemmon's fleabane	Candidate (Cochise)			State Protected Species (Cochise) Highly safeguarded				Found only in one location in the Huachuca Mountains of Arizona (AGFD, 2004h; AGFD, 2011a). Elevation range 1,500 to 6,000 feet (USFWS, 2012a).	Grows in dense clumps in crevices, ledges, and boulders in canyon bottoms in pine-oak woodlands (USFWS, 2012a).	None. The analysis area is outside the highly restricted known geographic range for this species and does not have pine-oak woodlands.
Asteraceae	Psilactis	gentryi	Mexican tansy aster			CNF Sensitive					Huachuca Mountains of Cochise County and south to central Mexico. Elevation range 5,900 to 9,180 feet (AGFD, 2004w).	Moist habitats, including high meadows, fields, roadsides, and stream and lake margins within woodlands (AGFD, 2004w).	None. The analysis area, including the portion within CNF, is outside the known geographic and elevational range of this species and lacks moist habitat.
Asteraceae	Perityle	cernua	Organ Mountain rock daisy (Nodding cliff daisy)		BLM Sensitive (Las Cruces District)						Currently known only as a narrow endemic in the Organ Mountains of New Mexico (NMRPTC, 1999e). Elevation range 5,000 to 8,800 feet (NMRPTC, 1999e).	Igneous cliffs primarily on rhyolite substrates (NMRPTC, 1999e).	None. The analysis area is outside the highly restricted known geographic range for this species.
Asteraceae	Hieracium	rusbyi (abscissum)	Rusby hawkweed			CNF Sensitive					Southeastern Arizona, New Mexico, and Chihuahua, Mexico. Known from the Pinaleño, Chiricahua, and Huachuca mountains in Arizona. Elevation range 8,800 to 9,300 feet (AGFD, 2005t).	Shady slopes in mixed conifer forests (AGFD, 2005t).	None. The analysis area, including the portion within CNF, is within the known geographic range but lacks conifer forest habitat.
Asteraceae	Heterotheca	rutteri	Rutter's false goldenaster										None. The portion area, including the portion with CNF, is outside the highly restricted known geographic range of this species.
Asteraceae	Packera	neomexicana var. tourneyi	Tourney groundsel			CNF Sensitive					Restricted to the Pinal Mountains in Pinal County and the Chiricahua and Huachuca mountains in Cochise County. Elevation range 5,500 to 9,200 feet (AGFD, 2004u).	Found in loose, rocky soil in oak chaparral through pine forest communities (AGFD, 2004u).	None. The portion of the analysis area within CNF is outside the known geographic and elevational range of this species and lacks oak chaparral or pine forest habitat.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Berberidaceae	Berberis	harrisoniana	Harrison's barberry (Kofa Mountain barberry)		BLM Sensitive (Tucson Field Office)						Limited to Kofa Mountains and isolated ranges in western Pima County and southwestern Maricopa County of Arizona (AGFD, 2004n). Elevation range 2,200 to 3,500 feet (AGFD, 2004n).	Inhabits bottoms of deep, rocky, shady canyons (AGFD, 2004n).	None. The analysis area is outside the highly restricted known geographic range for this species.
Bixaceae	Amoreuxia	gonzalezii	Santa Rita mountain yellowshow (Saiya)			CNF Sensitive	State Protected Species (Pima) Highly safeguarded				Santa Rita Mountains in Arizona, and northern Mexico. Elevation range 4,200 to 4,500 feet (ARPC, 2001).	Rocky, limestone hillsides (ARPC, 2001).	None. The analysis area is outside the highly restricted known geographic range of this species.
Brassicaceae	Arabis	tricornuta	Rincon Mountain rock cress (Chiricahua rock cress)			CNF Sensitive					Endemic to southern Arizona. Found in Rincon, Santa Rita, Huachuca and Chiricahua mountains. Elevation range 6,000 to 8,840 feet (AGFD, 2006n).	Inhabits steep, rocky slopes beneath pines. Also found on road banks. Occurs in Madrean evergreen woodlands and montane conifer forests (AGFD, 2006n).	None. The analysis area, including the portion within CNF, is outside of the known geographic and elevational range of this species and lacks forested habitat.
Cactaceae	Echinomastus	erectocentrus var. acunensis	Acuña cactus	Candidate, SDCP Species (Pima, Pinal)			State Protected Species (Pima, Pinal) Highly safeguarded				Present in western Pima County, central Pinal County, and southwestern Maricopa County in Arizona (AGFD, 2005a; AGFD, 2011b). Elevation range 1,300 to 2,000 feet (USFWS, 2012b).	Inhabits well drained knolls and gravel ridges in Sonoran desertscrub (USFWS, 2012b).	None. The analysis area is outside the highly restricted known geographic range for this species.
Cactaceae	Echinocereus	coccineus Engelm. var. arizonicus (triglochidiatus var. arizonicus)	Arizona hedgehog cactus	Endangered (Pinal)			State Protected Species (Pinal) Highly safeguarded				Central Arizona, in Pinal and Gila counties (AGFD, 2003b; AGFD, 2004f). Elevation range 3,200 to 5,200 feet (USFWS, 2012h).	Inhabits the ecotone between interior chaparral and Madrean evergreen woodland (USFWS, 2012h).	None. The analysis area is outside the highly restricted known geographic range for this species.
Cactaceae	Epithelantha	micromeris	Pingpong-ball cactus (Button cactus)				State Protected Species (Cochise) Salvage Restricted				Santa Cruz and Cochise counties in southeastern Arizona. Elevation range 3,000 to 5,800 feet (AGFD, 2005k).	Chihuahuan Desert grasslands on ridges and hillsides. Limestone substrates and occasionally on igneous soils (AGFD, 2005k).	Possible. The analysis area is within the geographic range of this species and suitable grassland habitat may be present.
Cactaceae	Escobaria (Coryphantha)	sneedii	Sneeds pincushion cactus (Carpet foxtail cactus)				State Protected Species (Cochise) Salvage Restricted				Arizona, New Mexico, Texas, and Chihuahua, Mexico. Known in Arizona from the Chiricahua Mountains and in New Mexico from the Florida Mountains near Deming and the Guadalupe Mountains near Carlsbad. Elevation range 1,969 to 8,530 feet (SEINet, 2012).	Confined to limestone outcrops in Chihuahuan desertscrub to conifer woodlands (SEINet, 2012).	None. The study corridor is outside the highly restricted known geographic range of this species.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Cactaceae	Escobaria	robbinsiorum	Cochise foxtail cactus (Cochise pincushion cactus)	Threatened (Cochise)			State Protected Species (Cochise)				Southeastern and southwestern Cochise County of Arizona and northern Sonora Mexico (AGFD, 2001a). Elevations greater than 4,200 feet (USFWS, 2012a).	Semi-desert grassland with small shrubs, agave, other cacti, and grama grass. Grows on limestone hills (USFWS, 2012a).	None. The analysis area contains semi-desert grassland habitat but is outside the highly restricted known geographic range for this species.
Cactaceae	Peniocereus	striatus	Gearstem cactus (Dahlia rooted cereus)				State Protected Species (Cochise) Salvage Restricted				South-central Arizona along the U.S.–Mexico border. Elevation range 0 to 1,640 feet (FNA, 2012r).	Sonoran Desert, small hills and flats (FNA, 2012r).	None. The analysis area is outside the known geographic range for this species and lacks Sonoran Desert sand hills and flat areas.
Cactaceae	Ferocactus	cylindraceus	California barrel cactus (Desert barrel cactus)				State Protected Species (Pima, Pinal) Salvage Restricted				Utah, Nevada, California, Arizona, and Baja California and Sonora, Mexico. Within Arizona, known from the low deserts of the western and central portions of the State. Southeastern-most records in the State are from the Tucson Mountains (SEINet, 2012). Elevation range 200 to 2,900 feet (AGFD, 2005m).	Sonoran and Mohave deserts on gravelly or rocky hillsides, canyon walls, alluvial fans, and wash margins. Alluvial plains and igneous and limestone substrates (AGFD, 2005m).	Possible. The analysis area is within the geographic and elevation range of this species and suitable desertscrub habitat may be present.
Cactaceae	Echinocereus	pseudopectinatus	Devilthorn (Devilthorn hedgehog cactus)				State Protected Species (Cochise) Salvage Restricted				Southeastern Arizona. Elevation range 3,940 to 4,595 feet (FNA, 2012d).	Chihuahuan Desert, mostly semi-desert grassland, desertscrub, igneous substrates, and rocky slopes (FNA, 2012d).	Possible. The analysis area is within the geographic and elevation range of this species and suitable desert scrub and semi-desert grassland habitat may be present.
Cactaceae	Opuntia	polyacantha (arenaria)	El Paso prickly pear (Dune prickly pear)		BLM Sensitive (Las Cruces District)			NM Endangered (Luna, Doña Ana)			Southern Socorro, Doña Ana and Luna counties in New Mexico. Also in Texas and Chihuahua Mexico. Elevation range 3,800 to 4,300 feet (NMRPTC, 1998a).	Sandy areas in Chihuahuan desertscrub (NMRPTC, 1998a).	Possible. The analysis area is within the geographic and elevational range of this species and suitable sandy habitat may be present.
Cactaceae	Ferocactus	emoryi	Emory's barrel cactus ()				State Protected Species (Pima) Salvage Restricted				Southeastern Arizona. Elevation range 0 to 3,940 feet (FNA, 2012e).	Sonoran desertscrub on hillsides, alluvial fans, wash margins, flats, mesas, bajadas, rocky slopes. Gravelly, rocky, or sandy soils. Igneous substrates (FNA, 2012e).	None. The analysis area is outside the known geographic range for this species.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Cactaceae	Opuntia	engelmannii var. flavispina	Cactus apple (Engelmann prickly pear)				State Protected Species (Pima) Salvage Restricted				Graham, Maricopa, Mohave, Pima (Organ Pipe National Monument, Waterman Mountains, Atascosa Mountains, and Cabeza Prieta National Wildlife Refuge), Santa Cruz, and Yavapai counties in Arizona (SEINet, 2012). Elevation range 1,640 to 2,625 feet (FNA, 2012h).	Sonoran Desert on sandy bajadas (FNA, 2012h).	Possible. The analysis area is within the known geographic and elevational range for this species and may contain suitable desertscrub habitat.
Cactaceae	Peniocereus	greggii var. greggii	Night-blooming cereus (Greg Night-blooming cereus)		BLM Sensitive (Las Cruces District)		State Protected Species (Cochise)	NM Endangered (Hidalgo, Grant, Luna, Doña Ana)			Doña Ana, Grant, Hidalgo, and Luna counties in New Mexico. Also in Texas, Arizona, and Chihuahua, Mexico. Elevation range 3,940 to 4,920 feet (FNA, 2012a).	Sandy to silty gravelly soils in level terrain. Desert grasslands and Chihuahuan desertscrub (NMRPTC, 1998b).	Possible. The analysis area is within the geographic range of this species and suitable grassland or desertscrub habitat may be present.
Cactaceae	Opuntia	x kelvinensis	Kelvin cholla				State Protected Species (Pima) Salvage Restricted				Southeastern Arizona. Elevation range 1,800 to 3,100 feet (SEINET, 2012).	Edges of grasslands, desertscrub, rolling hills, and rocky flats and slopes (SEINet, 2012).	Possible. The analysis area is within the geographic and elevation range of this species and this species has been reported from west edge of Tucson.
Cactaceae	Echinocereus	fasciculatus	Pink flower hedgehog cactus (Magenta Flower hedge-hog cactus)				State Protected Species (Pima) Salvage Restricted				South-central to southwestern Arizona. Elevation range 1,970 to 3,280 feet (FNA, 2012c).	Sonoran Desert, desertscrub, semi-desert grassland, and interior chaparral (FNA, 2012c).	Possible. The analysis area is within the geographic and elevation range of this species and suitable habitat may be present.
Cactaceae	Echinomastus	erectocentrus var. erectocentrus	Redspine fishhook cactus (Needle-spined pineapple cactus)			ANPPL Salvage Restricted	State Protected Species (Cochise, Pima, Pinal) Salvage Restricted		SDCP plant species		Pinal, Pima, and Cochise counties in Arizona. Elevation range 2,953 to 4,921 feet (AGFD, 2009a; 2004ac).	Desert grasslands on low bajadas and gravelly hills. Igneous, calcareous, and limestone substrates. (ARPC, 2001; AGFD, 2009a).	Possible. The analysis area is within the geographic range of this species and suitable grassland habitat may be present. This species is known to be present within 2 miles of the Proposed Upgrade Section and within 3 miles of the New Build Section (AGFD, 2012b; 2012c).
Cactaceae	Echinocactus	horizonthalonius var. nicholii	Nichol's echinocactus (Nichol Turk's head cactus)	Endangered (Pima, Pinal)			State Protected Species (Pima, Pinal) Highly safeguarded				Limited to three populations in the Waterman and Vekol mountains, and Koht Kohl Hill (AGFD, 2004e; AGFD, 2008). Elevation range 2,400 to 4,100 feet (USFWS, 2012b).	Sonoran desertscrub in unshaded microclimates on dissected alluvial fans at the foot of and on inclined terraces and saddles on limestone mountains (USFWS, 2012b).	None. The analysis area is outside of the highly restricted known geographic range for this species.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Cactaceae	Peniocereus	greggii var. transmontanus	Night-blooming cereus				State Protected Species (Pima) Salvage Restricted				Southern Arizona. Elevation range 985 to 3,610 feet (FNA, 2012i).	Sonoran Desert, creosote-bursage flats, in flats, edges of washes, and slopes of small hills. Sandy or gravelly loam substrates (FNA, 2012i).	Possible. The analysis area is within the geographic and elevation range of this species and suitable creosote-bursage habitat may be present within the analysis area.
Cactaceae	Escobaria	organensis	Organ Mountain foxtail cactus (Organ Mountain pincushion cactus)					NM Endangered (Doña Ana)			Restricted to the Organ and northern Franklin mountains in Doña Ana County, New Mexico. Elevation range 4,400 to 8,530 feet (NMRPTC, 2006b).	On andesite, quartz-monzonite, rhyolite, and limestone in Chihuahuan desertscrub and oak or pinyon-juniper woodlands (NMRPTC, 2006b).	None. The proposed analysis area may contain suitable Chihuahuan desert scrub habitat but is outside the highly restricted known geographic range of this species.
Cactaceae	Stenocereus	thurberi	Organ pipe cactus				State Protected Species (Pinal, Pima) Salvage Restricted				South-central Arizona in Organ Pipe National Monument. Elevation range 66 to 3,610 feet (FNA, 2012p).	Upland Sonoran Desertscrub (FNA, 2012p).	None. The analysis area is outside the highly restricted known geographic range for this species.
Cactaceae	Coryphantha	scheeri var. robustispina	Long-tubercle beehive cactus (Pima pineapple cactus)	Endangered (Pima)			State Protected Plant (Pima) Highly safeguarded		SDCP plant species		South-central Arizona and north-central Sonora. Between Santa Rita and Baboquivari mountains in Pima and Santa Cruz counties (AGFD, 2001b). Elevation range 2,300 to 5,000 feet (USFWS, 2012b).	Open areas or flat ridge tops in Sonoran desertscrub or semi-desert grassland communities (USFWS, 2012b).	Possible. The analysis area is within its geographic and elevation range and contains desertscrub or semi-desert grassland habitat. This species has been reported within 2 miles of the proposed route in Arizona (AGFD, 2012b).
Cactaceae	Echinocereus	ledingii	Leding's hedgehog cactus (Pinaleño hedgehog cactus)				State Protected Species (Cochise) Salvage Restricted				Santa Catalina, Graham, Pinaleno, and Mule mountains of Arizona (Benson, 1969). Also found in Santa Theresa and Dos Cabezas mountains of Arizona (AGFD, 1998b; 2004ab). Elevation range 4,000 to 7,400 feet (AGFD, 1998b).	Gravelly or sandy mountain slopes in chaparral, woodlands, or grasslands (Benson, 1969).	None. The analysis area is below the elevational limits for this species and it has not been reported in the mountain ranges in close proximity to the analysis area.
Cactaceae	Pachycereus (Lophocereus)	schottii	Senita cactus				State Protected Species (Pima) Salvage Restricted				Extreme southern Arizona in Organ Pipe National Monument in Pima County and Sonora and Baja California in Mexico (Benson, 1969). Elevation range 1,000 to 2,000 feet (Epple and Epple, 2012)	Deserts in sandy soils (Epple and Epple, 2012).	None. The analysis area is outside the highly restricted known geographic range for this species.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Cactaceae	Coryphantha	robustispina (scheeri var. valida)	Scheer's beehive cactus (Slender needle corycactus)				State Protected Species (Cochise) Salvage Restricted				Texas, southern New Mexico, southern Arizona, and Chihuahua, Durango, and Coahuila, Mexico. In Arizona, known from San Simon Valley and near Nogales. Elevation range 3,900 to 4,800 feet (AGFD, 2005i).	Found in deep, sandy soils in bottomlands or grasslands and deserts (AGFD, 2005i).	Possible. The analysis area is within the known geographic and elevational range of this species and may contain suitable grassland habitat in San Simon Valley near Willcox. This species has been reported within 3 miles of the proposed route in Arizona (AGFD-HDMS 2013).
Cactaceae	Escobaria (Coryphantha)	sneedii var. sneedii	Sneed's pincushion cactus	Endangered (Doña Ana)	BLM Sensitive (Las Cruces District)			NM Endangered (Doña Ana)			Limited to Organ and Franklin mountains east of the Rio Grande River and between Las Cruces, New Mexico, and El Paso, Texas (NMRPTC, 2005c; USFWS, 1986). Elevation range 4,000 to 5,900 feet (NMRPTC, 2005b; NatureServe, 2011).	Restricted to limestone formations. Grows in cracks on vertical cliffs or ledges in Chihuahuan desertscrub (NMRPTC, 2005b).	None. The analysis area is outside the highly restricted known geographic range of this species.
Cactaceae	Escobaria	villardii	Sacramento Mountain foxtail cactus		BLM Sensitive (Doña Ana)			NM Endangered			New Mexico, Otero and Doña Ana counties; west slope of the Sacramento Mountains and northern Franklin Mountains.	Loamy soils of desert grassland with Chihuahuan desert scrub on broad limestone benches in mountainous terrain; 1,370-2,000 m (4,500-6,500 ft).	
Cactaceae	Cylindropuntia (Opuntia)	versicolor	Staghorn cholla				State Protected Species (Pima, Pinal) Salvage Restricted						Possible. The analysis area is within the geographic and elevation range for this species. This species is known to be present within 2 miles of the Upgrade Section (AGFD, 2012b).
Cactaceae	Mammillaria	thornberi	Thornber's nipple cactus (Thornber fishhook cactus)				State Protected Species (Pinal) Salvage Restricted				South-central Arizona (FNA, 2012l) and Sonora, Mexico. Elevation range 1,310 to 1,970 feet (SEINet, 2012).	Sonoran desertscrub under shrubs along valley floors. Silty or sandy soil substrates (SEINet, 2012).	Possible. The analysis area is within the geographic and elevation range for this species. This species is known to be present within 2 miles of the Upgrade Section (AGFD, 2012b).
Cactaceae	Escobaria	villardii	Sacramento Mountain foxtail cactus (Villard's pincushion cactus)		BLM Sensitive (Las Cruces District)			NM Endangered (Doña Ana)			Limited to west slope of Sacramento Mountains and north end of Franklin Mountains of New Mexico. Elevation range 4,500 to 6,500 feet (NMRPTC, 2006a).	Desert grasslands with Chihuahuan desertscrub in loamy soils on limestone benches (NMRPTC, 2006a).	None. The analysis area is outside the highly restricted known geographic range for this species.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Cactaceae	Mamillaria	wrightii var. wilcoxii	Wilcox's nipple cactus (Wilcox pincushion cactus)				State Protected Species (Cochise) Salvage Restricted	NM Endangered (Hidalgo)			Arizona, New Mexico, and likely Mexico. Known from Cochise, Graham, and Santa Cruz Counties in Arizona and Hidalgo County in New Mexico (NatureServe, 2011).	Low hills along the edges of woodlands (NatureServe, 2011).	None. The analysis area is within the known geographic range of this species but lacks well-developed woodland habitat. However, habitat may be present in the Arizona portion of the analysis area and this species is known to be present within 2 miles of the Upgrade Section in Arizona (AGFD, 2012b).
Campanulaceae	Lobelia	fenestralis	Fringeleaf lobelia (Leafy lobelia)				State Protected Species (Cochise) Salvage Restricted				Southeastern Arizona, southwestern New Mexico, and western Texas southward to Sonora and Chihuahua Mexico. Elevation range 3,510 to 6,000 feet (AGFD, 2005o).	Grasslands, swales, and moist meadows. Pine-oak woodlands in Mexico. Unknown substrates (AGFD, 2005o).	None. The analysis area is outside the known geographic range for this species and lacks pine-oak woodland habitat.
Capparaceae	Cleome	multicaulis	Slender spider flower (Playa spider plant)				State Protected Species (Cochise) Salvage Restricted				Southern Wyoming, south-central Colorado, southwestern New Mexico, southeastern Arizona, and south to central Mexico. Reported from Willcox Playa and San Bernardino Ranch, but Arizona populations have not been confirmed since the 1940s (AGFD, 2001k). Elevation range 3,600 to 4,200 feet (AGFD, 2001k).	Wet, saline, or alkaline soils in playas or alkaline meadows (AGFD, 2001k).	Unlikely. The Arizona portion of the analysis area is within the known geographic and elevational range of this species and may contain suitable playa habitat but it is unclear whether this species still occurs in Arizona.
Caryophyllaceae	Stellaria	porsildii	Porsild's starwort			CNF Sensitive					Only known from Rustler Park in the Chiricahua Mountains of Cochise County, Arizona, and Signal Peak of the Piños Altos Mountains of Grant County, New Mexico. Elevation range 7,000 to 8,000 feet (ARPC, 2001).	Open meadows and partially shaded understory in pine, fir, and oak forests (ARPC, 2001).	None. The analysis area, including the portion within CNF, is outside the highly restricted known geographic and elevational range of this species and lacks meadow or forest habitat.
Crassulaceae	Graptopetalum	bartramii	Patagonia Mountain leatherpetal (Bartram stonecrop)		BLM Sensitive (Tucson Field Office)	CNF Sensitive	State Protected Species (Cochise, Pima) Salvage Restricted				Present in several mountain ranges in southeastern Arizona. Elevation range 3,650 to 6,700 feet (AGFD, 2001e).	Rocky outcrops in canyons with Madrean evergreen woodland (BLM, 2010). Inhabits cracks with deep litter cover along arroyos (AGFD, 2001e).	None. The analysis area is within the geographic and elevation range of this species, but lacks well-developed evergreen woodland habitat with deep leaf litter.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Crossosomataceae	Apacheria	chiricahuensis	Apachebush (Chiricahua rock flower)				State Protected Species (Cochise) Highly safeguarded				Known from Chiricahua and Dragoon mountains in Arizona and San Mateo and Black mountains in New Mexico. Possibly in Mexico. Elevation range 5,160 to 7,000 feet (AGFD, 2005h).	Cliff faces and crevices of rock outcrops (AGFD, 2005h).	None. The analysis area is outside the known geographic and elevational range of this species.
Cucurbitaceae	Tumamoca	macdougalii	Tumamoc globeberry		BLM Sensitive, SDCP Species (Tucson Field Office)	ANNPL Salvage Restricted	State Protected Species (Pima, Pinal) Salvage Restricted		SDCP plant species		Present in southern Pinal and Maricopa counties and widespread in Pima County. Also present in Sonora and Sinaloa, Mexico. Elevations below 3,000 feet (AGFD, 2004p).	Xeric areas under nurse plants along gullies and shady washes of hills and valleys in Sonoran desertscrub and Sinaloan thornscrub communities (AGFD, 2004p).	Possible. The analysis area is within the geographic range for this species and may contain suitable desertscrub habitat. This species is known to be present within 2 miles of the Upgrade Section (AGFD, 2012b).
Cyperaceae	Carex	chihuahuensis	Chihuahuan sedge			CNF Sensitive		NM Endangered (Hidalgo)			Found in southeastern Arizona, southwestern New Mexico, and Sonora and Chihuahua, Mexico. Known from the Chiricahua, Huachuca, Pinaleño, Sierra Ancha, Santa Catalina, San Luis, Rincon, Atascosa, and Santa Rita mountains. Also known from the San Bernardino Valley in Cochise County. Elevation range 3,600 to 7,200 feet in Arizona (AGFD, 2004q).	Cienegas, marshy areas, canyon bottoms, and wet meadows in pine-oak forests and riparian woodlands (AGFD, 2004q).	None. The portion of the analysis area within CNF is within the known geographic and elevational range of this species but lacks aquatic/wet habitats required by this species.
Cyperaceae	Carex	ultra (spissa var. ultra)	Cochise sedge (Arizona giant sedge)		BLM Sensitive (Safford Field Office)	CNF Sensitive					Found in numerous mountain ranges of southeastern Arizona. Elevation range 2,040 to 6,000 feet (AGFD, 2000b).	Inhabits moist areas near springs and streams with undulating rocky-gravelly soils (AGFD, 2000b).	Possible. The analysis area is within the geographic and elevational range of this species and may contain suitable habitat. However, this species has no potential to occur on CNF lands (Upgrade Section Segment U1) within the analysis area. This species has been reported within 3 miles of the proposed route in Arizona (AGFD-HDMS 2013).

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Euphorbiaceae	Tragia	laciniata	Sonoita noseburn (Sonoran noseburn)			CNF Sensitive					Southeastern Arizona and eastern Sonora and Chihuahua, Mexico, and possibly New Mexico as well. In Arizona, known from Canelo Hills and Santa Rita, Pajarito, Patagonia, Atascosa, and Huachuca mountains. Elevation range 3,500 to 5,680 feet (AGDF, 2004y).	Along streams, canyon bottoms, and on shaded hillsides in oak woodlands and pine-oak forests (AGFD, 2004y).	None. The portion of the analysis area within CNF is outside the known geographic range of this species and lacks well-developed oak woodland or pine-oak forest habitat.
Euphorbiaceae	Euphorbia	macropus	Huachuca Mountain spurge (Woodland spurge)				State Protected Species (Cochise) Salvage Restricted				Southern Arizona, to Chihuahua and Sonora Mexico (AGFD, 2005l). Elevation range 2,140 to 7,425 feet; SEINet collections in Arizona ranged from 5,200 to 7,250 feet (AGFD, 2005l).	Pine-oak woodlands in shady canyon bottoms and open hillsides in leaf litter. Alluvial substrates (AGFD, 2005l).	None. The analysis area is outside the known geographic range for this species and lacks pine-oak woodland habitat.
Fabaceae	Pediomelum	pentaphyllum	Small Indian breadroot (Chihuahua scurf pea)		BLM Sensitive (Las Cruces District)	CNF Sensitive					Known from two sites in eastern Hidalgo County, New Mexico, and possibly Cochise and Graham counties in Arizona. Also in Chihuahua, Mexico. Elevation range 4,400 to 6,600 feet (NMRPTC, 1999c).	Occupies healthy grasslands (BLM, 2010). Associated with mesquite and desert grasslands in New Mexico (NMRPTC, 1999c).	Possible. The analysis area is within the geographic and elevation range of this species and suitable grassland habitat may be present.
Fabaceae	Astragalus	cobrensis var. maguirei	Maguire-s milkvetch (Coppermine milkvetch)			CNF Sensitive, ANPPL Salvage Restricted	State Protected Species (Cochise) Salvage Restricted				Known from Chiricahua and Peloncillo mountains. Possibly in Pinaleño Mountains. Elevation range 5,080 to 7,450 feet (AGFD, 1999c).	Near stream bottoms and on lower terraces in shady canyons on shattered rock and rich humus. Found in pinyon-juniper through oak-pine woodlands (AGFD, 1999c).	None. The analysis area, including the portion within CNF, is outside the known geographic and elevational range of this species and lacks well-developed woodland habitat.
Fabaceae	Dalea	tentaculoides	Gentry's indigobush		BLM Sensitive (Tucson Field Office)	CNF Sensitive	State Protected Species (Pima) Highly safeguarded				Limited to Sycamore Canyon of Atascosa and Pajarito mountains in Santa Cruz County and Baboquivari Mountains in Pima County. Elevation range 3,600 to 4,580 feet (AGFD, 2001c).	Floodplain terraces in shady canyons (BLM, 2010). Inhabits canyon bottom on cobble terraces (AGFD, 2001c).	None. The analysis area is outside the highly restricted known geographic range for this species.
Fabaceae	Astragalus	hypoxylus	Huachuca Mountain milkvetch (Huachuca milkvetch)		BLM Sensitive (Tucson Field Office)	CNF Sensitive, ANPPL Salvage Restricted	State Protected Species (Cochise) Salvage Restricted				Huachuca and Patagonia mountains, Cochise and Santa Cruz counties of Arizona. Elevation range 5,300 to 6,100 feet (AGFD, 1999b).	Inhabits open rocky limestone clearings in oak-juniper-pinyon woodlands with 25-30° slopes (AGFD, 1999b).	None. The analysis area, including the portion within CNF, is outside the known geographic and elevational range for this species (AGFD, 1999b; 2006b) and lacks evergreen woodland habitat.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Fabaceae	Lupinus	huachucanus	Huachuca Mountain lupine			CNF Sensitive					Southeastern Arizona and Sonora, Chihuahua, and Durango, Mexico. Known from Santa Rita, Huachuca, and Chiricahua mountains in Arizona. Elevation range 5,000 to 7,600 feet (AGFD, 2001c).	Canyon bottoms, roadsides, and moderate to steep slopes in pine and oak-pine forests (AGFD, 2001c).	None. The analysis area, including the portion within CNF, is outside the known geographic and elevational range of this species and lacks pine or oak-pine forest habitat.
Fabaceae	Lupinus	lemmonii	Lemmon's lupine			CNF Sensitive					Nevada, Arizona, southwestern New Mexico, and Sonora, Mexico. Known from Baboquivari, Santa Catalina, Galiuro, Dragoon, and Chiricahua mountains in southeastern Arizona and Peloncillo Mountains in southwestern New Mexico. Elevation range 4,848 to 8,600 feet (SEINet, 2012).	Collected in gravelly canyon bottoms and on disturbed slopes of dry pinyon-juniper through pine woodlands (SEINet, 2012).	None. The analysis area, including the portion within CNF, is within the known geographic range of this species but is below its known elevational limit and lacks pinyon-juniper woodland habitat.
Fabaceae	Lysiloma	watsonii	Littleleaf false tamarind				State Protected Species (Pima) Salvage Restricted				Southern Arizona in the Rincon Mountains in Pima County, Chihuahua, Sonora, and northern Sinaloa, Mexico. Elevation range 2,800 to 4,750 feet (AGFD, 2005p).	Arizona upland desertscrub and desert grasslands on rocky hillsides and slopes of creeks and tributaries (AGFD, 2005p).	Possible. The analysis area is within the known geographic and elevational range for this species and may contain suitable desertscrub or grassland habitat.
Fabaceae	Astragalus	cobrensis var. maguirei	Copper mine milk vetch (Maguire milkvetch)		BLM Sensitive (Las Cruces)						Collected only once in New Mexico in Peloncillo Mountains (NMRPTC, 1999a). Elevation range 5,500 to 7,000 feet (NMRPTC, 1999a).	Dry creek beds, banks, canyon sides, generally dry, open slopes with oaks, juniper, and pine (NMRPTC, 1999a).	None. The analysis area is outside the known geographic and elevational range of this species and lacks wooded habitat.
Fabaceae	Desmodium	metcalfei	Metcalfe's tick-trefoil			CNF Sensitive					Arizona, New Mexico, and Sinaloa, Mexico. Known from Cochise, Coconino, Gila, Pinal, Santa Cruz, and Yavapai counties in Arizona and Grant and Sierra counties in New Mexico. Elevation range 4,000 to 6,500 feet (NMRPTC, 2009).	Rocky slopes and canyons. Found within grasslands, oak-pinyon-juniper woodlands, and riparian forests (NMRPTC, 2009).	None. The portion of the analysis area within CNF is within the known geographic and elevational range of this species but lacks rocky slope or canyon habitat.
Fabaceae	Errazurizia	rotundata	Round-leaf dune broom (Round-leaf broom)		BLM Sensitive (Tucson Field Office)						Primarily in Little Colorado River drainage, but has been collected in Maricopa County in Arizona. Elevation range 4,620 to 5,200 feet (AGFD, 2005b).	Great Basin desertscrub with widely spaced shrubs. Rocky hilltops and ledges in sandy areas (AGFD, 2005b).	None. The analysis area is outside the known geographic range for this species and lacks Great Basin desertscrub habitat.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Fabaceae	Coursetia	glabella	Smooth babybonnets			CNF Sensitive					Extreme southern Arizona and Chihuahua, Mexico. Known from Canelo Hills and Patagonia, Huachuca, and Chiricahua mountains in Arizona. Elevation range 5,000 to 7,200 feet (AGFD, 2001h).	Dry slopes with partial shade in Madrean oak woodlands, and oak-juniper and pine-oak forests (AGFD, 2001h).	None. The analysis area, including the portion within CNF, is outside the known geographic and elevational range of this species.
Gentianaceae	Gentianella	wislizeni	Chiricahua Mountain dwarf gentian (Wislizeni gentian)			CNF Sensitive, ANPPL Salvage Restricted	State Protected Species (Cochise)				Chiricahua and White mountains of Arizona, and Chihuahua and Sonora, Mexico. Elevation range 6,500 to 8,000 feet (ARPC, 2001).	Open meadows and partially shaded slopes in mixed conifer forests (ARPC, 2001).	None. The analysis area, including the portion within CNF, is outside the known geographic and elevational range of this species and lacks conifer forest habitat.
Iridaceae	Sisyrinchium	cernuum	Nodding blue-eyed grass			CNF Sensitive					Arizona and Sonora, Chihuahua, Baja California, Sinaloa, and Colima, Mexico. In Arizona, reported from San Francisco, Rincon, Santa Rita, Huachuca, Mule, and Chiricahua mountains. Elevation range 3,281 to 7,874 feet (SEINet, 2012).	Moist areas, meadows, and stream banks in woodland communities (SEINet, 2012).	None. The portion of the analysis area within CNF is within the known geographic and elevational range of this species but lacks moist habitat in woodland communities.
Lamiaceae	Salvia	amissa	Santa Catalina Mountain sage (Aravaipa sage)		BLM Sensitive (Tucson Field Office)						Limited to Galiuro, Superstition, and Sierra Ancha mountains and Eagle Creek near Morenci (AGFD, 2002a; SEINet, 2012). Elevation range 1,500 to 5,000 feet (AGFD, 2002a).	Floodplain terraces in shady canyons (BLM, 2010).	None. The analysis area is outside the known geographic range for this species and lacks floodplain terraces in shady canyon habitat.
Liliaceae	Triteleiopsis	palmeri	Palmer's bajalily (Blue sand lily)				State Protected Species (Pima) Salvage Restricted				Pinta Sands, Agua Dulce and Gila mountains, Baja California, and Sonora, Mexico. Elevation range from sea level to 1,600 feet (ARPC, 2001).	Loose dunes and sandy desert flats (ARPC, 2001).	None. The analysis area is outside the known geographic and elevational range of this species.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Liliaceae	Allium	glandulosum	Gland onion				State Protected Species (Pima) Salvage Restricted				Southeastern Arizona and northern Mexico. Mule, Huachuca and Galiuro Mountains, and Canelo Hills in Arizona. Elevation range 3,150 to 6,830 feet (SEINet 2013).	Mountainous, cool regions, primarily in pine forests (Kearney and Peebles 1960). Also oak/juniper grasslands (SEINet 2013).	Unlikely. The analysis area is outside the reported geographic range of this species and lacks suitable habitat. However, this species has been reported within 3 miles of the agency alternative WC1a and local alternative Ga in Arizona (AGFD-HDMS 2013), although the general area of the reported location (Township/Range 14S24E) consists mostly of playa, alkalai flats, and semi-desert grasslands, and does not fit the reported habitat requirements.
Liliaceae	Allium	gooddingii	Goodding's onion	Conservation Agreement (USFWS 1997) (Pima)							White Mountains in Apache County and Santa Catalina Mountains in Pima County, Arizona (AGFD 1999a; AGFD, 2004i). Elevation range 7,500 to 11,250 feet (USFWS, 2012b).	Inhabits shaded sites on north-trending drainages, on slopes, or in narrow canyons, within mixed conifer and spruce-fir forests (USFWS, 2012b).	None. The analysis area is below the known elevation range for this species and does not have mixed conifer or spruce-fir forest habitat.
Liliaceae	Zigadenus	virescens	Green death camas				State Protected Species (Cochise) Salvage Restricted				Arizona and New Mexico border, southwestern Colorado, and Mexico. Elevation range 3,280 to 10,500 feet (FNA, 2012q).	Montane coniferous forests (FNA, 2012q).	None. The analysis area lacks suitable montane coniferous forests.
Liliaceae	Lilium	parryi	Lemon lily			CNF Sensitive, ANPPL Salvage Restricted	State Protected Species (Cochise, Pima) Highly safeguarded				Southeastern Arizona, California, and Sonora, Mexico. Known from Huachuca, Chiricahua, and Santa Rita mountains in Arizona. Elevation range 5,500 to 7,800 feet (ARPC, 2001).	Sandy, saturated soils high in organic content. Found in shady canyon bottoms along perennial stream or near hillside springs (ARPC, 2001).	None. The analysis area, including the portion within CNF, is outside the known geographic and elevational range of this species and lacks montane canyon habitat with perennial water.
Liliaceae	Allium	plummerae	Tanners canyon onion (Plummer onion)				State Protected Species (Pima) Salvage Restricted				Southeastern Arizona and northern Mexico. Baboquivari, Chiricahua, and Huachuca mountains in Arizona. Elevation range 4,800 to 9,000 feet (AGFD, 2005g).	Wet meadows, stream banks, and montane, rocky slopes (AGFD, 2005g).	None. The analysis area is outside the known geographic range of this species and lacks moist habitat.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Liliaceae	Allium	rhizomatum	Gland onion (Redflower onion)				State Protected Species (Cochise) Salvage Restricted				Southeastern Arizona, southwestern New Mexico, and western Texas. In Arizona, known from Chiricahua, Huachuca, and Mule mountains in Cochise County and Canelo Hills in Santa Cruz County. Elevation range 4,400 to 7,000 feet (AGFD, 2004aa).	Along streams and near moist rocky places in grasslands and juniper-oak woodlands (AGFD, 2004aa).	None. The analysis area is outside the known geographic range of this species and lacks moist habitat in juniper-oak woodlands.
Malvaceae	Abutilon	parishii	Parish's Indian mallow (Pima Indian mallow)		BLM Sensitive (Tucson Field Office)	CNF Sensitive	State Protected Plant (Pima, Pinal)				Present in about 17 desert ranges of Central Arizona (BLM, 2010; AGFD, 2000e). Elevation range 1,700 to 4,900 feet (AGFD, 2000e).	Mesic situations in full sun within higher elevation Sonoran desertscrub. On rocky hillsides, cliff bases, canyon bottoms, lower side slopes and ledges of canyons among rocks and boulders. Slopes can exceed 45° (AGFD, 2000e).	Possible. The analysis area is within geographic and elevational range of this species and may contain suitable desertscrub habitat. This species has been observed within 3 miles of the proposed route in Arizona (AGFD HDMS 2013).
Malvaceae	Abutilon	thurberi	Thurber Indian mallow				State Protected Species (Pima)				Known from the western slope of the Baboquivari Mountains in Pima County, Arizona. Also known from Sonora, Mexico. Recorded at an elevation of 3,500 feet (ARPC, 2001).	Shaded areas of canyons in Arizona upland desertscrub (ARPC, 2001).	None. The analysis area may contain suitable desertscrub habitat, but is outside the highly restricted known range of this species.
Orchidaceae	Hexalectris	spicata var. arizonica	Arizona coralroot			CNF Sensitive	State Protected Species (Cochise) Salvage Restricted				Cochise, Santa Cruz, and Pima counties, Arizona. Elevation range 3,480 to 6,950 feet (AGFD, 2005e).	On wooded sides of canyons and canyon bottoms in oak or mixed oak-conifer woodlands. Grows in heavy leaf litter under oaks, pines, and associated shrubs (AGFD, 2005e).	None. The portion of the analysis area within CNF is within the known geographic and elevational range of this species but lacks well-developed oak woodland habitat with heavy leaf litter.
Orchidaceae	Listera	convallarioides	Broadlipped twayblade (Broadleaf twayblade)				State Protected Species (Pima) Salvage Restricted				Widely distributed in North America. Disjunct presence in Arizona in Apache, Coconino, and Pima (Santa Catalina Mountains) counties. Elevation range 7,000 to 8,600 feet (AGFD, 2005n).	Mixed deciduous or coniferous forests in rich humus in open areas or boggy meadows. Perennial stream banks or seeps in damp soils. Circumneutral or mildly acidic soils (AGFD, 2005n).	None. The analysis area is outside the known geographic and elevational range for this species and lacks deciduous and coniferous forest habitat.
Orchidaceae	Spiranthes	delitescens	Reclusive lady's tresses (Canelo Hills ladies' tresses)	Endangered (Cochise)			State Protected Species (Cochise) Highly safe guarded				Known from only five sites in Cochise and Santa Cruz counties in the San Pedro watershed (USFWS, 2001). Elevation range 4,000 to 5,000 feet (USFWS, 2012a; AGFD, 2000a).	Inhabits finely grained, highly organic, saturated soils of cienegas, intermixed with grasses and sedges (USFWS, 2012a).	None. The proposed Project is outside the highly restricted known geographic range for this species

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Orchidaceae	Hexalectris	spicata	Spiked crested coralroot (Crested coral root)				State Protected Species (Cochise, Pima) Salvage Restricted	NM Endangered			Widely distributed in North America. Disjunct presence in Arizona in Apache, Coconino, and Pima (Santa Catalina Mountains) counties. Elevation range 7,000 to 8,600 feet (AGFD, 2005n).	Mixed deciduous or coniferous forests in rich humus in open areas or boggy meadows. Perennial stream banks or seeps in damp soils. Circumneutral or mildly acidic soils (AGFD, 2005n).	None. The analysis area is outside the known geographic and elevational range for this species and lacks deciduous and coniferous forest habitat.
Orchidaceae	Schiedeella	arizonica	Parasitic lady's tresses (Fallen ladies'-tresses)				State Protected Species (Cochise, Pima) Salvage Restricted				Throughout southwestern United States. Found in southeastern Arizona. Elevation range 6,450 to 9,300 feet in Arizona (AGFD, 2005q).	Mesic, mixed, coniferous-deciduous forest in heavy forest duff along flat to very steep terrain within rocky or bare soils (AGFD, 2005q).	None. The analysis area is below elevational range for this species and lacks coniferous-deciduous forest habitat.
Orchidaceae	Cypripedium	parviflorum var. pubescens	Greater yellow lady's slipper (Golden lady's slipper)					NM Endangered (Grant)			Widespread in the United States and Canada. In New Mexico, found in Catron, Grant, Los Alamos, San Juan, and Santa Fe counties. In Arizona, found in the White Mountains in Apache and Greenlee counties (NatureServe, 2011).	Forested wetlands, including bogs, swamps, and wet meadows (NatureServe, 2011).	None. The analysis area may be within the known geographic range of this species, but lacks forested wetland habitat.
Orchidaceae	Malaxis	corymbosa	Huachuca Mountain adder's-mouth orchid (Madrean adders mouth)				State Protected Species (Cochise) Salvage Restricted				Santa Rita, Huachuca, and Chiricahua mountains in Arizona. Elevation of 6,500 feet (FNA, 2012k).	Shaded mountain canyons (FNA, 2012k).	None. The analysis area is outside the known geographic and below the elevational range for this species and lacks shaded canyon habitat.
Orchidaceae	Stenorrhynchos	michuacanum	Michuacan lady orchid (Michoacan ladies'-tresses)				State Protected Species (Cochise) Salvage Restricted				Santa Catalina and Huachuca mountains of Arizona and Chisos and Chinati mountains of Texas. Elevation range 6,235 to 7,220 feet (FNA, 2012j).	Grassy slopes in pine-oak woodlands. Areas with seepage (FNA, 2012j).	None. The analysis area is outside the known geographic range and above the elevation range for this species and lacks pine-oak woodland habitat.
Orchidaceae	Malaxis	porphyrea	Cochise adder's-mouth orchid (Purple adders mouth)				State Protected Species (Cochise) Salvage Restricted				Catalina, Chiricahua, Huachuca, and Santa Rita mountains and Apache County in Arizona. Also in New Mexico, Texas, and northern Mexico. Elevation range 7,000 to 9,200 feet (ARPC, 2001).	Mixed conifer forest. Slightly damp, grassy, or mossy areas (ARPC, 2001).	None. The analysis area is outside the elevational range of this species and lacks coniferous forest habitat.
Orchidaceae	Malaxis	tenuis	Arizona adder's-mouth orchid (Slender adder's mouth)				State Protected Species (Cochise, Pima) Salvage Restricted				Santa Catalina and Chiricahua mountains in Arizona (SEINet, 2012).	Mixed conifer forest. Slightly damp, grassy, or mossy areas (ARPC, 2001).	None. The analysis area is outside the elevational range for this species and lacks coniferous forest habitat.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Orchidaceae	Hexalectris	warnockii	Texas crested coralroot (Texas purple-spike coralroot)		BLM Sensitive (Tucson, Safford Field Offices)	CNF Sensitive, ANPPL Salvage Restricted					Western Texas, New Mexico, southeastern Arizona, and Baja California, Mexico. Known from Chiricahua, Mule, and Huachuca mountains in Arizona. Elevation range 5,000 to 7,000 feet (AGFD, 2001g).	Humus soil under leaf litter in shady canyon bottoms. Occurs in oak-mixed-conifer communities (AGFD, 2001g).	None. The analysis area is outside the known geographic and elevational range of this species and lacks suitable oak-mixed conifer habitat.
Orchidaceae	Platanthera	limosa	Thurber's bog orchid				State Protected Species (Pima, Cochise) Salvage Restricted				Southeastern Arizona and Southwestern New Mexico. Elevation range 5,900 to 8,200 feet (FNA, 2012n).	Marshes, stream banks, and seeps in lightly forested areas (FNA, 2012n).	None. The analysis area is outside the elevation range of this species and lacks wet areas within forested habitats.
Poaceae	Puccinellia	parishii	Bog alkali grass (Parish's alkali grass)		BLM Sensitive (Las Cruces District)			NM Endangered (Hidalgo, Grant)			Found in Catron, Cibola, Grant, Hidalgo, McKinley, Sandoval, and San Juan counties in New Mexico. Elevation range 2,600 to 7,200 feet (NMRPTC, 1999f).	Alkali springs, seeps, and seasonally wet areas usually at heads of drainages (NMRPTC, 1999f).	Possible. The analysis area is within the known geographic range for this species and may contain suitable moist habitat.
Poaceae	Muhlenbergia	palmeri	Southwestern muhly			CNF Sensitive					Southeastern Arizona. Known from Canelo Hills and Baboquivari, Santa Catalina, Santa Rita, Pajarito, and Huachuca mountains. Elevation range 2,750 to 6,000 feet (AGFD, 2000d).	Cliffs and rocky slopes in canyons and along streams. Occurs in riparian communities within upland desertscrub, semi-desert grassland, and evergreen woodland environments (AGFD, 2000d).	None. The portion of the analysis area within CNF is within the known geographic and elevational range of this species, but lacks cliffy habitat in riparian communities.
Poaceae	Paspalum	virleti	Virlet paspalum			CNF Sensitive					Southern Arizona and Sonora, Mexico. In Arizona, known from Brawley Wash, Pima County and Pajarito Mountains, Santa Cruz County. Elevation range 2,600 to 3,851 feet in Arizona (SEINet, 2012).	Recorded along canyon bottom in oak-juniper woodland and in thorn scrub in rocky mountainsides (SEINet, 2012).	None. The analysis area, including the portion within CNF, is outside the known geographic range of this species and lacks oak-juniper woodland or thorn scrub habitat.
Polemoniaceae	Polemonium	pauciflorum ssp. hinckleyi	Hinckley's polemonium			CNF Sensitive					Southeastern Arizona, West Texas, and Nuevo Leon, Mexico. In Arizona, known from eight sites in the Chiricahua Mountains (NatureServe, 2011).	Moist, humus soil along streams in shady canyons. Found in oak-juniper through pine-fir forests (NatureServe, 2011).	None. The portion of the analysis area within CNF is outside of the known geographic range of this species and lacks suitable forest habitat near streams.
Polygalaceae	Polygala	rimulicola var. mescalerorum	Mescalero milkwort (San Andres milkwort)					NM Endangered (Luna)			Restricted to San Andres Mountains of Doña Ana County, New Mexico. Elevation range 5,700 to 6,300 feet (NMRPTC, 1999g).	Found in crevices of sandy limestone cliffs in montane scrub (NMRPTC, 1999g).	None. The analysis area is outside the highly restricted known geographic range of this species and lacks montane scrub habitat.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Polygonaceae	Rumex	orthoneurus	Chiricahua Mountain dock (Blumer's dock)			CNF Sensitive, ANPPL Salvage Restricted	State Protected Species (Cochise) Salvage Restricted				Eastern Arizona and western New Mexico. In Arizona, known from Mogollon Rim and Sierra Ancha, White, Huachuca, and Chiricahua mountains. Elevation range 4,480 to 9,660 feet (AGFD, 2002b).	Moist, organic soils near perennial springs or streams in mid- to high-elevation wetlands (AGFD, 2002b).	None. The analysis area, including the portion within CNF, is within the known geographic range of this species but lacks mid- to high-elevation wetland habitat.
Polygonaceae	Eriogonum	ericifolium var. ericifolium	Yavapai County buckwheat (Heartleaf wild-buckwheat)			CNF Sensitive					Endemic to a small area of central Arizona (Yavapai and Coconino Counties). One specimen collected at Cienega Creek in Pima County (AGFD, 2005s). Elevation range 2,950 to 6,300 feet (AGFD, 2005s).	Dry, gravelly to rocky slopes of lacustrine, in mixed grasslands, chaparral and oak-woodlands (AZGFD, 2005s).	None. The portion of the corridor within CNF is outside the reported geographic range of this species. This species has been reported within 3 miles of the proposed route in Pima County (AGFD-HDMS 2013), but the location of this specimen is far from the portion of the corridor with CNF, and may represent a different variety (AGFD, 2005s).
Polygonaceae	Eriogonum	capillare	San Carlos wild-buckwheat				State Protected Species (Cochise, Pima, Pinal) Salvage Restricted				Cochise, Graham, Gila, and Pinal counties of Arizona. Elevation range 1,960 to 4,400 feet (AGFD, 2003g; 2004ad).	Disturbed, unstable, gravelly areas free from competition. Hill slopes and washes (AGFD, 2003g).	Possible. The analysis area is within the geographic range of this species and suitable habitat may be present. No specimens from analysis area (SEINet, 2012), but this species is known to be present within 2 miles of the Proposed Upgrade Section and within 3 miles of the New Build Section (AGFD, 2012b; 2012c).
Polygonaceae	Eriogonum	terrenatum	San Pedro River wild-buckwheat		BLM Sensitive (Tucson, Safford Field Offices)						Two disjunct populations in Pima and Cochise counties, elevation range 3,520 to 3,914 feet (AGFD, 2006e).	Occurs on limestone and clay soils of St. David Formation in the San Pedro River National Conservation Area (BLM, 2010). Found in gravelly soils in *Larrea tridentata* and *Acacia constricta* communities (AGFD, 2006e).	Possible. The analysis area is within the geographic and elevation range of this species. Most likely to be present near San Pedro River and Cienega Creek in Segments U2 and U3, respectively. This species has been reported within 3 miles of the proposed route in Arizona (AGFD-HDMS 2013).

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Portulacaceae	Phemeranthus (Talinum)	parvulus (marginatum)	Tepic flame flower			CNF Sensitive, ANPPL Salvage Restricted	State Protected Species (Cochise) Salvage Restricted				Huachuca Mountains, Arizona, and Sonora, Chihuahua, Durango, and Nayarit, Mexico. Elevation range 5,000 to 7,000 feet (ARPC, 2001).	Shallow pockets of sandy soil on exposed bedrock terraces and ledges in pine-oak forest communities (AGFD, 2004x; ARPC, 2001).	None. The analysis area, including the portion within CNF, is outside of the known geographic and elevational range of this species and lacks suitable pine-oak forest habitat.
Primulaceae	Samolus	vagans	Chiricahua Mountain brookweed			CNF Sensitive					Southeastern Arizona and Sonora, Chihuahua, and Durango, Mexico. Within Arizona, reported from the Santa Catalina, Rincon, Santa Rita, Pajarito, Huachuca, Mule, and Chiricahua mountains. Elevation range 5,300 to 6,000 feet (SEINet, 2012).	Recorded at perennial springs and streams in oak-juniper through pine-oak forests (SEINet, 2012).	None. The analysis area, including the portion within CNF, is within the known geographic range of this species but lacks forest habitat near perennial water.
Psilotaceae	Psilotum	nudum	Whisk fern				State Protected Species (Pima) Highly safeguarded				Southeastern Arizona, southeastern United States, Mexico, and Central America. Elevation range 0 to 3,610 feet in Arizona (FNA, 2012o).	Mesic woodlands, thickets, rocky slopes, swamps, and hammocks (FNA, 2012o).	None. The analysis area is within the geographic and elevation rage for this species but lacks wet areas in mesic woodlands.
Roseaceae	Purshia (=cowania)	subintegra	Arizona Cliff-rose	Endangered (Graham)							In Arizona known only from near Horseshoe Lake in Maricopa County, Cottonwood, Yavapai County, near Burro Creek, Mohave County, and near Bylas, Graham County.	Limestone hills within Sonoran desertscrub (AGFD 2001l).	None. The nearest population is over 50 miles from the analysis area.
Roseaceae	Vauquelinia	californica ssp. sonorensis	Sonora rosewood (Arizona Sonoran rosewood)		BLM Sensitive (Tucson Field Office)						In Arizona, restricted to Ajo Mountains of Pima County and Sand Tank Mountains of Maricopa County. Elevation range 2,300 to 3,700 feet (AGFD, 2005d).	Sonoran desertscrub and desert grassland on moderate to steep slopes (AGFD, 2005d). Appendix V.1. United States Fish and Wildlife Service list of sensitive plant species known to occur within the Project region, including information on geographic range, habitat, and potential occurrence within the analysis area.	None. The analysis area is outside the highly restricted known geographic range of this species.
Roseaceae	Potentilla	rhyolitica var. chiricahuensis	Chiricahua cinquefoil			CNF Sensitive					Endemic to upper elevations of the Chiricahua Mountains (USDA-FS, 2007).	Rocky openings in mixed conifer forests (USDA-FS, 2007).	None. The analysis area, including the portion within CNF, is outside the highly restricted known geographic range of this species and lacks mixed conifer forest habitat.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Roseaceae	Potentilla	rhyolitica var. rhyolitica	Huachuca cinquefoil			CNF Sensitive					Endemic to the summit areas of the Huachuca and Santa Rita mountains (USDA-FS, 2007).	Crevices of rhyolitic and quartzitic outcrops (USDA-FS, 2007).	None. The analysis area, including the portion within CNF, is outside the highly restricted known geographic range of this species and lacks suitable high-elevation outcrop habitat
Roseaceae	Vauquelinia	californica ssp. pauciflora	Arizona rosewood (Limestone Arizona rosewood)				State Protected Species (Cochise) Salvage Restricted				Arizona and New Mexico border, southwestern Colorado, and Mexico. Elevation range 3,280 to 10,500 feet (FNA, 2012q).	Montane coniferous forests (FNA, 2012q).	None. The analysis area lacks suitable montane coniferous forests.
Roseaceae	Crataegus	wootoniana	Wooton's hawthorn		BLM Sensitive (Las Cruces District)						Limited to Piños Altos and Sacramento mountains. Elevation range 6,500 to 8,000 feet (NMRPTC, 1999b).	Canyon bottoms and forest understory in lower montane coniferous forest (NMRPTC, 1999b).	None. The analysis area is outside of the highly restricted known geographic range of this species and lacks montane coniferous forest habitat.
Saxifragaceae	Heuchera	glomerulata	Chiricahua Mountain alumroot (Arizona alum root)			CNF Sensitive					Pinal, Pinaleño, Santa Theresa, Galiuro, Santa Catalina and Chiricahua mountains in Arizona and Animas Peak in New Mexico. Elevation range 4,000 to 9,000 feet (AGFD, 2004s).	Found in humus soil on shaded, north-facing, rocky slopes near seeps and streams (AGFD, 2004s).	None. The portion of the analysis area within CNF is within the known geographic and elevational range of this species but lacks seep and stream habitat.
Scrophulariaceae	Penstemon	alamosensis	Los Alamos beardtongue (Alamo beardtongue)		BLM Sensitive (Las Cruces District)						In New Mexico, limited to west slope of Sacramento Mountains and east slope of San Andres Mountains. Elevation range 4,300 to 5,300 feet (NMRPTC, 1999d).	Sheltered rocky areas, canyon sides and bottoms, on limestone (NMRPTC, 1999d).	None. The analysis area is outside the highly restricted known geographic range for this species.
Scrophulariaceae	Penstemon	discolor	Catalina beardtongue			CNF Sensitive	State Protected Species (Pima, Pinal) Highly safeguarded				Atascosa, Dragoon, Galiuro, Santa Catalina, Santa Teresa, and Winchester mountains of Arizona. Elevation range 4,400 to 7,200 feet (ARPC, 2001).	Chaparral, pine-oak woodland in bedrock outcrops. Granite or volcanic tuff substrate (ARPC, 2001).	None. The analysis area is within the geographic and elevation range for this species but lacks pine-oak woodland habitats.
Scrophulariaceae	Limosella	pubiflora	Chiricahua Mountain mudwort (Chiricahua mudwort)			CNF Sensitive					Cochise County, Arizona, and extreme southwestern Hidalgo County, New Mexico (NMRPTC, 1999h).	Muddy edges of streams and ponds (NMRPTC, 1999h).	None. The portion of the analysis area within CNF may be within the known geographic range of this species, but it is below the known elevational range and lacks stream or pond habitat.

Table D-1. Special Status Plant Species (endangered, threatened, and sensitive) That Were Analyzed for Potential to Occur within the Analysis Area; FWS, Arizona, and New Mexico (Continued)

Group/Family	Genus	Species	Common Name	Federal Status			State Status		Local Status		Range	Habitat	Potential to Occur in Portions of the Analysis Area in which it is Listed as a Special Status Species
				ESA (County)	BLM (District)	USFS	Arizona (county)	New Mexico (County)	SDCP	Special Designation Area(s)			
Scrophulariaceae	Scrophularia	macrantha	New Mexico figwort (Mimbres figwort)		BLM Sensitive (Las Cruces District)						Known only from Mimbres Mountains, Kneeling Nun, and Cook's Peak in New Mexico. Elevation range 6,500 to 8,200 feet (NMRPTC, 2008).	Steep, rocky, igneous cliffs and talus slopes that are north-facing within pinyon-juniper and lower montane coniferous forests (NMRPTC, 2008).	None. The analysis area is outside the known geographic and elevation range for this species and lacks forested habitat.
Scrophulariaceae	Castilleja	nervata	Trans-Pecos Indian paintbrush			CNF Sensitive					Arizona, and Sonora, Chihuahua, Sinaloa and Colima, Mexico. Known from White, Santa Rita, and Chiricahua mountains in Arizona (SEINet, 2012). Elevation range 2,461 to 7,546 feet (NatureServe, 2011).	Rocky slopes in pine-oak through pine-fir woodlands (NatureServe, 2011).	None. The analysis area, including the portion within CNF, is within the known geographic and elevational range of this species, but lacks pine-fir woodland habitat.
Solanaceae	Physalis	latiphysa	Broadleaf ground cherry			CNF Sensitive, ANPPL Salvage Restricted					Southeastern Arizona. Known from the San Bernardino Valley in Cochise County, the Pinaleño Mountains in Graham County, Arivaca Creek in Pima County, and the Santa Cruz River in Santa Cruz County. Elevation range 3,000 to 4,700 feet (AGFD, 2012b).	Granitic, gravelly soils in washes in the shade of shrubs and boulders within desertscrub and grasslands (AGFD, 2012b).	Possible. The portion of the analysis area within CNF is within the known geographic and elevational range of this species and may contain suitable grassland habitat. This species has been reported within 2 miles of the Upgrade Section within Pima County (AGFD 2012b).
Sterculiaceae	Fremontodendron	californicum	California's flannel bush (Flannel bush)				State Protected Species (Pinal) Salvage Restricted				Central Arizona, California, Baja California, Mexico. Elevation range 3,500 to 6,500 feet in Arizona (AGFD, 2005j).	Chaparral and oak-pine woodlands on well drained rocky hillsides and ridges in Arizona. Northern slopes. Dry, poor, rocky soils and granite boulders (AGFD, 2005j).	None. The analysis area is outside the known geographic range for this species and lacks oak-pine woodlands.
Thelypteridaceae	Thelypteris	puberula var. sonorensis	Sonoran maiden fern (Aravaipa woodfern)		BLM Sensitive (Tucson Field Office)						Several disjunct populations at springs, closest of which are in Aravaipa Canyon of Pinal County and Santa Catalina Mountain of Pima County. Elevation range 2,220 to 4,500 feet (AGFD, 2004o).	Moist soils within shade of mesic canyons on riverbanks, seepage areas, and meadow habitats (AGFD, 2006m).	None. The analysis area is outside the known geographic range for this species and lacks moist shady canyon habitat.
Violaceae	Viola	umbraticola	Ponderosa violet (Shade violet)			CNF Sensitive					Southern Arizona and Sonora and Chihuahua, Mexico. In Arizona, known from Santa Catalina, Santa Rita, Huachuca, and Chiricahua mountains. Elevation range 5,200 to 7,500 feet in Arizona (AGFD, 2004z).	Shady canyon bottoms in oak-juniper through ponderosa pine forests (AGFD, 2004z).	None. The analysis area, including the portion within CNF, is outside the known geographic and elevational range of this species and lacks oak-juniper to ponderosa pine forest habitat.

Table D-2. Arizona and New Mexico Noxious Weed Lists

Species Common Name	Scientific Name	Arizona			New Mexico			
		Prohibited Species	Regulated Species	Restricted Species	NM Class A	NM Class B	NM Class C	Watch List Species
African rue (Syrian rue)	*Peganum harmala*	x				x		
Alfombrilla Lightningweed)	*Drymaria arenariodes*	x			x			
Alligator weed	*Alternanthera philoxeroides*	x						
Anchored water hyacinth	*Eichhornia azurea*	x						
Austrian fieldcress	*Rorippa austriaca*	x						
Black henbane	*Hyoscyamus niger*				x			
Branched broomrape	*Orobanche ramosa*	x						
Buffelgrass	*Cenchrus ciliaris*	x	x					
Bull thistle	*Cirsium vulgare*						x	
Burclover	*Medicago polymorpha*	x	x					
Camelthorn	*Alhagi pseudalhagi*	x		x	x			
Canada thistle	*Cirsium arvense*	x			x			
Carolina horsenettle	*Solanum carolinense*	x						
Cheatgrass	*Bromus tectorum*						x	
Chicory	*Cichorium intybus*					x		
Common purslane	*Portulaca oleracea*	x	x					
Creeping wartcress (Coronopus)	*Coronopus squamatus*	x						
Crimson fountaingrass	*Pennisetum setaceum*							x
Dalmation toadflax	*Linaria dalmatica*	x		x	x			
Diffuse knapweed	*Centaurea diffusa*	x		x	x			
Dodder	*Cuscuta* spp.	x		x				
Dudaim melon (Queen Anne's melon)	*Cucumis melo*	x						
Dyer's woad	*Isatis tinctoria*	x			x			
Eurasian watermilfoil	*Myriophyllum spicatum*				x			
Field bindweed	*Convolvulus arvensis*	x	x					

Table D-2. Arizona and New Mexico Noxious Weed Lists (Continued)

Species Common Name	Scientific Name	Arizona			New Mexico			
		Prohibited Species	Regulated Species	Restricted Species	NM Class A	NM Class B	NM Class C	Watch List Species
Field sandbur	*Cenchrus incertus*	x	x					
Floating water hyacinth	*Eichhornia crassipes*	x	x	x				
Giant cane	*Arundo donax*							x
Giant salvinia	*Salvinia molesta*	x	x		x			
Globed-podded hoary cress (Whitetop)	*Cardaria draba*	x		x				
Hairy whitetop	*Cardaria pubescens*	x						
Halogeton	*Halogeton glomeratus*	x		x		x		
Hoary cress	*Cardaria* spp.				x			
Hydrilla (Florida-elodea)	*Hydrilla verticillata*	x			x			
Iberian starthistle	*Centaurea iberica*	x						
Jointed goatgrass	*Aegilops cylindrica*	x		x			x	
Leafy spurge	*Euphorbia esula*	x			x			
Lens podded hoary cress	*Cardaria chalepensis*	x						
Malta starthistle	*Centaurea melitensis*					x		
Meadow knapweed	*Centaurea pratensis*							x
Morning glory [*All species except Ipomoea carnea, Mexican bush morning glory; Ipomoea triloba, three-lobed morning glory (which is considered a restricted pest); and Ipomoea aborescens, morning glory tree*]		x						
Musk thistle	*Carduus nutans*					x		
Oxeye daisy	*Leucanthemum vulgare*				x			
Pampas grass	*Cortaderia sellonana*							x
Parrotfeather	*Myriophyllum aquaticum*				x			
Perennial pepperweed	*Lepidium latifolium*					x		
Perennial sowthistle	*Sonchus arvensis*	x						

Table D-2. Arizona and New Mexico Noxious Weed Lists (Continued)

Species Common Name	Scientific Name	Arizona			New Mexico			
		Prohibited Species	Regulated Species	Restricted Species	NM Class A	NM Class B	NM Class C	Watch List Species
Plumeless thistle	*Carduus acanthoides*	x						
Poison hemlock	*Conium maculatum*					x		
Puna grass	*Stipa brachychaeta*	x						
PunctureVine	*Tribulus terrestris*	x	x					
Purple loosestrife	*Lythrum salicaria*				x			
Purple starthistle	*Centaurea calcitrapa*	x			x			
Quackgrass	*Elytrigia repens*	x		x				x
Ravenna grass	*Saccharum ravennae*				x			
Rush skeletonweed	*Chondrilla juncea*	x						
Russian knapweed	*Acroptilon repens*	x		x		x		
Russian olive	*Elaeagnus angustifolia*						x	
Sahara mustard	*Brassica tournefortii*							x
Saltcedar	*Tamarix* spp.						x	
Scotch thistle	*Onopordum acanthium*	x		x	x			
Serrated tussock	*Nassella trichotoma*	x						
Siberian elm	*Ulmus pumila*						x	
Sicilian starthistle	*Centaurea sulphurea*	x						
Southern sandbur	*Cenchrus echinatus*	x	x					
Spiny cocklebur	*Xanthium spinosum*							x
Spotted knapweed	*Centaurea biebersteinii*	x		x	x			
Squarrose knapweed	*Centaurea squarrosa*	x						
Sweet resinbush	*Euryops subcarnosus* subsp. *vulgaris*	x		x				
Tansy ragwort	*Senecio jacobaea*	x						
Teasel	*Dipsacus fullonum*					x		
Texas blueweed	*Helianthus ciliaris*	x		x				

Table D-2. Arizona and New Mexico Noxious Weed Lists (Continued)

Species Common Name	Scientific Name	Arizona			New Mexico			
		Prohibited Species	Regulated Species	Restricted Species	NM Class A	NM Class B	NM Class C	Watch List Species
Three-lobed morning glory	*Ipomoea triloba*	x		x				
Torpedo grass	*Panicum repens*	x						
Tree of heaven	*Ailanthus altissima*					x		
Tropical soda apple	*Solanum viarum*	x						
Wall rocket	*Diplotaxis tenuifolia*							x
Water-chestnut	*Trapa natans*	x						
Witchweed	*Striga* spp.	x						
Yellow starthistle (St. Barnaby's thistle)	*Centaurea solstitialis*	x		x	x			
Yellow toadflax	*Linaria vulgaris*				x			
Arizona Noxious Weed Classes (Data last updated April 2012)								
Prohibited Species: Prohibited from entry into Arizona								
Regulated Species: Controlled or quarantined to prevent further infestation or contamination.								
Restricted Species: Quarantined to prevent further infestation or contamination.								
New Mexico Noxious Weed Classes (Data last updated April 2009)								
Class A Species: Not currently present in New Mexico or have a limited distribution								
Class B Species: Limited to portions of New Mexico								
Class C Species: Widespread control measures are encouraged								
Watch List: Potentially problematic								

Table D-3shows scientific and common names of plant species observed along various routes, segments and alternatives reported in this appendix, table D-1 and table D-2. Taken from a report titled "Southline Transmission Project Resource Report 15: Vegetation" (CH2M Hill 2013g).

Table D-3. Observed Plant Species within the Southline Transmission Project

Common plant species observed during limited field evaluation, alphabetically by genus and species. No species-specific surveys were conducted.

Scientific Name	Common Name
Acacia constricta	Whitethorn acacia
Acacia greggii	Catclaw acacia
Agave palmeri	Palmer's agave
Ambrosia deltoidea	Triangle-leaf bursage
Atriplex canescens	Fourwing saltbush
Baccharis salicifolia	Seepwillow
Baccharis sarothroides	Desert broom
Carnegiea gigantea	Saguaro
Cenchrus ciliaris	Buffelgrass
Chilopsis linearis	Desert willow
Cirsium sp.	Thistle
Condalia ericoides	Javelina bush
Condalia warnockii	Warnock's condalia
Dasylirion wheeleri	Sotol
Encelia farinosa	Brittlebush
Ephedra sp.	Mormon tea
Erodium cicutarium	Filaree
Ferocactus spp.	Barrel cactus
Flourensia cernua	Tarbush
Fouquieria splendens	Ocotillo
Gutierrezia sarothrae	Broom snakeweed
Hilaria mutica	Tobosagrass
Isocoma tenuisecta	Burroweed
Juniperus sp.	Juniper
Koerberlinia spinosa	Crown of thorns
Larrea tridentata	Creosotebush
Lycium sp.	Wolfberry
Opunita engelmannii	Engelmann prickly pear
Opuntia fulgida	Chainfruit cholla
Opuntia macrocentra	Long-spined purple prickly pear
Opuntia spinosior	Cane cholla
Nolina microcarpa	Beargrass
Panicum obtusum	Vine mesquite grass
Parkinsonia microphylla	Foothill paloverde

Table D-3. Observed Plant Species within the Southline Transmission Project (Continued)

Common plant species observed during limited field evaluation, alphabetically by genus and species. No species-specific surveys were conducted.

Scientific Name	Common Name
Prosopis glandulosa	Honey mesquite
Prosopis velutina	Velvet mesquite
Rhus virens var. *coriophylla*	Evergreen sumac
Rumex hymenosepalus	Canaigre
Salix gooddingii	Goodding's willow
Salsola tragus	Russian thistle
Senecio sp.	Senecio
Sporobolus wrightii	Big sacaton
Tamarix sp.	Tamarisk
Vachellia vernicosa	Viscid acacia
Yucca baccata	Banana yucca
Yucca elata	Soaptree yucca
Ziziphus obtusifolia	Graythorn

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Appendix C

SUPPLEMENTAL NOISE AND VIBRATION INFORMATION

SUPPLEMENTAL NOISE AND VIBRATION INFORMATION

Terminology and Representative Sound Levels

The following section provides a more inclusive summary of some of the terminology used in the noise sections of chapters 3 and 4. Included is a chart of representative sounds and noises.

The decibel scale is commonly used in noise measurements and evaluation. The decibel scale is logarithmic, meaning that a 100-fold increase in sound energy corresponds to an increase of 20 decibels (dB), not 100 dB. A logarithmic scale uses the logarithm of a physical quantity instead of the quantity itself and is useful for representing quantities like sound levels that can vary over a large range. For example, two measurements of 10 units and 1,000,000,000 units might correspond to values of 1 and 9, respectively, on a logarithmic scale. Logarithmic units also add differently than linear units. For example, if one object is 6 feet long and a second is twice as long, the second object is 12 feet long. For sounds, however, if one sound level is 50 dB and a second is twice as loud, the second sound level is approximately 53 dB, not 100 dB.

There are various scales used to measure sounds using decibels. The most common noise metric is the overall A-weighted sound level measurement (dBA). This metric has been adopted by regulatory bodies worldwide. The A-weighting network measures sound in a way that is similar to how a person perceives or hears sound, thus achieving good correlation in terms of how to evaluate acceptable and unacceptable sound levels. A dBA is typically measured as an average noise level on an equal energy basis for a stated period of time (equivalent sound level, or L_{eq}), and is commonly used to measure steady-state sound or noise that is usually dominant. The day-night level, or L_{dn}, is a 24-hour average A-weighted L_{eq} noise level, where 10 dBA is added to nighttime levels between 10 p.m. and 7 a.m. to account for greater human sensitivity to nighttime noise levels. For a continuous source that emits the same noise level over a 24-hour period, the L_{dn} will be 6.4 dBA greater than the L_{eq}.

The relative dBA of common sounds measured in the environment and industry for various qualitative sound levels is provided in table C-1.

Table C-1. Sound Levels of Representative Sounds and Noises

Source	Sound Level (dBA)	Human Response
Jet takeoff (nearby)	150	
Jet takeoff (50 feet)	140	
50-HP siren (100 feet)	130	
Loud rock concert (near stage)	120	Pain threshold
Construction noise (10 feet)	110	Intolerable
Jet takeoff (2,000 feet)	100	
Heavy truck (25 feet)	90	
Garbage disposal (2 feet)	80	Constant exposure endangers hearing
Busy traffic	70	
Normal conversation	60	
Light traffic (100 feet)	50	Quiet
Library	40	

Table C-1. Sound Levels of Representative Sounds and Noises (Continued)

Source	Sound Level (dBA)	Human Response
Soft whisper (15 feet)	30	Very quiet
Rustling leaves	20	↕
Normal breathing	10	Barely audible
Threshold of hearing	0	↓

Source: Beranek (1988).

While no completely satisfactory way exists to measure the subjective effects of noise or to measure the corresponding reactions of annoyance and dissatisfaction, effects of noise on humans are generally listed in three categories:

- Subjective effects of annoyance, nuisance, dissatisfaction;
- Interference with activities (e.g., speech, sleep, learning, etc.); and
- Physiological effects (e.g., startling and hearing loss).

While workers in industrial plants may experience noise effects in the last category, environmental noise usually produces effects only in the first two categories. The lack of a common standard by which to evaluate individual thresholds of annoyance and habituation to noise means that an important way of determining a person's subjective reaction to a new noise is to compare it to the existing or "ambient" environment to which that person has adapted. In general, the more the level or the tonal (frequency) variations of a noise exceed the previously existing ambient noise level or tonal quality, the less acceptable the new noise will be as judged by the exposed individual. Therefore, an important metric to determine a person's subjective reaction to a new noise source is to compare it to the existing (i.e., ambient) environment.

Additional Laws, Ordinances, Regulations, and Standards

The following section provides a more inclusive summary of Federal, State, and local laws, regulations, and standards for noise that could impact Project construction and/or operation activities. This section is meant to supplement the discussion included in the noise section of chapter 3.

Occupational Safety and Health Administration, Occupational Health and Safety Act

The Occupational Health and Safety Act of 1970 established hearing conservation noise exposure regulations for workers (codified in 29 CFR 17.1910). The purpose of the act is to ensure safe and healthful working conditions. Worksite noise levels are regulated by Section 1910.95 of the act, which deals with occupational noise exposure. This section limits the noise pressure level to 90 dBA continuous exposure for an 8-hour day. If workers are exposed to an 8-hour time-weighted average of 85 dBA or greater, then a worker hearing protection program that includes baseline and periodic hearing testing, availability of hearing protection devices, and training in hearing damage prevention are required.

Department of Transportation

Several operating administrations of the U.S. Department of Transportation (USDOT) have identified criteria for the assessment of noise from short- and long-term construction activities for both stationary and mobile projects, such as linear projects.

The Federal Highway Administration (FHWA) of the USDOT recommends abatement of construction noise that exceeds certain maximum levels. The FHWA's noise abatement criteria outlined in the "Procedures for Abatement of Highway Traffic Noise and Construction Noise" specify a 1-hour L_{eq} level at which construction activity noise abatement should occur of 57 dBA for "[l]ands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose." All other locations, including residential areas, have a lower-limit outdoor 1-hour L_{eq} level for construction activity abatement of at least 67 dBA (23 CFR 772). While the FHWA construction noise abatement criteria were not developed to specifically address construction noise impact for power transmission line projects, the FHWA guidelines provide reasonable criteria for noise assessment. If these criteria are exceeded, adverse community reaction may result.

The USDOT's Federal Railroad Administration (FRA) and FTA use a sliding scale when evaluating ambient-based noise impacts. The noise impact criteria presented within figure C-1 are based on comparison of the existing outdoor noise levels with the future outdoor noise levels from the proposed Project for three land use categories. The y-axis represents the projected Project noise exposure in cumulative dBA while the x-axis presents the existing noise level. Category 1 land uses include lands where quiet is an essential element in their intended purpose. This includes lands set aside for serenity and quiet, along with such land uses as outdoor amphitheaters and concert pavilions, as well as National Historic Landmarks (NHLs) with significant outdoor use. Category 2 land uses include residences and buildings where people normally sleep. This category includes homes, hospitals, and hotels, where a nighttime sensitivity to noise is assumed to be of utmost importance. Category 3 land uses include institutional land uses, schools, places of worship, and libraries (FTA 2006).

Bureau of Land Management Guidelines

The BLM is the Federal agency charged with managing public lands and is responsible for the development of energy resources on BLM-administered land. The BLM and DOE prepared a Programmatic EIS in November 2008 titled "Designation of Energy Corridors on Federal Land in the 11 Western States" (BLM and DOE 2008). While noise impacts were not expected to occur as a result of Project corridor designation, BLM guidelines outlined in this programmatic EIS can serve as guidance on how BLM may evaluate impacts from similar projects.

State and Local Regulations

Table C-2 presents noise related laws, ordinances, regulations, and standards that have been adopted for regional, County, and local city level. Pima County, Pinal County, and the City of Sierra Vista in Cochise County, Arizona, have noise regulations that are described in more detail below.

Figure C-1. FRA and FTA allowable increase in cumulative noise level. Note: Residential uses are included in Category 2.

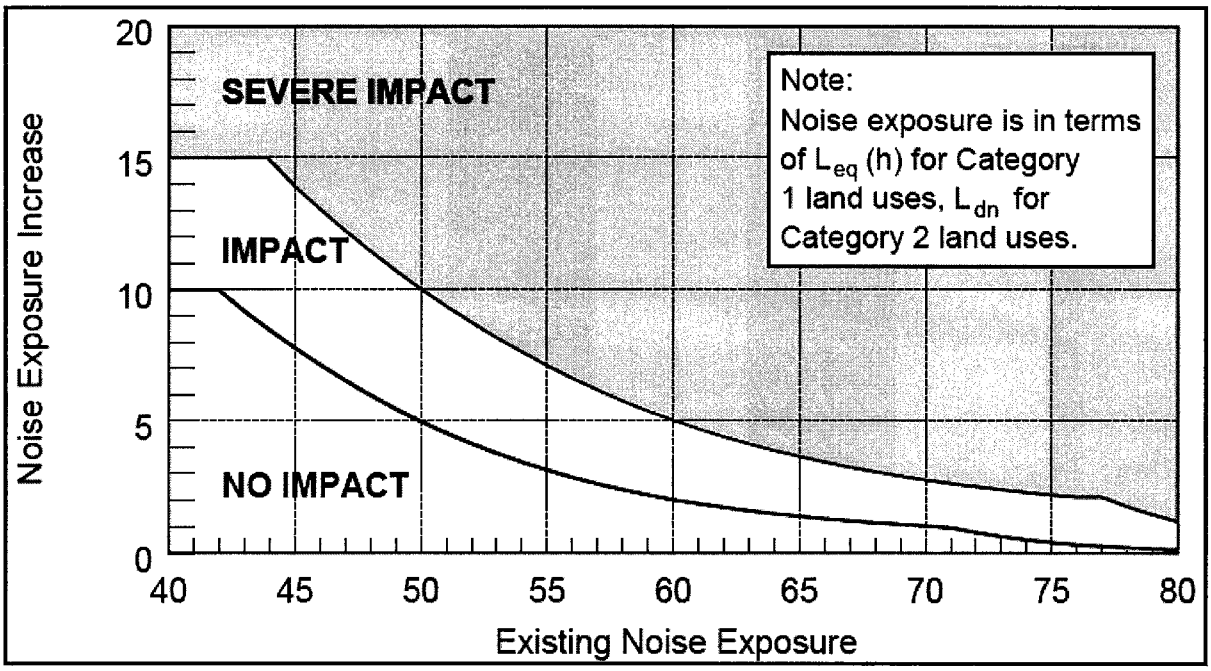


Table C-2. Applicable Regional and Local Plans, Laws, Ordinances, Regulations, and Standards Related to Noise

Jurisdictional	Laws, Ordinances, Regulations, and Standards (LORS)	Project Consistency with LORS
Counties		
Doña Ana County, New Mexico		
County of Doña Ana Comprehensive Plan" (1994)	No noise elements or policies addressing noise standards.	Yes
Doña Ana County Land Use Regulations and Zoning Ordinance (2008)	The plan addresses "excessive noise" in several zones, though a definition of excessive noise is not provided.	Expected
Luna County, New Mexico		
Comprehensive Plan for Luna County, New Mexico 2000–2020" (1999)	Limits uses such that the establishment, maintenance, or operation of the proposed use shall not be noxious or offensive by reason of noise.	Expected
County of Luna Natural Resource Planning and Review Process (1994)	No noise elements or policies addressing noise standards.	Yes
Hidalgo County, New Mexico		
Hidalgo County Comprehensive Plan Update" (2011)	No noise elements or policies addressing noise standards.	Yes
Cochise County, Arizona		
Cochise County Comprehensive Plan" (2006)	No noise elements or policies addressing noise standards.	Yes
Cochise County Zoning Regulations (2008)	No noise elements or policies addressing noise standards.	Yes

Table C-2. Applicable Regional and Local Plans, Laws, Ordinances, Regulations, and Standards Related to Noise (Continued)

Jurisdictional	Laws, Ordinances, Regulations, and Standards (LORS)	Project Consistency with LORS
Counties, cont'd.		
Graham County, Arizona		
Graham County Land Use and Resource Policy Plan" (1996)	Limits uses such that the establishment, maintenance, or operation of the proposed use shall not be noxious or offensive by reason of noise.	Expected
Graham County Comprehensive Plan" (2002)	No noise elements or policies addressing noise standards.	Yes
An Ordinance Regarding Construction, or Facilities, within Grant County Road Rights-of-Way (1978)	No noise elements or policies addressing noise standards.	Yes
Greenlee County, Arizona		
Greenlee County Comprehensive Plan" (2003)	No noise elements or policies addressing noise standards.	Yes
Greenlee County Planning and Zoning Regulations (2007)	Limits uses such that the establishment, maintenance, or operation of the proposed use shall not be noxious or offensive by reason of noise.	Expected
Pima County, Arizona		
Pima County Comprehensive Plan" (1992)	Residents should be protected to a reasonable extent from continued long-term exposure to high levels of noise and from increasing levels of noise.	Expected
Pima County Code (1985)	Limits uses such that the establishment, maintenance, or operation of the proposed use shall not be noxious or offensive by reason of noise. Construction hours are limited to times outlined in table C-3 because of noise potential.	Expected
Pinal County, Arizona		
Pinal County Development Services Code (2006a)	Limits uses such that the establishment, maintenance, or operation of the proposed use shall not be noxious or offensive by reason of noise.	Expected
Pinal County Comprehensive Plan" (2010)	Establishes a noise-sensitive area with the intent to encourage land use compatibility with airport activities. The noise-sensitive area designation is an overlay designation with additional stipulations to the underlying designations to "reduce interior noise levels to 45 L_{dn}, day-night average sound level, or lower." An objective of the plan is to minimize noise near places people live. However, there are no explicit maximum noise levels for areas outside the noise-sensitive area overlay.	Expected
Excessive Noise Ordinance (2006b)	The ordinance prohibits any noise that exceeds certain levels. Noise levels are permitted to be higher in commercial and industrial areas than in residential areas. The policy states further that at and above these levels, noise is excessive and detrimental to the health and welfare of the citizens of the County, and should be eliminated. The requirements of this noise ordinance as they relate to the proposed Project and alternatives are discussed further below.	Expected

Table C-2. Applicable Regional and Local Plans, Laws, Ordinances, Regulations, and Standards Related to Noise (Continued)

Jurisdictional	Laws, Ordinances, Regulations, and Standards (LORS)	Project Consistency with LORS
Cities		
City of Deming, New Mexico		
City of Deming Comprehensive Plan Update" (2010)	No noise elements or policies addressing noise standards.	Yes
City of Deming Municipal Code (2001)	Limits uses such that the establishment, maintenance, or operation of the proposed use shall not be noxious or offensive by reason of noise.	Expected
City of Willcox, Arizona		
City of Willcox General Plan Update" (2009)	No noise elements or policies addressing noise standards.	Yes
City of Benson, Arizona		
City of Benson General Development Plan" (2002)	The plan acknowledges that Benson sits within a transmission corridor. Included in the Environmental Planning element, Policy 3 indicates that the City should employ noise buffers of native vegetation between roadways and residential areas to reduce noise load impact of increased traffic, and Policy 4 recommends that the City develop a noise level benchmark of current conditions to compare with future noise levels. However, there are no explicit maximum noise levels stated in the plan.	Expected
City Code of the City of Benson, Arizona (2006)	The code limits conditional uses such that noise levels and lights from the facility will not interfere with adjacent land uses or in any way create a nuisance and that noise impacts from nonresidential development should be abated to acceptable residential levels at residential property lines.	Expected
City of Sierra Vista, Arizona		
Sierra Vista Development Code (2009)	The code contains an article to identify acceptable levels of noise and other emissions in various land use categories. The allowed sound levels between land use districts are discussed further below.	Expected
City of South Tucson, Arizona		
City of South Tucson Comprehensive Plan" (1999)	No noise elements or policies addressing noise standards.	Yes
City of Tucson, Arizona		
City of Tucson Land Use Code (1995)	Limits uses such that the establishment, maintenance, or operation of the proposed use shall not be noxious or offensive by reason of noise.	Expected
City of Tucson General Plan" (2001)	Industrial development should utilize appropriate design elements to mitigate visual, noise, odor, and other potential impacts on adjacent uses while improving the streetscape and contributing positively to the overall function and aesthetic quality of the community.	Expected
Town of Marana, Arizona		
Marana General Plan" (2010)	No noise elements or policies addressing noise standards.	Yes

Table C-2. Applicable Regional and Local Plans, Laws, Ordinances, Regulations, and Standards Related to Noise (Continued)

Jurisdictional	Laws, Ordinances, Regulations, and Standards (LORS)	Project Consistency with LORS
Cities, cont'd.		
Official Code of the Town of Marana, Arizona (2012)	Limits uses such that the establishment, maintenance, or operation of the proposed use shall not be noxious or offensive by reason of noise. It shall be unlawful to allow or cause site construction activities that result in disturbance to persons residing within 500 feet of the site between the hours of 7 p.m. and 6 a.m. on weekdays and between 7 p.m. and 7 a.m. on weekends.	Expected
City of Eloy, Arizona		
City of Eloy General Plan" (2011)	The city shall actively coordinate with electric companies regarding placement, design, and size of proposed and future transmission lines. The plan states that screening techniques (i.e., landscaping, distance, berming, and fencing) shall be used to shield and buffer adjacent residential uses from noise generated by industrial uses.	Expected
City of Eloy Zoning Code and Map	Limits uses such that the establishment, maintenance, or operation of the proposed use shall not be noxious or offensive by reason of noise.	Expected

Pima County contains noise regulations in Chapter 9.30.070, "Construction of Buildings and Other Projects," of the Pima County Code. These standards regulate noise emitted from construction activities on buildings, structures, or projects within the times listed in table C-3.

Table C-3. Pima County Noise Construction Time Restrictions

Concrete Work		Other Type Construction (Residential Zones)		Other Type Construction (Commercial and Industrial Zones)	Weekends and Holidays	
April 15 to October 15	October 16 to April 14	April 15 to October 15	October 16 o April 14	Year-round	Construction or repair work	Concrete pouring
5 a.m. to 7 p.m.	6 a.m. to 7 p.m.	6 a.m. to 7 p.m.	7 a.m. to 7 p.m.	5 a.m. to 7 p.m.	7 a.m. to 7 p.m.	6 a.m. to 7 p.m.

Source: Pima County (1985).

Note: Construction start/stop times are requirements unless authorized for other times by a permit.

While Pima County regulates construction during certain times, there are no maximum noise levels for any type of construction or activity. Section 9.30.070 states that "it shall be unlawful for any person to operate equipment or perform any outside construction or repair work on buildings, structures or projects, or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist or any other construction type device except within the time periods specified below unless an appropriate permit has been obtained beforehand from the county."

Baseline Noise Levels

The following section presents more information on baseline noise conditions as discussed in the noise section of chapter 3. Included are tables detailing anticipated noise levels based on land use, heavy truck

traffic conditions, baseline noise levels at existing substations, and noise levels of representative construction equipment.

Anticipated Noise Levels by Land Use

Table C-4 shows estimated ranges of sound levels from different land uses during the day and at night (Bishop and Schomer 1991). These ranges can be used to give an estimation of what existing sound levels are along the corridor based on existing land uses.

Table C-4. Land Use and Anticipated Noise Levels

Location	Daytime Outdoor dBA, L_{eq}		Nighttime Outdoor dBA, L_{eq}	
	Minimum	Maximum	Minimum	Maximum
3rd-floor apartment, next to freeway	76	89	62	87
3rd-floor apartment, downtown Los Angeles	69	85	61	80
2nd-floor apartment, New York City	62	83	58	78
Urban shopping center	59	71	49	65
Popular beach on Pacific Ocean	52	69	49	63
Urban residential near major airport	48	92 (aircraft landing)	45	88 (aircraft landing)
Urban residential near ocean	48	70	44	52
Urban residential 6 miles to major airport	44	69	40	66 (distant aircraft)
Suburban residential near railroad tracks	43	68	39	66 (train idling)
Urban residential	44	66	42	64
Urban residential near small airport	45	74 (aircraft takeoff)	38	56 (no aircraft)
Old residential near city center	42	64	43	61
Suburban residential at city outskirts	40	67 (aircraft overhead	33	55 (no aircraft)
Small town residential cul-de-sac	38	57	35	52
Small town residential main street	36	65 (main street traffic)	34	56
Suburban residential in Hill Canyon	33	66 (canyon traffic)	43	61 (traffic and crickets)
Farm in valley	30	52	30	40
Grand Canyon (North Rim)	8	45 (sightseeing traffic)	20	40

Source: Bishop and Schomer (1991).

Baseline Roadway Noise

Potential noise levels that would occur from heavy truck traffic are listed in table C-5. These values will be representative of areas where traffic would represent an existing source of noise.

Table C-5. Noise Levels at Various Distances from Heavy Trucks

	Noise Level $L_{eq(1\text{-}h)}$ at Distances (dBA)					
Hourly Vehicle Traffic	**50 feet**	**250 feet**	**500 feet**	**1,000 feet**	**2,500 feet**	**5,000 feet**
1	51	44	41	38	34	31
10	61	54	51	48	44	41
50	68	61	58	55	51	48
100	71	64	61	58	54	51

Substation Operational Noise

To assess operational and maintenance impacts of the proposed Project and alternatives, the approximate existing noise levels at the proposed substation sites are presented in table C-6.

Table C-6. Current Noise at Proposed Substation Sites along New Build Section

Section	Substation	Distance to Closest Noise-Sensitive Receptor (in feet)	Approximate Substation Noise Based on Existing Conditions at Noise-Sensitive Receptor
New Build	Afton	35,942	< 40 dBA
	Apache	2,736	40 dBA
	Hidalgo	15,120	< 40 dBA
Upgrade	Pantano	13,247	< 40 dBA
	Adams Tap	11,977	< 40 dBA
	Nogales	5,711	< 40 dBA
	Vail	5,534	< 40 dBA
	Rattlesnake	10,687	< 40 dBA
	Tucson-DMP	934	41 dBA
	Marana	512	<40 dBA
	Saguaro/Tortolita	11,484	< 40 dBA
	De Moss Petrie	1,476	41 dBA

Analysis Assumptions

The following section provides a more inclusive summary of the noise calculation assumptions from the Project and alternatives. This section is meant to supplement the discussion included in the noise section of chapter 4.

Other published noise data can be found in one of the most recent and comprehensive compilations of construction equipment noise developed in the United States: the Federal Highway Administration's (FHWA's) "Roadway Construction Noise Model (RCNM) User's Guide" (Final Report, January 2006, FHWA-HEP-05-054, DOT-VNTSC-FHWA-05-01). The RCNM model includes noise levels for several categories of construction equipment, the nosiest of which include impact and vibratory pile drivers (95 dBA at a distance of 50 feet).

A review of the literature on construction equipment noise levels indicates that the loudest equipment generally emits noise in the range of 80 to 90 dBA at 50 feet. Noise at any specific receptor is dominated by the closest and loudest equipment. The types and numbers of construction equipment near any specific receptor location will vary over time. In order to make reasonably conservative estimates of construction noise, it was decided to model a scenario consisting of the following:

- One piece of equipment generating a reference noise level of 85 dBA (at 50 feet distance with a 40 percent usage factor) located on the easement or property line;
- Two pieces of equipment generating reference 85 dBA noise levels located 50 feet farther away on the easement or property line; and
- Two more pieces of equipment generating reference 85-dBA noise levels located 100 feet farther away on the easement or property line.

For example, the level at 50 feet from the ROW was based on one piece of equipment at 50 feet from the receptor, two pieces at 100 feet, and two pieces at 150 feet. The level at 100 feet from the ROW was based on one piece of equipment at 100 feet, two pieces at 150 feet, and two pieces at 200 feet. The level at 200 feet from the ROW was based on one piece of equipment at 200 feet, two pieces at 250 feet, and two pieces at 300 feet. As described in the RCNM User's Guide, the level from each piece of equipment is determined by the following formula for geometric spreading:

*Reference Noise Level – 20*log(Distance to Receptor/50) + 10*log(Usage Factor %/100)*

Thus for the scenario where all equipment has a reference level of 85 dBA and a usage factor of 40 percent, the contribution of each piece of equipment was determined by the following formula:

*85 dBA – 20*log(Distance to Receptor/50) + 10*log(40/100)*

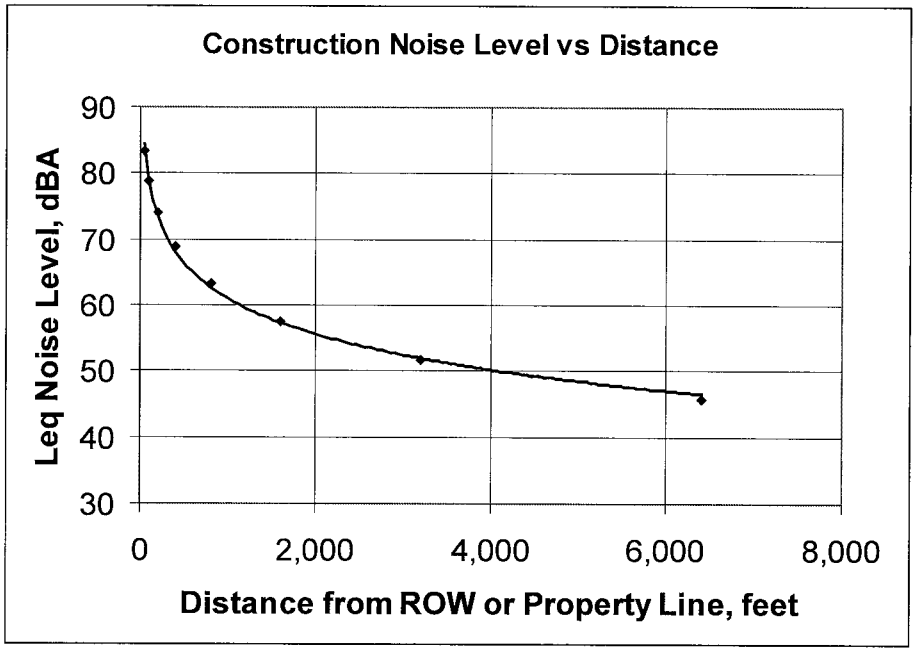
The model determines the total reference level by adding the decibel contribution of each piece of equipment. Construction equipment noise levels at various distances, based on this scenario and under the conditions discussed, are presented in table C-7.

Table C-7. Construction Equipment Noise Levels by Distance

Distance from ROW or Property Line (feet)	L_{eq} Noise Level (dBA)
50	83
100	79
200	74
400	69
800	63
1,600	58
3,200	52
6,400	46

The data in table C-7 are plotted in figure C-2. The expected construction noise levels from proposed transmission line construction activities at any particular location may be estimated using this figure.

Figure C-2. Construction equipment noise levels by distance.



Noise Sensitive Receptors

The following section lists out identified non-residential noise sensitive receptors within the noise area of analysis by route group. This section is meant to supplement the discussion included in the noise section of chapter 4.

Route Group 1 – Afton Substation to Hidalgo Substation

The New Build Section of the proposed Project and alternatives between the Afton Substation to Hidalgo Substation passes by five non-residential noise-sensitive receptors and scattered residential areas, primarily near the community of Deming. However, this route group is predominantly open space and has very few noise-sensitive receptors (table C-8).

Table C-8. Route Group 1: Noise Sensitive Receptors within Analysis Area

Type of Receptor	Name of Receptor	Distance from Edge of Representative ROW (feet)	Construction Noise Level at NSR (dBA)	Segment
Cemetery	Holy Cross Cemetery	4329	52	Proposed Route, P2
Cemetery	Victorio Cemetery	52	83	Alt. Southern Route, S7
Cemetery	Hachita Cemetery	633	69	Alt. Southern Route, S7
Cemetery	Shakespeare Cemetery	1742	58	Local Alternative D
Church	Hachita Baptist Church	633	69	Alt. Southern Route, S7

Route Group 2 – Hidalgo Substation to Apache Substation

There are six non-residential NSRs identified for this Route Group (five schools and one cemetery). These NSRs are presented in table C-9.

Table C-9. Route Group 2: Noise Sensitive Receptors within Analysis Area

Type of Receptor	Name of Receptor	Distance from Edge of Representative ROW (feet)	Construction Noise Level at NSR (dBA)	Segment
Cemetery	Desert Rest	2428	58	Local Alternative F
School	San Simon Elementary School	4488	52	Local Alternative E
School	San Simon High School	4488	52	Local Alternative E
School	Bowie Elementary School	5227	52	Local Alternative F
School	Bowie High School	5068	52	Local Alternative F
School	Cochise Elementary	897	63	Local Alternative G

Route Group 3 – Apache Substation to Pantano Substation

There are forty non-residential NSRs identified for this route group, which includes churches, schools, museums, libraries, and parks. These NSRs are presented in table C-10.

Table C-10. Route Group 3: Noise Sensitive Receptors within Analysis Area

Type of Receptor	Name of Receptor	Distance from Edge of Representative ROW (feet)	Construction Noise Level at NSR (dBA)	Segment
Church	Living Faith Fellowship	700	69	Proposed Route U2
Church	LDS Church	3900	52	Proposed Route U2
School	Full Gospel Assembly School	2000	58	Proposed Route U2
School	Visions Unlimited Academy	4700	52	Proposed Route U2
School	Benson Primary/Middle/ High School	5100	52	Proposed Route U2
Museum	Benson Museum	4500	52	Proposed Route U2
Church	Our Lady of Lourdes	4900	52	Proposed Route U2
Library	Benson Public Library	5100	52	Proposed Route U2
Church	Assembly of God	3100	58	Proposed Route U2
Church	River of Life Christian PCG	2200	58	Proposed Route U2
Church	Calvary Baptist Church	2400	58	Proposed Route U2
Church	Skyline Baptist Church	600	69	Proposed Route U2
Church	Peace in the Valley Lutheran	3800	52	Proposed Route U2
School	New West School	1700	58	Proposed Route U2
School	Andrada High School	3400	52	Proposed Route, U3a
School	Pantano High School	3600	52	Proposed Route, U3a
School	Santa Clara Elementary School	900	63	Proposed Route, U3a
School	Academy del Sol	1000	63	Proposed Route, U3a
School	Southgate Academy	800	63	Proposed Route, U3a
School	Elvira Elementary School	4100	52	Proposed Route, U3a

Table C-10. Route Group 3: Noise Sensitive Receptors within Analysis Area (Continued)

Type of Receptor	Name of Receptor	Distance from Edge of Representative ROW (feet)	Construction Noise Level at NSR (dBA)	Segment
Church	Apostolic Bethel Temple	3800	52	Proposed Route, U3a
Church	Jehovah Witnesses	3000	58	Proposed Route, U3a
Church	St. Monica Catholic Parish	4400	52	Proposed Route, U3a
Church	Manor Baptist Church	3300	52	Proposed Route, U3a
School	Math and Science Success Academy	3400	52	Proposed Route, U3a
Church	Church of Jesus Christ of Latter-day Saints	4000	52	Proposed Route, U3a
School	San Miguel High School	4400	52	Proposed Route, U3a
Church	The Cool Church	4600	52	Proposed Route, U3a
School	Tucson International Academy	3500	52	Proposed Route, U3a
School	Ombudsmen - Charter Valencia	4000	52	Proposed Route, U3a
Church	Desert Dove Christian Church	3300	52	Proposed Route, U3a
School	Mission Manor Elementary	1700	58	Proposed Route, U3a
Park	Mission Manor Park	1700	58	Proposed Route, U3a
Library	Desert Vista Library	600	69	Proposed Route, U3a
Park	Fiesta Park	4600	52	Proposed Route, U3a
School	Arizona Academy of Leadership	2500	58	Proposed Route, U3a
School	Liberty Elementary	4500	52	Proposed Route, U3a
School	Apollo Middle School	4800	52	Proposed Route, U3a
Church	New Horizon Temple	2200	58	Proposed Route, U3a
Church	Welcome Baptist Church	4700	52	Proposed Route, U3a

Route Group 4 – Pantano Substation to Saguaro Substation

There are 75 non-residential NSRs identified for this route group (which includes parks, schools, churches, hospitals, libraries, and cemeteries). These NSRs are presented in table C-11.

Table C-11. Route Group 4: Noise Sensitive Receptors within Analysis Area

Type of Receptor	Name of Receptor	Distance from Edge of Representative ROW (feet)	Construction Noise Level at NSR (dBA)	Segment
Park	Oaktree Park	1000	63	Proposed Route, U3c
School	Raul Grijalva Elementary School	3000	58	Proposed Route, U3c
Church	Jehovah Witnesses	4000	52	Proposed Route, U3c
School	White Elementary School	4800	52	Proposed Route, U3c
Church	Freedom's Gate Ministries	4500	52	Proposed Route, U3c
Church	Pleasant View Baptist Church	5000	52	Proposed Route, U3c
Church	Cactus Community Church	1300	63	Proposed Route, U3c
Church	Charity Tabernacle	1500	63	Proposed Route, U3d
School	McCorkle K-8 School	2300	58	Proposed Route, U3d

Table C-11. Route Group 4: Noise Sensitive Receptors within Analysis Area (Continued)

Type of Receptor	Name of Receptor	Distance from Edge of Representative ROW (feet)	Construction Noise Level at NSR (dBA)	Segment
Church	Our Lady of Fatima Parish	300	74	Proposed Route, U3d
Church	Mission Park Baptist Church	300	74	Proposed Route, U3d
School	Lynn Elementary School	4200	52	Proposed Route, U3d
Church	House of Prayer	4000	52	Proposed Route, U3d
School	Oyama Elementary School	700	69	Proposed Route, U3d
Church	West Side Church of God	2900	58	Proposed Route, U3d
Church	Emmanuel Grace Apostolic	3300	52	Proposed Route, U3d
Church	Christ Kingdom Fellowship Church	4200	52	Proposed Route, U3d
Park	San Juan Park	1400	63	Proposed Route, U3d
School	Cholla High School	1400	63	Proposed Route, U3d
School	Tolson Elementary School	1300	63	Proposed Route, U3e
Park	Sentinel Peak Park	4000	52	Proposed Route, U3f
School	Tucson International Academy - West	3500	52	Proposed Route, U3f
School	Menlo Park Elementary School	3600	52	Proposed Route, U3g
Park	Menlo Park	3500	52	Proposed Route, U3g
Hospital	St. Mary's Hospital	300	74	Proposed Route, U3g
School	Manzo Elementary School	3000	58	Proposed Route, U3g
Church	Victory Baptist Church	1000	63	Proposed Route, U3g
Church	Trinity Hope Church of God	2900	58	Proposed Route, U3g
Library	El Rio Branch Public Library	2600	58	Proposed Route, U3g
Park	Joaquin Murrieta Northwest Park	0	83	Proposed Route, U3h
School	Brichta Elementary	2600	58	Proposed Route, U3h
School	Tully Elementary School	400	69	Proposed Route, U3h
Church	Most Holy Trinity Catholic Church	5000	52	Proposed Route, U3h
Church	Trinity Missionary Baptist Church	3500	52	Proposed Route, U3h
Park	Riverview Park	2300	58	Proposed Route, U3h
Church	Northwest Spanish SDA Church	1000	63	Proposed Route, U3h
School	Ironwood Hills School	3700	52	Proposed Route, U3h
Church	Open Heavens Fellowship	1600	58	Proposed Route, U3h
Church	Faith Christian Fellowship	1600	58	Proposed Route, U3h
School	Richey Elementary School	3300	52	Proposed Route, U3i
School	Nash Elementary School	2400	58	Proposed Route, U3i
Church	St. Michael Ukrainian Catholic Church	2500	58	Proposed Route, U3i
Church	Tucson Tabernacle	5100	52	Proposed Route, U3i
Church	Flowing Wells Assembly of God	2300	58	Proposed Route, U3i
School	Walter Douglas Elementary	2900	58	Proposed Route, U3i

Table C-11. Route Group 4: Noise Sensitive Receptors within Analysis Area (Continued)

Type of Receptor	Name of Receptor	Distance from Edge of Representative ROW (feet)	Construction Noise Level at NSR (dBA)	Segment
Park	Jacobs Park	4100	52	Proposed Route, U3i
Cemetery	Evergreen Mortuary Cemetery	3000	58	Proposed Route, U3i
School	Luz Academy of Tucson	2900	58	Proposed Route, U3i
Park	Sweetwater Wetlands Park	700	69	Proposed Route, U3i
Church	Northside Fellowship Church	4200	52	Proposed Route, U3i
Church	Victory Worship Center	5000	52	Proposed Route, U3i
Church	Tucson Mountain Congregation	700	69	Proposed Route, U3i
School	Laguna Elementary School	4100	52	Proposed Route, U3i
Church	Northwest Southern Baptist Church	5000	52	Proposed Route, U3i
Park	Christopher Columbus Park	0	83	Proposed Route, U3i
Church	Lord of Grace Lutheran Church	3000	58	Proposed Route, U3i
Church	LDS Church	900	63	Proposed Route, U3i
Library	Wheller Taft Abett Library	2000	58	Proposed Route, U3i
School	Coyote Trails Elementary	900	63	Proposed Route, U3i
School	Redeemer Evangelical Lutheran School	400	69	Proposed Route, U3i
School	Rattlesnake Ridge Elementary	0	83	Proposed Route, U3i
School	Twin Peaks Elementary School	1000	63	Proposed Route, U3i
School	Tolson Elementary School	0	83	Local Alternative, TH1a
School	Tucson International Academy	1400	63	Local Alternative, TH1a
School	Maxwell Middle School	2000	58	Local Alternative, TH1a
Park	Greasewood Park	0	83	Local Alternative, TH1b
Park	Linear Park	300	74	Local Alternative, TH1b
Church	Most Holy Trinity Catholic Church	700	69	Local Alternative, TH1b
School	C E Rose Elementary School	3500	52	Local Alternative, TH3-OptionC
School	Pueblo Magnet High	1600	58	Local Alternative, TH3-OptionC
Park	Santa Cruz River Park	0	83	Local Alternative, TH3-OptionC
School	Carrillo Elementary	2500	58	Local Alternative, TH3b
Museum	Tucson Museum of the Arts	1900	58	Local Alternative, TH3b
School	Davis Bilingual School	1600	58	Local Alternative, TH3b
School	Ombudsmen - Charter Central	2200	58	Local Alternative, TH3b

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Appendix B

SUPPLEMENTAL AIR QUALITY INFORMATION

SUPPLEMENTAL AIR QUALITY INFORMATION

Laws, Ordinances, Regulations, and Standards

The following section provides a more inclusive summary of Federal, State, and local laws, regulations, and standards that govern activities that could affect air quality resources across the air quality analysis area. This section is meant to supplement the discussion included in the air quality section of chapter 3.

Federal

PREVENTION OF SIGNIFICANT DETERIORATION AND CLASS I AND II AREAS

The maximum allowable PSD increments over baseline, significant impact levels (SILs), and monitoring de minimis concentrations are summarized in table B-1.

Table B-1. Prevention of Significant Deterioration of Air Quality Increments, Significant Impact Levels, and Monitoring of de Minimis Concentrations

Pollutant	Averaging Time	PSD Increments Class I ($\mu g/m^3$)	PSD Increments Class II ($\mu g/m^3$)	SILs Class I ($\mu g/m^3$)	SILs Class II ($\mu g/m^3$)	Monitoring de Minimis Concentrations ($\mu g/m^3$)
PM_{10}	Annual	4	17	0.16	1	NA
	24-hour	8	30	0.32	5	10
SO_2	Annual	2	20	0.08	1	NA
	24-hour	5	91	0.2	5	13
	3-hour	25	512	1	25	NA
NO_2	Annual	2.5	25	0.1	1	14
CO	8-hour	NA	NA	NA	500	575
	1-hour	NA	NA	NA	2,000	NA

Sources: 40 CFR 52.21(c), *61 Federal Register* 38249, 40 CFR 51.165(b)(2), 40 CFR 52.21(i)(5)(i).

Notes: NA = Not applicable; $\mu g/m^3$ = micrograms per cubic meter.

In 1999, the EPA announced an effort to improve air quality and visibility in 156 national parks and wilderness areas designated as Class I, known as the Regional Haze Rule (EPA 1999). Regional haze reduces long-range visibility over a wide region. Section 169A of the CAA sets forth a national goal for visibility. States are required by the rule to demonstrate reasonable progress towards the "prevention of any future, and the remedying of any existing, impairment in Class I areas which impairment results from manmade air pollution."

State and Local Regulations

DOÑA ANA COUNTY

A countywide ordinance (Ordinance 194-2000 on Erosion Control Regulations (Doña Ana County 2000)) would apply to the proposed Project and alternatives and requires an erosion control plan approved by the County planning director to minimize the creation or aggravation of erosive forces. Erosion control measures must be detailed in the plan and include short-term (during construction) and long-term (during

operations) control measures as specified in the ordinance. Short-term control measures include regularly scheduled wet suppression, dust suppressants applied in amounts and rates recommended by the manufacturer and maintained as recommended by the manufacturer, upwind temporary windbreaks, starting of construction upwind and stabilizing of disturbed areas before disturbing additional areas, and/or stopping of active operations during high wind periods. Long-term control measures include site stabilization using dust suppressants applied in amounts and rates recommended by the manufacturer and maintained as recommended by the manufacturer, reseeding using native grasses, xeriscaping, tree planting, and/or permanent perimeter and interior fencing.

LUNA COUNTY

A countywide ordinance (Ordinance 75 on Buildings (Luna County 2010)) applies to the proposed Project and alternatives and requires a plan approved by the officer to prevent soil, sand, dust, building materials, construction waste, and other materials from being blown by the wind from the land.

COCHISE COUNTY

In Cochise County, no additional County-specific air quality regulations apply. A countywide ordinance (Ordinance 00-030 on Land Clearing (Cochise County 2000)) associated with a permitting program applies to the proposed Project and alternatives. Any activity that includes the clearing of more than 1 acre of land is required to have a clearing permit from the County. Controls during construction include dust and erosion control measures during clearing and until revegetation or stabilization has taken place. Dust shall be minimized through the application of generally acceptable dust suppressants and erosion shall be minimized through the application of acceptable BMPs. There are no concrete batch plant specific regulations that apply to Cochise County.

PIMA COUNTY

Pima County has been delegated authority pursuant to ARS 49-402 and ARS 49-112 to maintain and operate an air quality control program under a state implementation plan (SIP). The air quality regulations in Pima County are codified in the Pima County Air Quality Control District Code of Regulations, Title 17, Air Quality Control (Pima County 2013). The Pima County air quality standards are the same as the NAAQS established by the EPA. Specific permitting and emission limitations regulations apply for Class I areas and nonattainment areas.

The County has dust control regulations associated with a permitting program. A fugitive dust activity permit is required when conducting land stripping and/or earth moving over 1 acre, trenching over 300 feet, road construction over 50 feet, and blasting activities. A visible standard of 20 percent applies to opacity emissions from a nonpoint source. Until the area becomes permanently stabilized, dust controls during construction and operations are required. Those dust control methods include applying adequate amount of a dust suppressant to the affected area.

PINAL COUNTY

The air quality regulations in Pinal County are codified in the Pinal County Air Quality Control District Code of Regulations. The Pinal County air quality standards are similar to the NAAQS established by the EPA. The County also has dust control regulations, associated with a permitting program (Pinal County 2010). A dust registration is required when conducting land stripping and/or earth moving over 0.1 acre. A visible standard of 20 percent applies to opacity emissions. Controls during construction include watering, dust suppressants, wind barriers, covering haul vehicles, reducing speed limits, applying a gravel pad, dislodging debris from trucks prior to leaving the work site, shelter storage piles, altering loading procedures, or other applicable means.

Climate and Meteorology

The following section provides a more inclusive summary of the climate and meteorology across the air quality analysis area. This section is meant to supplement the discussion included in the air quality section of chapter 3.

New Mexico

During the summer months, individual daytime temperatures quite often exceed 100 °F at elevations below 5,000 feet, but the average monthly maximum temperatures in July, the warmest month, range from slightly above 90 °F at lower elevations to the upper 70s at high elevations. Warmest days quite often occur in June before the thunderstorm season sets in. In July and August, afternoon convective storms tend to decrease solar insolation, lowering temperatures before they reach their potential daily high. The highest temperatures of record in New Mexico are 116 °F at Orogrande on July 14, 1934, and at Artesia on June 29, 1918. A preponderance of clear skies and low relative humidity permit rapid cooling by radiation from the earth after sundown. Consequently, nights are usually comfortable in summer. The average range between daily high and low temperatures is from 25 °F to 35 °F.

In January, the coldest month, average daytime temperatures range from the middle 50s in the southern and central valleys to the middle 30s in the higher elevations of the north. Minimum temperatures below freezing are common in all sections of the state during the winter, but subzero temperatures are rare except in the mountains. The lowest temperature recorded at regular observing stations in the state was −50 °F at Gavilan on February 1, 1951. An unofficial low temperature of −57 °F at Ciniza on January 13, 1963, was widely reported by the press.

The freeze-free season ranges from more than 200 days in the southern valleys to less than 80 days in the northern mountains, where some high mountain valleys have freeze in summer months.

Average annual precipitation ranges from less than 10 inches over much of the southern desert and the Rio Grande and San Juan Valleys to more than 20 inches at higher elevations in the State. A wide variation in annual totals is characteristic of arid and semiarid climates, as illustrated by annual extremes of 2.95 and 33.94 inches at Carlsbad over a period of more than 71 years.

Summer rains fall almost entirely during brief, but frequently intense thunderstorms. The general southeasterly circulation from the Gulf of Mexico brings moisture for these storms into the State, and strong surface heating combined with orographic lifting as the air moves over higher terrain causes air currents and condensations. July and August are the rainiest months over most of the state, with from 30 to 40 percent of the year's total moisture falling at that time. The San Juan Valley area is least affected by this summer circulation, receiving about 25 percent of its annual rainfall in July and August. During the warmest 6 months of the year, May through October, total precipitation averages from 60 percent of the annual total in the Northwestern Plateau to 80 percent of the annual total in the eastern plains.

Winter precipitation is caused mainly by frontal activity associated with the general movement of Pacific Ocean storms across the country from west to east. As these storms move inland, much of the moisture is precipitated over the coastal and inland mountain ranges of California, Nevada, Arizona, and Utah. Much of the remaining moisture falls on the western slope of the Continental Divide and over northern and high central mountain ranges. Winter is the driest season in New Mexico except for the portion west of the Continental Divide. This dryness is most noticeable in the Central Valley and on eastern slopes of the mountains.

Much of the winter precipitation falls as snow in the mountain areas, but it may occur as either rain or snow in the valleys. Average annual snowfall ranges from about 3 inches at the Southern Desert and Southeastern Plains stations to well over 100 inches at Northern Mountain stations. It may exceed 300 inches in the highest mountains of the north.

Plentiful sunshine occurs in New Mexico, with from 75 to 80 percent of the possible sunshine being received. In winter, this is particularly noticeable with from 70 to 75 percent of the possible sunshine being received. It is not uncommon for as much as 90 percent of the possible sunshine to occur in November and in some of the spring months. The average number of hours of annual sunshine ranges from near 3,700 hours in the southwest to 2,800 in the north-central portions.

Average relative humidity is lower in the valleys but higher in the mountains because of the lower mountain temperatures. Relative humidity ranges from an average of near 65 percent around sunrise to near 30 percent in mid-afternoon; however, afternoon humidity in warmer months is often less than 20 percent and occasionally may go as low as 4 percent. The low relative humidity during periods of extreme temperatures eases the effect of summer and winter temperatures.

Wind speeds over the State are usually moderate, although relatively strong winds often accompany occasional frontal activity during late winter and spring months and sometimes occur just in advance of thunderstorms. Frontal winds may exceed 30 miles per hour (mph) for several hours and reach peak speeds of more than 50 mph. Spring is the windy season. Blowing dust and serious soil erosion of unprotected fields may be a problem during dry spells. Winds are generally stronger in the eastern plains than in other parts of the State. Winds generally predominate from the southeast in summer and from the west in winter, but local surface wind directions will vary greatly because of local topography and mountain and valley breezes.

Potential evaporation in New Mexico is much greater than average annual precipitation. Evaporation from a Class A pan ranges from near 56 inches in the north-central mountains to more than 110 inches in southeastern valleys. During the warm months, May through October, evaporation ranges from near 41 inches in the north-central to 73 inches in the southeast portions of the State.

Table B-2 presents climate data for Lordsburg and Las Cruces, New Mexico.

Table B-2. Climate Conditions in the New Mexico Proposed Project and Alternatives Area

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Lordsburg, New Mexico [a]													
Average max. temperature (°F)	59.1	63.5	70.4	79.1	87.7	96.8	96.8	94.2	89.5	79.9	67.6	58.6	78.6
Average min. temperature (°F)	25.5	28	33.2	39.6	47.8	58.1	64.6	62.9	56.2	43.6	31.6	25.5	43.1
Average total precipitation (inches)	0.81	0.71	0.63	0.27	0.23	0.42	1.87	1.94	1.22	0.93	0.59	0.88	10.49
Average total snowfall (inches)	1.2	1	0.6	0.1	0	0	0	0	0	0	0.3	1.3	4.5

Table B-2. Climate Conditions in the New Mexico Proposed Project and Alternatives Area (Continued)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Las Cruces, New Mexico [b]													
Average max. Temperature (°F)	59.7	64.3	71.1	80.1	87.3	96.5	95.4	94.7	91.1	81.4	67.8	59.2	79.1
Average min. temperature (°F)	28.7	29.5	36.7	45.1	51.5	61.8	66.9	65.5	58.3	46.8	33.3	28.4	46.1
Average total precipitation (inches)	0.49	0.41	0.17	0.12	0.25	0.5	1.12	1.16	0.68	0.91	0.19	0.4	6.39
Average total snowfall (inches)	1.6	1.5	0	0.1	0	0	0	0	0	0	0	0.8	3.9

Notes:

Avg. = average

Max. = maximum

Min. = minimum

[a] Source: Western Regional Climate Center, 2011a, Station ID 295079.

[b] Source: Western Regional Climate Center, 2011b, Station ID 294799.

Arizona

Cold air masses from Canada sometimes penetrate into the State, bringing temperatures well below zero in the high plateau and mountainous regions of central and northern Arizona. The lowest readings can dip to 35 °F below zero. High temperatures are common throughout the summer months at the lower elevations. Temperatures higher than 125 °F have been observed in the desert area. Great extremes occur between day and night temperatures throughout Arizona. The daily range between minimum and maximum temperatures sometimes runs as much as 50 °F to 60 °F during the drier portions of the year. During winter months, daytime temperatures may average 70 °F, with night temperatures often falling to freezing of slightly below in the lower desert valleys. In the summer, the pine-clad forests in the central part of the State may have afternoon temperatures of 80 °F, while night temperatures drop to 35 °F or 40 °F.

Precipitation throughout Arizona is governed to a great extent by elevation and the season of the year. From November through March, storm systems from the Pacific Ocean cross the State. These winter storms occur frequently in the higher mountains of the central and northern parts of the State and sometimes bring heavy snows. Snow accumulation may reach depths of 100 inches or more during the winter. The gradual melting of this snow during the spring serves to maintain a supply of water in the main rivers of the State. Reservoirs on these streams supply water to the desert areas in the lower Salt River valley and the lower Gila River valley areas, which are extensively farmed.

Summer rainfall begins early in July and usually lasts until mid-September. Moisture-bearing winds sweep into Arizona from the southeast, with their source region in the Gulf of Mexico. Another important source of moisture for southern Arizona is the Gulf of California. Summer rains occur in the form of thunderstorms, which result largely from excessive heating of the ground and the lifting of moisture-laden air along main mountain ranges. Thus, the heaviest thunderstorms are usually found in mountainous regions of the central and southeastern portions of Arizona. These thunderstorms are often accompanied by strong winds and brief periods of blowing dust prior to the onset of rain. Hail occurs rather infrequently.

The average number of days with measurable precipitation per year varies from near 70 days in the Flagstaff area to 15 at Yuma. A large portion of Arizona is classed as semiarid and long periods often occur with little or no precipitation. The air is generally dry and clear, with low relative humidity and a high percentage of sunshine. April, May, and June are the months with the greatest number of clear days, while July and August, as well as December, January, and February have the cloudiest weather and lowest percent of possible sunshine. Humidity, while low compared with most other States, are higher throughout much of Arizona during July and August, which is the thunderstorm season. Annual average humidity values, based on four readings per day, range from 55 percent at Flagstaff to around 33 percent at Yuma. Yearly averages of percent of possible sunshine range from 86 to 92 percent. Evaporation rates in Arizona are high because of high temperatures, the dryness of the air, and the high percentage of sunshine. Mean annual lake evaporation varies from about 80 inches in the southwestern part of the State to about 50 inches in the northeast. Phoenix averages about 72 inches and Tucson 70 inches per year.

Table B-3 presents climate data for Tucson and Benson, Arizona.

Table B-3. Climate Conditions in the Arizona Proposed Project and Alternatives Area

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Tucson, Arizona [a]													
Avg. max. temperature (°F)	64.9	68.3	73.5	81.7	90.5	99.7	99.4	97.2	94.4	84.9	73.2	65.2	82.7
Avg. min. temperature (°F)	38.7	41.1	44.9	50.9	58.7	68.1	74	72.5	67.8	56.9	45.5	39	54.8
Avg. total precipitation (inches)	0.85	0.79	0.69	0.32	0.22	0.27	2.34	2.23	1.32	0.82	0.65	0.96	11.44
Avg. total snowfall (inches)	0.3	0.2	0.2	0	0	0	0	0	0	0	0.1	0.2	1
Benson, Arizona [b]													
Average max. temperature (°F)	63	66.4	72.3	79.2	87.8	96.6	96.4	93.5	91.1	83	71.7	63.1	80.3
Average min. temperature (°F)	28.8	32	36.6	42.1	49.1	58.5	65.7	64.1	57.1	44.8	34.1	29.7	45.2
Average total precipitation (inches)	0.68	0.74	0.51	0.23	0.1	0.37	2.69	2.79	1.32	0.62	0.57	0.71	11.34
Average total snowfall (inches)	0.6	0.6	0.1	0	0	0	0	0	0	0	0.1	0.4	1.8

Notes:

Avg. = average

Max. = maximum

Min. = minimum

[a] Source: Western Regional Climate Center, 2011c, Station ID 028820.

[b] Source: Western Regional Climate Center, 2011d, Station ID 020680.

Background Air Quality

The following section presents the background air quality monitoring data from the nearest monitoring stations to the proposed Project and alternatives. This section is meant to supplement the discussion included in the air quality section of chapter 3.

New Mexico

Table B-4 presents background air quality monitoring data from local monitoring stations in New Mexico within or near the air quality analysis area. These monitors report ambient concentrations of CO, NO_2, SO_2, O_3, and PM_{10}. The data presented in table B-4 are not directly comparable to the NAAQS and/or NMAAQS, but can be used to demonstrate general background air quality.

As discussed, the proposed Project and alternatives pass near the nonattainment area for PM_{10} next to the city of Anthony in Doña Ana County. The nearest monitors for PM_{10} to the proposed Project and alternatives in Doña Ana County (Anthony and Sunland Park) indicate first maximums of 148 to 149 $\mu g/m^3$ for the 24-hour PM_{10} standard, as shown in table B-4. Additionally, even though Doña Ana County has been recommended for nonattainment status for O_3, the first maximum values at the nearest monitoring locations to the proposed Project and alternatives within Doña Ana County were 0.070 to 0.071. The prevailing winds near the PM_{10} nonattainment area blow from the east. Additionally, Grant County was identified as a maintenance area for SO_2. However, the nearest monitoring locations to the proposed Project and alternatives did not reveal high levels of SO_2, as shown in table B-4. The prevailing winds near the SO_2 maintenance area blow from the west (WRCC 2015).

Table B-4. New Mexico Background Air Quality Monitoring Data

Pollutant	Averaging Period	First Maximum	Second Maximum	Average	Year	Location
NO_2	1-hour	51 ppb	43 ppb	–	2014	Santa Teresa (Doña Ana County)
	Annual	–	–	0.013 ppm		
O_3	8-hour	0.071 ppm	0.068 ppm	–	2014	Las Cruces (Doña Ana County)
O_3	8-hour	0.070 ppm	0.069 ppm	–	2014	Santa Teresa (Doña Ana County)
PM_{10}	24-hour	149 $\mu g/m^3$	130 $\mu g/m^3$	–	2014	Anthony (Doña Ana County)
	Annual	–	–	37.3 $\mu g/m^3$		
PM_{10}	24-hour	148 $\mu g/m^3$	122 $\mu g/m^3$	–	2014	Sunland Park (Doña Ana County)
	Annual	–	–	32.6 $\mu g/m^3$		
PM_{10}	24-hour	141 $\mu g/m^3$	123 $\mu g/m^3$	–	2014	Las Cruces (Doña Ana County)
	Annual	–	–	19.3 $\mu g/m^3$		
NO_2	1-hour	35 ppb	32 ppb	–	2014	Deming (Luna County)
	Annual	–	–	0.011 ppm		
O_3	8-hour	0.065 ppm	0.061 ppm	–	2014	Deming (Luna County)
PM_{10}	24-hour	141 $\mu g/m^3$	131 $\mu g/m^3$	–	2014	Deming (Luna County)
	Annual	–	–	24.1 $\mu g/m^3$		
O_3	8-hour	0.067 ppm	0.067 ppm	–	2014	Hurley (Grant County)
PM_{10}	24-hour	50 $\mu g/m^3$	41 $\mu g/m^3$	–	2014	Hurley (Grant County)
	Annual	–	–	16.6 $\mu g/m^3$		

Table B-4. New Mexico Background Air Quality Monitoring Data (Continued)

Pollutant	Averaging Period	First Maximum	Second Maximum	Average	Year	Location
SO_2	1-hour	4 ppb	1 ppb	–	2014	Hurley (Grant County)
	3-hour	0.002 ppm	0.0003 ppm	–		
	24-hour	0.0002 ppm	0 ppm	–		
	Annual	–	–	0.00002 ppm		

Source: EPA (2012).

Notes:

$\mu g/m^3$ = micrograms per cubic meter.

ppb = parts per billion.

Arizona

Table B-5 presents background air quality monitoring data from local monitoring stations in Arizona within or near the air quality analysis area. These monitors report ambient concentrations of CO, NO_2, SO_2, O_3, PM_{10} and $PM_{2.5}$. The data presented in table B-5 are not directly comparable to the NAAQS but can be used to demonstrate general background air quality.

As discussed, the proposed Project and alternatives pass near nonattainment and maintenance areas for PM_{10} and SO_2, respectively, in Cochise County. Three exceedances of the PM_{10} level were recorded in the nonattainment area near Douglas, Arizona during 2014. The prevailing winds near the nonattainment and maintenance areas in Cochise County blow from the southwest. The data either demonstrated compliance (via 2014 Pima County monitoring station data) or no data were collected (no monitoring locations near the proposed Project or alternatives in Cochise County) with respect to attainment/nonattainment of the NAAQS for SO_2.

Portions of the proposed Project and alternatives would cross the Tucson CO maintenance area located in Pima County and the San Manuel nonattainment PM_{10} maintenance area located in Pinal County. As shown in table B-5, monitoring locations nearest the proposed Project and alternatives in these Counties identified low concentrations of these pollutants in 2014. First maximum concentrations of O_3 in Tucson and Casa Grande were 0.076 and 0.077, respectively, during 2014. The prevailing winds near the nonattainment and maintenance areas blow from the southwest.

Table B-5. Arizona Background Air Quality Monitoring Data

Pollutant	Averaging Period	First Maximum	Second Maximum	Average	Year	Location
O_3	8-hour	0.074 ppm	0.072 ppm	–	2014	Chiricahua National Monument/Cochise County
$PM_{2.5}$	24-hour	26 $\mu g/m^3$	25 $\mu g/m^3$	–	2014	Douglas Red Cross/ Cochise County
	Annual	–	–	7.4 $\mu g/m^3$		
PM_{10}	24-hour	197 $\mu g/m^3$	175 $\mu g/m^3$	–	2014	Douglas Red Cross/ Cochise County
	Annual	–	–	38.7 $\mu g/m^3$		

Table B-5. Arizona Background Air Quality Monitoring Data (Continued)

Pollutant	Averaging Period	First Maximum	Second Maximum	Average	Year	Location
CO	1-hour	1.9 ppm	–	–	2014	Tucson/Pima County
	8-hour	0.9 ppm	0.9 ppm	–		
NO_x	1-hour	47.6 ppb	47.1 ppb	–	2014	Tucson/Pima County
	Annual	–	–	0.023 ppm		
O_3	8-hour	0.066 ppm	0.065 ppm	–	2014	Tucson/Pima County
O_3	8-hour	0.077 ppm	0.067 ppm	–	2014	Tucson/Pima County
PM_{10}	24-hour	82 µg/m^3	57 µg/m^3	–	2014	Corona de Tucson/Pima County
	Annual	–	–	16.7 µg/m^3		
PM_{10}	24-hour	134 µg/m^3	122 µg/m^3	–	2014	Ajo/Tucson/Pima County
	Annual	–	–	27.7 µg/m^3		
SO_2	1-hour	9.6 ppb	7.7 ppb	–	2014	Tucson/Pima County
	3-hour	0.005 ppm	0.005 ppm	–		
	24-hour	0.001 ppm	0.001 ppm	–		
	Annual	–	–	0.001 ppm		
O_3	8-hour	0.076 ppm	0.066 ppm	–	2014	Casa Grande Airport/ Pinal County
PM_{10}	24-hour	133 µg/m3	123 µg/m^3	–	2014	Casa Grande/Pinal County
	Annual	–	–	38.3 µg/m^3		

Analysis Assumptions

The following section provides a more inclusive summary of the assumptions regarding the calculation of Project and alternatives' emission inventories. This section is meant to supplement the discussion included in the air quality section of chapter 4.

Emission Inventories

Emissions were calculated to estimate ambient air impacts from construction and, where appropriate, operation of the transmission lines, substation, and ancillary equipment associated with the Project. Emission inventories were developed using published and agency-accepted values, such as from emission factors from AP-42, MOBILE6.2, and NONROAD. PM_{10} and $PM_{2.5}$ emissions were quantified for fugitive dust from earth-moving and construction activities that would be associated with construction of the transmission line and substations, including fugitive dust from concrete batch plant construction and operation; fugitive dust from vehicles traveling on paved and unpaved roads accessing various segments of the line route during construction; criteria air pollutants, HAPs, and GHGs resulting from engine exhaust from worker commutes, delivery trucks, and construction equipment during construction; and SF_6 emissions from operation of the gas-insulated circuit breakers in the switchyards.

With the exception of SF_6 emissions from the circuit breakers, Project operational emissions were not quantified. The primary emission sources associated with the operations phase of the transmission lines would include windblown dust from ground disturbance, road dust, and vehicle emissions during periodic maintenance or emergency repair activities. Emission sources would be similar to those from construction activities, but, on an annualized basis, pollutants would be emitted in much smaller amounts. Therefore,

the majority of emissions and potential air quality impacts would be associated with the construction of the transmission lines and substations.

MOBILE6.2 was run assuming that construction would take place in 2015 and 2016. The year affects the MOBILE6.2 emission factors used to estimate the engine exhaust from worker commute vehicles, trucks transporting construction equipment, and concrete delivery vehicles, and the NONROAD emission factors were used to estimate the engine exhaust from construction equipment for substation construction, transmission line construction, and concrete batch plant construction. Later years have lower average emission factors owing to increasingly stringent engine emission requirements, generally resulting in lower emissions from newer vehicles. Over time, the older vehicles with higher emissions in the fleet are replaced with newer vehicles with lower emissions, leading to a decrease in the average fleet emissions. Should Project construction activities continue beyond 2016, then vehicle exhaust emission estimates presented herein would be conservative.

Fugitive Dust from Transmission Line, Substation, Access Road, Construction Yard, and Concrete Batch Plant Construction

AP-42 emission factors were used to estimate the fugitive dust from soil-disturbing construction activities such as excavation for lattice structure foundations, grading for access road construction, and grading for creation of temporary construction yards, substations, and concrete batch plants. The following data were provided, or assumptions were made, for calculation of fugitive dust emissions from grading and earth-moving associated with the construction of transmission lines, substations, access roads, temporary construction yards, and batch plants:

- Estimates of disturbance area, number of disturbed sites, and anticipated workforce for construction of transmission lines, substations, access roads, and batch plants were taken from the "Amended Plan of Development for the Southline Transmission Project" (Southline POD; July 2013), as described in chapter 2.
- Constructed access roads were not assumed to be graveled or paved (Southline POD, July 2013).
- Driving surfaces less than 14 feet wide would be widened to 14 feet (Southline POD, July 2013). Therefore, these calculations assumed that construction or improvement of access roads would require grading to a width of 14 feet.
- Emission estimates assumed that the access roads, substations, and temporary construction yards would be graded to a depth of 8 inches.
- Emission estimates assumed that excavation would not be required at substations, concrete batch plants, or temporary construction yards.
- Emission estimates assumed routine watering during construction of the transmission line, substations, concrete batch plants, access roads, and temporary construction yards.

Fugitive Dust from Travel on Paved and Unpaved Roadways

AP-42 emission factors were used to estimate the fugitive dust from travel on paved and unpaved roads. The following data were provided, or assumptions were made, for calculation of construction and operation emissions:

- Emission estimates assumed that unpaved roads would be dirt, not gravel.
- Emission estimates assumed that unpaved road travel would consist of the miles traveled on access roads, as discussed in chapter 2.

- Emission estimates assumed routine watering for travel on paved and unpaved roads during construction.

Traffic Emissions

MOBILE6.2 emission factors were used to estimate the engine exhaust from worker commute vehicles, trucks transporting construction equipment, and concrete delivery vehicles. The MOBILE6.2 emission factors for commuter vehicles are based on an average of the commuter vehicle emission factors for each county in the year 2013. The MOBILE6.2 emission factors for trucks transporting construction equipment and concrete delivery vehicles are based on emission factors for 2013, which are the same for all the Counties and both States. MOBILE6.2 includes an emission factor for CO_2 to obtain GHG emissions for these activities and an emission factor for HAPs as well.

The following data were provided, or assumptions were made, for calculation of construction and operation emissions:

- It is expected that the average commute would be about 20 miles for nonlocals and about 30 miles for locals (Southline POD, July 2013), as discussed in chapter 2:
  - The average commuting trip was therefore assumed to be 25 miles one-way (50 miles round trip).
  - This mileage was used to calculate engine exhaust for travel to construct the substation and transmission line and travel on paved roads. It was assumed that paved road travel would consist of worker commuters, trucks transporting construction equipment, and trucks delivering concrete.
- The New Build and Upgrade Sections average number of commuter trips for substation construction were calculated by multiplying the New Build and Upgrade Sections average number of workers by the New Build and Upgrade Sections average crew days.
- The New Build Section total number of commuter miles for substation construction was calculated by multiplying the New Build Section average number of commuter trips by the average number of miles per round trip commute.
- A weighted average of light-duty gas vehicles and light-duty gas trucks 1 and 2 with average speed of 35 mph was used for engine exhaust from commuter vehicles. (Light-duty gas trucks 1 are 0 to 6,000 pounds gross vehicle weight rating (GVWR) and 0 to 3,750 pounds loaded vehicle weight (LVW), and light-duty gasoline trucks 2 are 0 to 6,000 pounds GVWR and 3,751 to 5,750 pounds LVW.) For fugitive dust from paved road travel, the worker commute vehicle was assumed to be 6,800 pounds (including occupants and cargo).
- An average of 25 miles, or 50 miles round trip, was assumed for transporting construction equipment; this mileage was used for engine exhaust for trucks transporting construction equipment for both substation and transmission line construction and for travel on paved roads. It was assumed that paved road travel would consist of worker commuters, trucks transporting construction equipment, and trucks delivering concrete.
- The New Build Section total number of miles traveled for trucks transporting construction equipment for substation construction assumed that four substations would be needed for the New Build Section.
- The Upgrade Section total number of miles traveled for trucks transporting equipment for substation construction assumed that 11 substations would be needed for the Upgrade Section, as discussed in chapter 2.

- As discussed in chapter 2, heavy-duty diesel vehicles with an average speed of 35 mph were assumed for calculating emissions from trucks transporting construction equipment and trucks delivering concrete. For fugitive dust from paved road travel, trucks transporting construction equipment and trucks delivering concrete were assumed to be 40,000 pounds, which includes weight of cab, trailer, and load
- The total number of miles traveled for transmission line construction in the New Build and Upgrade Sections was based on the assumption that the equipment would be delivered once and travel the length of the line.
- The total commuter trips and miles traveled per New Build Section and Upgrade Section mile were calculated by averaging the crew size (workers) for the New Build and Upgrade Sections provided in the Southline POD (July 2013).

Construction Equipment Emissions

NONROAD emission factors were used to estimate the engine exhaust from diesel-fired construction equipment for substation construction, transmission line construction, and concrete batch plant construction. Two sets of NONROAD emission factors were developed for the year 2013—one for Arizona and one for New Mexico, as minimal variation in fuel blends exist between the States. The NONROAD total hydrocarbon emission factor was used for the volatile organic compound (VOC) emission factor. NONROAD includes an emission factor for CO_2 to obtain estimates of GHG emissions for these activities.

The following data were provided, or assumptions were made, for calculation of emissions from the operation of construction equipment:

- The types of construction equipment required for substation equipment installation and foundations and transmission line construction were taken from the Southline POD (July 2013), and are described in chapter 2.
- The total hours of equipment use and horsepower for substation equipment installation and foundations and transmission line construction provided in the Southline POD (July 2013) were summed for each piece of construction equipment.

Concrete Batch Plant Operation Emissions

AP-42 emission factors were used to estimate the fugitive dust from operation of the concrete batch plants. The following data were provided, or assumptions were made, for calculating concrete batch plant operational emissions:

- The number of concrete batch plants per subroute was taken from the Southline POD (July 2013), as discussed in chapter 2.
- The number of cubic yards of concrete for substation construction and transmission line construction in the New Build and Upgrade Sections was taken from the Southline POD (July 2013), along with the typical delivery distance of approximately 7 miles (14 miles round trip).
    - This mileage was used for engine exhaust from concrete delivery trucks for both substation and transmission line construction and travel on paved roads. It was assumed that paved road travel consists of worker commuters, trucks transporting construction equipment, and trucks delivering concrete.
    - A concrete truck was assumed to carry 10 cubic yards of concrete.

- The total concrete amount for substation construction and transmission line structure foundation construction in the New Build Section was divided equally between the seven New Build Section batch plants.
- The total concrete amount for substation construction and transmission line structure foundation construction in the Upgrade Section was divided equally between the four Upgrade Section batch plants.

- Emissions from concrete batch plant operation were assumed to be uncontrolled.

Substation Operation Emissions (Greenhouse Gases)

The emission inventories include GHG estimates from circuit breakers and other high-voltage equipment used in the transmission and distribution system. The Climate Registry Electric Power Sector Protocol was used to develop these emission estimates. The EPA GHG Mandatory Reporting Rule, Subpart DD, was not used for the SF_6 emission estimates because Subpart DD relies on a mass balance in which SF_6 emissions are determined by the amount of SF_6 lost each year, which can only be calculated by measuring the added and/or recovered SF_6 to existing equipment. The Climate Registry methodology was therefore used instead to develop SF_6 emission estimates because it provides emission factors based on industry studies and thus can be applied to equipment that does not yet exist to determine estimated annual emissions.

SF_6 quantities and leakage rates for the different sizes of circuit breakers were provided in the Southline POD (July 2013). The high end of the leak rate range was used in calculations.

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Appendix A

CONSTRUCTION WORKFORCE, NEW BUILD AND UPGRADE SECTIONS

Table A-1. Anticipated Construction Workforce and Equipment, New Build

Activity	Equipment		Crew
ROW Survey	1 helicopter 2 all-terrain vehicles (ATVs)	2 pickup trucks	6
Geotechnical Investigations	1 (2-ton) drill truck 1 ATV	1 pickup truck	4
Access Road Construction	2 bulldozers (D-6 or D-8) 2 motor graders	2 pickup trucks 2 water trucks	8
Foundation Installation	3 augers 2 wagon drills 2 flatbed trucks w/ booms 2 (15-ton) hydro cranes 1 batch plant 4 concrete trucks 1 water truck	1 bulldozer (D-6) 1 front-end loader 2 dump trucks 2 (2-ton) trucks 3 pickup trucks 1 carry-all	32
Laydown Yard / Receiving	2 (40-ton) cranes 4 forklifts	2 pickup trucks	8
Structure Hauling	6 flatbed trailers 2 boom trucks	1 pickup truck 2 forklifts	10
Structure Assembly	3 (40-ton) cranes 3 carry-alls	3 (2-ton) trucks 3 pickup trucks	24
Structure Erection	2 (100-ton) cranes 2 boom trucks	2 (2-ton) trucks 2 pickup trucks	20
Wire Stringing	1 light helicopter 3 drum pullers 3 double-wheeled tensioners 6 wire reel trailers 2 D-8 Cats with sag winches 2 splicing trucks	2 diesel tractors 2 haul trailers 2 (30-ton) cranes 6 boom trucks 4 (2-ton) trucks 6 pickup trucks	40
Road/ROW Restoration	1 bulldozer (D-6 or D-8) 1 front-end loader with bucket 1 tractor with seeding equipment 1 motor grader	1 pickup truck 1 dump truck 1 water truck	8
Clean-up	1 flatbed truck with bucket	2 pickup trucks	6

Table A-2. Anticipated Construction Workforce and Equipment, Upgrade

Activity	Equipment		Crew
ROW Survey	1 helicopter 2 all-terrain vehicles (ATVs)	2 pickup trucks	6
Geotechnical Investigations	1 (2-ton) drill truck 1 ATV	1 pickup truck	4
Access Road Construction	1 bulldozer (D-6 or D-8) 1 motor grader	1 pickup truck 1 water truck	4
Foundation Installation	3 augers 2 wagon drills 2 flatbed trucks w/ booms 2 (15-ton) hydro cranes 1 batch plant 4 concrete trucks 1 water truck	1 bulldozer (D-6) 1 front-end loader 2 dump trucks 2 (2-ton) trucks 3 pickup trucks 1 carry-all	32
Laydown Yard / Receiving	2 (40-ton) cranes 4 forklifts	2 pickup trucks	8

Table A-2. Anticipated Construction Workforce and Equipment, Upgrade (Continued)

Activity	Equipment		Crew
Structure Hauling	6 flatbed trailers 2 boom trucks	1 pickup truck 2 forklifts	10
Structure Erection	2 (100-ton) cranes 2 boom trucks	2 (2-ton) trucks 2 pickup trucks	20
Wire Stringing	1 light helicopter 3 drum pullers 3 double-wheeled tensioners 6 wire reel trailers 2 D-8 Cats with sag winches 2 splicing trucks	2 diesel tractors 2 haul trailers 2 (30-ton) cranes 6 boom trucks 4 (2-ton) trucks 6 pickup trucks	40
Road/ROW Restoration	1 bulldozer (D-6 or D-8) 1 front-end loader with bucket 1 tractor with seeding equipment 1 motor grader	1 pickup truck 1 dump truck 1 water truck	8
Clean-up	1 flatbed truck with bucket	2 pickup trucks	6

Appendix H

PREVIOUS CULTURAL SURVEYS IN THE ANALYSIS AREA

Table H-1. Known Cultural Resource Projects in the Analysis Area

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
New Build Section					
Route group 1	A	544	Siesmic Testing Line for Consolidated Georex Geophysical	WRI-P-2249	146.78
Route group 1	A	38616	4 Seismic Testing Lines near Mt. Riley, NM for Cgg Land Seismic	WRI-P-2204	272.17
Route group 1	A	40005	23 Hectares Along the International Border for US Dept of Defense	WRI-P-2206	65.78
Route group 1	A	48007	An Archaeological Survey of Two Proposed Livestock Pipeline Routes on the JCJ and McKenna Ranches, Doña Ana County, New Mexico	WRI-P-2230	41.28
Route group 1	A	49300	The Columbus to Anapra Project: Survey and Testing Along the Southern New Mexico Border, Doña Ana and Luna Counties	WRI-P-2235	1159.30
Route group 1	A	50486	Archaeological Survey for Two Pieces of Road, Two Helipads and an Observation Post for JTF 6 in the Boothill Region of Southeastern Hidalgo County, New Mexico	WRI-P-2243	2124.33
Route group 1	A	7089	VEVAY PIPELINE & 6 LIVESTOCK WATERING TROUGHS FOR BLM	WRI-P-2272	128.47
Route group 1	A	9843	Archaeological Clearance Report for Grant Geophysical Corporation Line I-5 (presented in 4 segments)	WRI-P-2347	242.96
Route group 1	A	9909	Archaeological Clearance Report for Grant Geophysical Line Q-4 (presented in 2 segments)	WRI-P-2358	117.88
Route group 1	A	9910	Archaeological Clearance Report for Grant Geophysical Line QQ-4 (presented in 2 segments)	WRI-P-2359	108.27
Route group 1	A	9951	Archaeological Clearance Report for Grant Geophysical Line H-5 (presented in three segments)	WRI-P-2364	140.49
Route group 1	A	11177	2 Well Pad Sites for Geothermal Services	WRI-P-1894	2.29
Route group 1	A	11184	Restless Prospect for Geothermal Services, Inc.	WRI-P-1896	99.36
Route group 1	A	11248	39 Geothermal Temperature Gradient Drill Pad Sites for Geothermal Service	WRI-P-1905	8.00
Route group 1	A	11324	15 Drill Hole Sites near Radium Springs for Geothermal Services	WRI-P-1907	9.45
Route group 1	A	11439	38 Geothermal Drilling Locations for Anadarko Production Company	WRI-P-1911	8.00
Route group 1	A	11544	Cultural Resource Survey of Five Proposed Borrow Pits near Anapra, New Mexico Project No. SP-GRO-7513(201)	WRI-P-1917	93.90

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	A	15914	Cultural Resource Survey of Three Proposed Borrow Pit Extensions near Anapra, New Mexico, Project No. SP-GRO-7513(201)	WRI-P-1950	13.46
Route group 1	A	20398	An Archaeological Survey of the Proposed Restless Fenceline near Santa Teresa, New Mexico	WRI-P-2152	32.78
Route group 1	A	32217	County Road R/W Aquisitions for Doña Ana County Road Dept	WRI-P-2192	72.75
Route group 1	A	41930	Haul Road near the East Potrillo Mountains for J Hamilton Construction	WRI-P-2211	6.65
Route group 1	A	42184	Extension County Road A008 for Doña Ana County	WRI-P-2213	20.96
Route group 1	A	74250	Archaeological Damage Assessment Report for East Potrillo Village (LA 2287), Doña Ana County, New Mexico	WRI-P-2279	14.35
Route group 1	A	18349	An Archaeological Reconnaissance in West Doña Ana County	WRI-P-1961	552.71
Route group 1	B	35220	An Archaeological Survey of the Proposed Malpais Pipeline near Columbus, New Mexico	WRI-P-2197	6.21
Route group 1	B	40005	23 Hectares along the International Border for US Dept of Defense	WRI-P-2206	65.78
Route group 1	B	49104	Cultural Resource Survey of a Proposed Gravel Quarry and Crusher Plant Locations Luna County, New Mexico	WRI-P-2234	39.15
Route group 1	B	49300	The Columbus to Anapra Project: Survey and Testing Along the Southern New Mexico Border, Doña Ana and Luna Counties	WRI-P-2235	1159.30
Route group 1	B	49612	Cultural Resources Class III Inventory of a Proposed Sand Pit on BLM Land near the West Potrillo Mountains, Doña Ana County, New Mexico	WRI-P-2237	6.65
Route group 1	B	49613	An Archaeological Clearance Survey of a Proposed Haul Road On State Trust Land near the West Potrillo Mountains, Luna County, New Mexico	WRI-P-2238	3.63
Route group 1	B	50486	Archaeological Survey for Two Pieces of Road, Two Helipads and an Observation Post for JTF 6 in the Boothill Region of Southeastern Hidalgo County, New Mexico	WRI-P-2243	2124.33
Route group 1	B	51054	Cultural Resources Class III Inventory of a Proposed Sand Pit on BLM Land near the West Potrillo Mountains, Doña Ana County, New Mexico	WRI-P-2246	45.57

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	B	63403	JTF-6 Border Road Improvement Project Columbus, New Mexico Cultural Resources Inventory Draft Report	WRI-P-2257	1022.23
Route group 1	B	11402	An Archaeological Survey of Nine Seismographic Test Lines for Exxon Company in Doña Ana and Luna Counties, New Mexico	WRI-P-1908	1611.20
Route group 1	B	12787	Cultural Resource Survey of Proposed Borrow and Surfacing Pits Along the Columbus-Anapra Route Project No. SP-GRO-7529(200)	WRI-P-1943	11.82
Route group 1	B	13918	An Archeological Survey of Select Borrow Pit F NMSHD Project SP-GRO-7529(200)	WRI-P-1945	13.71
Route group 1	B	15914	Cultural Resource Survey of Three Proposed Borrow Pit Extensions near Anapra, New Mexico, Project No. SP-GRO-7513(201)	WRI-P-1950	13.46
Route group 1	B	18878	200 FT BY 430 FT CALICHE PIT EXPANSION FOR MERRYMAN CONST	WRI-P-1964	0.64
Route group 1	B	27525	An Archaeological Survey of the Proposed Arena Pipeline near Columbus, New Mexico	WRI-P-2183	97.65
Route group 1	B	76587	Cultural Resource Survey of 14.82 Acres for a Proposed Fiber Optic Corridor Along New Mexico State Highway 9, Luna County, New Mexico	WRI-P-2289	12.17
Route group 1	B	110649	Unknown	WRI-P-1883	59.80
Route group 1	B	119063	A Cultural Resources Survey of a Proposed US Customs and Border Protection Communications Tower Site EPT-STN-031 and Access Road in Doña Ana County, NM.	WRI-P-1926	6.53
Route group 1	C	644	Seismograph Services Corp Line 82-915 (Presented In 5 Segments) Report F83-243	WRI-P-2261	107.18
Route group 1	C	662	An Archaeological Clearance Survey of Eleven Seismic Testing Transects in Hidalgo, Grant, Luna and Doña Ana Counties	WRI-P-2263	2365.44
Route group 1	C	6999	Cultural Resources Clearance Investigation Valley Telephone Co-op Archeological Survey-Part 1-1984 Location for Placement of Buried Telephone Cable Along State Highway 9	WRI-P-2269	208.71
Route group 1	C	38415	Part 1 Buried Telephone Cable Along State Hwy 9 for Valley Telephone Co-Op	WRI-P-2203	3.69
Route group 1	C	49894	A Cultural Resource Inventory Along NM 9 Between Victorio and Hermanas	WRI-P-2241	277.15

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	C	60016	Cultural Resources Class III Inventory and Significance Evaluation of a Proposed Highway Fencing Project Along NM 9 near Hermanas	WRI-P-2255	123.16
Route group 1	C	11208	6 Seismic Testing Transects for Geophysical Service Incorporated	WRI-P-1898	286.52
Route group 1	C	12786	Cultural Resource Survey of Two Construction and Maintenance Easements (CME's) near Hermanas, New Mexico, District I	WRI-P-1942	0.45
Route group 1	C	42113	Mashed-O Pipeline near Hermanas, NM for Las Cruces BLM-Mimbres Ra	WRI-P-2212	64.03
Route group 1	C	102597	Cultural Resources Survey of Proposed Border Protection Access Roads, Equipment Staging Areas, and Border Improvements in Luna and Hidalgo Counties	WRI-P-1872	489.89
Route group 1	D	11088	Cathodic Protection Line for Southern Pacific Pipelines Inc.	WRI-P-1886	0.93
Route group 1	D	7428	Telephone Cablealong Animas Road for Western New Mexico Phone Co./030-85-15	WRI-P-2281	40.44
Route group 1	D	8682	Cultural Resources Investigations at the Lordsburg Rest Area on I-10, NMSHD Project No. I-010-1(45)20	WRI-P-2320	53.14
Route group 1	D	11234	Microwave Tower Area for El Paso Natural Gas	WRI-P-1902	0.23
Route group 1	D	11590	Lordsburg Road Forks Of El Paso-Yuma Toll Line for Mt Bell	WRI-P-1919	138.65
Route group 1	D	16123	Cultural Resource Survey Along Interstate 10 near Lordsburg, New Mexico Project No. IR-010-1(49)21	WRI-P-1953	312.83
Route group 1	D	17099	An Archaeological Survey of the Proposed Hamilton Construction Co. Borrow Pit Expansion near Lordsburg, New Mexico	WRI-P-1956	29.51
Route group 1	D	18226	Preliminary Cultural Resources Survey Report for the US Telecom Fiber Optic Cable Project from San Timiteo Canyon, California to Socorro, Texas: The New Mexico Segment	WRI-P-1960	1990.51
Route group 1	D	20716	BURIED TELEPHONE CABLE ALONG STATE HWY 494 FOR WNMTC PART 80	WRI-P-2155	46.38
Route group 1	D	25429	LUNT ELECTRIC FENCE LINES NEAR LORDSBURG, NM FOR LAS CRUCES BLM-MIMBRES RA	WRI-P-2181	2.91
Route group 1	D	28038	3 Catchment Ponds & Water Well near Lordsburg, NM for A & S Construction Co	WRI-P-2185	15.98

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	D	35150	Cultural Resource Investigations at a Proposed Drainage Easement on the Hidalgo County Road South of I-10 Muir Exchange	WRI-P-2195	1.45
Route group 1	D	35198	An Archaeological Survey of a Proposed County Road near Lordsburg, Hidalgo County, New Mexico	WRI-P-2196	245.22
Route group 1	D	35280	Waldo Mine & Other Mine Areas In Virginia Subdistrict for Abanonded Lands Mine	WRI-P-2198	33.19
Route group 1	D	43908	Along the Butterfield Trail: A Reconnaissance Survey of 40.5 Miles on Public Lands	WRI-P-2218	491.16
Route group 1	D	43937	Cultural Resource Survey in the Virginia Subdistrict of the Lordsburg Mine District Lordsburg Phase	WRI-P-2219	7.74
Route group 1	D	46052	An Archaeological Clearance Survey of a Proposed Transmission Line Easement West of Lordsburg, Hidalgo County, New Mexico	WRI-P-2225	5.05
Route group 1	D	49959	An Archaeological Clearance Survey of Three Segments of a Proposed Waterline ROW for the City of Lordsburg, Hidalgo County, New Mexico	WRI-P-2242	26.27
Route group 1	D	51702	A Cultural Resource Survey of a 29,034 Foot Portion of the El Paso Natural Gas Company Eunice Plant	WRI-P-2247	88.65
Route group 1	D	56217	A Cultural Resource Survey for the Proposed Lordsburg Interstate Highway 10 Port of Entry Project, Hidalgo County, New Mexico	WRI-P-2250	68.09
Route group 1	D	57083	Archaeological Clearance Survey: Main Street (NM 494) from Railroad Avenue to Oak Street in Lordsburg, Hidalgo County, New Mexico	WRI-P-2251	9.56
Route group 1	D	58455	Cultural Resources Class III Inventory and Significance Evaluation of a Proposed Mineral Materials Pit Southwest of Lordsburg, Hidalgo County, New Mexico	WRI-P-2252	80.26
Route group 1	D	58617	A Cultural Resource Survey of 33.6 Kilometers (21 Miles) Along Interstate 10 West of Lordsburg IM-01	WRI-P-2253	582.64
Route group 1	D	59932	Mining Properties in the Virginia Subdistrict, Lordsburg Mining District, Hidalgo County, New Mexico	WRI-P-2254	15.66
Route group 1	D	65987	The El Paso to Los Angeles Fiber Optic Cable Project: A Cultural Resources Survey of the New Mexico	WRI-P-2262	2195.08

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	D	67754	An Archaeological Survey of the New Mexico Portion of Link Two of the AT&T Nex/Gen Core Project	WRI-P-2265	2013.49
Route group 1	D	67976	Revised Draft Report The El Paso Natural Gas Line No. 2000 Project: An Archaeological Re-survey of the Former All American Pipeline Across Doña Ana, Luna, Grant, and Hidalgo Counties, New Mexico Report 2	WRI-P-2267	1876.38
Route group 1	D	75650	Cultural Resources Survey of 27.6 Acres for Improvements to the Lordsburg Municipal Airport, Lordsburg, Hidalgo County, New Mexico	WRI-P-2283	14.56
Route group 1	D	81919	Cultural Resource Inventory: Robert Lowery: Southeast of Lordsburg, Hidalgo County, New Mexico	WRI-P-2304	40.13
Route group 1	D	82452	Cultural Resource Survey of Five Parcels for Highway Improvement Along US 70 and NM 90 near Lordsburg, Hidalgo County, New Mexico	WRI-P-2305	68.81
Route group 1	D	84579	An Archaeological Survey of 79.32 HA (196.04 AC) for the Proposed Placement of an Underground Teleco	WRI-P-2311	98.58
Route group 1	D	86173	Summary of Survey of Drilling Ten Sites near the Pyramid Mountains, NM	WRI-P-2315	5.76
Route group 1	D	89668	Unknown	WRI-P-2330	18.62
Route group 1	D	112206	Cultural Resources Survey of Proposed Waterline Improvements along NM 494 near the Town of Lordsburg, Hidalgo County, New Mexico	WRI-P-1900	11.11
Route group 1	D	114080	Archaeological Survey of 73.4 Acres at the Lordburg Municipal Airport in Lordsburg, Hidalgo County, New Mexico	WRI-P-1909	101.14
Route group 1	DN1	627	Archaeological Clearance Report for Teledyne Exploration Line D4 (presented in 3 segments)		
Route group 1	DN1	8636	A Cultural Resources Inventory of the Plains Electric Transmission Line from Elephant Butte to Deming, New Mexico		
Route group 1	DN1	10036	Archaeological Clearance Report for Exxon Line 30-029-0024 (presented in 4 segments)		
Route group 1	DN1	10062	Archaeological Clearance Report for Exxon Corporation Line PH-2 (presented in 5 segments)		
Route group 1	DN1	10113	Archaeological Clearance Report for Teledyne Exploration Line DD-4 Segments 1 and 2		

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	DN1	10114	Archaeological Clearance Report for Teledyne Exploration Line E4 Segment 1, Line E4 Segment 2		
Route group 1	DN1	11218	Buried Telephone Cable for Mountain Bell		
Route group 1	DN1	11245	6 Seismographic Test Transects for EXXON CompanY U.S.A.		
Route group 1	DN1	11634	An Archaeological Survey of a Proposed 345 KV Power Transmission Line Corridor From Deming, New Mexico to Greenlee County, Arizona		
Route group 1	DN1	18529	Luna to Central 115 KV Power Line for Public Service Company Of New Mexico		
Route group 1	DN1	20907	Cultural Resource Investigations at Five Soil Test Holes Northeast of Deming, New Mexico		
Route group 1	DN1	23747	A Preliminary Evaluation of Prehistoric Settlement Patterns in Grant and Luna Counties, New Mexico: Results of a Sample Survey on State of New Mexico Lands. 2 volumes		
Route group 1	DN1	23823	Cultural Resource Survey Along State Road 26 near Deming, Luna County, New Mexico, NMSHTD Project #F-015-1(2)		
Route group 1	DN1	24648	Archaeological Clearance Survey of a Buried Telephone Right-of-Way near Florida, Luna County, New Mexico		
Route group 1	DN1	28076	starvation pipe line near deming, NM for Las CruceS BLM-MIMBRES RA		
Route group 1	DN1	28077	Spider Fence Line near Deming, NM for Las Cruces BLM-MIMBRES RA		
Route group 1	DN1	31523	A Cultural Resource Survey of the US 180 Right of Way North of the NM 26 Junction NMSHTD Project SP-OF-013-1(210)		
Route group 1	DN1	31999	4.08 R/W Along Both Sides Of Hidden Valley Ranch Road for Luna Co Roads Dept		
Route group 1	DN1	35102	County Road A-008 R/W for Luna County Road Dept		
Route group 1	DN1	36772	Underground Telephone Cable R/W for US West		
Route group 1	DN1	42473	A Cultural Resource Survey along US 180 North of Deming NH-180-2(25)154		
Route group 1	DN1	44487	Cultural Resources Clearance Investigation Location for Placement of Water & Fence Lines at McClure Ranch near Deming, New Mexico		

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	DN1	45979	An Archaeological Clearance Survey of a Proposed Crusher Pit and Haul Road near Mirage, Luna County, New Mexico		
Route group 1	DN1	59896	Section 106 Consultation Form (Cultural Resources) 516 (2 Sites) and 614 (2 Sites) for Bill Hatcher		
Route group 1	DN1	65987	The El Paso to Los Angeles Fiber Optic Cable Project: A Cultural Resources Survey of the New Mexico Segment Across Doña Ana, Luna, Grant, and Hidalgo Counties		
Route group 1	DN1	67976	Revised Draft Report The El Paso Natural Gas Line No. 2000 Project: An Archaeological Re-survey of the Former All American Pipeline Across Doña Ana, Luna, Grant, and Hidalgo Counties, New Mexico Report 2		
Route group 1	DN1	72602	Final Report Archaeological Survey of 17 Miles Along US 180 for a Proposed Fence Replacement Project Luna County. New Mexico		
Route group 1	DN1	99424	Cultural Resources Survey and Architectural Assessment for the Rehabilitation and Reconstruction Project and Bridge Rehabilitation (Numbers 5500 and 5701), NM 26. NMDOT Project Number AC-GRIP-(TPM)-026-1(11)30, CN G3131, District 1, Luna Co		
Route group 1	DN1	106721	A Cultural Resource Inventory for a Proposed Materials Pit for the New Mexico 26 Rehabilitation Project, Luna County, New Mexico		
Route group 1	DN1	110686	Final Cultural Resources Survey Report of a 43 Mile Portion of US 180 between Deming, Luna County and Bayard, Grant County, New Mexico		
		122335	A Class I Literature Review and Class II Cultural Resource Survey of Alternatives under Analysis for the SunZia Southwest Transmission Project in Hidalgo, Grant, Luna, Doña Ana, Sierra, Socorro, and Lincoln Counties, New Mexico, and Pima, Pinal, Cochise,		
Route group 2	E	8615	An Archaeological of a Drill Pad and Access Road in the Southern Playa in the Animas Valley, Hidalgo	WRI-P-2314	44.54
Route group 2	E	9317	Alternative Drill Pad & Access Road In Southern Playa for Pennwalt Corp	WRI-P-2336	8.19
Route group 2	E	11590	Lordsburg Road Forks Of El Paso-Yuma Toll Line for Mt Bell	WRI-P-1919	138.65
Route group 2	E	12299	Midway Well & Access Road Project #4875 for BLM	WRI-P-1935	1.89

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	E	14313	Dewatering Locations for All-American Pipeline Company	WRI-P-1946	52.59
Route group 2	E	15687	Archaeological Clearance Investigations for Borrow Pit A, Surfacing Pit 67-40-S, and Associated Hau	WRI-P-1949	24.00
Route group 2	E	18226	Preliminary Cultural Resources Survey Report for the US Telecom Fiber Optic Cable Project from San T	WRI-P-1960	1990.51
Route group 2	E	20588	Box M Electric Fence Line near Lordsburg for Las Cruces BLM-Lordsburg Ra	WRI-P-2153	118.22
Route group 2	E	22796	An Archeological Survey of the Proposed Steins Mountain Pipeline near Steins, New Mexico	WRI-P-2167	6.00
Route group 2	E	41438	An Archaeological Survey of the Last Chance Pipeline near Lordsburg, Hidalgo County, New Mexico	WRI-P-2209	13.58
Route group 2	E	47755	An Archaeological Clearance Survey of a Proposed Film Location on South Alkali Flat Southwest of Lordsburg, Hidalgo County, New Mexico	WRI-P-2229	34.82
Route group 2	E	58617	A Cultural Resource Survey of 33.6 Kilometers (21 Miles) Along Interstate 10 West of Lordsburg IM-01	WRI-P-2253	582.64
Route group 2	E	63637	Western New Mexico Telephone Company Buried Cable Installation Job P-80638 near Gary, Hidalgo County	WRI-P-2259	5.87
Route group 2	E	64374	Cultural Resource Class III Inventory and Significance Evaluation of a Proposed Mineral Materials Pi	WRI-P-2260	45.65
Route group 2	E	67754	An Archaeological Survey of the New Mexico Portion of Link Two of the AT&T Nex/Gen Core Project	WRI-P-2265	2013.49
Route group 2	E	67976	Revised Draft Report The El Paso Natural Gas Line No. 2000 Project: An Archaeological Re-survey of the Former All American Pipeline Across Doña Ana, Luna, Grant, and Hidalgo Counties, New Mexico Report 2	WRI-P-2267	1876.38
Route group 2	E	72030	A Second Addendum to an Archaeological Survey of the New Mexico Portion of Link Two of the AT&T NEXGEN/CORE Project	WRI-P-2275	3.08
Route group 2	E	73823	Cultural Resources Class III Inventory of a Proposed Buried Telephone Cable and Regen Station at the	WRI-P-2277	3.39
Route group 2	E	84579	An Archaeological Survey of 79.32 HA (196.04 AC) for the Proposed Placement of an Underground Teleco	WRI-P-2311	98.58

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	E	123111	Steines Allotment EQIP project.	WRI-P-1936	126.81
Route group 2	E	1979-37.ASM	Unknown	WRI-P-3572	532.17
Route group 2	E	1982-206.ASM	Unknown	WRI-P-3573	728.46
Route group 2	E	1985-226.ASM	All American Pipeline Right-of-way	WRI-P-3611	6103.16
Route group 2	E	1985-226.ASM/BLM 1985-48		WRI-P-2000	6103.16
Route group 2	E	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13
Route group 2	E	1995-79.ASM	San Simon	WRI-P-3565	115.28
Route group 2	E	1999-471.ASM	I-10 Box Culverts	WRI-P-3514	67.64
Route group 2	E	1999-587.ASM	PBNS Level 3 Fiber Optic Line	WRI-P-2086	13854.98
Route group 2	E	2000-826.ASM/BLM 02-21/BLM 05-24/BLM 05-09		WRI-P-2103	3311.75
Route group 2	E	2001-821.ASM	I-10 Bowie Survey	WRI-P-3579	1627.97
Route group 2	E	2005-302.ASM		WRI-P-2140	182.62
Route group 2	E	2006-1.ASM	SFPP, LP, El Paso to Phoenix Expansion Project, Arizona Portion: Cochise and Pima Counties	WRI-P-3628	3242.84
Route group 2	E	2006-1.ASM/BLM 06-19		WRI-P-2145	3242.84
Route group 2	E	BLM 01-15		WRI-P-3521	0.37
Route group 2	E	BLM 02-29		WRI-P-3499	284.92
Route group 2	E	BLM 04-34		WRI-P-3457	47.08
Route group 2	E	BLM 06-17		WRI-P-3525	6.90
Route group 2	E	BLM 98-28		WRI-P-3523	66.20
Route group 2	E	BLM S# 701		WRI-P-3501	127.55
Route group 2	E	B 196		WRI-P-3531	124.74
Route group 2	F	1976-3.ASM		WRI-P-1970	1346.93
Route group 2	F	1977-6.ASM	AEPCO II, Dos Condados to Apache	WRI-P-1971	210.91
Route group 2	F	1979-37.ASM	Unknown	WRI-P-3572	532.17
Route group 2	F	1982-206.ASM	Unknown	WRI-P-3573	728.46
Route group 2	F	1985-226.ASM	All American Pipeline Right-of-way	WRI-P-3611	6103.16
Route group 2	F	1985-226.ASM/BLM 1985-48		WRI-P-2000	6103.16
Route group 2	F	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13
Route group 2	F	1988-210.ASM/BLM 89-17		WRI-P-3512	766.88
Route group 2	F	1996-219.ASM	Southern Pacific Railroad Survey	WRI-P-2051	814.07

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	F	1998-532.ASM	I-10 Willcox-Luzena	WRI-P-3599	173.83
Route group 2	F	1999-471.ASM	I-10 Box Culverts	WRI-P-3514	67.64
Route group 2	F	1999-587.ASM	PBNS Level 3 Fiber Optic Line	WRI-P-2086	13854.98
Route group 2	F	2000-602.ASM		WRI-P-2096	1.91
Route group 2	F	2000-702.ASM	Valley Telephone Safford Survey	WRI-P-2098	691.83
Route group 2	F	2000-732.ASM	AEPCO Apache to Dos Condados Survey	WRI-P-2100	3199.01
Route group 2	F	2000-826.ASM/BLM 02-21/BLM 05-24/BLM 05-09		WRI-P-2103	3311.75
Route group 2	F	2001-807.ASM	US 191 Safford South	WRI-P-2111	400.39
Route group 2	F	2001-821.ASM	I-10 Bowie Survey	WRI-P-3579	1627.97
Route group 2	F	2004-99.ASM	Line 2105 Survey	WRI-P-3629	714.74
Route group 2	F	2005-302.ASM		WRI-P-2140	182.62
Route group 2	F	B 164/S# 210		WRI-P-3489	310.96
Route group 2	F	B 196		WRI-P-3531	124.74
Route group 2	F	BLM 02-29		WRI-P-3499	284.92
Route group 2	F	BLM 02-48		WRI-P-3491	23.50
Route group 2	F	BLM 03-13		WRI-P-3490	123.26
Route group 2	F	BLM 04-22		WRI-P-3502	27.79
Route group 2	F	BLM 04-34		WRI-P-3457	47.08
Route group 2	F	BLM 99-44		WRI-P-3474	50.85
Route group 2	F	BLM S# 289 (B 207)		WRI-P-3492	84.15
Route group 2	F	BLM S# 461		WRI-P-3507	80.22
Route group 2	F	BLM S# 701		WRI-P-3501	127.55
Route group 2	F	BLM S# 87-52		WRI-P-3500	6.21
Route group 2	F	BLM-040-1985-17	Jackson Mountain Project Fence	WRI-P-2367	73.44
Route group 2	F	BLM-040-1985-18	Horse Mountain Pasture Fence	WRI-P-2368	84.98
Route group 2	F	BLM-040-1985-41	Red Bird Hills Savory Fences	WRI-P-2369	122.20
Route group 2	F	BLM-040-1985-42	Rattlesnake Ridge Pipeline	WRI-P-2370	122.74
Route group 2	F	BLM-040-1985-44	Willis Dirt Tanks and Pipeline I	WRI-P-2371	130.15
Route group 2	F	BLM-040-1986-2	Tollgate Rock Dam	WRI-P-2372	130.65
Route group 2	F	BLM-040-1986-24	Westwell Pipeline	WRI-P-2373	1319.47
Route group 2	F	BLM-040-1986-3	Enclosure Well and Pipeline	WRI-P-2374	141.56
Route group 2	F	BLM-040-1987-17	Bryce Road and Pipeline Improvements	WRI-P-2375	1727.56
Route group 2	F	BLM-040-1987-21	N. Eden Spring Wildlife Exclosure + H2O Pipeline	WRI-P-2376	1801.51
Route group 2	F	BLM-040-1987-32	Gila Box Fencing	WRI-P-2377	1963.10

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	F	BLM-040-1987-33	Circle Fence	WRI-P-2378	2130.00
Route group 2	F	BLM-040-1987-34	Dry Camp Range Improvements	WRI-P-2379	2164.04
Route group 2	F	BLM-040-1987-36	Phelps Dodge MNOI and Row	WRI-P-2380	2291.19
Route group 2	F	BLM-040-1987-39	Goatcamp Pipeline Extension	WRI-P-2381	2360.58
Route group 2	F	BLM-040-1987-4	Texas Canyon Roq	WRI-P-2382	1453.32
Route group 2	F	BLM-040-1987-6	Redknolls Boundary Fence	WRI-P-2383	1526.56
Route group 2	F	BLM-040-1988-11	Cedar Dams 1 & 2	WRI-P-2384	1305.76
Route group 2	F	BLM-040-1988-21	Guadalupe Canyon Projects	WRI-P-2385	3244.47
Route group 2	F	BLM-040-1988-24	Alternative A-RABB Tank Enlargement & NW Construction	WRI-P-2386	1441.90
Route group 2	F	BLM-040-1988-25	Fan Allotment Developments	WRI-P-2387	2761.77
Route group 1	F	BLM-040-1988-30	Willis-Claridge Road	WRI-P-2388	2981.79
Route group 2	Ga	BLM 02-21	Unknown	WRI-P-3456	111.92
Route group 2	Ga	1164.01	Unknown	WRI-P-1924	11.27
Route group 2	Ga	1976-3.ASM	AEPCO I	WRI-P-1970	1346.93
Route group 2	Ga	1977-6.ASM	AEPCO II, Dos Condados to Apache	WRI-P-1971	210.91
Route group 2	Ga	1985-226.ASM	All American Pipeline Right-of-way	WRI-P-3611	6103.16
Route group 2	Ga	1985-226.ASM/BLM 1985-48		WRI-P-2000	6103.16
Route group 2	Ga	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13
Route group 2	Ga	1996-219.ASM	Southern Pacific Railroad Survey	WRI-P-2051	814.07
Route group 2	Ga	1998-532.ASM	I-10 Willcox-Luzena	WRI-P-3599	173.83
Route group 2	Ga	1999-587.ASM	PBNS Level 3 Fiber Optic Line	WRI-P-2086	13854.98
Route group 2	Ga	2000-702.ASM	Valley Telephone Safford Survey	WRI-P-2098	691.83
Route group 2	Ga	2000-732.ASM	AEPCO Apache to Dos Condados Survey	WRI-P-2100	3199.01
Route group 2	Ga	2000-826.ASM/BLM 02-21/BLM 05-24/BLM 05-09		WRI-P-2103	3311.75
Route group 2	Ga	2001-817.ASM	I-10 Willcox	WRI-P-3600	1019.67
Route group 2	Ga	2004-99.ASM	Line 2105 Survey	WRI-P-3629	714.74
Route group 2	Ga	2005-302.ASM		WRI-P-2140	182.62
Route group 2	Ga	AMF Unpublished Survey		WRI-P-3532	60768.88
Route group 2	Ga	B 164/S# 210		WRI-P-3489	310.96
Route group 2	Ga	BLM 03-13		WRI-P-3490	123.26
Route group 2	Ga	BLM 04-34		WRI-P-3457	47.08
Route group 2	Gb	1985-126.ASM	The Archaeology of the Willcox Playa	WRI-P-3603	32659.94
Route group 2	Gb	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	Gb	2000-826.ASM/BLM 02-21/BLM 05-24/BLM 05-09		WRI-P-2103	3311.75
Route group 2	Gb	2001-817.ASM	I-10 Willcox	WRI-P-3600	1019.67
Route group 2	Gb	AMF Unpublished Survey		WRI-P-3532	60768.88
Route group 2	Gb	BLM 04-34		WRI-P-3457	47.08
Route group 2	Gc	1985-126.ASM	The Archaeology of the Willcox Playa	WRI-P-3603	32659.94
Route group 2	Gc	1999-587.ASM	PBNS Level 3 Fiber Optic Line	WRI-P-2086	13854.98
Route group 2	Gc	2000-732.ASM	AEPCO Apache to Dos Condados Survey	WRI-P-2100	3199.01
Route group 2	Gc	AMF Unpublished Survey		WRI-P-3532	60768.88
Upgrade Section					
Route group 3	H	1955-3.ASM	Southern Pacific Pipeline Survey	WRI-P-1966	6335.84
Route group 3	H	1983-76.ASM	State Land Survey	WRI-P-1990	23.26
Route group 3	H	1984-37.ASM	Unknown	WRI-P-3496	22.63
Route group 3	H	1985-10.ASM	Unknown	WRI-P-1995	23.05
Route group 3	H	1986-4.ASM	State Land Survey	WRI-P-2005	7.08
Route group 3	H	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13
Route group 3	H	1989-107.ASM	Unknown	WRI-P-2016	82.98
Route group 3	H	1989-222.ASM	Unknown	WRI-P-2019	481.95
Route group 3	H	1990-70.ASM	Optic Line Adjacent to SR 90 and US 10	WRI-P-2021	1035.82
Route group 3	H	1991-102	Unknown	WRI-P-2022	260.09
Route group 3	H	1993-283.ASM	SAN PEDRO HIGHWAY SURVEY	WRI-P-2032	973.72
Route group 3	H	1994-98.ASM	Unknown	WRI-P-2039	1.64
Route group 3	H	1996-158.ASM	Unknown	WRI-P-2049	11358.75
Route group 3	H	1996-203.ASM	Unknown	WRI-P-2050	29.78
Route group 3	H	1996-391.ASM	Interstate-10/Cochise County Line	WRI-P-2054	434.96
Route group 3	H	1997-209.ASM	SFPP Arizona Reconditioning Project	WRI-P-2059	1215.24
Route group 3	H	1997-469.ASM	Butterfield to Pantano Survey	WRI-P-2062	473.43
Route group 3	H	1997-501.ASM	AEPCO Survey, Butterfield to Pantano	WRI-P-2063	473.43
Route group 3	H	1998-261.ASM	Pomerene access road 3.10 acre survey (98SVS20)	WRI-P-2064	6.37
Route group 3	H	1999-587.ASM	PBNS Level 3 Fiber Optic Line	WRI-P-2086	13854.98
Route group 3	H	2000-43.ASM	Mescal Utility Right-of-Way Survey	WRI-P-2093	45.45
Route group 3	H	2000-826.ASM/BLM 02-21/BLM 05-24/BLM 05-09		WRI-P-2103	3311.75

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 3	H	2005-1007.ASM		WRI-P-3670	5.97
Route group 3	H	2005-302.ASM		WRI-P-2140	182.62
Route group 3	H	2005-446.ASM	Tucson-Apache 115-kV Transmission Line Project	WRI-P-2141	1510.74
Route group 3	H	2006-1.ASM	SFPP, LP, El Paso to Phoenix Expansion Project, Arizona Portion: Cochise and Pima Counties	WRI-P-3628	3242.84
Route group 3	H	2006-1.ASM/BLM 06-19		WRI-P-2145	3242.84
Route group 3	H	690.BLM		WRI-P-2268	42.07
Route group 3	H	BLM S# 384		WRI-P-3497	52.92
Route group 3	H	SHPO 1955-003		WRI-P-3530	20.72
New Build Section					
Route group 2	I	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13
Route group 2	I	1996-219.ASM	Southern Pacific Railroad Survey	WRI-P-2051	814.07
Route group 2	I	1998-532.ASM	I-10 Willcox-Luzena	WRI-P-3599	173.83
Route group 2	I	1999-587.ASM	PBNS Level 3 Fiber Optic Line	WRI-P-2086	13854.98
Route group 2	I	2000-702.ASM	Valley Telephone Safford Survey	WRI-P-2098	691.83
Route group 2	I	2000-826.ASM/BLM 02-21/BLM 05-24/BLM 05-09		WRI-P-2103	3311.75
Route group 2	I	2004-99.ASM	Line 2105 Survey	WRI-P-3629	714.74
Route group 2	I	BLM 03-13	Unknown	WRI-P-3490	123.26
Route group 2	I	BLM 04-34	Unknown	WRI-P-3457	47.08
Route group 2	J	BLM 02-21	Unknown	WRI-P-3456	111.92
Route group 2	J	1976-3.ASM	AEPCO I	WRI-P-1970	1346.93
Route group 2	J	1977-6.ASM	AEPCO II, Dos Condados to Apache	WRI-P-1971	210.91
Route group 2	J	1985-226.ASM	All American Pipeline Right-of-way	WRI-P-3611	6103.16
Route group 2	J	1985-226.ASM/BLM 1985-48		WRI-P-2000	6103.16
Route group 2	J	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13
Route group 2	J	1996-219.ASM	Southern Pacific Railroad Survey	WRI-P-2051	814.07
Route group 2	J	1998-532.ASM	I-10 Willcox-Luzena	WRI-P-3599	173.83
Route group 2	J	1999-587.ASM	PBNS Level 3 Fiber Optic Line	WRI-P-2086	13854.98
Route group 2	J	2000-702.ASM	Valley Telephone Safford Survey	WRI-P-2098	691.83
Route group 2	J	2000-732.ASM	AEPCO Apache to Dos Condados Survey	WRI-P-2100	3199.01
Route group 2	J	2000-826.ASM/BLM 02-21/BLM 05-24/BLM 05-09		WRI-P-2103	3311.75

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	J	2001-294.ASM	Stuart Road	WRI-P-3597	25.17
Route group 2	J	2004-99.ASM	Line 2105 Survey	WRI-P-3629	714.74
Route group 2	J	2005-302.ASM		WRI-P-2140	182.62
Route group 2	J	2006-524.ASM	EPNG Line 1600 Railroad Bore	WRI-P-3634	7.43
Route group 2	J	B 164/S# 210		WRI-P-3489	310.96
Route group 2	J	BLM 03-13		WRI-P-3490	123.26
Route group 2	J	BLM 04-34		WRI-P-3457	47.08
Route group 2	LD1	7591	Clearance Survey Of 4 Trans. Lines for Columbus Electric Cooperative	WRI-P-2285	35.85
Route group 2	LD1	8615	An Archaeological of a Drill Pad and Access Road in the Southern Playa in the Animas Valley, Hidalgo	WRI-P-2314	44.54
Route group 2	LD1	8966	2 Columbus Powerline Corridors for Columbus Electric Coop. Inc.	WRI-P-2329	4.35
Route group 2	LD1	11144	An Archaeological Survey of a Proposed Haul Road in Hidalgo County, New Mexico	WRI-P-3554	3.08
Route group 2	LD1	11241	Power Line for Columbus Electric Co-Op	WRI-P-3556	1.51
Route group 2	LD1	11590	Lordsburg Road Forks Of El Paso-Yuma Toll Line for Mt Bell	WRI-P-1919	138.65
Route group 2	LD1	12296	An Archaeological Clearance Survey of One Fenceline, One Water Well, Two Pipelines, and Three Storage	WRI-P-3533	86.67
Route group 2	LD1	12811	Western New Mexico Telephone Company Archeological Survey - Part 68 - 1986: Locations for Placement	WRI-P-3536	50.56
Route group 2	LD1	13142	Steins Site for Southern Pacific Communication Company BLM/Lcra	WRI-P-3537	5.18
Route group 2	LD1	15687	Archaeological Clearance Investigations for Borrow Pit A, Surfacing Pit 67-40-S, and Associated Hau	WRI-P-1949	24.00
Route group 2	LD1	15721	Archaeological Clearance Investigations of Four Borrow Pits for Use by New Mexico State Highway Dept.	WRI-P-3546	8.84
Route group 2	LD1	17436	Western New Mexico Telephone Co Part 73-1987 Placement Of Buried Cable	WRI-P-3542	0.32
Route group 2	LD1	18226	Preliminary Cultural Resources Survey Report for the US Telecom Fiber Optic Cable Project from San T	WRI-P-1960	1990.51
Route group 2	LD1	23394	An Archaeological Survey of Nine proposed Peloncillo Mountains Wildlife Waters	WRI-P-3534	1.99
Route group 2	LD1	24592	Cultural Resource Survey of Surfacing Pit 67-40-S on I-10 West of Lordsburg District 1	WRI-P-3553	33.42

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	LD1	26862	MATERIALS SOURCES SE OF I-10 RD FORKS INTERCHANGE FOR TURNER ROACH CORP	WRI-P-3545	50.43
Route group 2	LD1	32358	An Archaeological Survey of the Proposed New Hidalgo County Road near Steins, New Mexico	WRI-P-3535	94.14
Route group 2	LD1	32690	Mci Fiber Optic Cable Project: Arizona, New Mexico & Texas Segments for Mci	WRI-P-3538	90.24
Route group 2	LD1	41438	An Archaeological Survey of the Last Chance Pipeline near Lordsburg, Hidalgo County, New Mexico	WRI-P-2209	13.58
Route group 2	LD1	43937	Cultural Resource Survey in the Virginia Subdistrict of the Lordsburg Mine District Lordsburg Phase	WRI-P-2219	7.74
Route group 2	LD1	48167	An Archeological Clearance Survey for the Proposed Well and Trough near Lordsburg T. 23S R. 19W Sect	WRI-P-3555	0.02
Route group 2	LD1	51702	A Cultural Resource Survey of a 29,034 Foot Portion of the El Paso Natural Gas Company Eunice Plant	WRI-P-2247	88.65
Route group 2	LD1	53901	Western New Mexico Telephone Company Phone Line Installation Job #P-60716 near Road Forks, New Mexico	WRI-P-3540	4.81
Route group 2	LD1	56217	Proposed Lordsburg Interstate Highway 10 Port of Entry Project	WRI-P-2250	68.09
Route group 2	LD1	58617	A Cultural Resource Survey of 33.6 Kilometers (21 Miles) Along Interstate 10 West of Lordsburg IM-01	WRI-P-2253	582.64
Route group 2	LD1	59932	Mining Properties in the Virginia Subdistrict, Lordsburg Mining District, Hidalgo County, New Mexico	WRI-P-2254	15.66
Route group 2	LD1	60503	A Cultural Resources Survey for the Proposed Cedar Mountain Pipeline, Hidalgo County, NM	WRI-P-3539	2.81
Route group 2	LD1	63637	Western New Mexico Telephone Company Buried Cable Installation Job P-80638 near Gary, Hidalgo County	WRI-P-2259	5.87
Route group 2	LD1	64374	Cultural Resource Class III Inventory and Significance Evaluation of a Proposed Mineral Materials Pi	WRI-P-2260	45.65
Route group 2	LD1	64633	Cultural Resources Class III Inventory of a Proposed Materials Pit Southwest of Lordsburg, Hidalgo C	WRI-P-3548	96.85
Route group 2	LD1	64634	Cultural Resources Class III Inventory of a Proposed Materials Pit Southwest of Lordsburg, Hidalgo C	WRI-P-3550	145.68
Route group 2	LD1	64800	Cultural Resources Class III Inventory of a Proposed Materials Pit near Road Forks, Hidalgo County,	WRI-P-3541	80.64

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	LD1	64847	Cultural Resources Class III Inventory of a Proposed Materials Pit Southwest of Lordsburg, Hidalgo C	WRI-P-3549	159.99
Route group 2	LD1	65489	Cultural Resources Class III Inventory of a Borrow Pit near Road Forks, Hidalgo County, New Mexico	WRI-P-3544	6.65
Route group 2	LD1	65591	Cultural Resources Class III Inventory of a Proposed Haul Road Southwest of Lordsburg, Hidalgo Count	WRI-P-3552	3.60
Route group 2	LD1	65987	The El Paso to Los Angeles Fiber Optic Cable Project: A Cultural Resources Survey of the New Mexico	WRI-P-2262	2195.08
Route group 2	LD1	67754	An Archaeological Survey of the New Mexico Portion of Link Two of the AT&T Nex/Gen Core Project	WRI-P-2265	2013.49
Route group 2	LD1	71767	Cultural Resources Survey of the 360Networks Fiber Optics Line From Mesa, Arizona to El Paso, Texas	WRI-P-2274	1681.96
Route group 2	LD1	72030	A Second Addendum to an Archaeological Survey of the New Mexico Portion of Link Two of the AT&T NEXGEN/CORE Project	WRI-P-2275	3.08
Route group 2	LD1	73823	Cultural Resources Class III Inventory of a Proposed Buried Telephone Cable and Regen Station at the	WRI-P-2277	3.39
Route group 2	LD1	76302	Cultural Resources Assessment Surveys of 18 Regeneration Station Locations for the 360Networks Fiber	WRI-P-2288	38.54
Route group 2	LD1	84579	An Archaeological Survey of 79.32 HA (196.04 AC) for the Proposed Placement of an Underground Teleco	WRI-P-2311	98.58
Route group 2	LD1	93024	Cultural Resource Survey for 3 Area, for Maintenance of Existing Kinder Morgan Pipeline	WRI-P-3547	0.66
Route group 2	LD1	94081	Cultural Resources Survey for a Proposed Extra Workspace to Store Spoil at US 80, as Part of the SFP	WRI-P-3543	0.22
Route group 2	LD1	123243	Rudiger Pipe, Tanks, Troughs	WRI-P-3551	80.91
Route group 2	LD1	1955-3.ASM	Southern Pacific Pipeline Survey	WRI-P-1966	6335.84
Route group 2	LD1	1979-37.ASM	Unknown	WRI-P-3572	532.17
Route group 2	LD1	1982-206.ASM	Unknown	WRI-P-3573	728.46
Route group 2	LD1	1985-226.ASM	All American Pipeline Right-of-way	WRI-P-3611	6103.16
Route group 2	LD1	1985-226.ASM/BLM 1985-48		WRI-P-2000	6103.16
Route group 2	LD1	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13
Route group 2	LD1	1992-264.ASM	Vanar Rest Area/I-10	WRI-P-3566	28.78

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	LD1	1995-79.ASM	SAN SIMON	WRI-P-3565	115.28
Route group 2	LD1	1997-340.ASM	I-10 San Simon	WRI-P-3568	0.80
Route group 2	LD1	1999-471.ASM	I-10 Box Culverts	WRI-P-3514	67.64
Route group 2	LD1	1999-587.ASM	PBNS Level 3 Fiber Optic Line	WRI-P-2086	13854.98
Route group 2	LD1	2.199.SHPO		WRI-P-3676	66.60
Route group 2	LD1	2.199.SHPO		WRI-P-3681	66.60
Route group 2	LD1	2000-826.ASM/BLM 02-21/BLM 05-24/BLM 05-09		WRI-P-2103	3311.75
Route group 2	LD1	2001-821.ASM	I-10 Bowie Survey	WRI-P-3579	1627.97
Route group 2	LD1	2005-302.ASM		WRI-P-2140	182.62
Route group 2	LD1	2006-1.ASM	SFPP, LP, El Paso to Phoenix Expansion Project, Arizona Portion: Cochise and Pima Counties	WRI-P-3628	3242.84
Route group 2	LD1	2006-1.ASM/BLM 06-19		WRI-P-2145	3242.84
Route group 2	LD1	B 196		WRI-P-3531	124.74
Route group 2	LD1	BLM 01-15		WRI-P-3521	0.37
Route group 2	LD1	BLM 02-29		WRI-P-3499	284.92
Route group 2	LD1	BLM 04-34		WRI-P-3457	47.08
Route group 2	LD1	BLM 98-28		WRI-P-3523	66.20
Route group 2	LD1	BLM S# 701		WRI-P-3501	127.55
Route group 2	LD1	BLM-040-1986-13	Barnes PVT Exchange	WRI-P-3590	13.33
Route group 2	LD1	BLM-040-2004-21	Sulphur Springs Valley Electric AZA 18790	WRI-P-3564	161.12
Route group 2	LD1	BLM-AZ-045-95-5	Southern Pacific Railroad Realignment	WRI-P-3584	7.98
Route group 2	LD2	9317	Alternative Drill Pad & Access Road In Southern Playa for Pennwalt Corp	WRI-P-2336	8.19
Route group 2	LD2	20588	Box M Electric Fence Line near Lordsburg for Las Cruces BLM-Lordsburg Ra	WRI-P-2153	118.22
Route group 2	LD2	38046	Box M Ranch Pipe Line near Lordsburg, NM for Las Cruces BLM-Mimbres Ra	WRI-P-3561	18.34
Route group 2	LD2	43908	Along the Butterfield Trail: A Reconnaissance Survey of 40.5 Miles on Public Lands	WRI-P-2218	491.16
Route group 2	LD2	43945	Lake Pasture Pipeline & Water Storage Area for Las Cruces BLM-Mimbres Ra	WRI-P-2220	7.93
Route group 2	LD3a	7427	Telephone Cable Along SH 70, 90 & 464 for Western Newmexico Phone Co./030-84-111	WRI-P-2280	100.21

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	LD3a	11634	An Archaeological Survey of a Proposed 345 KV Power Transmission Line Corridor From Deming, New Mexico	WRI-P-1923	1029.08
Route group 2	LD3a	20588	Box M Electric Fence Line near Lordsburg for Las Cruces BLM-Lordsburg Ra	WRI-P-2153	118.22
Route group 2	LD3a	32720	Cultural Resource Investigations on NM 90 near Lordsburg, Hidalgo County, New Mexico, NMSHTD Project	WRI-P-2194	99.50
Route group 2	LD3a	38788	A Cultural Resource Survey Along NM 90 North of Lordsburg	WRI-P-2205	47.19
Route group 2	LD3a	41430	Golf Club Pipeline near Lordsburg, NM for Las Cruces BLM-Mimbres Ra	WRI-P-3562	8.07
Route group 2	LD3a	43908	Along the Butterfield Trail: A Reconnaissance Survey of 40.5 Miles on Public Lands	WRI-P-2218	491.16
Route group 2	LD3a	45041	Cultural Resources Clearance Investigation: An Archeological Survey of the Proposed Western New Mexico	WRI-P-2221	1065.36
Route group 2	LD3a	47851	Dave Mead - Livestock Control Arizona State Office Cultural Resources Project Record	WRI-P-3557	9.61
Route group 2	LD3a	48913	3 Mills Well Pipeline	WRI-P-3558	13.16
Route group 2	LD3a	48997	Double M Ranch Projects	WRI-P-3559	112.01
Route group 2	LD3a	49446	High Lonesome Sample, New Mexico	WRI-P-3560	871.19
Route group 2	LD3a	71363	Western New Mexico Telephone Company Buried Cable Installation Job P-000411 South of U.S. Highway 70	WRI-P-2273	33.70
Route group 2	LD3a	79797	An Archaeological Survey of 19.3 km (12 mi) Along State Highway 90 Between MP 0 and MP 12, hidalgo C	WRI-P-2298	235.93
Route group 2	LD3a	123111	Steines Allotment EQIP project.	WRI-P-1936	126.81
Route group 2	LD3b	67976	Former All American Pipeline	WRI-P-2267	1876.38
Route group 2	LD3b	123111	Steines Allotment EQIP project.	WRI-P-1936	126.81
Route group 2	LD4	1370-R	No information available		
Route group 2	LD4	1976-3.ASM	AEPCO I		
Route group 2	LD4	1977-6.ASM	AEPCO II, Dos Condados to Apache		
Route group 2	LD4	1979-37.ASM	No information available		
Route group 2	LD4	1980-61.ASM	No information available		
Route group 2	LD4	1982-206.ASM	No information available		
Route group 2	LD4	1989-201.ASM	No information available		
Route group 2	LD4	1993-379.ASM	Hot Well Dunes Archaeological Project		

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	LD4	1995-440.ASM	No information available		
Route group 2	LD4	1995-76.ASM	High Lonesome Sample, Arizona		
Route group 2	LD4	1999-36.ASM	US 191 I-10 to Milepost 98.0		
Route group 2	LD4	2000-702.ASM	Valley Telephone Safford Survey		
Route group 2	LD4	2000-720.ASM	Bonita 12" Gas Line Survey		
Route group 2	LD4	2000-732.ASM	AEPCO Apache to Dos Condados Survey		
Route group 2	LD4	2001-474.ASM	Bowie Power Project		
Route group 2	LD4	2001-786.ASM	BLM San Simon Watershed Roads Survey		
Route group 2	LD4	2003-1095.ASM	US 191 (I-10 to SR 266)		
Route group 2	LD4	2004-99.ASM	Line 2105 Survey		
Route group 2	LD4	2007-708.ASM	No information available		
Route group 2	LD4	2010-535.ASM	PGE MetMast Willcox Survey		
Route group 2	LD4	5.117.SHPO	No information available		
Route group 2	LD4	BLM-040-03-41	Ryan Dike		
Route group 2	LD4	BLM-040-1985-10	Masonry Rock Dams		
Route group 2	LD4	BLM-040-1985-17	Jackson Mountain Project Fence		
Route group 2	LD4	BLM-040-1985-18	Horse Mountain Pasture Fence		
Route group 2	LD4	BLM-040-1985-25	Norton NOIS (3809)		
Route group 2	LD4	BLM-040-1985-31	Rabbit Farm Well Modification and Pond Development		
Route group 2	LD4	BLM-040-1985-41	Red Bird Hills Savory Fences		
Route group 2	LD4	BLM-040-1985-42	Rattlesnake Ridge Pipeline		
Route group 2	LD4	BLM-040-1985-44	Willis Dirt Tanks and Pipeline I		
Route group 2	LD4	BLM-040-1985-7	Sheldon Mountain Pasture Fence and Pipeline		
Route group 2	LD4	BLM-040-1985-9	Safford Phelps Dodge		
Route group 2	LD4	BLM-040-1986-17	Gold Gulch 1989		
Route group 2	LD4	BLM-040-1986-2	Tollgate Rock Dam		
Route group 2	LD4	BLM-040-1986-24	Westwell Pipeline		
Route group 2	LD4	BLM-040-1986-3	Enclosure Well and Pipeline		
Route group 2	LD4	BLM-040-1987-17	Bryce Road and Pipeline Improvements		
Route group 2	LD4	BLM-040-1987-21	N. Eden Spring Wildlife Enclosure and Water Pipeline		
Route group 2	LD4	BLM-040-1987-32	Gila Box Fencing		
Route group 2	LD4	BLM-040-1987-33	Circle Fence		
Route group 2	LD4	BLM-040-1987-34	Dry Camp Range Improvements		
Route group 2	LD4	BLM-040-1987-36	Phelps Dodge MNOI and ROW		
Route group 2	LD4	BLM-040-1987-39	Goatcamp Pipeline Extension		

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	LD4	BLM-040-1987-4	Texas Canyon Roq		
Route group 2	LD4	BLM-040-1987-6	Redknolls Boundary Fence		
Route group 2	LD4	BLM-040-1988-11	Cedar Dams 1 & 2		
Route group 2	LD4	BLM-040-1988-21	Guadalupe Canyon Projects		
Route group 2	LD4	BLM-040-1988-24	Alternative A-RABB Tank Enlargement and NW Construction		
Route group 2	LD4	BLM-040-1988-25	Fan Allotment Developments		
Route group 2	LD4	BLM-040-1988-30	Willis-Claridge Road		
Route group 2	LD4	BLM-040-1990-25	Bowie Lites		
Route group 2	LD4	BLM-AZ-040-00-9	Antelope Well		
Route group 2	LD4	BLM-AZ-040-01-2	Lazy B Pipelines		
Route group 2	LD4	BLM-AZ-040-05-003	A Class III Cultural Resources Inventory for the Ryans Dyke (2005) Maintenance Project		
Route group 2	LD4	BLM-AZ-040-98-4	J Stars		
Route group 2	LD4	SHPO-2001-1540	Section 106 Review of American Tower Corporation Site Number 41939 "WILLOW SPRING"		
Route group 2	LD4-Option4	1976-3.ASM	AEPCO I		
Route group 2	LD4-Option4	1977-6.ASM	AEPCO II, Dos Condados to Apache		
Route group 2	LD4-Option4	1985-226.ASM	All American Pipeline Right-of-Way		
Route group 2	LD4-Option4	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable		
Route group 2	LD4-Option4	1996-236.ASM	No information available		
Route group 2	LD4-Option4	1999-587.ASM	PBNS Level 3 Fiber Optic Line		
Route group 2	LD4-Option4	2000-702.ASM	Valley Telephone Safford Survey		
Route group 2	LD4-Option4	2000-732.ASM	AEPCO Apache to Dos Condados Survey		
Route group 2	LD4-Option4	2010-535.ASM	PGE MetMast Willcox Survey		
Route group 2	LD4-Option5	1976-3.ASM	AEPCO I		
Route group 2	LD4-Option5	1977-6.ASM	AEPCO II, Dos Condados to Apache		
Route group 2	LD4-Option5	1985-226.ASM	All American Pipeline Right-of-Way		
Route group 2	LD4-Option5	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable		
Route group 2	LD4-Option5	1996-236.ASM	No information available		

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	LD4-Option5	1999-36.ASM	US 191 I-10 to Milepost 98.0		
Route group 2	LD4-Option5	1999-587.ASM	PBNS Level 3 Fiber Optic Line		
Route group 2	LD4-Option5	2000-702.ASM	Valley Telephone Safford Survey		
Route group 2	LD4-Option5	2000-732.ASM	AEPCO Apache to Dos Condados Survey		
Route group 2	LD4-Option5	2001-474.ASM	Bowie Power Project		
Route group 2	LD4-Option5	2003-1095.ASM	US 191 (I-10 to SR 266)		
Route group 2	LD4-Option5	2004-99.ASM	Line 2105 Survey		
Route group 2	LD4-Option5	2007-708.ASM	No information available		
Route group 2	LD4-Option5	SHPO-2001-1540	Section 106 Review of American Tower Corporation Site Number 41939 "WILLOW SPRING"		
Route group 1	P1	21389	Archaeological Clearance Survey of a BURIED TELEPHONE CABLE Right-of-Way AT AFTON PUMPING STATION, Doña Ana County, New Mexico	WRI-P-2164	3.17
Route group 1	P1	309	Patterns Of Prehistoric Land Use In Doña Ana County New Mexico - Vols I & II	WRI-P-2187	3243.44
Route group 1	P1	7600	3024-KV Static Wire Powerline for El Paso Electric Company	WRI-P-2287	22.58
Route group 1	P1	11154	An Archaeological Survey of Five Geothermal Testing Transects in Southwestern Doña Ana County, New Mexico	WRI-P-1891	4708.41
Route group 1	P1	11166	2 Seismic Transects for Arma Geophysical	WRI-P-1892	389.65
Route group 1	P1	11178	Buried Telephone Cable for Mountain Bell	WRI-P-1895	90.20
Route group 1	P1	11232	Cathodic Protection Station #1379 for El Paso Natural Gas	WRI-P-1901	0.22
Route group 1	P1	11402	An Archaeological Survey of Nine Seismographic Test Lines for Exxon Company in Doña Ana and Luna Counties, New Mexico	WRI-P-1908	1611.20
Route group 1	P1	11443	Cathodic Protection Station #1379 for El Paso Natural Gas Company	WRI-P-1913	0.22
Route group 1	P1	18349	An Archaeological Reconnaissance in West Doña Ana County	WRI-P-1961	552.71
Route group 1	P1	31185	An Archaeological Clearance Survey of Nine Hydrocarbon Testing Transects in Southern Doña Ana County	WRI-P-2188	1769.65

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	P1	31425	3.00 Mile Electric Power Line for El Paso Electric Co	WRI-P-2189	34.69
Route group 1	P1	31426	3 Mile Long Buried Telecommunications Cable for Us West Communications	WRI-P-2190	34.53
Route group 1	P1	32217	County Road R/W Aquisitions for Doña Ana County Road Dept	WRI-P-2192	72.75
Route group 1	P1	65987	The El Paso to Los Angeles Fiber Optic Cable Project: A Cultural Resources Survey of the New Mexico Segment Across Doña Ana, Luna, Grant, and Hidalgo Counties	WRI-P-2262	2195.08
Route group 1	P1	67976	Revised Draft Report The El Paso Natural Gas Line No. 2000 Project: An Archaeological Re-survey of the Former All American Pipeline Across Doña Ana, Luna, Grant, and Hidalgo Counties, New Mexico Report 2	WRI-P-2267	1876.38
Route group 1	P1	70023	Cultural Resource Survey for the Proposed Natural Gas Generation and Transmission Afton Project Doña Ana County, New Mexico	WRI-P-2270	183.85
Route group 1	P1	77658	Archaeological Survey of the Afton Power Plant Road Cattle Guard Bypasses, Aden to Afton, New Mexico	WRI-P-2292	2.83
Route group 1	P1	94045	Cultural Resource Survey for a Proposed Access Road Around PNM's Afton Station, as Part of the SFPP East Line Expansion Project, New Mexico Portion	WRI-P-2339	20.39
Route group 1	P2	309	Patterns Of Prehistoric Land Use In Doña Ana County New Mexico - Vols I & II	WRI-P-2187	3243.44
Route group 1	P2	627	Archaeological Clearance Report for Teledyne Exploration Line D4 (presented in 3 segments)	WRI-P-2256	35.72
Route group 1	P2	662	An Archaeological Clearance Survey of Eleven Seismic Testing Transects in Hidalgo, Grant, Luna and Doña Ana Counties	WRI-P-2263	2365.44
Route group 1	P2	895	Archaeological Clearance Report for Grant Geophysical Line O-3 (presented in 3 segments)	WRI-P-2327	154.04
Route group 1	P2	903	Archaeological Clearance Report for Grant Geophysical Line U-3, Segment 1; Line U-3, Segment 2; Line U-3, Access Road	WRI-P-2331	305.96
Route group 1	P2	904	Archaeological Clearance Report for Grant Geophysical Line K-2 (presented in 7 segments)	WRI-P-2332	341.20

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	P2	7411	Archeological Survey of a Proposed Right-of-Way Addition, El Paso Electric Company Luna-to-Newman Transmission Line Corridor, Doña Ana County, New Mexico	WRI-P-2278	75.70
Route group 1	P2	7583	7 Microwave Tower Locations for Mirror Imicrowave Communications	WRI-P-2284	67.50
Route group 1	P2	7591	Clearance Survey Of 4 Trans. Lines for Columbus Electric Cooperative	WRI-P-2285	35.85
Route group 1	P2	7600	3024-kV Static Wire Powerline for El Paso Electric Company	WRI-P-2287	22.58
Route group 1	P2	8636	A Cultural Resources Inventory of the Plains Electric Transmission Line from Elephant Butte to Deming, New Mexico	WRI-P-2317	1038.21
Route group 1	P2	8966	2 Columbus Powerline Corridors for Columbus Electric Coop. Inc.	WRI-P-2329	4.35
Route group 1	P2	9759	Archaeological Clearance Report for Grant Geophysical Line J-5, (Presented in 2 Segments)	WRI-P-2343	97.08
Route group 1	P2	9782	Archaeological Clearance Report for Grant Geophysical Line K-5, (Presented in two segments)	WRI-P-2344	96.24
Route group 1	P2	9783	Archaeological Clearance Report for Grant Geophysical Line KK-5	WRI-P-2345	56.77
Route group 1	P2	9893	Archaeological Clearance Report for Grant Geophysical Line G-4 (presented in 3 segments)	WRI-P-2349	152.70
Route group 1	P2	9899	Archaeological Clearance Report for Grant Geophysical Line K-4	WRI-P-2351	57.44
Route group 1	P2	9900	Archaeological Clearance Report for Grant Geophysical Line KK-4 (presented in 2 segments)	WRI-P-2352	107.66
Route group 1	P2	9902	Archaeological Clearance Report for Grant Geophysical	WRI-P-2353	89.46
Route group 1	P2	9903	Archaeological Clearance Report for Grant Geophysical Line I-4	WRI-P-2354	79.91
Route group 1	P2	9904	Archaeological Clearance Report for Grant Geophysical Line II-4 (presented in 3 segments)	WRI-P-2355	186.59
Route group 1	P2	9905	Archaeological Clearance Report for Grant Geophysical Line M-4	WRI-P-2356	114.09
Route group 1	P2	9907	Archaeological Clearance Report for Grant Geophysical Line N-4 (presented in 2 segments)	WRI-P-2357	121.34
Route group 1	P2	9911	Archaeological Clearance Report for Grant Geophysical Line Y-4 (presented in 2 segments)	WRI-P-2360	129.10
Route group 1	P2	9914	Archaeological Clearance Report for Grant Geophysical Line X-4	WRI-P-2361	72.43

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	P2	9977	Archaeological Clearance Report for Grant Geophysical Line J-4 (presented in 3 segments)	WRI-P-2365	143.26
Route group 1	P2	9994	Archaeological Clearance Report for Grant Geophysical Line F-3, (presented in 9 segments)	WRI-P-2366	373.16
Route group 1	P2	10007	Archaeological Clearance Report for Grant Geophysical Line E-3 (presented in 6 segments)	WRI-P-1857	289.40
Route group 1	P2	10030	Archaeological Clearance Report for Grant Geophysical Line N-3 (presented in 6 segments)	WRI-P-1858	159.88
Route group 1	P2	10034	Archaeological Clearance Report for Grant Geophysical Line M-3 (presented in 6 segments)	WRI-P-1859	160.21
Route group 1	P2	10052	Archaeological Clearance Report for Grant Geophysical Line J-2 (presented in 6 segments)	WRI-P-1860	232.64
Route group 1	P2	10058	Archaeological Clearance Report for Grant Geophysical Line L-3 (presented in 2 segments)	WRI-P-1862	80.05
Route group 1	P2	10059	Archaeological Clearance Report for Grant Geophysical Line G-3 (presented in 2 segments)	WRI-P-1863	73.74
Route group 1	P2	10060	Archaeological Clearance Report for Grant Geophysical Line H-4 (presented in 4 segments)	WRI-P-1864	176.23
Route group 1	P2	10062	Archaeological Clearance Report for Exxon Corporation Line PH-2 (presented in 5 segments)	WRI-P-1865	90.41
Route group 1	P2	10532	An Archaeological Survey of a Proposed 14.4. KV Distribution Line Right-of-Way, Southeast of Cambray, New Mexico	WRI-P-1874	9.14
Route group 1	P2	11003	An Archaeological Clearance Survey in the Vicinity of Mason Draw in Doña Ana County, New Mexico	WRI-P-1881	114.14
Route group 1	P2	11098	An Archaeological Survey of Six Seismographic Test Lines for Exxon Company in Sierra, Luna, and Doña Ana Counties, New Mexico	WRI-P-1888	392.00
Route group 1	P2	11139	CATHODIC PROTECTION UNIT 18-16 PRONTO FOR SOUTHERN PACIFIC PIPELINES An Archaeological Clearance Survey for Cathodic Protection Unit 18-16 Pronto, Doña Ana County, New Mexico	WRI-P-1889	1.39
Route group 1	P2	11154	An Archaeological Survey of Five Geothermal Testing Transects in Southwestern Doña Ana County, New Mexico	WRI-P-1891	4708.41
Route group 1	P2	11166	2 Seismic Transects for ARMA Geophysical	WRI-P-1892	389.65

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	P2	11178	Buried Telephone Cable for Mountain Bell	WRI-P-1895	90.20
Route group 1	P2	11204	Underground Cable R/W #1743a for Mountain States Telephone & Telegraph	WRI-P-1897	6.37
Route group 1	P2	11232	Cathodic Protection Station #1379 for El Paso Natural Gas	WRI-P-1901	0.22
Route group 1	P2	11245	6 Seismographic Test Transects for EXXON Company U.S.A.	WRI-P-1904	439.45
Route group 1	P2	11402	An Archaeological Survey of Nine Seismographic Test Lines for Exxon Company in Doña Ana and Luna Counties, New Mexico	WRI-P-1908	1611.20
Route group 1	P2	11443	Cathodic Protection Station #1379 for El Paso Natural Gas Company	WRI-P-1913	0.22
Route group 1	P2	11450	Reconnaissance 13.8 kV Transmission Line for El Paso Electric	WRI-P-1914	17.32
Route group 1	P2	11595	An Archaeological Survey of a Cathodic Protection Station in Doña Ana County, New Mexico	WRI-P-1921	1.29
Route group 1	P2	11596	An Archaeological Survey of a Proposed 345 KV Powerline from Deming, New Mexico, to El Paso Texas	WRI-P-1922	1253.49
Route group 1	P2	11634	An Archaeological Survey of a Proposed 345 KV Power Transmission Line Corridor From Deming, New Mexico	WRI-P-1923	1029.08
Route group 1	P2	15571	Cathodic Protection Station for El Paso Natural Gas Co	WRI-P-1948	2.65
Route group 1	P2	18209	Cultural Resource Survey of a State Road 549 Fencing Project East of Cambray, New Mexico	WRI-P-1959	80.70
Route group 1	P2	18226	Preliminary Cultural Resources Survey Report for the US Telecom Fiber Optic Cable Project from San T	WRI-P-1960	1990.51
Route group 1	P2	18349	An Archaeological Reconnaissance in West Doña Ana County	WRI-P-1961	552.71
Route group 1	P2	18529	Luna to Central 115 kV Power Line for Public Service Company Of New Mexico	WRI-P-1962	507.78
Route group 1	P2	19521	Cultural Resources Survey of Interstate 10 East of Deming, New Mexico IR-010-2(70)93	WRI-P-1965	330.45
Route group 1	P2	20320	A Cultural Resource Survey of the I-10 Right of Way from Milepost 85.3 to Milepost 93 NMSHTD Project IR-010-2(73)86	WRI-P-2151	413.67
Route group 1	P2	21323	Cultural Resource Survey of a Proposed Borrow Pit East of Deming IR-010-2(73)86	WRI-P-2162	3.86

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	P2	21335	Cultural Resource Survey of Proposed Pit 'B' East of Deming, Luna County IR-010-2(73)86	WRI-P-2163	9.27
Route group 1	P2	21389	Archaeological Clearance Survey of a BURIED TELEPHONE CABLE Right-of-Way AT AFTON PUMPING STATION, Doña Ana County, New Mexico	WRI-P-2164	3.17
Route group 1	P2	23747	A Preliminary Evaluation of Prehistoric Settlement Patterns in Grant and Luna Counties, New Mexico: Results of a Sample Survey on State of New Mexico Lands. 2 volumes	WRI-P-2172	1607.02
Route group 1	P2	23753	An Archaeological Clearance Survey of an Underground Telephone Wire Right-of-Way 25 Miles West of Las Cruces, Doña Ana County, New Mexico	WRI-P-2173	9.45
Route group 1	P2	23823	Cultural Resource Survey Along State Road 26 near Deming, Luna County, New Mexico, NMSHTD Project #F-015-1(2)	WRI-P-2174	53.14
Route group 1	P2	23923	Archaeological Clearance Survey of a Segment of a Buried Telephone Cable Right-of-Way near Cambray, Luna County, New Mexico	WRI-P-2175	15.74
Route group 1	P2	23924	Archaeological Inventory and Clearance Survey of a Buried Telephone Cable Right-of-Way Between Deming and Las Cruces, Luna and Doña Ana Counties, New Mexico	WRI-P-2176	43.57
Route group 1	P2	23926	An Archaeological Survey of a Proposed Right-of-Way for a Buried Telephone Cable form State Highway 549 to the Garcia Ranch, Luna County, New Mexico	WRI-P-2177	7.26
Route group 1	P2	24220	A Cultural Resources Survey for the Western States Microwave Tower System in Southern New Mexico Doña Ana, Luna, Grant, and Hidalgo Counties	WRI-P-2178	170.18
Route group 1	P2	24652	Buried Telephone Cable R/W Along Us 180 North of Deming, NM for Network Distrib	WRI-P-2180	96.03
Route group 1	P2	25476	Telephone Service R/W near Separ, NM for Us West Acommunications	WRI-P-2182	20.52
Route group 1	P2	31185	An Archaeological Clearance Survey of Nine Hydrocarbon Testing Transects in Southern Doña Ana County	WRI-P-2188	1769.65
Route group 1	P2	31425	3.00 Mile Electric Power Line for El Paso Electric Co	WRI-P-2189	34.69

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	P2	31426	3 Mile Long Buried Telecommunications Cable for Us West Communications	WRI-P-2190	34.53
Route group 1	P2	31523	A Cultural Resource Survey of the US 180 Right of Way North of the NM 26 Junction NMSHTD Project SP-OF-013-1(210)	WRI-P-2191	135.56
Route group 1	P2	32217	County Road R/W Aquisitions for Doña Ana County Road Dept	WRI-P-2192	72.75
Route group 1	P2	32713	Pole Line R/W for Cathodic Protection Station #398 for El Paso Natural Gas	WRI-P-2193	13.68
Route group 1	P2	45248	An Archaeological Survey for a Proposed Cathodic Protection Station and Mud Pit Northeast of Separ, Grant County, New Mexico	WRI-P-2222	0.01
Route group 1	P2	48911	Resurvey Along 18.60 Miles of El Paso Electric Company 345 KV Newman-to-Luna Transmission Line Corridor West of the Rio Grande, Doña Ana County, New Mexico	WRI-P-2232	221.92
Route group 1	P2	49025	A Cultural Resources Survey of Four Segments of the Santa Fe Pipeline, Pima County, Arizona, Luna and Doña Ana Counties, New Mexico	WRI-P-2233	225.86
Route group 1	P2	53221	Archaeological Survey Along Nineteen Southern Pacific Railroad Segments in Grant, Guadalupe, Hidalgo, Lincoln, Luna, Otero, Quay, and Doña Ana Counties, New Mexico	WRI-P-2248	401.30
Route group 1	P2	63599	Cultural Resources Inventory of a Proposed Landfill Site for the City of Deming, Luna County, New Mexico	WRI-P-2258	175.29
Route group 1	P2	65987	The El Paso to Los Angeles Fiber Optic Cable Project: A Cultural Resources Survey of the New Mexico	WRI-P-2262	2195.08
Route group 1	P2	67754	An Archaeological Survey of the New Mexico Portion of Link Two of the AT&T Nex/Gen Core Project	WRI-P-2265	2013.49
Route group 1	P2	67872	Cultural Resource Survey for the Proposed Replacement of Bridge No. 3489 Over the Union Pacific Railroad, Interstate 10, Luna County, New Mexico	WRI-P-2266	0.22
Route group 1	P2	67976	Revised Draft Report The El Paso Natural Gas Line No. 2000 Project: An Archaeological Re-survey of the Former All American Pipeline Across Doña Ana, Luna, Grant, and Hidalgo Counties, New Mexico Report 2	WRI-P-2267	1876.38
Route group 1	P2	70023	Cultural Resource Survey for the Proposed Natural Gas Generation and Transmission Afton Project Doña Ana County, New Mexico	WRI-P-2270	183.85

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	P2	70033	An 1808 Acre Archaeological Survey of State of New Mexico Lands near Las Cruces, New Mexico	WRI-P-2271	1947.55
Route group 1	P2	71767	Cultural Resources Survey of the 360Networks Fiber Optics Line From Mesa, Arizona to El Paso, Texas	WRI-P-2274	1681.96
Route group 1	P2	72462	Cultural Resources Report of the Proposed Construction of New and Upgraded Natural Gas and Wastewater Pipelines in and around the City of Deming, Luna County, New Mexico	WRI-P-2276	173.47
Route group 1	P2	74822	Cultural Resources Inventory of a Proposed Materials Pit and Office Location near Akela, Luna County, New Mexico	WRI-P-2282	2.26
Route group 1	P2	76302	Cultural Resources Assessment Surveys of 18 Regeneration Station Locations for the 360Networks Fiber	WRI-P-2288	38.54
Route group 1	P2	76725	An Archaeological Inventory of the Pyramid Generating Station and Associated Transmission Lines, Natural Gas Pipeline, and Miscellaneous Facilities, Hidalgo and Grant Counties, Southwestern New Mexico	WRI-P-2290	1162.80
Route group 1	P2	77318	An Archaeological Survey for a Proposed Water Line Along US 180, between MP 163.1 and MP 164.1, Deming, Luna County, New Mexico	WRI-P-2291	8.24
Route group 1	P2	78031	A Cultural Resource Survey of the Southwestern Railroad Right-of-Way Between Second Street and The Mimbres River: An Addendum to A Cultural Resource Survey of 38 Miles (61.2 km) for a Proposed Water Pipeline System for an Energy Facility in Luna County,	WRI-P-2293	17.97
Route group 1	P2	78864	Unknown	WRI-P-2294	2.26
Route group 1	P2	78984	A Pedestrian Survey of 34.93 Acres of the ML 11KV Transmission Line, North of Deming, Luna County, New Mexico	WRI-P-2295	18.36
Route group 1	P2	79204	Cultural Resources Survey of Dule Energy Gas Transmission's Luna County Lateral Pipeline Luna County, New Mexico	WRI-P-2296	158.74
Route group 1	P2	80307	Separ Survey Report	WRI-P-2301	0.22
Route group 1	P2	80696	A Cultural Resource Inventory of 50 Acres for a Future Power Plant near Cambray, Luna County, New Mexico	WRI-P-2302	64.11

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	P2	80736	Cultural Resource Inventory for Proposed Fence Replacement Along Interstate 10 between Deming and Las Cruces, Luna and Doña Ana Counties, New Mexico (NMSHTD Project No. SP-1-03(375), CN 85483	WRI-P-2303	509.37
Route group 1	P2	83286	KT Livestock Pipeline on State Lands West of Deming, NM	WRI-P-2307	9.07
Route group 1	P2	83787	Cultural Resource Inventory of a Proposed Septic Tank Disposal Location near Cambray, Doña Ana County, New Mexico	WRI-P-2310	197.78
Route group 1	P2	85777	Cultural Resource Inventory for a Proposed Land Exchange near Cambray, Luna County, New Mexico	WRI-P-2312	317.89
Route group 1	P2	87265	Cultural Resources Inventory of a Proposed Solid Waste Landfill near Gage, Luna County, New Mexico	WRI-P-2324	311.29
Route group 1	P2	92966	Cultural Resources Survey of the Duke Energy Luna County Lateral Pipeline Reroute in Deming, Luna County, New Mexico	WRI-P-2335	12.35
Route group 1	P2	93794	Cultural Resource Survey Report of Approximately 462 Acres for the Aden Hills Recreation Area, Doña Ana County, New Mexico	WRI-P-2338	304.93
Route group 1	P2	94045	Cultural Resource Survey for a Proposed Access Road Around PNM's Afton Station, as Part of the SFPP East Line Expansion Project, New Mexico Portion	WRI-P-2339	20.39
Route group 1	P2	94082	Cultural Resource Survey for a Proposed Extra Workspace to Store Spoil at I-10, as Part of the SFPP East Line Expansion Project, New Mexico Portion	WRI-P-2340	0.60
Route group 1	P2	94089	Cultural Resource Survey for an Access Road and Extra Work Space for NM 549, as Part of the SFPP East Line Expansion Project, New Mexico Portion	WRI-P-2341	13.51
Route group 1	P2	98147	Cultural Resource Survey for a Proposed Area for Equipment During Nitrogen Purge, as Part of the SFPP East Line Expansion Project, New Mexico Portion	WRI-P-2346	6.35
Route group 1	P2	99424	Cultural Resources Survey and Architectural Assessment for the Rehabilitation and Reconstruction Project and Bridge Rehabilitation (Numbers 5500 and 5701), NM 26. NMDOT Project Number AC-GRIP-(TPM)-026-1(11)30, CN G3131, District 1, Luna Co	WRI-P-2363	347.73
Route group 1	P2	106822	Unknown	WRI-P-1878	309.20

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	P2	110686	Final Cultural Resources Survey Report of a 43 Mile Portion of US 180 between Deming, Luna County and Bayard, Grant County, New Mexico	WRI-P-1884	686.88
Route group 1	P2	120571	Parkhill drip irrigation	WRI-P-1931	14.69
Route group 1	P2	122176	A Cultural Resources Survey Of 23.3 Miles for A Proposed Fiber Optics Line West Of Las Cruces, Doña Ana County, New Mexico	WRI-P-1932	279.06
Route group 1	P2	123164	Allen Fence	WRI-P-1937	112.49
Route group 1	P3	38414	Part 2 Buried Telephone Cable near Columbus, NM for Valley Telephone Co-Op	WRI-P-2202	86.71
Route group 1	P3	309	Patterns Of Prehistoric Land Use In Doña Ana County New Mexico - Vols I & II	WRI-P-2187	3243.44
Route group 1	P3	662	An Archaeological Clearance Survey of Eleven Seismic Testing Transects in Hidalgo, Grant, Luna and Doña Ana Counties	WRI-P-2263	2365.44
Route group 1	P3	9893	Archaeological Clearance Report for Grant Geophysical Line G-4 (presented in 3 segments)	WRI-P-2349	152.70
Route group 1	P3	9994	Archaeological Clearance Report for Grant Geophysical Line F-3, (presented in 9 segments)	WRI-P-2366	373.16
Route group 1	P3	10007	Archaeological Clearance Report for Grant Geophysical Line E-3 (presented in 6 segments)	WRI-P-1857	289.40
Route group 1	P3	10057	Archaeological Clearance Report for Grant Geophysical Line GG-3 (presented in 4 segments)	WRI-P-1861	193.17
Route group 1	P3	10058	Archaeological Clearance Report for Grant Geophysical Line L-3 (presented in 2 segments)	WRI-P-1862	80.05
Route group 1	P3	10060	Archaeological Clearance Report for Grant Geophysical Line H-4 (presented in 4 segments)	WRI-P-1864	176.23
Route group 1	P3	10140	LINE 82-904A SEGMENT 1, 2 FOR SEISMOGRAPH SERVICE CORP.	WRI-P-1870	14.55
Route group 1	P3	11245	6 SEISMOGRAPHIC TEST TRANSECTS FOR EXXON COMPANY U.S.A.	WRI-P-1904	439.45
Route group 1	P3	11402	An Archaeological Survey of Nine Seismographic Test Lines for Exxon Company in Doña Ana and Luna Counties, New Mexico	WRI-P-1908	1611.20
Route group 1	P3	13918	An Archeological Survey of Select Borrow Pit F NMSHD Project SP-GRO-7529(200)	WRI-P-1945	13.71
Route group 1	P3	18226	Preliminary Cultural Resources Survey Report for the US Telecom Fiber Optic Cable Project from San T	WRI-P-1960	1990.51

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	P3	23923	Archaeological Clearance Survey of a Segment of a Buried Telephone Cable Right-of-Way near Cambray, Luna County, New Mexico	WRI-P-2175	15.74
Route group 1	P3	27525	An Archaeological Survey of the Proposed Arena Pipeline near Columbus, New Mexico	WRI-P-2183	97.65
Route group 1	P3	38414	Part 2 Buried Telephone Cable near Columbus, NM for Valley Telephone Co-Op	WRI-P-2202	86.71
Route group 1	P3	41432	Blanco Tank Well near Columbus, NM for Las Cruces BLM-Mimbres Ra	WRI-P-2208	2.91
Route group 1	P3	42853	10.6 Miles Of Range Pipeline for SCS	WRI-P-2216	102.08
Route group 1	P3	45257	An Archaeological Survey of Blanco Tank Well Access Road near Mesquite Lake	WRI-P-2223	2.03
Route group 1	P3	46669	A Cultural Resource Survey of a Portion of the El Paso Natural Gas Company El Paso-Douglas Line (EPNG Line 1004), in Luna County, New Mexico	WRI-P-2227	47.92
Route group 1	P3	49300	The Columbus to Anapra Project: Survey and Testing Along the Southern New Mexico Border, Doña Ana and Luna Counties	WRI-P-2235	1159.30
Route group 1	P3	53221	Archaeological Survey Along Nineteen Southern Pacific Railroad Segments in Grant, Guadalupe, Hidalgo, Lincoln, Luna, Otero, Quay, and Doña Ana Counties, New Mexico	WRI-P-2248	401.30
Route group 1	P3	63403	JTF-6 Border Road Improvement Project Columbus, New Mexico Cultural Resources Inventory Draft Report	WRI-P-2257	1022.23
Route group 1	P3	65987	The El Paso to Los Angeles Fiber Optic Cable Project: A Cultural Resources Survey of the New Mexico	WRI-P-2262	2195.08
Route group 1	P3	67754	An Archaeological Survey of the New Mexico Portion of Link Two of the AT&T Nex/Gen Core Project	WRI-P-2265	2013.49
Route group 1	P3	67976	Revised Draft Report The El Paso Natural Gas Line No. 2000 Project: An Archaeological Re-survey of the Former All American Pipeline Across Doña Ana, Luna, Grant, and Hidalgo Counties, New Mexico Report 2	WRI-P-2267	1876.38
Route group 1	P3	71767	Cultural Resources Survey of the 360Networks Fiber Optics Line From Mesa, Arizona to El Paso, Texas	WRI-P-2274	1681.96
Route group 1	P3	74822	Cultural Resources Inventory of a Proposed Materials Pit and Office Location near Akela, Luna County, New Mexico	WRI-P-2282	2.26

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	P3	76587	Cultural Resource Survey of 14.82 Acres for a Proposed Fiber Optic Corridor Along New Mexico State Highway 9, Luna County, New Mexico	WRI-P-2289	12.17
Route group 1	P3	80211	Cultural Resources Overview and Identification Survey Report for the Florida Compressor Station Project Luna County, New Mexico	WRI-P-2300	8.21
Route group 1	P3	83434	Cultural Resources Overview and Identification Survey Report for the Florida Compressor Station Project Luna County, New Mexico - Addendum	WRI-P-2308	19.07
Route group 1	P3	102597	Cultural Resources Survey of Proposed Border Protection Access Roads, Equipment Staging Areas, and Border Improvements in Luna and Hidalgo Counties	WRI-P-1872	489.89
Route group 1	P4a	8622	Archeological Survey near Lordsburg for Texas-New Mexico Power Co.	WRI-P-2316	19.49
Route group 1	P4a	36583	Javelina Fence Line near Lordsburg, NM for Las Cruces BLM-Mimbres Ra	WRI-P-2200	4.58
Route group 1	P4a	76725	An Archaeological Inventory of the Pyramid Generating Station and Associated Transmission Lines, Natural Gas Pipeline, and Miscellaneous Facilities, Hidalgo and Grant Counties, Southwestern New Mexico	WRI-P-2290	1162.80
Route group 1	P4a, P4b	8847	Reynolds Interior Fence for BLM-LCRA	WRI-P-2325	6.42
Route group 1	P4a, P4b	11634	An Archaeological Survey of a Proposed 345 KV Power Transmission Line Corridor From Deming, New Mexico	WRI-P-1923	1029.08
Route group 1 and 2	P4a, P4b	37871	Existing Powerline R/W Silver City to Lordsburg, NM for Texas-NM Powerline Co	WRI-P-2201	252.71
Route group 2	P4b	7427	Telephone Cable Alongsh 70,90 &464 for Western Newmexico Phone Co./030-84-111	WRI-P-2280	100.21
Route group 2	P4b	17432	An Archaeological Clearance Survey for Two Borrow Pits and Associated Haul Roads near Lordsburg, New Mexico	WRI-P-1958	14.44
Route group 2	P4b	32720	Cultural Resource Investigations on NM 90 near Lordsburg, Hidalgo County, New Mexico, NMSHTD Project	WRI-P-2194	99.50
Route group 2	P4b	38788	A Cultural Resource Survey Along NM 90 North of Lordsburg	WRI-P-2205	47.19

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	P4b	45041	Cultural Resources Clearance Investigation: An Archeological Survey of the Proposed Western New Mexico	WRI-P-2221	1065.36
Route group 2	P4b	71363	Western New Mexico Telephone Company Buried Cable Installation Job P-000411 South of U.S. Highway 70	WRI-P-2273	33.70
Route group 2	P4b	79797	An Archaeological Survey of 19.3 km (12 mi) Along State Highway 90 Between MP 0 and MP 12, hidalgo C	WRI-P-2298	235.93
Route group 2	P4b	82452	Cultural Resource Survey of Five Parcels for Highway Improvement Along US 70 and NM 90 near Lordsburg, Hidalgo County, New Mexico	WRI-P-2305	68.81
Route group 2	P4c	25429	LUNT ELECTRIC FENCE LINES NEAR LORDSBURG, NM FOR LAS CRUCES BLM-MIMBRES RA	WRI-P-2181	2.91
Route group 2	P4c	43908	Along the Butterfield Trail: A Reconnaissance Survey of 40.5 Miles on Public Lands	WRI-P-2218	491.16
Route group 2	P4c	56217	A Cultural Resource Survey for the Proposed Lordsburg Interstate Highway 10 Port of Entry Project, Hidalgo County, New Mexico	WRI-P-2250	68.09
Route group 2	P4c, P5a	11590	Lordsburg Road Forks Of El Paso-Yuma Toll Line for Mt Bell	WRI-P-1919	138.65
Route group 2	P4c, P5a	18226	Preliminary Cultural Resources Survey Report for the US Telecom Fiber Optic Cable Project from San T	WRI-P-1960	1990.51
Route group 2	P4c, P5a	58617	A Cultural Resource Survey of 33.6 Kilometers (21 Miles) Along Interstate 10 West of Lordsburg IM-01	WRI-P-2253	582.64
Route group 2	P4c, P5a	67754	An Archaeological Survey of the New Mexico Portion of Link Two of the AT&T Nex/Gen Core Project	WRI-P-2265	2013.49
Route group 2	P4c, P5a	84579	An Archaeological Survey of 79.32 HA (196.04 AC) for the Proposed Placement of an Underground Teleco	WRI-P-2311	98.58
Route group 2	P4c, P5a, P5b	67976	Revised Draft Report The El Paso Natural Gas Line No. 2000 Project: An Archaeological Re-survey of the Former All American Pipeline Across Doña Ana, Luna, Grant, and Hidalgo Counties, New Mexico Report 2	WRI-P-2267	1876.38
Route group 2	P5a	8615	An Archaeological of a Drill Pad and Access Road in the Southern Playa in the Animas Valley, Hidalgo	WRI-P-2314	44.54
Route group 2	P5a	9317	Alternative Drill Pad & Access Road In Southern Playa for Pennwalt Corp	WRI-P-2336	8.19
Route group 2	P5a	14313	Dewatering Locations for All-American Pipeline Company	WRI-P-1946	52.59

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	P5a	15687	Archaeological Clearance Investigations for Borrow Pit A, Surfacing Pit 67-40-S, and Associated Haul	WRI-P-1949	24.00
Route group 2	P5a	20588	Box M Electric Fence Line near Lordsburg for Las Cruces BLM-Lordsburg Ra	WRI-P-2153	118.22
Route group 2	P5a	41438	An Archaeological Survey of the Last Chance Pipeline near Lordsburg, Hidalgo County, New Mexico	WRI-P-2209	13.58
Route group 2	P5a	43945	Lake Pasture Pipeline & Water Storage Area for Las Cruces BLM-Mimbres Ra	WRI-P-2220	7.93
Route group 2	P5a	63637	Western New Mexico Telephone Company Buried Cable Installation Job P-80638 near Gary, Hidalgo County	WRI-P-2259	5.87
Route group 2	P5a	64374	Cultural Resource Class III Inventory and Significance Evaluation of a Proposed Mineral Materials Pi	WRI-P-2260	45.65
Route group 2	P5a	72030	A Second Addendum to an Archaeological Survey of the New Mexico Portion of Link Two of the AT&T NEXGEN/CORE Project	WRI-P-2275	3.08
Route group 2	P5a	73823	Cultural Resources Class III Inventory of a Proposed Buried Telephone Cable and Regen Station at the	WRI-P-2277	3.39
Route group 2	P5a, P5b	123111	Steines Allotment EQIP project.	WRI-P-1936	126.81
Route group 2	P5b	10519	3 Drill Pads In Steins Mining District for Las Cruces BLM	WRI-P-1873	2.91
Route group 2	P5b	1979-37.ASM	Unknown	WRI-P-3572	532.17
Route group 2	P5b	1982-206.ASM	Unknown	WRI-P-3573	728.46
Route group 2	P5b	2001-821.ASM	I-10 Bowie Survey	WRI-P-3579	1627.97
Route group 2	P5b	2004-11.ASM/BLM 04-06		WRI-P-3517	0.17
Route group 2	P5b	BLM 01-15		WRI-P-3521	0.37
Route group 2	P5b	BLM 06-17		WRI-P-3525	6.90
Route group 2	P5b	BLM 09-32		WRI-P-3524	1.82
Route group 2	P5b	BLM 98-4		WRI-P-3522	1.09
Route group 2	P5b	BLM S# 348		WRI-P-3508	17.46
Route group 2	P5b	BLM S# 598		WRI-P-3526	2.62
Route group 2	P5b, P6a, P6b	B 196		WRI-P-3531	124.74
Route group 2	P5b, P6a, P6b	BLM 02-29		WRI-P-3499	284.92
Route group 2	P5b, P6a, P6b, P6c, P7	1985-226.ASM	All American Pipeline Right-of-way	WRI-P-3611	6103.16

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	P5b, P6a, P6b, P6c, P7	1985-226.ASM/BLM 1985-48		WRI-P-2000	6103.16
Route group 2	P5b, P6a, P6b, P6c, P7	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13
Route group 2	P5b, P6a, P6b, P6c, P7	1999-587.ASM	PBNS Level 3 Fiber Optic Line	WRI-P-2086	13854.98
Route group 2	P5b, P6a, P6b, P6c, P7	2000-826.ASM/BLM 02-21/BLM 05-24/BLM 05-09		WRI-P-2103	3311.75
Route group 2	P5b, P6a, P6b, P6c, P7	BLM 04-34		WRI-P-3457	47.08
Route group 2	P5b, P6b	BLM S# 701		WRI-P-3501	127.55
Route group 2	P6a	1979-37.ASM	Unknown	WRI-P-3572	532.17
Route group 2	P6a	2001-821.ASM	I-10 Bowie Survey	WRI-P-3579	1627.97
Route group 2	P6a, P6b	2005-302.ASM		WRI-P-2140	182.62
Route group 2	P6b	1979-37.ASM	Unknown	WRI-P-3572	532.17
Route group 2	P6b	1982-206.ASM	Unknown	WRI-P-3573	728.46
Route group 2	P6b	1988-210.ASM/BLM 89-17		WRI-P-3512	766.88
Route group 2	P6b	1999-471.ASM	I-10 Box Culverts	WRI-P-3514	67.64
Route group 2	P6b	2001-821.ASM	I-10 Bowie Survey	WRI-P-3579	1627.97
Route group 2	P6b	BLM 1986-25		WRI-P-3506	9.91
Route group 2	P6b	BLM 1987-35/BLM 1998-11		WRI-P-3513	0.17
Route group 2	P6b	BLM-040-1985-17	Jackson Mountain Project Fence	WRI-P-2367	73.44
Route group 2	P6b	BLM-040-1985-18	Horse Mountain Pasture Fence	WRI-P-2368	84.98
Route group 2	P6b	BLM-040-1985-41	Red Bird Hills Savory Fences	WRI-P-2369	122.20
Route group 2	P6b	BLM-040-1985-42	Rattlesnake Ridge Pipeline	WRI-P-2370	122.74
Route group 2	P6b	BLM-040-1985-44	Willis Dirt Tanks and Pipeline I	WRI-P-2371	130.15
Route group 2	P6b	BLM-040-1986-2	Tollgate Rock Dam	WRI-P-2372	130.65
Route group 2	P6b	BLM-040-1986-24	Westwell Pipeline	WRI-P-2373	1319.47
Route group 2	P6b	BLM-040-1986-3	Enclosure Well and Pipeline	WRI-P-2374	141.56
Route group 2	P6b	BLM-040-1987-17	Bryce Road and Pipeline Improvements	WRI-P-2375	1727.56
Route group 2	P6b	BLM-040-1987-21	N. Eden Spring Wildlife Exclosure + H2O Pipeline	WRI-P-2376	1801.51
Route group 2	P6b	BLM-040-1987-32	Gila Box Fencing	WRI-P-2377	1963.10
Route group 2	P6b	BLM-040-1987-33	Circle Fence	WRI-P-2378	2130.00
Route group 2	P6b	BLM-040-1987-34	Dry Camp Range Improvements	WRI-P-2379	2164.04

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	P6b	BLM-040-1987-36	Phelps Dodge MNOI and Row	WRI-P-2380	2291.19
Route group 2	P6b	BLM-040-1987-39	Goatcamp Pipeline Extension	WRI-P-2381	2360.58
Route group 2	P6b	BLM-040-1987-4	Texas Canyon Roq	WRI-P-2382	1453.32
Route group 2	P6b	BLM-040-1987-6	Redknolls Boundary Fence	WRI-P-2383	1526.56
Route group 2	P6b	BLM-040-1988-11	Cedar Dams 1 & 2	WRI-P-2384	1305.76
Route group 2	P6b	BLM-040-1988-21	Guadalupe Canyon Projects	WRI-P-2385	3244.47
Route group 2	P6b	BLM-040-1988-24	Alternative A-RABB Tank Enlargement & NW Construction	WRI-P-2386	1441.90
Route group 2	P6b	BLM-040-1988-25	Fan Allotment Developments	WRI-P-2387	2761.77
Route group 2	P6b	BLM-040-1988-30	Willis-Claridge Road	WRI-P-2388	2981.79
Route group 2	P6b, P6c	2006-142.ASM	EPNG Line 1600 Anomaly Digs	WRI-P-3635	2.77
Route group 2	P6c	2000-702.ASM	Valley Telephone Safford Survey	WRI-P-2098	691.83
Route group 2	P6c	BLM 02-21	Unknown	WRI-P-3456	111.92
Route group 2	P6c, P7	1977-6.ASM	AEPCO II, Dos Condados to Apache	WRI-P-1971	210.91
Route group 2	P6c, P7	1996-219.ASM	Southern Pacific Railroad Survey	WRI-P-2051	814.07
Route group 2	P6c, P7	1998-532.ASM	I-10 Willcox-Luzena	WRI-P-3599	173.83
Route group 2	P6c, P7	B 164/S# 210	Unknown	WRI-P-3489	310.96
Route group 2	P6c, P7	BLM 03-13	Unknown	WRI-P-3490	123.26
Route group 2	P6c, P7, P8	1976-3.ASM	AEPCO I	WRI-P-1970	1346.93
Route group 2	P6c, P7, P8	2000-732.ASM	AEPCO Apache to Dos Condados Survey	WRI-P-2100	3199.01
Route group 2	P7	1982-207.ASM	Tucson-Apache 115 kV Transmission Line	WRI-P-1986	960.98
Route group 2	P7	1997-209.ASM	SFPP Arizona Reconditioning Project	WRI-P-2059	1215.24
Route group 2	P7	2000-702.ASM	Valley Telephone Safford Survey	WRI-P-2098	691.83
Route group 2	P7	2001-294.ASM	Stuart Road	WRI-P-3597	25.17
Route group 2	P7	2005-446.ASM	Tucson-Apache 115-kV Transmission Line Project	WRI-P-2141	1510.74
Route group 2	P7	2006-1.ASM	SFPP, LP, El Paso to Phoenix Expansion Project, Arizona Portion: Cochise and Pima Counties	WRI-P-3628	3242.84
Route group 2	P7	2006-1.ASM/BLM 06-19		WRI-P-2145	3242.84
Route group 2	P7	2006-524.ASM	EPNG Line 1600 Railroad Bore	WRI-P-3634	7.43
Route group 2	P7	BLM 00-37		WRI-P-3504	106.75
Route group 2	P7	BLM 02-21		WRI-P-3456	111.92
Route group 2	P7	BLM 03-2		WRI-P-3510	77.82
Route group 2	P7	BLM 03-40		WRI-P-3520	0.29
Route group 2	P7	BLM S# 210		WRI-P-3511	13.95
Route group 2	P7	Tucson to Saguaro Resurvey of last 7 miles		WRI-P-3682	280.73

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	P7, P8	1955-3.ASM	Southern Pacific Pipeline Survey	WRI-P-1966	6335.84
Route group 2	P7, P8	1985-126.ASM	The Archaeology of the Willcox Playa	WRI-P-3603	32659.94
Route group 2	P7, P8	1985-213.ASM	AEPCO San Rafael Project	WRI-P-3627	3137.08
Route group 2	P7, P8	1995-447.ASM	Arizona Electric Power Cooperative Apache to Hayden Transmission Line, Southeastern Arizona	WRI-P-2044	1430.41
Route group 2	P7, P8	1999-333.ASM	AEPCO Apache to Butterfield transmission Line	WRI-P-2078	383.70
Route group 2	P7, P8	AMF Unpublished Survey		WRI-P-3532	60768.88
Route group 2	P7, P8	SWCA 2010		WRI-P-3528	190.97
Route group 2	P7a-d	1980-27.ASM		None	
Route group 2	P7a-d	1982-115.ASM		None	
Route group 2	P7a-d	1986-243.ASM	Oedekoren Fence	None	
Route group 2	P7a-d	1989-109.ASM		None	
Route group 2	P7a-d	1992-76.ASM	Apache Station Survey	None	
Route group 2	P7a-d	1992-292.ASM	Highway 666 Right of Way	None	
Route group 2	P7a-d	1993-192.ASM	1103 Line Replacement	None	
Route group 2	P7a-d	1993-260.ASM	Willcox Playa Survey	None	
Route group 2	P7a-d	1997-295.ASM	US 191 Pearce to Cochise	None	
Route group 2	P7a-d	1998-521.ASM	Ratliff Survey	None	
Route group 2	P7a-d	1998-557.ASM	EPNG Willcox to Mexico Survey Project	None	
Route group 2	P7a-d	2000-449	Farbo Tower Site Survey	None	
Route group 2	P7a-d	2000-538.ASM	Two Towers Survey	None	
Route group 2	P7a-d	2002-199.ASM	Safford-Willcox Line Replacement Project	None	
Route group 2	P7a-d	2002-281.ASM	SR 186 Dos Cabezas	None	
Route group 2	P7a-d	2003-533.ASM	Line 2105 Pipeline Replacement Project	None	
Route group 2	P7a-d	2003-611.ASM	US 191, Dragoon Road to Cochise TI	None	
Route group 2	P7a-d	2006-369.ASM	Apache Station Electric Power Plant Pipeline Monitoring	None	
Route group 2	P7a-d	2009-412.ASM	Apache Station Survey	None	
Route group 2	P7a-d	2010-373.ASM	Apache-Butterfield Line Archaeological Survey	None	
Route group 1	S1	77658	Archaeological Survey of the Afton Power Plant Road Cattle Guard Bypasses, Aden to Afton, New Mexico	WRI-P-2292	2.83
Route group 1	S1	309	Patterns Of Prehistoric Land Use In Doña Ana County New Mexico – VOLS I & II	WRI-P-2187	3243.44
Route group 1	S1	7600	3024-kV Static Wire Powerline for El Paso Electric Company	WRI-P-2287	22.58

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	S1	11154	An Archaeological Survey of Five Geothermal Testing Transects in Southwestern Doña Ana County, New Mexico	WRI-P-1891	4708.41
Route group 1	S1	11166	2 Seismic Transects for Arma Geophysical	WRI-P-1892	389.65
Route group 1	S1	11178	Buried Telephone Cable for Mountain Bell	WRI-P-1895	90.20
Route group 1	S1	11580	5 Drilling Sites for Phillips Petroleum Company	WRI-P-1918	0.89
Route group 1	S1	19980	An Archeological Clearance Survey of a Proposed Loran-C Radionavigation Facility on Bureau of Land Management, Doña Ana County, New Mexico	WRI-P-2070	150.45
Route group 1	S1	21389	Archaeological Clearance Survey of a Buried Telephone Cable Right-of-Way At Afton Pumping Station, Doña Ana County, New Mexico	WRI-P-2164	3.17
Route group 1	S1	32217	County Road R/W I for Doña Ana County Road Dept	WRI-P-2192	72.75
Route group 1	S1	70023	Cultural Resource Survey for the Proposed Natural Gas Generation and Transmission Afton Project Doña Ana County, New Mexico	WRI-P-2270	183.85
Route group 1	S1	87149	Cultural Resources Survey of 7 Acres for Two Proposed Borrow Pits on State Land in Doña Ana County, New Mexico for M. J. Shurigar Construction, Inc.	WRI-P-2323	7.29
Route group 1	S1	94045	Cultural Resource Survey for a Proposed Access Road'Around PNM's Afton Station, as Part of the SFPP East Line Expansion Project, New Mexico Portion	WRI-P-2339	20.39
Route group 1	S1, S2	11439	38 Geothermal Drilling Locations for Anadarko Production Company	WRI-P-1911	8.00
Route group 1	S1, S2	18349	An Archaeological Reconnaissance in West Doña Ana County	WRI-P-1961	552.71
Route group 1	S1, S2	31185	An Archaeological Clearance Survey of Nine Hydrocarbon Testing Transects in Southern Doña Ana County	WRI-P-2188	1769.65
Route group 1	S1, S5	11402	An Archaeological Survey of Nine Seismographic Test Lines for Exxon Company in Doña Ana and Luna Counties, New Mexico	WRI-P-1908	1611.20
Route group 1	S1, S8	65987	The El Paso to Los Angeles Fiber Optic Cable Project: A Cultural Resources Survey of the New Mexico	WRI-P-2262	2195.08
Route group 1	S1, S8	67754	An Archaeological Survey of the New Mexico Portion of Link Two of the AT&T Nex/Gen Core Project	WRI-P-2265	2013.49

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	S1, S8	67976	Revised Draft Report The El Paso Natural Gas Line No. 2000 Project: An Archaeological Re-survey of the Former All American Pipeline Across Doña Ana, Luna, Grant, and Hidalgo Counties, New Mexico Report 2	WRI-P-2267	1876.38
Route group 1	S2	7089	Vevay Pipeline & 6 Livestock Watering Troughs for BLM	WRI-P-2272	128.47
Route group 1	S2	9843	Archaeological Clearance Report for Grant Geophysical Corporation Line I-5 (presented in 4 segments)	WRI-P-2347	242.96
Route group 1	S2	9910	Archaeological Clearance Report for Grant Geophysical Line QQ-4 (presented in 2 segments)	WRI-P-2359	108.27
Route group 1	S2	9951	Archaeological Clearance Report for Grant Geophysical Line H-5 (presented in three segments)	WRI-P-2364	140.49
Route group 1	S2	11175	2 Drill Sites for Geothermal Services	WRI-P-1893	0.44
Route group 1	S2	11441	Survey near Kilbourne Hole for Geothermex	WRI-P-1912	30.15
Route group 1	S2	38616	4 Seismic Testing Lines near Mt. Riley, NM for CGG Land Seismic	WRI-P-2204	272.17
Route group 1	S2	41537	Gravel Pit, Crusher Site & Haul Road, East Potrillo Mtns for James Hamilton Cons	WRI-P-2210	33.03
Route group 1	S2	42195	San Pit near The East Potrillo Mountains for James Hamilton Construction Co	WRI-P-2214	40.15
Route group 1	S2	74250	Archaeological Damage Assessment Report for East Potrillo Village (LA 2287), Doña Ana County, New Mexico	WRI-P-2279	14.35
Route group 1	S2, S3	11184	Restless Prospect for Geothermal Services, Inc.	WRI-P-1896	99.36
Route group 1	S2, S3	11248	39 Geothermal Temperature Gradient Drill Pad Sites for Geothermal Service	WRI-P-1905	8.00
Route group 1	S2, S3	11324	15 Drill Hole Sites near Radium Springs for Geothermal Services	WRI-P-1907	9.45
Route group 1	S2, S3, S4, S5	49300	The Columbus to Anapra Project: Survey and Testing Along the Southern New Mexico Border, Doña Ana and Luna Counties	WRI-P-2235	1159.30
Route group 1	S3	9895	Archaeological Clearance Report for Grant Geophysical Line R-4	WRI-P-2350	93.81
Route group 1	S3	11544	Cultural Resource Survey of Five Proposed Borrow Pits near Anapra, New Mexico Project No. SP-GRO-7513(201)	WRI-P-1917	93.90
Route group 1	S3	11592	An Archaeological Reconnaissance Survey of Five Proposed Drilling Locations and One Access Road in Doña Ana County, New Mexico	WRI-P-1920	9.00

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	S3	16495	Shiloh Well #2 near Mt Riley NM for Johnhansen, LasCruces BLM Office	WRI-P-1954	0.56
Route group 1	S3	38616	4 Seismic Testing Lines near Mt. Riley, NM for CGG Land Seismic	WRI-P-2204	272.17
Route group 1	S3	119062	A Cultural Resources Inventory Of 4.7 Acres for EPT-STN-136, A Proposed U.S. Customs And Border Protection Communication Site In Southwestern Doña Ana County, NM.	WRI-P-1925	4.70
Route group 1	S3, S4	15914	Cultural Resource Survey of Three Proposed Borrow Pit Extensions near Anapra, New Mexico, Project No. SP-GRO-7513(201)	WRI-P-1950	13.46
Route group 1	S3, S4	49612	Cultural Resources Class III Inventory of a Proposed Sand Pit on BLM Land near the West Potrillo Mountains, Doña Ana County, New Mexico	WRI-P-2237	6.65
Route group 1	S3, S4	51054	Cultural Resources Class III Inventory of a Proposed Sand Pit on BLM Land near the West Potrillo Mountains, Doña Ana County, New Mexico	WRI-P-2246	45.57
Route group 1	S3, S4, S5	12787	Cultural Resource Survey of Proposed Borrow and Surfacing Pits Along the Columbus-Anapra Route Project No. SP-GRO-7529(200)	WRI-P-1943	11.82
Route group 1	S4	76587	Cultural Resource Survey of 14.82 Acres for a Proposed Fiber Optic Corridor Along New Mexico State Highway 9, Luna County, New Mexico	WRI-P-2289	12.17
Route group 1	S4	110649	Unknown	WRI-P-1883	59.80
Route group 1	S4	18878	200 FT BY 430 FT CALICHE PIT EXPANSION FOR MERRYMAN CONST	WRI-P-1964	0.64
Route group 1	S4	35220	An Archaeological Survey of the Proposed Malpais Pipeline near Columbus, New Mexico	WRI-P-2197	6.21
Route group 1	S4	40005	23 Hectares Along The International Border for US Dept Of Defense	WRI-P-2206	65.78
Route group 1	S4	49104	Cultural Resource Survey of a Proposed Gravel Quarry and Crusher Plant Locations Luna County, New Mexico	WRI-P-2234	39.15
Route group 1	S4	50486	Archaeological Survey for Two Pieces of Road, Two Helipads and an Observation Post for JTF 6 in the Boothill Region of Southeastern Hidalgo County, New Mexico	WRI-P-2243	2124.33

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	S4	119063	A Cultural Resources Survey of a Proposed US Customs and Border Protection Communications Tower Site EPT-STN-031 and Access Road in Doña Ana County, NM	WRI-P-1926	6.53
Route group 1	S4, S5	13918	An Archeological Survey of Select Borrow Pit F NMSHD Project SP-GRO-7529(200)	WRI-P-1945	13.71
Route group 1	S4, S5	27525	An Archaeological Survey of the Proposed Arena Pipeline near Columbus, New Mexico	WRI-P-2183	97.65
Route group 1	S5	10090	Line 82-913 for Seismograph Services Corporation	WRI-P-1868	11.81
Route group 1	S5	17399	New Bush Reid Reservoir near Columbus for Las –ruces BLM - Lordsburg Ra	WRI-P-1957	2.27
Route group 1	S5	18868	Cultural Resource Survey of Proposed Pit 87-5-S near Columbus Pro9ject No. F-01301(21)	WRI-P-1963	26.29
Route group 1	S5	19856	A Cultural Resources Survey of State Road 11 from the International Border through the Columbus Historic District	WRI-P-2003	109.83
Route group 1	S5	19864	A Cultural Resource Survey of Borrow Pit B, near Columbus	WRI-P-2006	4.29
Route group 1	S5	22734	Cultural Resource Survey of a Proposed Borrow Pit near Columbus, Luna County F-013-1(21)	WRI-P-2166	19.76
Route group 1	S5	27852	Cultural Resources Survey Along State Road 9 near Columbus, Luna County NMSHTD District One	WRI-P-2184	81.23
Route group 1	S5	38414	Part 2 Buried Telephone Cable near Columbus, NM for Valley Telephone Co-Op	WRI-P-2202	86.71
Route group 1	S5	42198	An Archaeological Clearance Survey of a Proposed Sand Pit and Haul Road near Columbus, Luna County, New Mexico	WRI-P-2215	46.37
Route group 1	S5	63403	JTF-6 Border Road Improvement Project Columbus, New Mexico Cultural Resources Inventory Draft Report	WRI-P-2257	1022.23
Route group 1	S5	79289	An Archaeological Survey of the Proposed US Customs Border Inspection Station Expansion Site, Columbus, Luna County, New Mexico	WRI-P-2297	26.06
Route group 1	S5	80031	Cultural Resources Survey of Proposed Wastewater Lines and Lift Stations in Columbus, New Mexico, for Parkhill, Smith, and Cooper, Inc.	WRI-P-2299	143.16

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	S5	91703	Archaeological Survey Proposed Water System Improvements Columbus, Luna County, New Mexico	WRI-P-2334	84.12
Route group 1	S5	93390	Zachek-Akers, Drip Irrigation ¼tem, SE 1/4, Sec 35, T28W, R10W	WRI-P-2337	14.60
Route group 1	S5	98867	Archaeological Survey of 9.1 Acres of a Proposed Alternate Waterline Right-of-Way and Reverse Osmosis Facility in Columbus, Luna County, New Mexico	WRI-P-2348	13.32
Route group 1	S5	113215	Cultural Resource Survey for the Mimbres Due Diligence Project, Luna County, New Mexico	WRI-P-1906	2141.49
Route group 1	S5	114115	A Cultural Resource Survey for an Ancillary Access Road between the Columbus Port-of-Entry and NM Highway 11, Luna County, New Mexico	WRI-P-1910	14.95
Route group 1	S5, S6	6999	Cultural Resources Clearance Investigation Valley Telephone Co-op Archeological Survey-Part 1-1984 Location for Placement of Buried Telephone Cable Along State Highway 9	WRI-P-2269	208.71
Route group 1	S5, S6	60016	Cultural Resources Class III Inventory and Significance Evaluation of a Proposed Highway Fencing Project Along NM 9 near Hermanas	WRI-P-2255	123.16
Route group 1	S5, S6, S7	86095	Cultural Resource Survey for Twelve Proposed Remote Video Surveillance Locations, near Deming, Luna County, New Mexico	WRI-P-2313	2.66
Route group 1	S5, S6, S7	102597	Cultural Resources Survey of Proposed Border Protection Access Roads, Equipment Staging Areas, and Border Improvements in Luna and Hidalgo Counties	WRI-P-1872	489.89
Route group 1	S6	12786	Cultural Resource Survey of Two Construction and Maintenance Eas'ments (CME's) near Hermanas, New Mexico, District I	WRI-P-1942	0.45
Route group 1	S6	40005	23 Hectares Along The International Border for Us Dept Of Defense	WRI-P-2206	65.78
Route group 1	S6, S7	662	An Archaeological Clearance Survey of Eleven Seismic Testing Transects in Hidalgo, Grant, Luna and Doña Ana Counties	WRI-P-2263	2365.44
Route group 1	S6, S7	49894	A Cultural Resource Inventory Along NM 9 Between Victorio and Hermanas	WRI-P-2241	277.15
Route group 1	S7	7592	3 SEISMIC TRANSECTS FOR DAWSON GEOPHYSICAL COMPANY	WRI-P-2286	121.04

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	S7	9753	LINE #7 BLACK MT,STATE SEGMENT CEDAR MOUNTAIN RNG SEGMENT FO SEISMOGRAPH SERV.CO	WRI-P-2342	68.64
Route group 1	S7	11081	GRAVEL PIT FOR BURNS CONSTRUCTION COMPANY INC.	WRI-P-1885	11.61
Route group 1	S7	83117	Yucca Grassland Exclosure Study Areas	WRI-P-2306	66.65
Route group 1	S7	112395	A Cultural Resources Survey for the Addendum to the Hachita MDWCA Water Systems Project	WRI-P-1903	3.48
Route group 1	S7	244	Cultural Resource Investigations of NM 9 in Hidalgo and Grant Counties, New Mexico	WRI-P-2179	253.15
Route group 1	S7	644	Seismograph Services Corp Line 82-915 (Presented In 5 Segments) Report F83-243	WRI-P-2261	107.18
Route group 1	S7	2091	Seismograph Services Corp. Line #7 Black Mountain Draw Segment Line #7 Etc. Duplicate	WRI-P-2156	32.48
Route group 1	S7	2109	Seismograph Services Corp. Line #3	WRI-P-2157	37.01
Route group 1	S7	2117	Line #12 for Seismograph Services	WRI-P-2158	29.75
Route group 1	S7	2118	Seismographs Services Corp.- Line # 13	WRI-P-2159	30.48
Route group 1	S7	2127	Seismograph Services Corp. Line #9,Cedar Mt. & Seirra Rica Seg.	WRI-P-2160	86.10
Route group 1	S7	2129	Seismograph Services Corp. Line #6	WRI-P-2161	37.76
Route group 1	S7	2212	Archaeological Clearance Survey for Seismograph Services Corporation Line #8, Rock Hole Canyon Segment Line #8 Apache Hills Segment	WRI-P-2165	173.40
Route group 1	S7	2309	Seismograph Services Corporation Line #19	WRI-P-2168	38.98
Route group 1	S7	2314	Archaeological Clearance Report for Seismograph Services Corporation Line #11	WRI-P-2169	121.78
Route group 1	S7	2315	Archaeological Clearance Report for Seismograph Services Corporation Line #14 & Line #17	WRI-P-2170	293.85
Route group 1	S7	8653	Cultural Resource Investigations at a Proposed Borrow Pit on SR 9, Luna County, New Mexico	WRI-P-2318	25.79
Route group 1	S7	8686	Archaeological Investigations Along State Road 9, Luna County Line East for 5.5 Miles, NMSHD District I	WRI-P-2321	66.21
Route group 1	S7	8700	Cultural Resource Inventory at a Cattleguard for Access to Victorio Ranch near Hachita, New Mexico	WRI-P-2322	0.22
Route group 1	S7	10088	Line 82-911 Segment 1 & 2 for Seismograph Services Corp.	WRI-P-1866	98.59

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	S7	10089	Line 82-912 for Seismograph Services Corporation	WRI-P-1867	77.58
Route group 1	S7	10143	Seismic Corridor 82-901 for Seismograph Services	WRI-P-1871	101.77
Route group 1	S7	11050	An Archaeological Clearance Survey of a 14.4 kV Powerline in Luna County	WRI-P-1882	39.52
Route group 1	S7	11140	3 Seismic Lines for Pacific West	WRI-P-1890	168.82
Route group 1	S7	11208	6 Seismic Testing Transects for Geophysical Service Incorporated	WRI-P-1898	286.52
Route group 1	S7	20602	3 Proposed Transmissi'n Line R/W's for Columbus Electric Coop	WRI-P-2154	59.75
Route group 1	S7	23393	Black Mtn Pipe Line near Hachita for Las Cruces BLM-Lordsburg Ra	WRI-P-2171	15.96
Route group 1	S7	28821	Hurt Pipe Line for Las Cruces BLM-Mimbres Ra	WRI-P-2186	1.29
Route group 1	S7	41397	A Cultural Resource Survey on NM 9 East of Hachita MNSHTD Project No. SP-UO-2106(204) CN 2389	WRI-P-2207	64.38
Route group 1	S7	42867	Sand & Gravel Pit BLM Land near Victorio Ranch for James Hamilton Construction	WRI-P-2217	168.25
Route group 1	S7	45893	Archaeological Survey of Portions of a Seismic Line in the Playas Valley and Coyote Hills, Hidalgo and Grants County, New Mexico	WRI-P-2224	140.53
Route group 1	S7	46058	An Archaeological Clearance Survey of a Proposed Valley Telephone Cooperative Underground Telephone Cable Right-of-way Between Animas, Playas and Separ in Hidalgo and Grant Counties, New Mexico	WRI-P-2226	456.82
Route group 1	S7	50514	An Archaeological Clearance Survey of Two Proposed Yard Areas, Three Haul Roads and a Sand Pit on State and Private Land, Grant County, New Mexico	WRI-P-2244	333.23
Route group 1	S7	50691	Cultural Resource Survey of a Proposed Gravel Quarry Location Along New Mexico Highway 9 Luna County, New Mexico	WRI-P-2245	37.37
Route group 1	S7	83537	A Class III Archaeological Survey of a 7-Mile-Long Fiber Optic Right-of-Way Along New Mexico Highways 9 and 81 in Grant and Luna Counties, near Hachita, New Mexico	WRI-P-2309	42.22
Route group 1	S7	89193	Letter Report: Valley Reroute Through Hachita	WRI-P-2326	5.23

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	S7	101001	A Cultural Resource Survey of Approximately 10 Acres for the Proposed Construction of Two Border Patrol Forward Operating Bases near Lordsburg and Deming, Luna and Hidalgo Counties, New Mexico	WRI-P-1869	16.64
Route group 1	S7	106674	Cultural Resource Survey of Approximately Five Miles for the Construction and Replacement of Waterline in Hachita, Grant County, New Mexico	WRI-P-1875	26.26
Route group 1	S7	122429	A Cultural Resource Survey for the Ward Ranch Pipe Line, Fence Line, and Road Stabilization Project 2011, Grant County, New Mexico	WRI-P-1933	239.94
Route group 1	S7	122668	A Cultural Resources Survey for the Victorio Ranch Fence Line Replacement Project 2011, Luna County, New Mexico.	WRI-P-1934	55.53
Route group 1	S7, S8	28038	3 Catchment Ponds & Water Well near Lordsburg, NM for A & S Construction Co	WRI-P-2185	15.98
Route group 1	S8	7583	7 Microwave Tower Locations for Mirror Imicrowave Communications	WRI-P-2284	67.50
Route group 1	S8	11634	An Archaeological Survey of a Proposed 345 KV Power Transmission Line Corridor From Deming, New Mexico	WRI-P-1923	1029.08
Route group 1	S8	15427	Cultural Resource Investigations near SR 9 and I-10 Grant County, New Mexico, NMSHD Projects SP-2009(200) and IR-010-1(39)34	WRI-P-1947	111.87
Route group 1	S8	18226	Preliminary Cultural Resources Survey Report for the US Telecom Fiber Optic Cable Project from San T	WRI-P-1960	1990.51
Route group 1	S8	35150	Cultural Resource Investigations at a Proposed Drainage Easement on the Hidalgo County Road South of I-10 Muir Exchange	WRI-P-2195	1.45
Route group 1	S8	35198	An Archaeological Survey of a Proposed County Road near Lordsburg, Hidalgo County, New Mexico	WRI-P-2196	245.22
Route group 1	S8	35526	WNMTC-PART 107-1991 Buried Optic Cable Along I-10 Lordsburg to Separ for WNMTC	WRI-P-2199	66.59
Route group 1	S8	48769	A Cultural Resource Survey on Eastbound I-10 Through Grant County	WRI-P-2231	223.02
Route group 1	S8	49376	An Archaeological Clearance Survey of Three Proposed Borrow Pits, One Crusher/Hot Plant Site and an Access Road near Muir Ranch, Hidalgo and Grant Counties, New Mexico	WRI-P-2236	77.52

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 1	S8	71767	Cultural Resources Survey of the 360Networks Fiber Optics Line From Mesa, Arizona to El Paso, Texas	WRI-P-2274	1681.96
Route group 1	S8	76725	An Archaeological Inventory of the Pyramid Generating Station and Associated Transmission Lines, Natural Gas Pipeline, and Miscellaneous Facilities, Hidalgo and Grant Counties, Southwestern New Mexico	WRI-P-2290	1162.80
Route group 1	S8	86707	Archaeological Survey in Hidalgo and Grant Counties for the New Mexico State Land Office on Leased Land	WRI-P-2319	70.34
Route group 1	S8	90427	Cultural Resource Survey for the Proposed Muir Anode Replacement, Grant County, New Mexico	WRI-P-2333	4.32
Route group 1	S8	99408	Cultural Resource Survey Along I-10 between Mile Posts 34.2 and 44.8 for Pavement Preservation and Reconstruction, Grant County, New Mexico AC-GRIP-(IM)-10-1(80)34, CN G1721 Parametrix Task Order 4688-11 New Mexico Department of Transportation	WRI-P-2362	285.18
Route group 1	S8	115267	A Cultural Resource Survey for the Proposed Tessera Solar Weather Monitoring Station, Grant County, New Mexico	WRI-P-1916	0.90
Upgrade Section					
Route group 4	TH1 Option	1974-4.ASM	Tumamoc Survey	WRI-P-1969	1082.49
Route group 4	TH1 Option	2003-369.ASM	Tumamoc Hill Damage Assessment	WRI-P-2126	870.88
Route group 4	TH1a	11-42-19F.BLM	Unknown	WRI-P-1880	2.59
Route group 4	TH1a	1974-4.ASM	Tumamoc Survey	WRI-P-1969	1082.49
Route group 4	TH1a	1980-18.ASM	Paseo Vista	WRI-P-1977	79.79
Route group 4	TH1a	1982-207.ASM	Tucson-Apache 115 kV Transmission Line	WRI-P-1986	960.98
Route group 4	TH1a	2000-378.ASM	Starr Pass-Greasewood 145-Acre Survey	WRI-P-2092	138.30
Route group 4	TH1a	2003-1070.ASM	EPNG Tucson Class III Survey	WRI-P-2117	726.72
Route group 4	TH1a	2003-369.ASM	Tumamoc Hill Damage Assessment	WRI-P-2126	870.88
Route group 4	TH1a	2005-446.ASM	Tucson-Apache 115-kV Transmission Line Project	WRI-P-2141	1510.74
Route group 4	TH1a	Tucson to Saguaro Resurvey of last 7 miles		WRI-P-3682	280.73
Route group 4	TH1b	11-42-19F.BLM	Unknown	WRI-P-1880	2.59
Route group 4	TH1b	1974-4.ASM	Tumamoc Survey	WRI-P-1969	1082.49
Route group 4	TH1b	1985-150.ASM	Archaeological Survey of –he El Rio - Starr Pass Water Line, Tucson, Arizona	WRI-P-1996	100.21

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 4	TH1b	1991-109.ASM	Cultural Resources Inventory for 11 CAP Pressure Regulating Valve Station Sites in Tucson and Pima Counties	WRI-P-3664	4.43
Route group 4	TH1b	1993-159.ASM	La Cholla-Speedway Survey	WRI-P-3653	28.40
Route group 4	TH1b	1993-160.ASM	Speedway Boulevard And Greasewood Road Survey	WRI-P-3574	0.67
Route group 4	TH1b	1998-90.ASM	Left Turn Lane Speedway/Camino Santiago	WRI-P-3656	19.45
Route group 4	TH1b	2003-1070.ASM	EPNG Tucson Class III Survey	WRI-P-2117	726.72
Route group 4	TH1b	2003-369.ASM	Tumamoc Hill Damage Assessment	WRI-P-2126	870.88
Route group 4	TH1c	1982-207.ASM	Tucson-Apache 115 kV Transmission Line	WRI-P-1986	960.98
Route group 4	TH1c	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13
Route group 4	TH1c	1990-162.ASM	Archaeological Survey of Speedway/Pima Widening Project	WRI-P-2020	104.25
Route group 4	TH1c	1991-166.ASM	Sil–erbell Rd - Grant to Speedway Widening, Plan R	WRI-P-3612	23.91
Route group 4	TH1c	1991-279.ASM	Silvercroft Wash-Speedway to Grant Survey	WRI-P-2026	15.82
Route group 4	TH1c	2005-446.ASM	Tucson-Apache 115-kV Transmission Line Project	WRI-P-2141	1510.74
Route group 4	TH1c	Tucson to Saguaro Resurvey of last 7 miles		WRI-P-3682	280.73
Route group 4	TH3 Option A	2005-446.ASM	Tucson-Apache 115-kV Transmission Line Project	WRI-P-2141	1510.74
Route group 4	TH3 Option A	1122.02		WRI-P-1899	216.29
Route group 4	TH3 Option A	1979-38.ASM	Santa Cruz River Park Survey	WRI-P-1973	5648.21
Route group 4	TH3 Option A	1982-207.ASM	Tucson-Apache 115 kV Transmission Line	WRI-P-1986	960.98
Route group 4	TH3 Option A	2000-785.ASM	I-19/Irvington SWC	WRI-P-3647	54.74
Route group 4	TH3 Option A	2003-1443.ASM	Irvington-Calle Santa Cruz Survey	WRI-P-3648	0.22
Route group 4	TH3 Option A	2003-230.ASM	CTA51 (South Gravity Main Survey)	WRI-P-2124	28.06
Route group 4	TH3 Option A	2006-653.ASM	Parque de Santa Cruz Dat–Recovery - East of Calle Santa Cruz	WRI-P-3667	219.63
Route group 4	TH3 Option A	2010-207.ASM	Irvington Road Survey	WRI-P-3665	0.41
Route group 4	TH3 Option B	1979-38.ASM	Santa Cruz River Park Survey	WRI-P-1973	5648.21
Route group 4	TH3 Option B	2009-617.ASM	Irvington/Midvale Survey	WRI-P-3657	1.63

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 4	TH3 Option B	2012-120.ASM		WRI-P-3668	1.40
Route group 4	TH3 Option C	10.1291.SHPO		WRI-P-3674	21.74
Route group 4	TH3 Option C	1979-38.ASM	Santa Cruz River Park Survey	WRI-P-1973	5648.21
Route group 4	TH3 Option C	1993-213.ASM	Julian/Rodeo Wash Survey	WRI-P-3616	614.61
Route group 4	TH3 Option C	1994-172.ASM	SR 86	WRI-P-2034	44.46
Route group 4	TH3 Option C	1997-73.ASM	Southside Gravity Main Rehabilitation Project	WRI-P-3651	12.52
Route group 4	TH3 Option C	1999-592.ASM	Tucson Maintenance I-19	WRI-P-2087	1071.96
Route group 4	TH3 Option C	2001-401.ASM	Ajo Way Landscaping Survey	WRI-P-3649	7.79
Route group 4	TH3 Option C	2003-230.ASM	CTA51 (South Gravity Main Survey)	WRI-P-2124	28.06
Route group 4	TH3 Option C	2004-23.ASM	Santa Cruz Sports Park	WRI-P-3624	172.13
Route group 4	TH3a	1122.02		WRI-P-1899	216.29
Route group 4	TH3a	10.1149.SHPO		WRI-P-3672	88.20
Route group 4	TH3a	10.1242.SHPO		WRI-P-3673	422.81
Route group 4	TH3a	1979-38.ASM	Santa Cruz River Park Survey	WRI-P-1973	5648.21
Route group 4	TH3a	1982-207.ASM	Tucson-Apache 115 kV Transmission Line	WRI-P-1986	960.98
Route group 4	TH3a	1983-207.ASM		WRI-P-3679	88.90
Route group 4	TH3a	1985-184.ASM	Archaeological Investigations of Project I-19-1-401, Tucson	WRI-P-1998	5.95
Route group 4	TH3a	1990-76.ASM	Archaeological Survey of City of Tucson TCE Extraction Well and Treatment Facility Sites	WRI-P-3637	72.92
Route group 4	TH3a	1991-82.ASM	Michiga[n] Street-12th Avenue Main Replacement Plan No. 1-197-161-90	WRI-P-3646	13.99
Route group 4	TH3a	1993-165.ASM	AIRPORT WASH SURVEY	WRI-P-3650	22.58
Route group 4	TH3a	1993-213.ASM	Julian/Rodeo Wash Survey	WRI-P-3616	614.61
Route group 4	TH3a	1997-73.ASM	Southside Gravity Main Rehabilitation Project	WRI-P-3651	12.52
Route group 4	TH3a	1999-362.ASM	Phase I of the Tucson Freeway Management System	WRI-P-2082	77.93
Route group 4	TH3a	1999-592.ASM	Tucson Maintenance I-19	WRI-P-2087	1071.96
Route group 4	TH3a	2000-412.ASM	Closed Landfill Survey	WRI-P-3644	11.77
Route group 4	TH3a	2000-785.ASM	I-19/Irvington SWC	WRI-P-3647	54.74
Route group 4	TH3a	2002-17.ASM	Landfill Monitor Well Survey	WRI-P-3615	0.69
Route group 4	TH3a	2004-23.ASM	Santa Cruz Sports Park	WRI-P-3624	172.13

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 4	TH3a	2005-446.ASM	Tucson-Apache 115-kV Transmission Line Project	WRI-P-2141	1510.74
Route group 4	TH3a	2006-653.ASM	Parque de Santa Cruz Dat– Recovery - East of Calle Santa Cruz	WRI-P-3667	219.63
Route group 4	TH3a	2010-244.ASM	T-Mobile PH20897-D	WRI-P-3663	0.31
Route group 4	TH3a	SHPO-2001-621	Request for –valuation - Telecommunicatio– Facility - Montana Well #2– PH20897D - 1000 West Drexel	WRI-P-3613	0.05
Route group 4	TH3b	1979-38.ASM	Santa Cruz River Park Survey	WRI-P-1973	5648.21
Route group 4	TH3b	1983-95.ASM	Pro–sed I-10 -- SR 210 Interchange Area, West of Granada Avenue: the Aviation Corridor Project	WRI-P-3641	51.53
Route group 4	TH3b	1985-150.ASM	Archaeological Survey of –he El Rio - Starr Pass Water Line, Tucson, Arizona	WRI-P-1996	100.21
Route group 4	TH3b	1986-214.ASM		WRI-P-3680	1060.90
Route group 4	TH3b	1987-216.ASM	Santa Cruz Rive': St. Mary's to Speedway, Speedway to Grant, and Grant to Fort Lowell	WRI-P-2008	80.97
Route group 4	TH3b	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13
Route group 4	TH3b	1989-190.ASM	Phase I Evaluation of W. Speedway, Silverbell Road-Santa Cruz River, Improvement Project	WRI-P-2018	17.57
Route group 4	TH3b	1989-192.ASM	City of Tucson Silverlake Road Survey	WRI-P-3614	39.59
Route group 4	TH3b	1990-77.ASM		WRI-P-3660	5.98
Route group 4	TH3b	1993-179.ASM	Enchantment Resort Survey	WRI-P-3659	11.12
Route group 4	TH3b	1993-213.ASM	Julian/Rodeo Wash Survey	WRI-P-3616	614.61
Route group 4	TH3b	1993-361.ASM	Cottonwood Lane Riprap Construction Project	WRI-P-3654	3.65
Route group 4	TH3b	1994-318.ASM	Santa Cruz Bikepath Survey	WRI-P-3586	65.31
Route group 4	TH3b	1995-443.ASM	Archaeological Investigations of the Early Agricultural Period Settlement at the Base of A-Mountain	WRI-P-3585	10.44
Route group 4	TH3b	1995-84.ASM	A-Mountain Drainage System Testing	WRI-P-3642	55.38
Route group 4	TH3b	1996-480.ASM	Miscellaneous Monitoring for Southwest Gas	WRI-P-3640	600.34
Route group 4	TH3b	1998-135.ASM	Survey and Records Check Rio Nuevo South	WRI-P-3645	53.06
Route group 4	TH3b	1998-271.ASM	Rio Nuevo Center Survey	WRI-P-3638	9.21
Route group 4	TH3b	1998-36.ASM	Silverlake DPI: I-10 to Mission Survey	WRI-P-3655	17.00
Route group 4	TH3b	1998-38.ASM	Broadway Boulevard/6th Avenue Water Main Survey	WRI-P-3658	248.76
Route group 4	TH3b	1998-38.ASM	Broadway Boulevard/6th Avenue Water Main Survey	WRI-P-3661	248.76

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 4	TH3b	2000-284.ASM	Moratorium Streets Survey	WRI-P-3662	193.26
Route group 4	TH3b	2000-412.ASM	Closed Landfill Survey	WRI-P-3644	11.77
Route group 4	TH3b	2000-615.ASM	Mission to Starr Pass Monitoring	WRI-P-3643	3.02
Route group 4	TH3b	2001-146.ASM	Lot 19 Assessment	WRI-P-3639	6.62
Route group 4	TH3b	2003-1070.ASM	EPNG Tucson Class III Survey	WRI-P-2117	726.72
Route group 4	TH3b	2004-23.ASM	Santa Cruz Sports Park	WRI-P-3624	172.13
Route group 4	TH3b	2004-324.ASM	Corrosion Prevention Project Assessment and Survey	WRI-P-2133	463.09
Route group 4	TH3b	2004-415.ASM	Line 1007 ACOE Anomalies Survey	WRI-P-3607	18.59
Route group 4	TH3b	2006-712.ASM		WRI-P-2147	50.77
Route group 4	TH3b	2008-606.ASM	Starr Pass and Mission Interchange Survey	WRI-P-3632	16.59
Route group 4	TH3b	SHPO-200—0008	CSI - Communication Service, Inc. T-Mobile Proposed sit" PH35202A "TEP La"tice Tower" Proposed	WRI-P-3563	0.25
Route group 3	U1a	1651.02		WRI-P-1955	7.18
Route group 3	U1a	1984-136.ASM		WRI-P-1991	329.77
Route group 3	U1a	1985-213.ASM	AEPCO San Rafael Project	WRI-P-3627	3137.08
Route group 3	U1a	1995-447.ASM	Arizona Electric Power Cooperative Apache to Hayden Transmission Line, Southeastern Arizona	WRI-P-2044	1430.41
Route group 3	U1a	1999-333.ASM	AEPCO Apache to Butterfield transmission Line	WRI-P-2078	383.70
Route group 3	U1a	AMF Unpublished Survey		WRI-P-3532	60768.88
Route group 3	U1a	BLM 03-2		WRI-P-3510	77.82
Route group 3	U1a	BLM 08-17		WRI-P-3488	43.07
Route group 3	U1a	R19840305052		WRI-P-2389	26.56
Route group 3	U1a	R19990305002		WRI-P-2390	25.11
Route group 3	U1a	SWCA 2010		WRI-P-3528	190.97
Route group 3	U1a, U1b, U2	1997-209.ASM	SFPP Arizona Reconditioning Project	WRI-P-2059	1215.24
Route group 3	U1a, U1b, U2	2001-816.ASM		WRI-P-2112	496.58
Route group 3	U1a, U1b, U2	2006-1.ASM	SFPP, LP, El Paso to Phoenix Expansion Project, Arizona Portion: Cochise and Pima Counties	WRI-P-3628	3242.84
Route group 3	U1a, U1b, U2	2006-1.ASM/BLM 06-19		WRI-P-2145	3242.84
Route group 3	U1a, U1b, U2, U3a	1997-469.ASM	Butterfield to Pantano Survey	WRI-P-2062	473.43
Route group 3	U1a, U1b, U2, U3a	1997-501.ASM	AEPCO Survey, Butterfield to Pantano	WRI-P-2063	473.43

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 3 and 4	U1a, U1b, U2, U3a, U3b, U3c, U3d, U3e, U3f, U3g, U3h, U3i	1982-207.ASM	Tucson-Apache 115 kV Transmission Line	WRI-P-1986	960.98
Route group 3 and 4	U1a, U1b, U2, U3a, U3b, U3c, U3d, U3e, U3f, U3g, U3h, U3i	2005-446.ASM	Tucson-Apache 115-kV Transmission Line Project	WRI-P-2141	1510.74
Route group 3 and 4	U1a, U1b, U2, U3a, U3d, U3g, U3i, U3k, U3l, U3m	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13
Route group 3 and 4	U1a, U1b, U2, U3i, U3k, U3l	1955-3.ASM	Southern Pacific Pipeline Survey	WRI-P-1966	6335.84
Route group 3 and 4	U1a, U2, U3a, U3i, U3l, U3m	1999-587.ASM	PBNS Level 3 Fiber Optic Line	WRI-P-2086	13854.98
Route group 3 and 4	U1a, U3d, U3e, U3f, U3g, U3h, U3i	Tucson to Saguaro Resurvey of last 7 miles		WRI-P-3682	280.73
Route group 3	U2	1979-33.ASM		WRI-P-1972	34.85
Route group 3	U2	1989-222.ASM		WRI-P-2019	481.95
Route group 3	U2	1995-337		WRI-P-2042	44.82
Route group 3	U2	1996-391.ASM	Interstate-10/Cochise County Line	WRI-P-2054	434.96
Route group 3	U2	1998-29.BLM		WRI-P-2065	31.17
Route group 3	U2	2000-826.ASM/BLM 02-21/BLM 05-24/BLM 05-09		WRI-P-2103	3311.75
Route group 3	U2	2005-1280.ASM		WRI-P-2138	815.87
Route group 3	U2	469R		WRI-P-2228	66.43
Route group 3	U2, U3a	1983-76.ASM	State Land Survey	WRI-P-1990	23.26
Route group 3	U2, U3a	2005-302.ASM		WRI-P-2140	182.62
Route group 3	U3a	498.24	Unknown	WRI-P-2239	3205.28
Route group 3	U3a	498.29	Unknown	WRI-P-2240	398.89
Route group 3	U3a	1086.02		WRI-P-1879	439.69
Route group 3	U3a	1108R		WRI-P-1887	329.26
Route group 3	U3a	12-108.BLM		WRI-P-1928	1300.34
Route group 3	U3a	1964-8.ASM	I-19, Tucson to Nogales	WRI-P-1967	3816.90
Route group 3	U3a	1980-151.ASM	Pima County Land Exchange	WRI-P-1975	2133.65
Route group 3	U3a	1980-2.ASM	Unknown	WRI-P-1978	17.57

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 3	U3a	1981-73.ASM	Mountain Bell/Siemond Ranch	WRI-P-1984	34.60
Route group 3	U3a	1983-126.ASM	Power Line Survey	WRI-P-1988	31.93
Route group 3	U3a	1984-158.ASM	Southern Tucson Basin Survey	WRI-P-1992	5697.39
Route group 3	U3a	1984-162.ASM	Granite Construction	WRI-P-1993	72.40
Route group 3	U3a	1985-1.ASM/SHPO 1981-073	Unknown	WRI-P-3498	50.36
Route group 3	U3a	1985-84.ASM	Miller Paving	WRI-P-2001	684.61
Route group 3	U3a	1985-86.ASM	Capital Raceways	WRI-P-2002	565.82
Route group 3	U3a	1986-4.ASM	State Land Survey	WRI-P-2005	7.08
Route group 3	U3a	1988-215.ASM	Santa Cruz 115kV Transmission Line Upgrade	WRI-P-2013	721.80
Route group 3	U3a	1988-240.ASM	Preliminary Survey for the Roadway Alignment Alternatives within the Sahuarita Corridor Study	WRI-P-2014	2777.25
Route group 3	U3a	1991-134.ASM	Vail South Exchange	WRI-P-2023	139.16
Route group 3	U3a	1995-148.ASM	A–ra Valley - Valencia Road Survey	WRI-P-2040	346.50
Route group 3	U3a	1995-401.ASM	Valencia Road	WRI-P-2043	47.60
Route group 3	U3a	1995-72.ASM	Tucson-Nogales Fiber Optics ROW	WRI-P-2047	1039.29
Route group 3	U3a	1996-315.ASM	Unknown	WRI-P-2052	6.21
Route group 3	U3a	1997-257.ASM	Pantano to Bicknell/Vail to Bicknell	WRI-P-2060	1074.81
Route group 3	U3a	1998-441.ASM	I-10 Mou–tain View - Pantano	WRI-P-2067	319.91
Route group 3	U3a	1998-481.ASM	Nogales Tap Expansion Project	WRI-P-2068	0.76
Route group 3	U3a	1999-159.ASM	Archaeological Survey South of Tucson International Airport	WRI-P-2072	746.49
Route group 3	U3a	1999-208.ASM	Interstate 19, Pima Mine Road to Valencia Road, Pavement Preservation Project	WRI-P-2075	337.41
Route group 3	U3a	1999-284.ASM	Tucson Prison Expansion II	WRI-P-2076	1336.77
Route group 3	U3a	1999-297.ASM	Wilmot Road Utilities Survey	WRI-P-2077	68.79
Route group 3	U3a	1999-337.ASM	AEPCO Pantano to Kartchner Transmission Line	WRI-P-2079	1798.50
Route group 3	U3a	1999-450.ASM	Valencia Pit	WRI-P-2083	358.67
Route group 3	U3a	2000-485.ASM	Sahuarita Corridor Survey	WRI-P-2094	280.20
Route group 3	U3a	2000-49.ASM	Old Nogales Highway Colonia WWM Sewerline Cultural Resources Assessment	WRI-P-2095	398.80
Route group 3	U3a	2000-823.ASM	Tucson Maintenance B-19	WRI-P-2102	339.89
Route group 3	U3a	2001-5.ASM	50 Acre Kart Club Survey	WRI-P-2109	53.43
Route group 3	U3a	2001-75.ASM	Pima Motorsports Park Trail Survey in Sections 15, 16, 21, and 22 (T16S, R15E)	WRI-P-2110	73.70
Route group 3	U3a	2001-97.ASM	Davidson Canyon Roadways	WRI-P-2113	50.32
Route group 3	U3a	2002-100.ASM	Martinez Hill North Survey	WRI-P-2114	11.73

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 3	U3a	2002-269.ASM	Empirita Ranch Buildings Rehabilitation, Cultural Resources Assessment, Historic Building Inventory	WRI-P-2116	391.65
Route group 3	U3a	2003-1139.ASM	Old Vail Road Area158.18 Acre Survey	WRI-P-2118	165.08
Route group 3	U3a	2005-842.ASM	Houghton and 1-10 Class III Cultural Resources Survey	WRI-P-2143	47.55
Route group 3	U3a	2007-199.ASM	Unknown	WRI-P-2148	168.95
Route group 3	U3a	2007-585.ASM	Sycamore Canyon Offsite Waterline North	WRI-P-2149	73.88
Route group 3 and 4	U3a, U3b	1983-207.ASM		WRI-P-3679	88.90
Route group 3 and 4	U3a, U3b	1985-184.ASM	Archaeological Investigations of Project I-19-1-401, Tucson	WRI-P-1998	5.95
Route group 3 and 4	U3a, U3b	1999-592.ASM	Tucson Maintenance I-19	WRI-P-2087	1071.96
Route group 3 and 4	U3a, U3b, U3c	1122.02		WRI-P-1899	216.29
Route group 3 and 4	U3a, U3b, U3c	2006-653.ASM	Parque de Santa Cruz Dat-- Recovery - East of Calle Santa Cruz	WRI-P-3667	219.63
Route group 3 and 4	U3a, U3b, U3c, U3d, U3h, U3i	1979-38.ASM	Santa Cruz River Park Survey	WRI-P-1973	5648.21
Route group 3 and 4	U3a, U3b, U3i	1999-362.ASM	Phase I of the Tucson Freeway Management System	WRI-P-2082	77.93
Route group 3 and 4	U3a, U3i	1986-214.ASM		WRI-P-3680	1060.90
Route group 3 and 4	U3a, U3l, U3m	2003-910.ASM	Cultural Resources Survey of the 360Networks Fiber Optics Lines	WRI-P-2130	6592.28
Route group 4	U3aPC	1979-74.ASM	Materials Pit #5045	None	
Route group 4	U3aPC	1980-7.ASM	Public Inquiry 20	None	
Route group 4	U3aPC	1983-96.ASM	The San Xavier Archaeological Project	None	
Route group 4	U3aPC	1984-143.ASM	Rita Ranch	None	
Route group 4	U3aPC	1985-172.ASM	Cellular Telephone	None	
Route group 4	U3aPC	1986-2.ASM	AZ Department of Administration Bed Program Survey	None	
Route group 4	U3aPC	1989-40.ASM	South Tucson Underground Line	None	
Route group 4	U3aPC	1992-242.ASM	Tucson Prison Survey	None	
Route group 4	U3aPC	1993-116.ASM	Granite Construction Survey	None	
Route group 4	U3aPC	1994-170.ASM	Tucson Airport Authority Survey -- Western Santa Rita	None	
Route group 4	U3aPC	1998-66.ASM	Summit Street Wellsite Survey	None	
Route group 4	U3aPC	1999-437.ASM	Old Nogales Highway Colony Sewer Line Survey	None	
Route group 4	U3aPC	1999-441.ASM	Swan Plant Survey	None	
Route group 4	U3aPC	2001-400.ASM	Nogales Highway Main Survey	None	

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 4	U3aPC	2003-448.ASM	Summit Street	None	
Route group 4	U3aPC	2003-818.ASM	Proposed US Penitentiary	None	
Route group 4	U3aPC	2003-917.ASM	FBOP:Tucson, Pima County	None	
Route group 4	U3aPC	2004-293.ASM	Beus Gilbert ASLD ROW Survey	None	
Route group 4	U3aPC	2005-399.ASM	D-2-145, MS5045	None	
Route group 4	U3aPC	2006-317.ASM	Franco Wash Survey	None	
Route group 4	U3aPC	2006-479.ASM	640 Acres East of Swan Road	None	
Route group 4	U3aPC	2008-403.ASM	Wilmot Prison	None	
Route group 4	U3aPC	2011-114.ASM	Granite Swan Solar Power Project	None	
Route group 4	U3aPC	2011-481.ASM	St. Nogales Highway and Summit St. Survey	None	
Route group 4	U3aPC	2012-73.ASM	Proposed Fiber Optic Corridor-Cultural Resource Survey	None	
Route group 4	U3aPC	2013-398.ASM	Old Vail Connection Road/Old Nogales Highway	None	
Route group 4	U3c	2003-230.ASM	CTA51 (South Gravity Main Survey)	WRI-P-2124	28.06
Route group 4	U3d	1235.01		WRI-P-1940	61.37
Route group 4	U3d	11-42-19F.BLM	Unknown	WRI-P-1880	2.59
Route group 4	U3d	1980-18.ASM	Paseo Vista	WRI-P-1977	79.79
Route group 4	U3d	1981-9.ASM	Pima County Land Exchange	WRI-P-1985	2411.14
Route group 4	U3d	1982-30.ASM	South of Ajo Survey	WRI-P-1987	686.67
Route group 4	U3d	1985-21.ASM	Archaeological Survey of Kennedy Park Phase III Improvement Areas	WRI-P-1999	17.93
Route group 4	U3d	1988-198.ASM	Archaeological Survey of a 3.5-Mile-Long ROW for CAP East, Phase III	WRI-P-2012	47.59
Route group 4	U3d	1991-109.ASM	Cultural Resources Inventory for 11 CAP Pressure Regulating Valve Station Sites in Tucson and Pima Counties	WRI-P-3664	4.43
Route group 4	U3d	1991-77.ASM	Archaeological Survey of Westover-Cook Ave. Main Replacement Plan No. 1-192-133-90	WRI-P-2028	4.93
Route group 4	U3d	1992-180.ASM	KENNEDY PARK SURVEY	WRI-P-2029	10.20
Route group 4	U3d	1994-172.ASM	SR 86	WRI-P-2034	44.46
Route group 4	U3d	1996-423.ASM	An Archaeological Survey of a 26 Acre Portion of the West Branch Site in Tucson, Arizona	WRI-P-2056	7.64
Route group 4	U3d	1998-555.ASM	La Cholla/36th St. SWC	WRI-P-2069	77.28
Route group 4	U3d	1999-348.ASM	CAP Main Manhole Survey	WRI-P-2080	5.41
Route group 4	U3d	BLM 16-151	Unknown	WRI-P-3495	44.49
Route group 4	U3d, U3e, U3f, U3g	1974-4.ASM	Tumamoc Survey	WRI-P-1969	1082.49
Route group 4	U3d, U3e, U3f, U3g	2003-369.ASM	Tumamoc Hill Damage Assessment	WRI-P-2126	870.88

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 4	U3d, U3i	2004-324.ASM	Corrosion Prevention Project Assessment and Survey	WRI-P-2133	463.09
Route group 4	U3e	2002-254.ASM	Tumamoc Landfill Assessment	WRI-P-2115	2.31
Route group 4	U3e	2003-1548.ASM	Arizona Anomaly Repair Project	WRI-P-3671	11.10
Route group 4	U3e, U3f	2000-378.ASM	Starr Pass-Greasewood 145-Acre Survey	WRI-P-2092	138.30
Route group 4	U3f	2004-1778.ASM	St. Mary's Dike Improvement Project	WRI-P-2131	6.77
Route group 4	U3f, U3g	2003-474.ASM	EPNG Line 1007 Survey	WRI-P-2128	7.51
Route group 4	U3f, U3g, U3i, U3k, U3l	2003-1070.ASM	EPNG Tucson Class III Survey	WRI-P-2117	726.72
Route group 4	U3g	1989-190.ASM	Phase I Evaluation of W. Speedway, Silverbell Road-Santa Cruz River, Improvement Project	WRI-P-2018	17.57
Route group 4	U3g	1990-162.ASM	Archaeological Survey of Speedway/Pima Widening Project	WRI-P-2020	104.25
Route group 4	U3g	1999-53.ASM	St. Mary's Lighting Survey	WRI-P-2085	10.84
Route group 4	U3g, U3h	2005-829.ASM	El Rio Acres B2B Survey	WRI-P-2142	21.70
Route group 4	U3g, U3h, U3i	1985-150.ASM	Archaeological Survey of the El Rio - Starr Pass Water Line, Tucson, Arizona	WRI-P-1996	100.21
Route group 4	U3g, U3h, U3i	1991-279.ASM	SILVERCROFT WASH-SPEEDWAY TO GRANT SURVEY	WRI-P-2026	15.82
Route group 4	U3h	2003-26.ASM	TMM del Bac/Huachuca Survey	WRI-P-2125	0.51
Route group 4	U3h, U3i	1987-216.ASM	Santa Cruz River: St. Mary's to Speedway, Speedway to Grant, and Grant to Fort Lowell	WRI-P-2008	80.97
Route group 4	U3h, U3i	2006-712.ASM		WRI-P-2147	50.77
Route group 4	U3i	1232.04		WRI-P-1938	16.85
Route group 4	U3i	1232.05		WRI-P-1939	3.59
Route group 4	U3i	1264.01		WRI-P-1941	61.31
Route group 4	U3i	1610.27		WRI-P-1952	0.00
Route group 4	U3i	12-145.BLM		WRI-P-1929	468.68
Route group 4	U3i	12-164.BLM		WRI-P-1930	20.12
Route group 4	U3i	1980-155.ASM	Santa Cruz/SW Interceptor Project	WRI-P-1976	295.33
Route group 4	U3i	1980-249.ASM	Tucson Aqueduct Phase A - CAP	WRI-P-1980	4559.87
Route group 4	U3i	1981-174.ASM	The Northern Tucson Basin Survey: Phase I The Nort	WRI-P-1983	46861.44
Route group 4	U3i	1984-183.ASM	Tucson Aqueduct	WRI-P-1994	41.15
Route group 4	U3i	1986-109.ASM	Tucson Aqueduct Project - Phase B	WRI-P-2004	9125.80
Route group 4	U3i	1987-214.ASM	Santa Cruz River Improvement	WRI-P-2007	352.77
Route group 4	U3i	1987-221.ASM	SCR Improvement D.3MLT	WRI-P-2009	136.64
Route group 4	U3i	1988-167.ASM	Tangerine Road West	WRI-P-2011	384.56
Route group 4	U3i	1989-167.ASM	Silverbell Park Survey II	WRI-P-2017	6.86

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 4	U3i	1991-164.ASM	Survey Of Silverbell Lake Backup Supply Main	WRI-P-2024	3.74
Route group 4	U3i	1991-40.ASM	Orange Grove Extension Survey	WRI-P-2027	55.16
Route group 4	U3i	1994-200.ASM	Silverbell/Sunset Survey	WRI-P-2035	124.61
Route group 4	U3i	1994-279.ASM	Oracle-Tucson 115 kV Transmission Line	WRI-P-2036	393.56
Route group 4	U3i	1994-288.ASM	Continental Ranch	WRI-P-2037	73.67
Route group 4	U3i	1994-397.ASM	Camino Del Cerro Survey	WRI-P-2038	38.24
Route group 4	U3i	1995-68.ASM	Ina Road Landfill Expansion/Bank Protection Survey	WRI-P-2046	89.82
Route group 4	U3i	1996-13.ASM	Silverbell and Ina Testing and Monitoring	WRI-P-2048	169.16
Route group 4	U3i	1996-421.ASM	Marana 1 Survey	WRI-P-2055	101.62
Route group 4	U3i	1999-154.ASM	Silverbell Survey	WRI-P-2071	20.12
Route group 4	U3i	1999-182.ASM	Cortaro Rd Design Concept	WRI-P-2073	23.62
Route group 4	U3i	1999-357.ASM	Gravel Pits Survey	WRI-P-2081	468.68
Route group 4	U3i	1999-77.ASM	598.7-Acre Pima Farms Road survey (99svs#04)	WRI-P-2088	502.25
Route group 4	U3i	2000-283.ASM	Christopher Columbus Well Survey	WRI-P-2090	0.11
Route group 4	U3i	2000-311.ASM	Continental Reserve testing extra reports and EPNG pipeline documentation (CRTA)	WRI-P-2091	559.43
Route group 4	U3i	2001-244.ASM	Fire Station 4 Survey	WRI-P-2104	2.33
Route group 4	U3i	2001-325.ASM	Pima County Animal Control Facility Expansion Cultural Resources Assessment	WRI-P-2106	14.19
Route group 4	U3i	2001-403.ASM	Marana Water Plant Survey	WRI-P-2107	1.49
Route group 4	U3i	2003-1262.ASM	KMEP Phase II Pipeline Replacement Project and KMEP Line Section 53/54 Anomaly 1 Repair, Pima County	WRI-P-2119	48.93
Route group 4	U3i	2003-1281.ASM	Grant/Ft. Lowell Survey	WRI-P-2120	69.69
Route group 4	U3i	2003-1335.ASM	Silverbell Land Sale Survey	WRI-P-2121	34.83
Route group 4	U3i	2003-1336.ASM	Silverbell Project Survey	WRI-P-2122	23.47
Route group 4	U3i	2003-37.ASM	Columbus Park Survey	WRI-P-2127	158.98
Route group 4	U3i	2004-538.ASM	Saguaro Spring Survey	WRI-P-2134	26.95
Route group 4	U3i	2008-579.ASM	08-32 COT- El Camino del Cerro Rd Widening	WRI-P-2150	13.13
Route group 4	U3i, U3j, U3k, U3m	1985-167.ASM	Western Area Power Administration's Saguaro to Tucson Reconductoring	WRI-P-1997	422.85
Route group 4	U3i, U3l, U3m	1979-39.ASM	TG+E Northern Tucson Transmission Line Survey	WRI-P-3623	671.87
Route group 4	U3k	1067.02	Unknown	WRI-P-1876	507.04
Route group 4	U3k	1067.03	Unknown	WRI-P-1877	131.30
Route group 4	U3k	1197.02	Unknown	WRI-P-1927	233.14

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 4	U3k	1308.01	Unknown	WRI-P-1944	15911.76
Route group 4	U3k	1608.01	Unknown	WRI-P-1951	130.69
Route group 4	U3k	1981-171.ASM	Tucson electric Tortolita - South Relocated Segment	WRI-P-1982	79.38
Route group 4	U3k	1988-249.ASM	Central Arizona Irrigation And Drainage District	WRI-P-2015	654.45
Route group 4	U3k	1991-198.ASM	Pinal Air Park Survey	WRI-P-2025	1215.01
Route group 4	U3k	1996-67.ASM	Los Robles Wash Survey	WRI-P-2057	26.40
Route group 4	U3k	1999-204.ASM	Los Robles/Silverbell Road 1.25-mile cable corridor (SVS#17)	WRI-P-2074	18.82
Route group 4	U3k	2000-621.ASM	Marana Circ. 15 & 16 Rebuild and Avra Valley Tie Line Project	WRI-P-2097	281.28
Route group 4	U3k	2001-293.ASM	Silverbell and Trico Survey	WRI-P-2105	22.30
Route group 4	U3k	2003-544.ASM	Qwest Survey along Trico Road	WRI-P-2129	13.17
Route group 4	U3k	2004-1894.ASM	Pinal Air Park Survey	WRI-P-2132	547.71
Route group 4	U3k	2004-561.ASM	Picacho Peak 142-Acre Survey	WRI-P-2135	159.18
Route group 4	U3k	2004-626.ASM	Add. C: El Paso to Los Angeles Fiber Optic Cable Project: EPGN Ironwood and Farrell-Murphy Reroutes	WRI-P-2137	511.13
Route group 4	U3k	BLM 16-46	Unknown	WRI-P-3494	39.69
Route group 4	U3k	SHPO 85-167	Unknown	WRI-P-3527	609.39
Route group 4	U3k, U3l	1980-242.ASM	Cultural Resources of the Proposed Tucson Electric Tortolita-South Utility Corridor and Alt. Routes	WRI-P-1979	1089.29
Route group 4	U3k, U3l	1981-154.ASM	TEP Tortolita-South Realignment Survey	WRI-P-1981	182.98
Route group 4	U3k, U3l	1983-198.ASM	Northern Tucson Basin Survey / Marana Phase II	WRI-P-1989	36235.96
Route group 4	U3k, U3l, U3m	7.136.SHPO		WRI-P-3509	24338.54
Route group 4	U3k, U3m	1995-470.ASM	Maricopa-Saguaro 115-kV Transmission Line	WRI-P-2045	940.12
Route group 4	U3l	11.270.SHPO		WRI-P-3675	335.86
Route group 4	U3l	1973-13.ASM	SALT-GILA SURVEY	WRI-P-3631	1408.27
Route group 4	U3l	1979-39.ASM	TG+E Northern Tucson Transmission Line Survey	WRI-P-3678	196.58
Route group 4	U3l	2002-153.ASM	Saguaro-Tortolita 500kV Intertie Project	WRI-P-3609	76.20
Route group 4	U3l	2010-240.ASM	Tortolita Substation Survey	WRI-P-3666	13.68
Route group 4	U3l	SHPO-2002-2395	Tucson Electric Power Company Saguaro-Tortolita 500kV Intertie	WRI-P-3608	34.72
Route group 4	U3l, U3m	1992-289.ASM	Red Rock Loop	WRI-P-2031	317.72
Route group 4	U3l, U3m	2000-723.ASM	AT&T NexGen/Core Project Link 3 Class 3 Survey	WRI-P-2099	4822.60

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 4	U3l, U3m	2001-406.ASM	Surveys of Six Proposed Reroutes for a Proposed Fiber Optic Cable ROW	WRI-P-2108	786.88
Route group 4	U3m	1997-184.ASM	Saguaro-Oracle-Coolidge Survey	WRI-P-2058	1174.41
Route group 4	U4	1992-247.ASM	Pima County Landfill Survey	WRI-P-2030	1894.17
New Build Section					
Route group 2	WC1a	1982-118.ASM	ADOT Materials Pit #6175	WRI-P-3594	64.37
Route group 2	WC1a	1984-156.ASM	Unknown	WRI-P-3595	4.44
Route group 2	WC1a	1985-126.ASM	The Archaeology of the Willcox Playa	WRI-P-3603	32659.94
Route group 2	WC1a	1985-226.ASM	All American Pipeline Right-of-way	WRI-P-3611	6103.16
Route group 2	WC1a	1985-226.ASM/BLM 1985-48		WRI-P-2000	6103.16
Route group 2	WC1a	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13
Route group 2	WC1a	1992-110.ASM	Willcox Exchange Survey	WRI-P-3596	15.60
Route group 2	WC1a	1992-111.ASM	Willcox II Exchange	WRI-P-3598	1.20
Route group 2	WC1a	1994-282.ASM	Willcox Survey	WRI-P-3601	57.32
Route group 2	WC1a	1996-219.ASM	Southern Pacific Railroad Survey	WRI-P-2051	814.07
Route group 2	WC1a	1998-532.ASM	I-10 Willcox-Luzena	WRI-P-3599	173.83
Route group 2	WC1a	1999-476.ASM	Willcox: I-10B	WRI-P-3602	255.20
Route group 2	WC1a	1999-587.ASM	PBNS Level 3 Fiber Optic Line	WRI-P-2086	13854.98
Route group 2	WC1a	2000-575.ASM	Fort Grant Road Traffic Interchange	WRI-P-3570	81.91
Route group 2	WC1a	2000-60.ASM	Quail Drive Survey	WRI-P-3589	33.93
Route group 2	WC1a	2000-826.ASM/BLM 02-21/BLM 05-24/BLM 05-09		WRI-P-2103	3311.75
Route group 2	WC1a	2001-294.ASM	Stuart Road	WRI-P-3597	25.17
Route group 2	WC1a	2001-771.ASM	Rex Allen Drive	WRI-P-3578	4.77
Route group 2	WC1a	2001-802.ASM	Willcox Border Patrol Station	WRI-P-3576	94.16
Route group 2	WC1a	2001-817.ASM	I-10 Willcox	WRI-P-3600	1019.67
Route group 2	WC1a	2003-1286.ASM	Willcox Wellhead	WRI-P-3592	3.53
Route group 2	WC1a	2004-1838.ASM	Willcox ED	WRI-P-3636	34.93
Route group 2	WC1a	2004-21.ASM	Stewart Road	WRI-P-3606	15.43
Route group 2	WC1a	2004-631.ASM	Fort Grant Road Traffic Interchange	WRI-P-3633	146.32
Route group 2	WC1a	2004-99.ASM	Line 2105 Survey	WRI-P-3629	714.74
Route group 2	WC1a	2005-302.ASM		WRI-P-2140	182.62
Route group 2	WC1a	2006-1.ASM	SFPP, LP, El Paso to Phoenix Expansion Project, Arizona Portion: Cochise and Pima Counties	WRI-P-3628	3242.84
Route group 2	WC1a	2006-142.ASM	EPNG Line 1600 Anomaly Digs	WRI-P-3635	2.77
Route group 2	WC1a	2006-524.ASM	EPNG Line 1600 Railroad Bore	WRI-P-3634	7.43

Table H-1. Known Cultural Resource Projects in the Analysis Area (Continued)

Route	Segments Crossed	Agency Number	Project Name	WestLand ID*	Acres*
Route group 2	WC1a	AMF Unpublished Survey		WRI-P-3532	60768.88
Route group 2	WC1a	BLM 02-21		WRI-P-3456	111.92
Route group 2	WC1a	BLM 03-13		WRI-P-3490	123.26
Route group 2	WC1a	BLM 04-34		WRI-P-3457	47.08
Route group 2	WC1a	SHPO-2000-2050	Line No. 2000 Project, Application Docket No. CP00-422-000 - EPNG Filed an Application with the FER	WRI-P-3610	68.94
Route group 2	WC1b	1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	WRI-P-2010	14447.13
Route group 2	WC1b	1985-126.ASM	The Archaeology of the Willcox Playa	WRI-P-3603	32659.94
Route group 2	WC1b	2000-826.ASM/BLM 02-21/BLM 05-24/BLM 05-09		WRI-P-2103	3311.75
Route group 2	WC1b	2001-817.ASM	I-10 Willcox	WRI-P-3600	1019.67
Route group 2	WC1b	AMF Unpublished Survey		WRI-P-3532	60768.88
Route group 2	WC1b	BLM 04-34	Unknown	WRI-P-3457	47.08

*Surveys in the analysis area for local alternatives DN1, LD4, LD4-Option 4, and LD5-Option 5, as well as route variations P7a-d and U3aPC, were obtained after the Class I cultural resources report (CH2M Hill 2013i) was compiled. These surveys were not part of the original WestLand Resources, Inc., database and do not have WRI numbers or acreages.

REFERENCES

CH2M Hill. 2013i. Southline Transmission Project Resource Report 02: Cultural Resources (V2 Report). May 28, 2013.

Appendix N

DRAFT NEPA PLAN OF DEVELOPMENT

SOUTHLINE TRANSMISSION LINE PROJECT
DRAFT: NEPA PLAN OF DEVELOPMENT

VOLUME I

Prepared for
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Chapter 1

INTRODUCTION

1.1 INTRODUCTION

Southline Transmission, LLC (Southline), a subsidiary of Hunt Power, L.P., submitted Standard Form (SF-) 299, "Application for Transportation and Utility Systems and Facilities on Federal Lands," to the Bureau of Land Management (BLM) for a right-of-way (ROW) to use BLM-administered public lands for a portion of the Southline Transmission Line Project (Project) on December 4, 2009. Southline amended its application on December 22, 2010 to add an additional section to the proposed Project. The Plan of Development (POD) has also been amended in response to Project changes and recommendations from the BLM, Western Area Power Administration (Western), other agencies, and public comment. This application has been assigned BLM Case File No. NMNM-124104.

Southline has also filed a Statement of Interest with Western's Transmission Infrastructure Program (TIP) because it may seek to use Western's borrowing authority under the 2009 amendment of the Hoover Power Plant Act (Public Law (PL) 98-381, Title III, § 301) ("the Hoover Act") for the proposed Project. Western needs to determine whether it will provide Hoover Act funding for the proposed Southline Project, and if it does provide funding, the nature and extent of Western's participation in the proposed Project. Western may also participate under a trust funding agreement with the Desert Southwest Region if TIP funding is not provided. In the context of making these determinations, Western will evaluate the upgrade of its existing Saguaro–Tucson and Tucson–Apache 115-kilovolt (kV) transmission lines.

1.2 PROJECT OVERVIEW

The proposed Project would consist of two sections. The first section would entail construction of approximately 240 miles of new double-circuit 345-kV transmission line in a new 200-foot ROW between the Afton Substation, south of Las Cruces, New Mexico, and Western's Apache Substation, south of Willcox, Arizona (Afton–Apache Section or New Build Section). The second section would entail the upgrade of approximately 120 miles of Western's existing Saguaro–Tucson and Tucson–Apache 115-kV transmission lines in a 100-foot-wide existing ROW to a double-circuit 230-kV transmission line (Saguaro–Apache Section or Upgrade Section) with up to 50 feet of new ROW in places. The Upgrade Section would originate at the Apache Substation and terminate at the Saguaro Substation northwest of Tucson, Arizona. Both new permanent ROW and temporary construction ROW would be required in the New Build Section and in some portions of the Upgrade Section for the transmission line, substations, access roads, and other permanent and temporary Project components; the anticipated ROW width for the Upgrade Section 230-kV transmission line would be 150 feet where expansion to that width is feasible.

The New Build Section (Afton–Apache) would include construction and operation of:

- 205 miles of 345-kV double-circuit electric transmission line in New Mexico and Arizona with a planned bidirectional capacity of up to 1,000 megawatts (MW). This section is defined by endpoints at the existing Afton Substation, south of Las Cruces in Doña Ana County, New Mexico, and Western's existing Apache Substation, south of Willcox in Cochise County, Arizona;

- 5 miles of 345-kV single-circuit electric transmission line between the existing Afton Substation and the existing Luna–Diablo 345-kV transmission line;
- 30 miles of 345-kV double-circuit electric transmission line between New Mexico State Route 9 (NM 9) and Interstate 10 (I-10) east of Deming in Luna County, New Mexico, to provide access for potential renewable energy generation sources in southern New Mexico. This segment of the proposed Project is included in the analysis, but development of this segment would be determined at a later date;
- one new substation in Luna County (proposed Midpoint Substation) to provide an intermediate connection point for future interconnection requests; and
- installation of new communications equipment at, and connection to, two existing substations in New Mexico and one in Arizona.

The Upgrade Section (Apache–Saguaro) would include:

- replacing 120 miles of Western's existing Saguaro–Tucson and Tucson–Apache 115-kV single-circuit electric wood-pole H-frame transmission lines, which date to 1951, with a 230-kV double-circuit electric steel-pole transmission line. In locations where needed and where possible, an additional 50 feet of ROW adjacent to the existing 100-foot ROW would be obtained for the new 230-kV line. This Upgrade Section is defined by endpoints at the existing Apache Substation, south of Willcox in Cochise County, Arizona, to the existing Saguaro Substation, northwest of Tucson in Pinal County, Arizona;
- 2 miles of new build double-circuit 230-kV electric transmission line to interconnect with the existing Tucson Electric Power Company (TEP) Vail Substation, located southeast of Tucson and just north of the existing 115-kV Tucson–Apache line; and
- Interconnection with and upgrade of 12 existing substations along Western's existing lines in Arizona. Substation expansions would be required for installation of new communications equipment. In some cases expansion may require a separate yard.

1.3 PURPOSE OF THE PLAN OF DEVELOPMENT

This POD was developed to meet the requirements outlined in 43 Code of Federal Regulations (CFR) 2804.25(b). Under these requirements, the BLM may request information necessary to process a ROW application; this request for information may include a detailed construction, operation, rehabilitation, and environmental protection plan, i.e., a "Plan of Development," and any needed cultural resource surveys or inventories for threatened or endangered species. On Federal lands administered by the BLM, the POD is an enforceable stipulation of the BLM ROW grant and pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western is involved in the Project, they would adopt the stipulations and measures in the POD, where appropriate.

This POD outlines the stipulations and mitigation measures (herein also Proponent Committed Environmental Measures (PCEMs)) identified in the Environmental Impact Statement (EIS) that must be followed during construction, operation, and maintenance of the proposed Project, for which the BLM and Western are the joint lead federal agencies. The POD also is intended to be used Project-wide as (1) a summary of Project environmental requirements and protection measures, and (2) a description of the processes and procedures that will be used to ensure compliance with the requirements of the BLM, Western, and other Federal, State, and/or local agencies, as appropriate.

While neither BLM nor Western has the authority to enforce the POD and its PCEMs on State or private lands, BLM and Western expect that most landowners will want the same protections afforded resources on BLM administered lands to be extended to their properties as well. Therefore, the agencies anticipate that the PCEMs and other specific stipulations and methods identified in the POD will largely be implemented over the entire length of the Project, regardless of jurisdiction. The agencies also recognize that the POD is a living document and as such provisions therein may be modified, augmented, or deleted as appropriate. For non-BLM administered lands Western will likely be the lead Federal agency overseeing implementation of and compliance with the suite of PCEMs and other environmental protections identified in the EIS and supporting documents. State and private landowners may add additional requirements to those identified in the EIS and POD, or opt out of certain measures, as negotiated by Southline and/or Western with each landowner during ROW acquisition. Certain parts of the POD will not be applicable to or appropriate for non-BLM administered lands; examples include BLM reporting requirements, stipulations specific to the BLM's ROW grant, or the BLM variance process. BLM's environmental inspection and verification process is also quite different from Western's, and Western's process would be followed on State and private lands. Regardless of which agency is the lead, or the differences in the process followed, the environmental protections identified and committed to would be implemented (with the possible exception of the landowner required additions or deletions mentioned above). On BLM administered land, all stipulations and PCEMs identified as applicable in any of the POD volumes should be adhered to for the life of the BLM ROW grant. The BLM Las Cruces District Office and the Safford and Tucson field offices have required ROW grant holders to contract with an independent entity (i.e., a compliance inspection contractor (CIC)), who will conduct environmental compliance inspections during the construction phase of the Project. The objective is to monitor for compliance with environmental stipulations designed to protect the environment and prevent impacts from exceeding those described in the EIS or other permit approvals. The CIC will monitor and oversee implementation of the POD on all BLM-administered lands, as described in Appendix A6 – Environmental Compliance Management Plan of this POD.

1.4 ORGANIZATION OF THE PLAN OF DEVELOPMENT

The POD is organized into two major volumes. Volume I contains chapters 1 through 6 and the appendices. Volume II includes engineering, mitigation, and environmental mapping, which support information presented in Volume I. Following is an overview of the information contained in these two volumes.

1.4.1 Volume I

Volume I of the POD is intended to provide the reader with a general overview of the Project and key elements of the POD (chapters 1–6) and detailed information regarding the required PCEMs, protocols, and procedures for the construction, operation, and maintenance of the transmission line and ancillary facilities (appendices). While chapters 1 through 6 provide general information, the appendices (along with the mapping materials in Volume II) are more detailed and have been designed to serve as stand-alone documents that may be readily updated and refined. Following is an outline summary of the information and materials presented in chapters 1 through 6 and the appendices of this POD.

Chapters 1 through 6 include the following information:

Chapter 1 – Introduction – Introduces the Project, discusses the purpose and organization of the POD; explains the POD's relationship to other documents; and lists required authorizations, permits, and approvals required for construction.

Chapter 2 – Roles and Responsibilities – Explains the roles and responsibilities of the Project team, and discusses Project communications and notification procedures.

Chapter 3 – Project Description – Describes the Project components/facilities (structures, foundations, conductors, access roads, substations, etc.), land requirements, construction disturbance, ROWs, and the Project's relationship with other related ROWs and utilities.

Chapter 4 – Operation and Maintenance – Provides information related to the operation and maintenance of the Project's transmission line(s) once construction is complete, including public and environmental protection and vegetation management.

Chapter 5 – Environmental Mitigation Measures – Includes a brief overview and introduction of the key environmental concerns associated with the construction of the Project and relevant mitigation measures/PCEMs to be applied in order to avoid or minimize potential effects.

Chapter 6 – Literature Cited – Provides the references and literature cited in preparing the POD.

There are four appendices (A through D), organized as presented below:

Appendix A – Construction Considerations – This appendix provides detailed information about the specifics of construction, including the following:

A1 Flagging, Fencing, and Signage Plan
A2 Geotechnical Investigation
A3 Project Construction
A4 Special Construction Techniques
A5 Construction Workforce
A6 Environmental Compliance Management Plan

Appendix B – Environmental Protection / Framework Plans – This appendix includes the following:

B1 Access Road Plan
B2 Traffic and Transportation Management Plan
B3 Stormwater Pollution Prevention Plan
B4 Spill Prevention, Control, and Countermeasures Plan
B5 Historic Properties Treatment Plan
B6 Blasting Plan
B7 Plant and Wildlife Species Conservation Measures Plan
B8 Erosion, Dust Control, and Air Quality Plan
B9 Hazardous Materials Management Plan (HMMP)
B10 Emergency Preparedness and Response Plan
B11 Noxious Weed Management Plan
B12 Fire Protection Plan
B13 Stream, Wetland, Well, and Spring Protection Plan
B14 Soil Management Plan
B15 Reclamation, Vegetation, and Monitoring Plan
B16 Health and Safety Plan (HASP)
B17 Avian Protection Plan (APP)
B18 Waste Management Plan
B19 Helicopter Flight Plan/Flight and Safety Plan
B20 Decommissioning Plan

Appendix C – Transmission Construction and Vegetation Management Standards – This appendix includes the following:

C1 Transmission Construction Standards
C2 Vegetation Management Standards

Appendix D – Land (Legal) Description of Proposed Route Across Federal Lands – This appendix provides a legal description of the Project facilities across Federal land.

1.4.2 Volume II

Three sets of maps form Volume II of the Final POD. These maps contain regional to detailed information, including site-specific instructions to guide the construction of the transmission line and associated facilities as described below. ***Files to be included with Final POD (post Final EIS) – not included herein.***

1.5 RELATIONSHIP WITH OTHER ENVIRONMENTAL DOCUMENTS

This POD includes measures for avoidance, minimization, and mitigation of environmental impacts resulting from the implementation of this Project as identified in the EIS (called PCEMs) and approved in the BLM Record of Decision (ROD). This POD incorporates the various regulatory approvals, permits, and other authorizations that contain environmental requirements, including those measures stipulated in Resource Management Plans (RMPs) for the BLM Las Cruces District Office and the Safford and Tucson field offices. The relevant approved and proposed management plans (and plan amendments) are presented in table 1.

Table 1. Applicable BLM Land Use Plans and Planning Documents

Resource Management Plan	Plan Date	Lead Office	Project Applicability
Mimbres Resource Area*	December 1993	Las Cruces District Office	Afton–Apache
Safford District RMP	August 1991	Safford District Office	Apache–Saguaro
Las Cienegas RMP	July 2003	Tucson Field Office	Apache–Saguaro
Phoenix RMP	December 1988	Phoenix District Office, Tucson Field Office, Safford Field Office	Apache–Saguaro
Restoration Design Energy Project	January 2013	Arizona State Office	Arizona
Solar Programmatic EIS (PEIS)	October 2012	BLM Department of the Interior (DOI)	Arizona, New Mexico
West-wide Energy Corridor PEIS	November 2008	BLM DOI	Arizona, New Mexico

* The TriCounty RMP is in progress. When approved, the TriCounty RMP would amend the portion of the 1993 Mimbres RMP (BLM 1993) that covers Doña Ana County.

1.6 FEDERAL, STATE, AND LOCAL PERMITS

Table 2 provides a listing of the laws, regulations, and guidelines that are related to energy generation and development of transmission infrastructure and the associated permits and approvals.

Table 2. List of Required Federal and State Permits and Approvals

Regulatory Authority/Agency	Permit/Approval	Project Trigger	Relevant Law/Regulation
Federal			
BLM	ROW grant, land use plan amendment	Request for ROW across BLM lands	43 United States Code (U.S.C.) 1761–1771
BLM	Permit for archaeological investigations	Federal undertaking with the potential to affect historic properties	Archaeological Resources Protection Act (ARPA), Antiquities Act of 1906, Federal Land Policy and Management Act (FLPMA)
BLM	Permit for collection of paleontological resources	Potential for disturbance of paleontological resources and need for collection	Paleontological Resources Preservation Act, FLPMA
BLM *In consultation with Western, State Historic Preservation Offices (SHPOs), Advisory Council on Historic Preservation, tribes, other Federal, State, and local agencies and consulting parties*	Compliance with Section 106 of the National Historic Preservation Act (NHPA)	Potential to disturb historic properties	NHPA (16 U.S.C. 470); 36 CFR 800
Western	Determine whether Southline can upgrade Western's lines and use existing transmission easements as part of the proposed Project; determine feasibility and impacts of proposed Project; and determine the nature of Western's participation in the proposed Project	Proposal to upgrade a segment of Western's transmission system and have Western obtain updated and new transmission line easements, and to use Western funding	Hoover Power Plant Act 98-381, as amended Reclamation Law, including but not limited to the Reclamation Act of 1902, 43 U.S.C. 391, Hayden O'Mahoney Amendment, 43 U.S.C. 391a-1 and 392a; the Reclamation Project Act of 1939, Section (c) 43 U.S.C. 485h(c); Flood Control Act of 1944, Section 5, 16 U.S.C. 825s; Department of Energy Organization Act, 42 U.S.C. 7152a; Energy Policy Act of 1992, 16 U.S.C. 796, 824j, 824k, and 824l; Energy Policy Act of 2005 Contributed Funds Act, 43 U.S.C. 395; Antideficiency Act, 31 U.S.C. 1341; and associated regulations, orders, and policies

Table 2. List of Required Federal and State Permits and Approvals (Continued)

Regulatory Authority/Agency	Permit/Approval	Project Trigger	Relevant Law/Regulation
Federal, cont'd.			
Bureau of Reclamation	Easement or ROW use authorization	Substation expansion	The Reclamation Act of June 17, 1902, 32 Stat. 388, 43 U.S.C. 371, et seq., specifically 32 Stat. 389, 43 U.S.C. 421 and the Flood Control Act of 1944, 58 Stat. 887, 890, 16 U.S.C. 825s, as amended and supplemented by subsequent acts or enactments; the Reclamation Project Act of 1939, 53 Stat. 1187, 43 U.S.C. 485; the Rivers and Harbors Act of August 30, 1935, 49 Stat. 1028, 1039, 33 U.S.C. 540; the Act of May 28, 1954, Ch. 12, 68 Stat. 143, and other acts specifically applicable to this project; the Act of August 1, 1888, 25 Stat. 357, 40 U.S.C. 257, repealed and reenacted as 40 U.S.C. 3113; the Act of February 26, 1931, 46 Stat. 1421, 40 U.S.C. 3114; the Department of Energy Organization Act of August 4, 1977, 91 Stat. 565, 42 U.S.C. 7101, specifically 91 Stat. 578, 42 U.S.C. 7152; and the Omnibus Appropriations Bill of FY 2009, PL 111-8
Bureau of Indian Affairs	ROW Easement	Upgrade of existing Western line across tribal land	25 CFR 169
U.S. Forest Service	Special use permit (SUP)	Upgrade of existing Western line across Coronado National Forest	36 CFR 212.51(a)(8)
U.S. Forest Service – Coronado National Forest	SUP	Potential for disturbance of cultural resources on the Coronado National Forest	ARPA, FLPMA
U.S. Army Corps of Engineers	Section 404 permit	Impacts to jurisdictional waters of the U.S.	Clean Water Act, 33 U.S.C. 1251, et seq.
U.S. Fish and Wildlife Service	Biological opinion, concurrence, or incidental take permit	Potential impact to threatened or endangered species	Endangered Species Act, 16 U.S.C. 1531–1544
U.S. Environmental Protection Agency	National Pollutant Discharge Elimination System (New Mexico)	Stormwater management from potential discharges greater than 5 acres	40 CFR 122.26
Department of Defense (DOD)	Easement or ROW use authorization	Construction, operation, and decommissioning of transmission line across DOD-administered land	10 U.S.C. 2668
Federal Aviation Administration (FAA)	A "No-hazard Declaration" required if structure is more than 200 feet high	Location of structure relative to airports and airspace if structure is more than 200 feet high	FAA Act of 1958, 14 CFR 77

Table 2. List of Required Federal and State Permits and Approvals (Continued)

Regulatory Authority/Agency	Permit/Approval	Project Trigger	Relevant Law/Regulation
New Mexico			
New Mexico Public Regulation Commission	Application for approval of location of transmission line and certificate of public convenience and need	Construction of a transmission line greater than 230 kV	New Mexico Statutes Annotated (NMSA) 62-9-3; 17.9.592 New Mexico Administrative Code (NMAC), and NMSA 62-9-1; 17.1.2.9 NMAC
New Mexico Department of Transportation (DOT)	Access or public highway utility accommodation permit	Upgrading access roads, use of public highway to transport oversize loads, or installation of transmission lines within DOT ROW	18.31.6 NMAC, and 17.4.2 NMAC
New Mexico State Land Office	ROW or easement permit	Construction, operation of a transmission line on State lands	NMSA 19-7-57
New Mexico SHPO		Federal undertaking with the potential to affect historic properties	NHPA, Section 106 (36 CFR 800)
New Mexico State Historic Preservation Division	Permit for archaeological investigations	Potential for disturbance of cultural resources on State land	NMSA 18-6
New Mexico Department of Energy, Minerals, and Natural Resources Forestry Division	Collection permit	Displacement or removal of any State endangered plant species	NMSA 75-6-1; 19.21.2 NMAC
Arizona			
Arizona Corporation Commission	Certificate of Environmental Compatibility	Construction of a transmission line greater than 115 kV	Title 40 Arizona Revised Statutes (ARS) Chapter 2, Article 6.2 (40-360–40-360.13)
Arizona State Land Department	ROW/right-of-entry permit	Survey, construction, operation of a transmission line on State lands	ARS 37-461
Arizona DOT	Crossing or encroachment permit, permit for use of highway ROW	Construction, operation, abandonment of transmission lines within State highway ROW	ARS 28-7053, Arizona Administrative Code R17-3-501–509
Arizona SHPO		Federal undertaking with the potential to affect historic properties	NHPA, Section 106 (36 CFR 800)
Arizona State Museum (ASM)	Arizona Antiquities Act (AAA) blanket permit or Project-specific permit	Potential for disturbance of cultural resources on State land	AAA ARS 41-841 through 41-847
ASM	Permission to disturb human remains	Potential for disturbance of human or funerary objects remains on State or private land	AAA ARS 41-844 and ARS 41-865
ASM	AAA blanket permit	Potential for disturbance of paleontological resources on State land	AAA ARS 41-841

Table 2. List of Required Federal and State Permits and Approvals (Continued)

Regulatory Authority/Agency	Permit/Approval	Project Trigger	Relevant Law/Regulation
Arizona, cont'd.			
Arizona Department of Environmental Quality	Arizona Pollutant Discharge Elimination System	Stormwater management from potential discharges greater than 5 acres	ARS 49-255.01
Tohono O'odham Nation	Permit to conduct archaeological work	Potential for disturbance of cultural resources on Tohono O'odham Nation land	Title 8, Chapter 1, "Archaeological Resources Protection" (Ordinance No. 06-84) of the Tohono O'odham Nation Tribal Code
Arizona Department of Agriculture	Application for Arizona native plant and wood removal	Displacement or removal of any listed native plant species	Native Plant Law, ARS Title 3 (Chapter 7)
Local*			
Development Services, Public Works, DOT	ROW use permit, encroachment permit	Potential encroachment onto County/City ROW	Varies; County/local ordinance or municipal code
Planning and Zoning, Community Development	Special use, conditional use permits	Change zoning or land use to allow construction of the transmission line and associated facilities	Varies; County/local ordinance or municipal code
Floodplain Departments	Floodplain use permit	Construction of project facilities in flood-prone areas as defined by Federal Emergency Management Agency	Varies; County ordinance
Public Works Department	Grading/excavation/building permit	Construction	Varies; County/local ordinance or municipal code
Department of Environmental Quality, Air Quality Districts	Fugitive dust control permits	Construction	Varies; County ordinance

Note: This list is not exhaustive.

* Local permits are only examples of permits that may be required by various local agencies (County/City).

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Chapter 2

ROLES AND RESPONSIBILITIES

2.1 INTRODUCTION

The various parties involved with the construction, operation, and maintenance of the Project include the Proponent (Southline), BLM, Western, BLM's third-party CIC, all of Southline's construction contractor(s), and the environmental resource specialists/monitors. Other subcontractors may be engaged, as needed. As noted in section 1.3 of this POD, the POD is an enforceable stipulation of the BLM ROW grant for the portions of the Project on Federal lands administered by BLM. Where Western is involved in the Project, they would adopt the stipulations and measures in the POD, where appropriate.

2.1.1 The Proponent

Southline is responsible for requirements of the administration of the ROW and coordination between the Project engineer and construction contractor(s) on BLM-managed lands. Southline and their construction contractors will be responsible for the construction of the transmission line(s) and ancillary facilities in a manner that complies with the conditions outlined in the BLM ROW grant, and other required permits listed in table 2; Southline will be responsible for facility operation and maintenance. Western is responsible for administering the ROW where they are involved in the Project, which at a minimum includes the Upgrade Section of the project.[1] Western and their construction contractor will be responsible for the construction, operation, and maintenance of the Upgrade Section of the transmission line(s) and ancillary facilities in a manner that complies with the conditions outlined in Western's construction contract.

Southline will be the ultimate authority for their contractors; however, for the execution purposes of this document, it will refer specifically to the construction contractor(s) when needed to define their activities.

To help ensure construction activities are conducted in a manner that complies with all Federal, State, and local regulations, the construction contractor(s) will contract a team of environmental inspectors (e.g., biological, cultural, and paleontological resources, and dust (where applicable)) to work jointly and cooperatively with the CIC (see Section 2.1.2.1 – Compliance Inspection Contractor and Appendix A6 – Environmental Compliance Management Plan). Each of Southline's environmental inspectors will provide copies of their daily reports to the CIC as described in Appendix A6 – Environmental Compliance Management Plan.

Construction Contractor(s)

The construction contractor(s) will be responsible for the final engineering design, procurement, construction, testing, and reclamation of the Project. The construction contractor(s) will be retained by Southline to construct the transmission line(s) and ancillary facilities, including construction of new or improved roads, a communication system, and temporary work areas associated with construction activities. The construction contractor(s) will also be responsible for addressing reclamation activities, as well as addressing all environmental protection stipulations.

[1] POD v3 footnote: when Western has made a decision regarding their ultimate involvement in the Project, more detail will be included regarding their role and responsibilities.

The construction workforce may include, but is not limited to, the following:

- general contractor, specializing in transmission line construction
- substation construction contractor
- survey crews
- tree clearing crews
- road construction crews
- foundation and anchor installation crews
- structure steel haul crews
- structure assembly and erection crews
- wire installation crews
- cleanup crews
- restoration contractor/crews
- quality assurance inspectors
- drilling and blasting contractor
- restoration/reseeding subcontractor

The construction contractor's construction manager will be responsible for enforcing the contract requirements. The construction contractor(s) will be contractually bound to comply with all laws, regulations, and permit requirements, including the stipulations and PCEMs set forth in the POD. The selected construction contractor(s) will attend a preconstruction meeting with the BLM, Western, other agencies as appropriate, the CIC, and Southline following the award of the construction contract.

2.1.2 Federal Agencies

There are 104.4 miles of transmission line route that cross Federal land, including lands administered by the BLM (100.4 miles), the U.S. Forest Service (Forest Service) (0.5 mile), the Department of Defense (DOD) (0.2 mile), the Bureau of Reclamation (Reclamation) (0.4 mile), and the Bureau of Indian Affairs (BIA) (2.9 miles). Each agency has designated an officer who will provide oversight for the Project on the ROW they administer. The authorized officers for the BLM are the Las Cruces District Manager and the New Mexico State Director. Each of the authorized officers may designate certain responsibilities to their appropriate personnel, such as BLM project managers and resource specialists.

The Administrator and CEO for Western is Mark A. Gabriel, who is ultimately responsible for Western's participation in the Project. Western's designated Project Manager will provide oversight and direction for the Project as it moves from the environmental planning phase into the design and construction phase.

Each authorized Officer/administrator will be responsible for administering and enforcing the right-of-way grant and permit provisions for their respective agencies. Each authorized officer/administrator will also ensure stipulations and PCEMs included in the POD are adhered to during Project construction, operation, and maintenance, where appropriate. The authorized officer/administrator will also be responsible for written stop-and-resume-work orders, as applicable, and resolving any conflicts that arise relating to the Project on the lands they administer. Compliance will be managed by the appropriate designees of the authorized officer/administrator and resource specialists as needed, for their respective lands, in conjunction with the CIC. The process by which the BLM, Western, and Southline's

construction contractor(s) conduct environmental monitoring, compliance, and reporting activities is outlined in Appendix A6.

Compliance Inspection Contractor

The CIC will represent the BLM during the construction and reclamation phases of the Project on BLM-administered lands to ensure (1) compliance with the BLM ROW grant and (2) that environmental impacts associated with Project do no exceed estimates disclosed in the EIS and approved by the BLM in its ROD. The CIC may also coordinate with Western on those portions of the Project where Western is involved in the Project.

The CIC shall work under the direct supervision and control of the BLM during the construction and reclamation phases of the Project on BLM-managed administered lands. On those portions of the Project where Western is involved, the CIC shall take direction from Western; the CIC shall not take any direction with respect to the manner of conducting monitoring from Southline or its construction contractor(s). The CIC's primary role is to observe work activities; verify, document, and monitor compliance; and bring noncompliant situations to the attention of the appropriate party and offer recommendations on how to prevent non-compliance prior to commencement of work.
The responsibilities of the CIC are outlined in detail in Appendix A6 – Environmental Compliance Management Plan.

However, the CIC and Southline's Project Manager shall work together to support the Project's timely and effective construction. All efforts shall be made to coordinate closely with Southline's Project Manager and its construction contractor(s) to report and document noncompliance concerns not otherwise identified by these parties, giving Southline's Project Manager, construction contractor(s), and CIC the opportunity to resolve the concerns. Through this collaboration, every effort shall be made to limit any work stoppage to situations involving immediate threats to sensitive resources or emergency situations. The CIC is not otherwise, at any time or way, authorized to direct work undertaken by the construction contractor(s), with the exception of stop work orders. The role of the CIC is not to direct the work of either Southline or the construction contractor(s).

Prior to construction, the CIC will develop a Project Compliance Plan, to be reviewed by the BLM and Western. This plan will describe how the Project Proponent will uphold, document, and manage environmental compliance with the terms specified in the ROW grant, the POD, landowner agreements, and all Federal, State, and local permits. The Project Compliance Plan will include, but is not limited to, the following elements:

- the roles and responsibilities of participants necessary to facilitate environmental compliance with the terms and conditions of the ROW grant and the POD in the field during construction
- a comprehensive inspection and monitoring program
- corrective procedures in the event of non-compliance
- a standard protocol for variance requests
- a communication plan describing primary channels of routine communication between parties for Project updates and compliance-related issues
- a reporting process that includes forms and reports to be completed on a regular basis during the course of construction
- a comprehensive Project-specific environmental compliance training program that may include sections prepared by specific resource specialists

The CIC will report directly to the BLM or Western as appropriate, who will coordinate with other cooperating agencies, where appropriate. The duties of the CIC in support of the Project will include:

- preparation of a Project Compliance Plan
- coordination of Notice-to-Proceed meeting(s)
- preparation and maintenance of a Key Contacts List
- periodic meetings with the BLM authorized officer and resource specialists
- daily field inspection of the Project area
- coordination with Southline's Environmental Compliance Manager and environmental inspectors (see Appendix A6 – Environmental Compliance Management Plan)
- completion of a daily compliance inspection report and submittal of a weekly summary
- completion of reports with applicable photographs to the BLM and Proponent
- attendance at weekly construction meetings
- review of variance requests
- completion of an End of Construction Project Report

The Project has the potential to affect sensitive resources; thus, required stipulations and PCEMs have been developed to minimize potential impacts to these resources. These stipulations and PCEMs are specified in the POD. The proactive implementation of these terms and requirements will facilitate timely and efficient construction of the Project while protecting sensitive resources. The CIC shall be completely knowledgeable of the POD, its associated plans, and all environmental requirements.

2.1.3 Communication Procedures and Notification Protocols

Effective communication between the parties mentioned above is a critical component to the success of the Project. Communication protocols related to environmental compliance monitoring, reporting requirements, and Project variance requests are described further in Appendix A6 – Environmental Compliance Management Plan. Additional details regarding emergency agency notification (e.g., in case of wildfire, unanticipated discoveries of cultural resources, hazardous material spill, etc.) are presented in the various plans included as appendices to the POD. The selected construction contractor(s) will attend preconstruction conferences with the BLM, Western as appropriate, and Proponent following award of the construction contract.

The CIC will develop a Project contact directory that will be updated by all parties, as needed, to provide a convenient reference during the construction phase of the Project. This contact list will include the name, agency, office phone number, cell phone number, and email address of those individuals working on the Project; this list will be updated as required.

The construction contractor will be responsible for maintaining a list of all emergency notification contacts and numbers (local law and fire officials, hospitals, etc.) for events such as wildfires, hazardous material spills, accidents, etc. Southline will be responsible for notifying private landowners of upcoming construction activities, where appropriate. After construction, Southline will be responsible for maintaining the key contacts list and for all notifications required during the operation and maintenance of the Project.

Chapter 3

PROJECT DESCRIPTION

3.1 INTRODUCTION

This section describes the Project and associated facilities, including transmission line, substation, and ancillary facilities. Specifically, this section includes descriptions of the transmission route and facility design, including tower and pole structures, foundations, hardware, communication facilities, other electrical and non-electrical hardware, substation equipment, and access roads. Also included in this section is information regarding induced currents on adjacent facilities, land requirements, and construction disturbance.

Southline proposes to construct a high-voltage electric transmission line and associated facilities in southern New Mexico and southern Arizona (see figures 1.1 through 1.9). The proposed Project, as described in this document, is based on the Agency Preferred Alternative in the Final EIS. The route would cross private, State, and public lands, including lands managed by the BLM (New Build and Upgrade sections), DOD (New Build Section only), Forest Service (Upgrade Section only), Reclamation (Upgrade Section only), New Mexico and Arizona State lands, (New Build and Upgrade sections), Arizona Game and Fish Department (AGFD) lands (New Build only), and the Tohono O'odham Nation (Upgrade Section only).

3.2 PROPOSED FACILITIES

This section describes the typical characteristics of the Project facilities, including the New Build Section 345-kV double-circuit transmission line, the Upgrade Section 230-kV double-circuit transmission line, and associated facilities, substation improvements, and ancillary facilities (e.g., access roads).

3.2.1 Transmission Structures

345-kV Structures – New Build Section

Two types of steel structures could be potentially used for the 345-kV transmission line. These include self-supporting lattice and monopole tubular structures, as shown in table 3 and figures 2 through 6.

Table 3. Typical Design Characteristics of the Proposed New Build Section 345-kV Transmission Line

Feature	Proposed (Description)	Option (Description)
General Description		
Structure type	Self-supporting steel lattice structures (see figures 2–4)	Tubular steel poles (see figures 5 and 6)
Structure height	110–170 feet	90–150 feet
Span length	1,000–1,400 feet	800–1,100 feet
Number of structures per mile*	4–5	4–6
ROW width†	200 feet	

Table 3. Typical Design Characteristics of the Proposed New Build Section 345-kV Transmission Line (Continued)

Feature	Proposed (Description)	Option (Description)
Electrical Properties		
Normal voltage	345,000 volts (345 kV)	
Capacity	1,000 MW (initial) 2,000 MW (ultimate)	
Circuit configuration	Double-circuit	
Conductor size‡	792–1,272 kcmil ACSR (two subconductors per phase)	
Shield wire size‡	7/16-inch extra-high-strength steel wire	
Ground clearance of conductor§	30 feet	

Notes: ACSR = aluminum conductor steel reinforced; kcmil = a thousand circular mils (a unit used to express large conductor sizes).

* Variable, depending on structure type and terrain.

† During design, a wider temporary and/or permanent ROW may be needed only in specific locations to accommodate rough terrain or long spans.

‡ Shield wire size: one shield wire position to be occupied by optical ground wire about 0.5 inch in diameter with 48 optical fibers.

§ Design minimum at temperature of 100 degrees Celsius.

The use of either a lattice structure or tubular steel structure would be primarily based on site-specific engineering design needs, as well as economic and visual considerations, or delivery timing.

The lattice structures would be constructed of galvanized steel with a height ranging from 110 to 170 feet and a width at the base of approximately 25 feet. The exact height of the structure would be determined by topography and design requirements for conductor clearance. The distance between each structure would depend on site-specific characteristics but would generally be an average of 1,200 feet (or approximately 4 to 5 structures per mile). Spacing between structures would be designed to allow for the longest spans practical for this type of construction. Each lattice structure would have four legs, each set on concrete foundations placed in the ground. Foundations would be up to approximately 4 feet in diameter each, and would be from approximately 18 to 50 feet deep. Foundations would be designed for each structure site consistent with geotechnical conditions. See discussion below for temporary and permanent disturbance estimates for structure foundations.

To accommodate the 345-kV line, the tubular steel poles are expected to be constructed of galvanized or self-weathering steel and would range in height from 90 to 150 feet. The exact height of the structure would be determined by topography and design requirements for conductor clearance. The tubular steel poles would have an approximate diameter at the structure base of 7 to 8 feet and would range from approximately 18 feet deep up to 50 feet deep, depending on the structure type and geological conditions. Foundation depths would be consistent with geotechnical conditions at each structure site. The distance between each structure would depend on site-specific characteristics but is expected to be an average of approximately 900 feet (or approximately 5 to 6 structures per mile). Spacing between structures would be designed to allow for the longest spans practical for this type of construction. Tubular steel poles would be set on a concrete foundation placed in the ground. See discussion below for temporary and permanent disturbance estimates for structure foundations.

Structure selection and individual structure placement would be determined during the final design phase of the Project. The height and spacing of each structure would also be determined during the final design phase of the plan and profile drawings, would be based on detailed engineering, and would depend on the type of terrain. Aerial marker spheres or aircraft warning lighting may be required in certain locations in accordance with Federal Aviation Administration (FAA) requirements. Structure height and proximity to airports are the main factors in determining whether FAA regulations would apply.

Figure 1.1. Project overview 1.

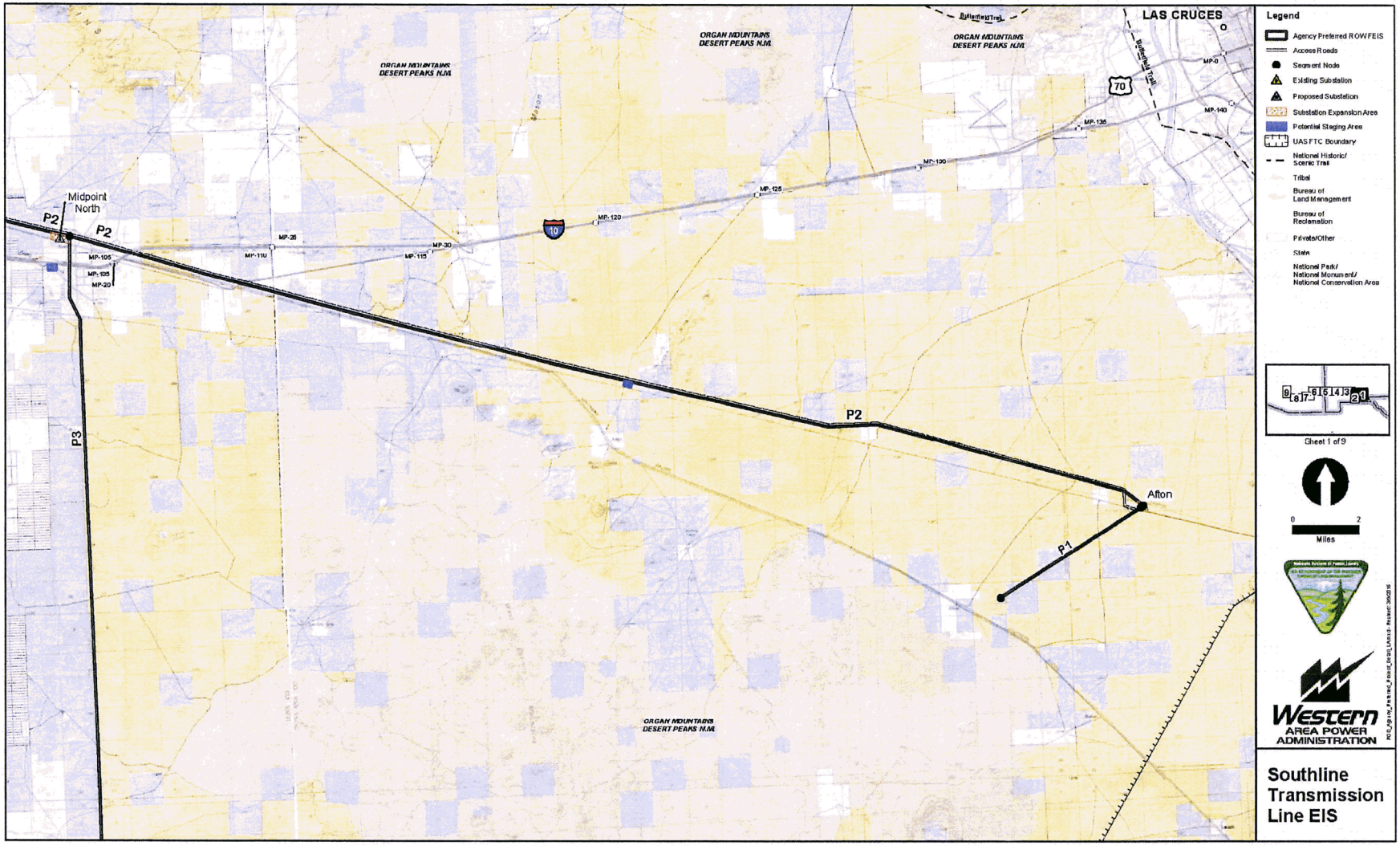

Figure 1.2. Project overview 2.

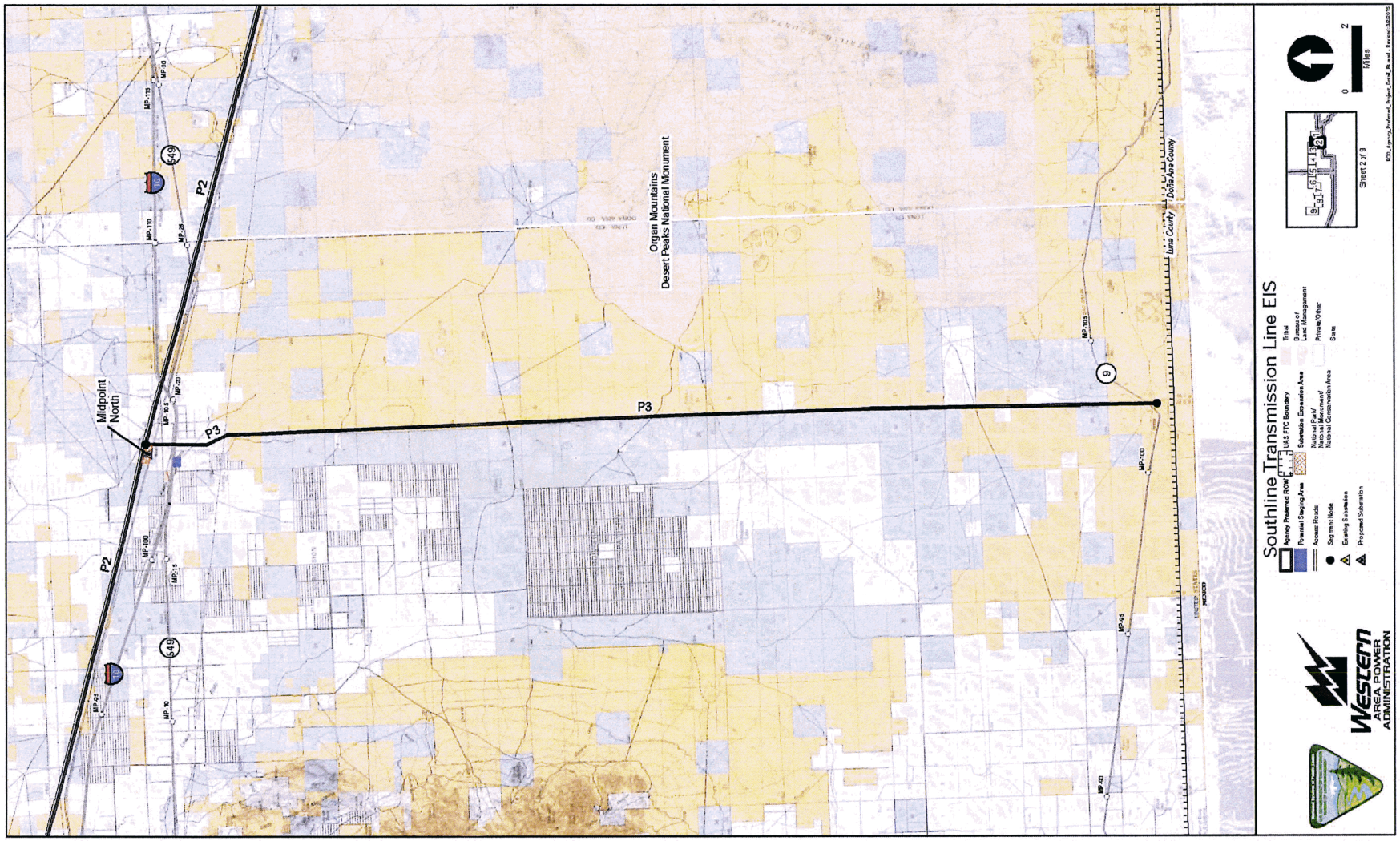

Figure 1.3. Project overview 3.

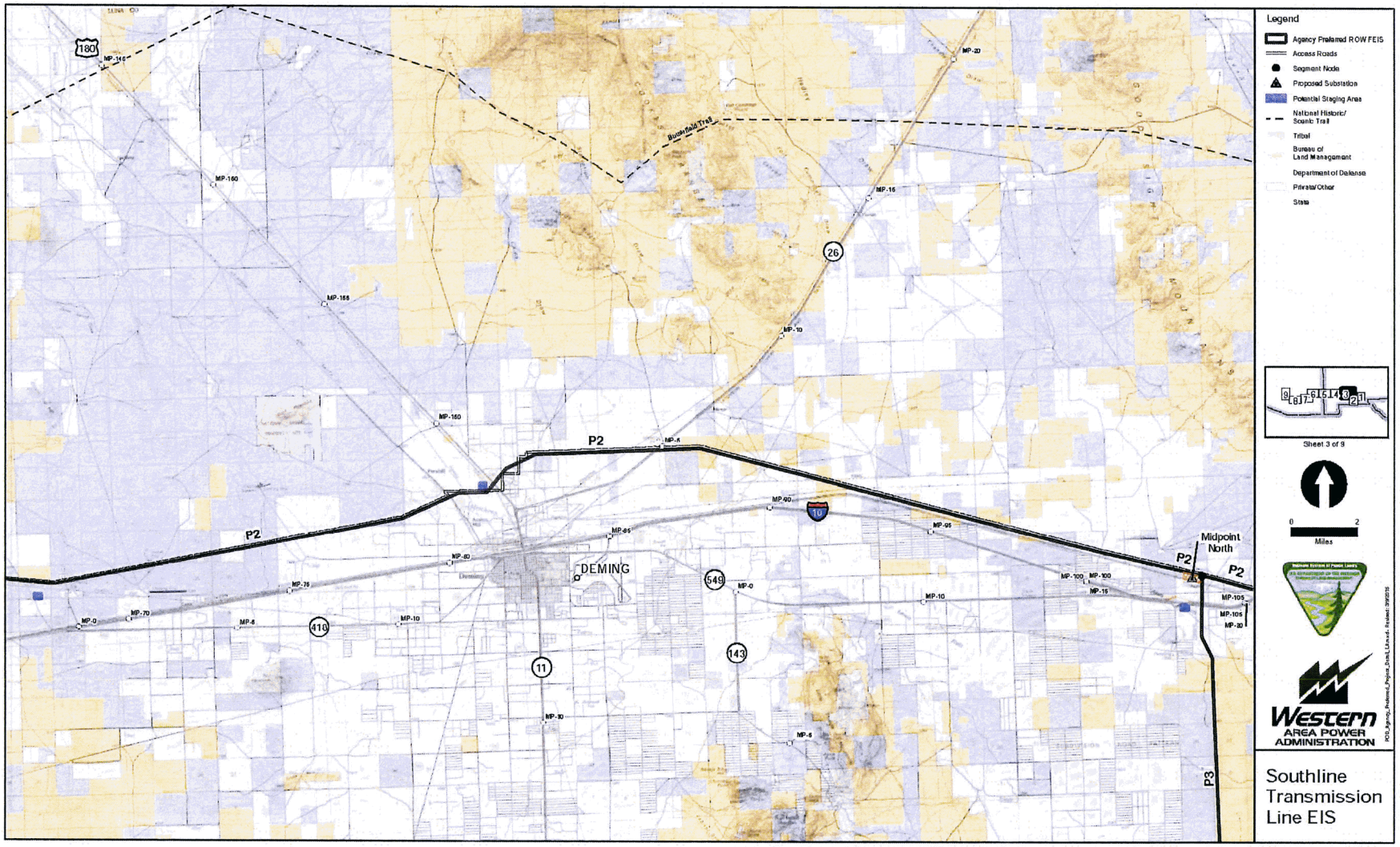

Figure 1.4. Project overview 4.

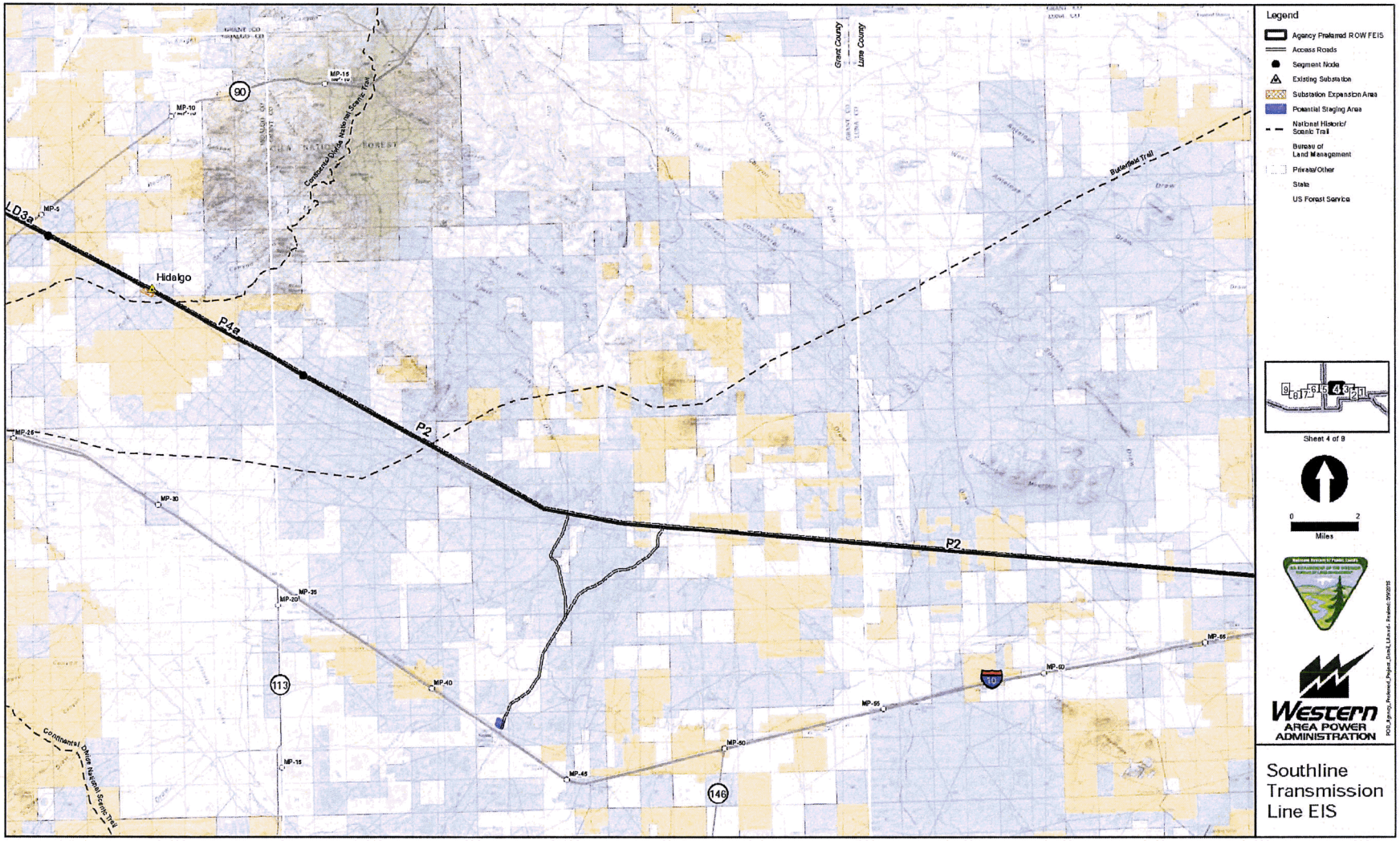

Figure 1.5. Project overview 5.

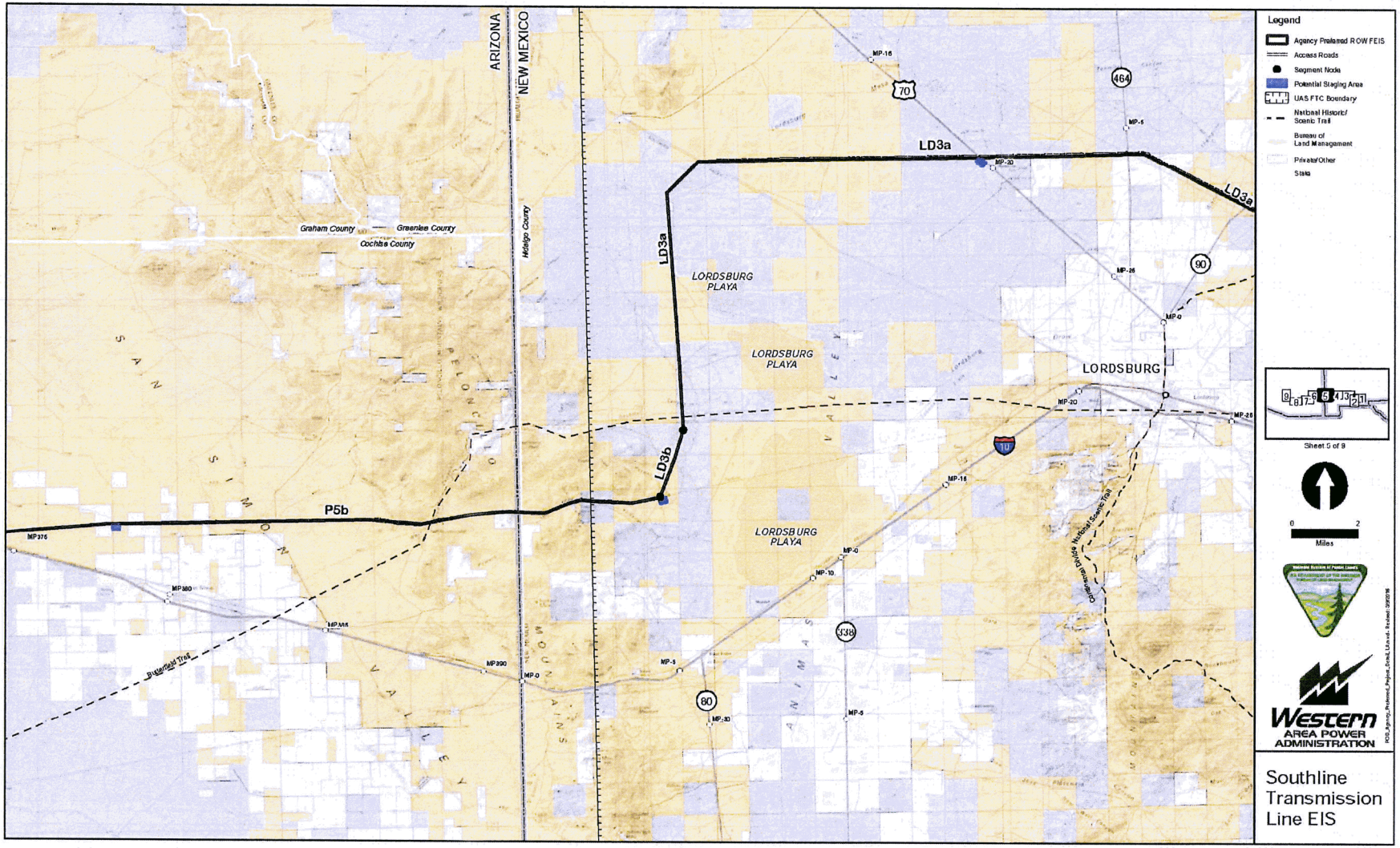

Figure 1.6. Project overview 6.

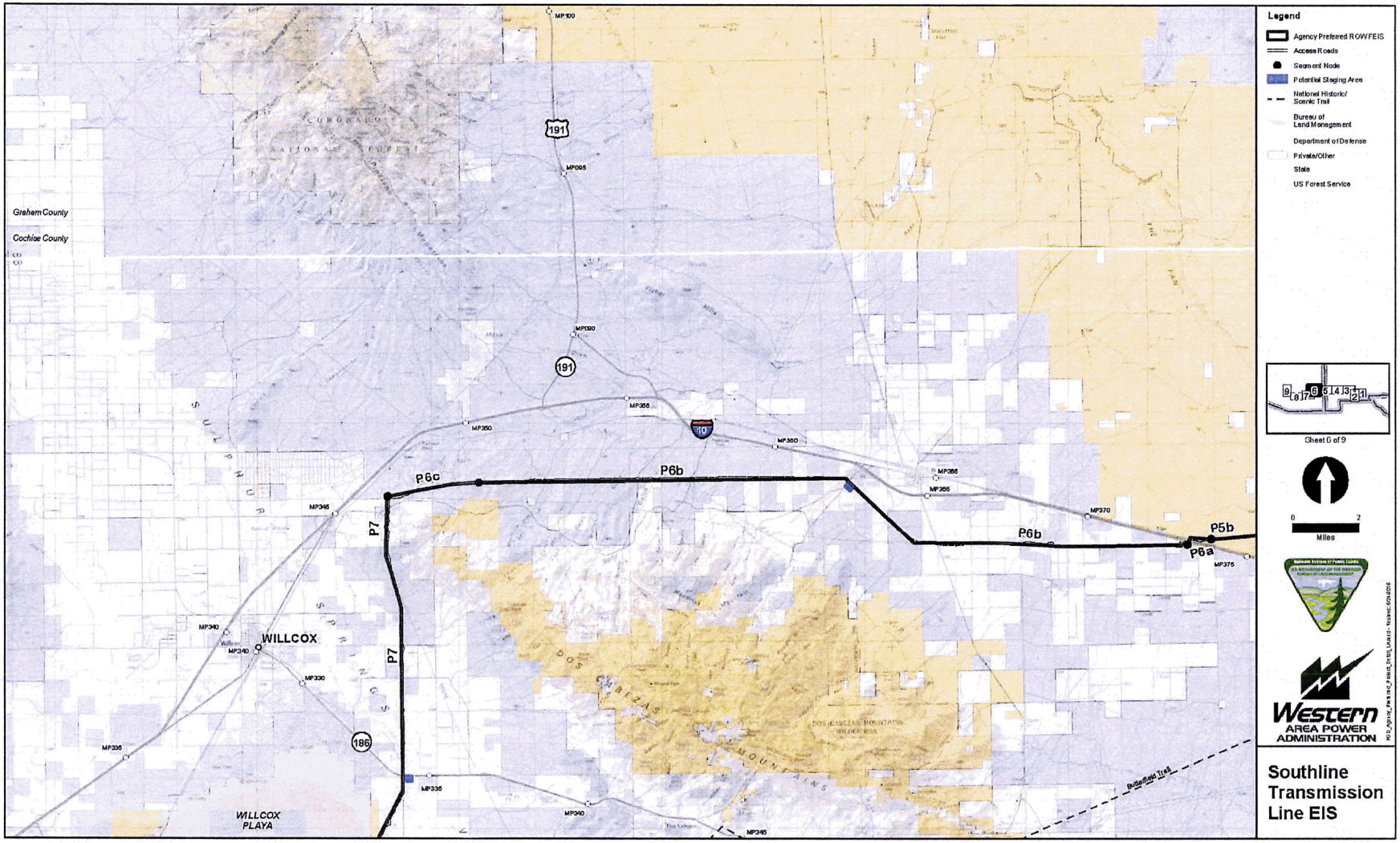

Figure 1.7. Project overview 7.

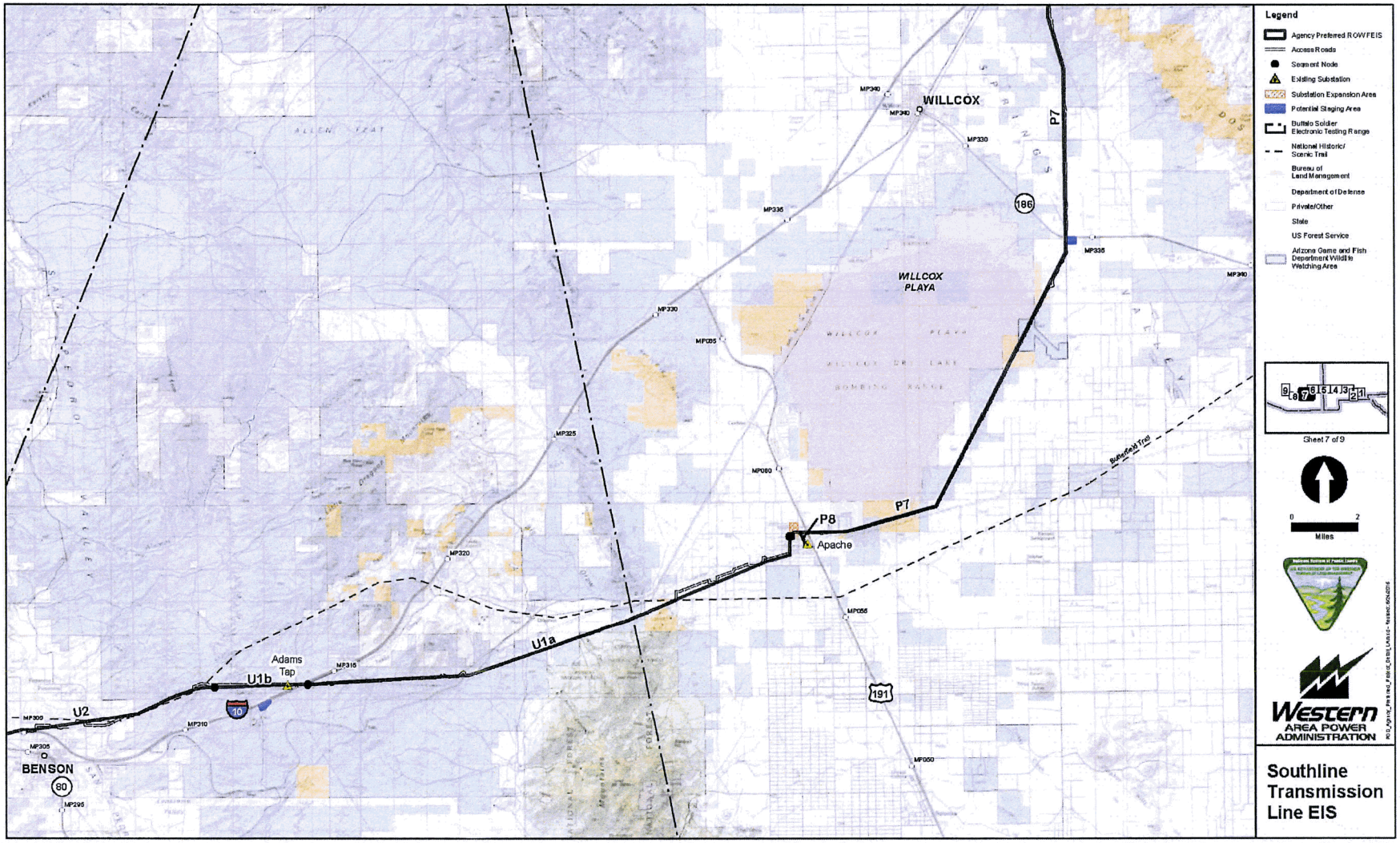

Figure 1.8. Project overview 8.

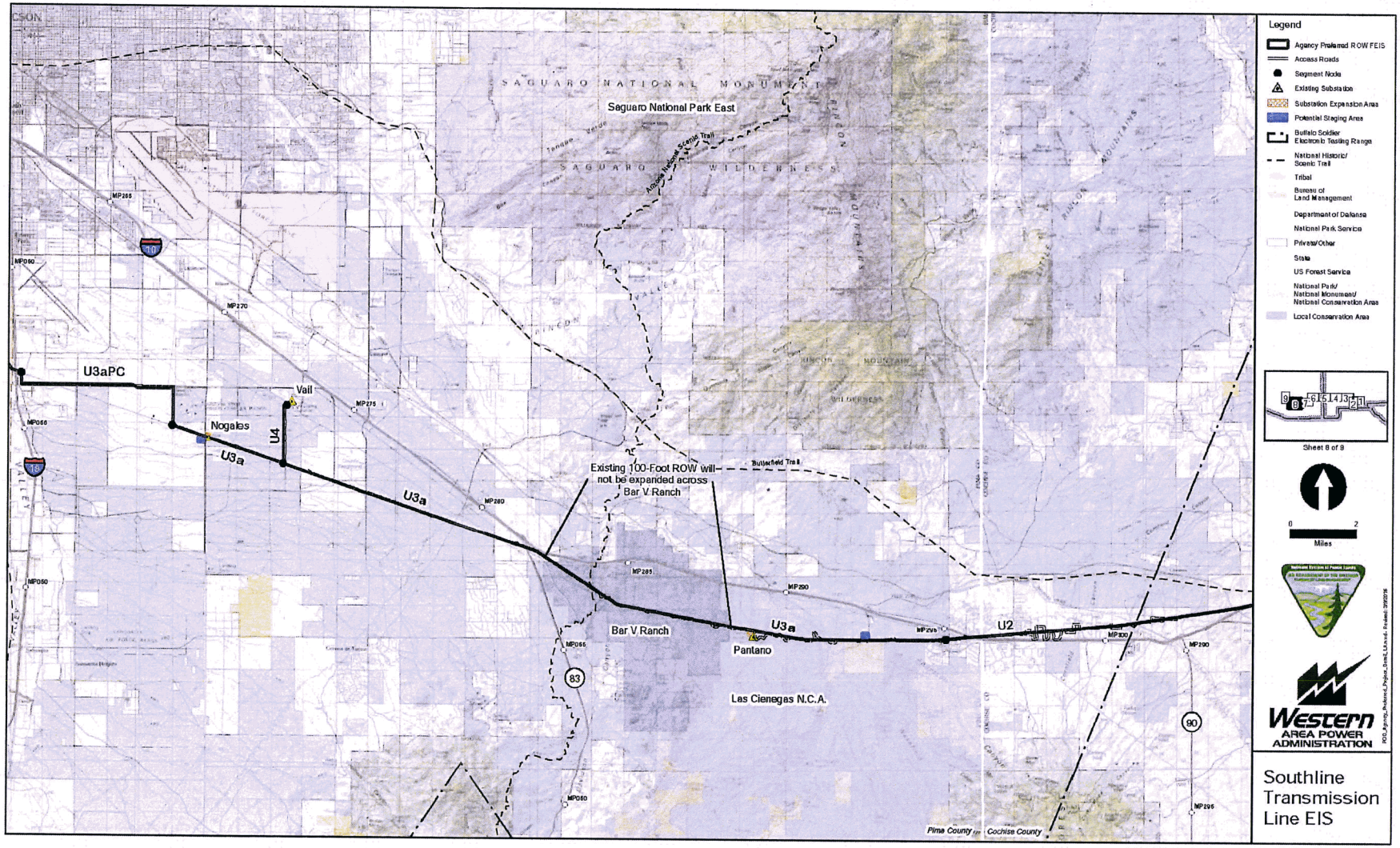

Figure 1.9. Project overview 9.

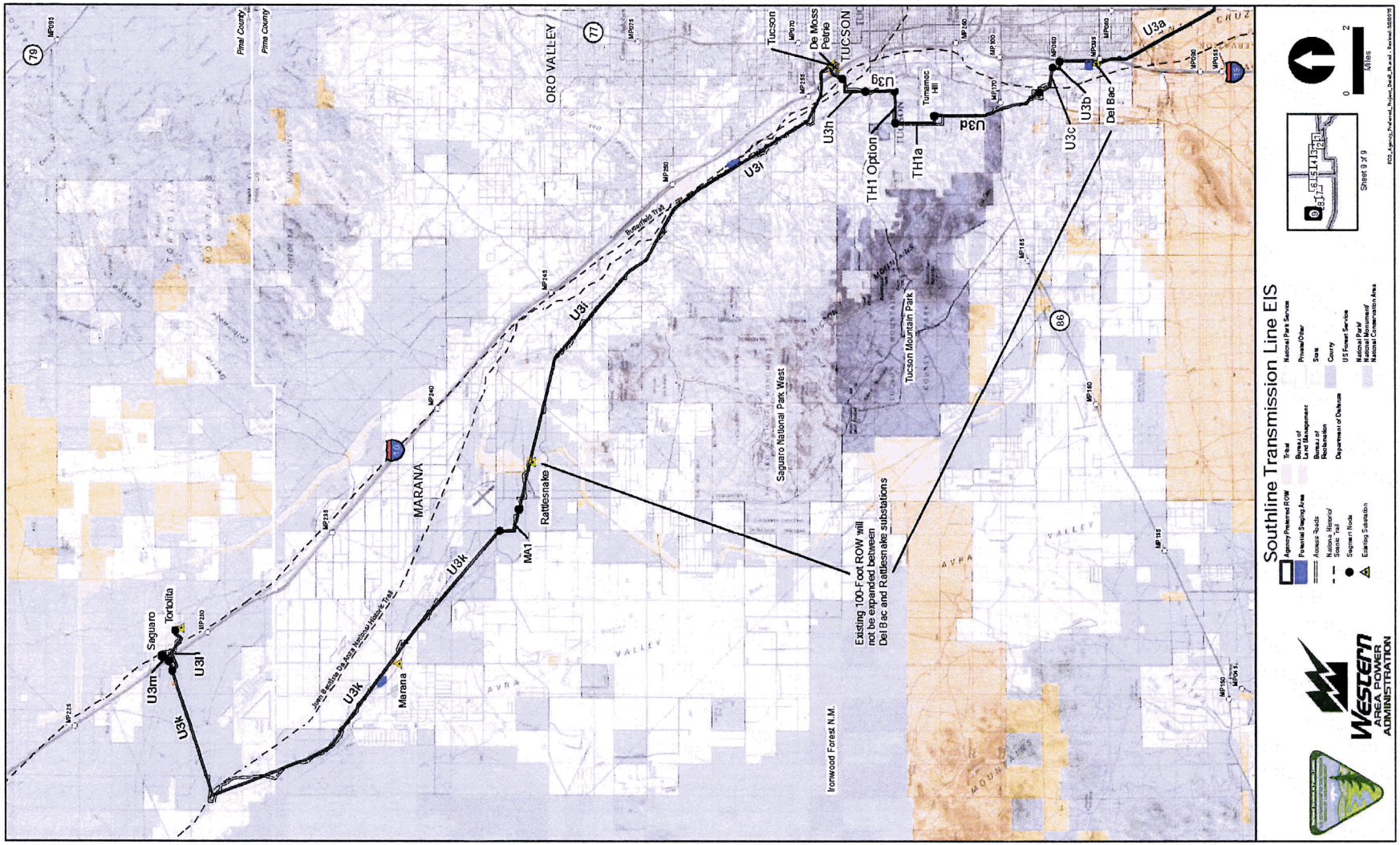

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Figure 2. Typical 345-kV tangent lattice structure diagram.

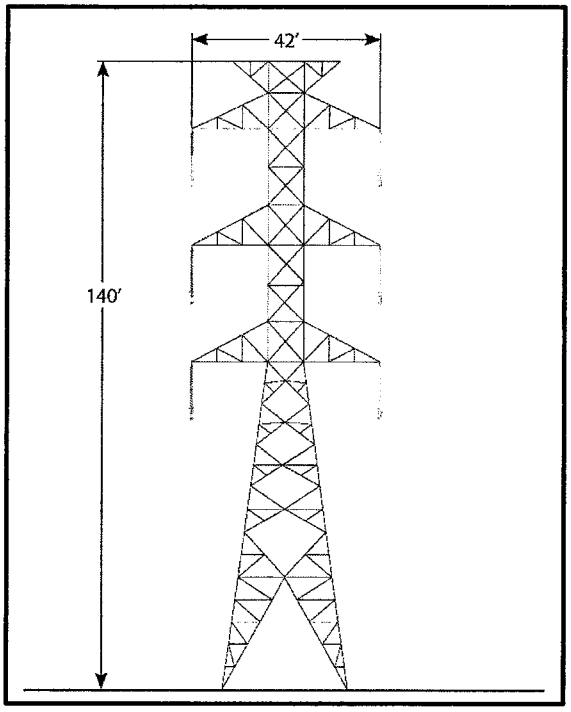


Figure 3. Typical 345-kV angle lattice structure diagram.

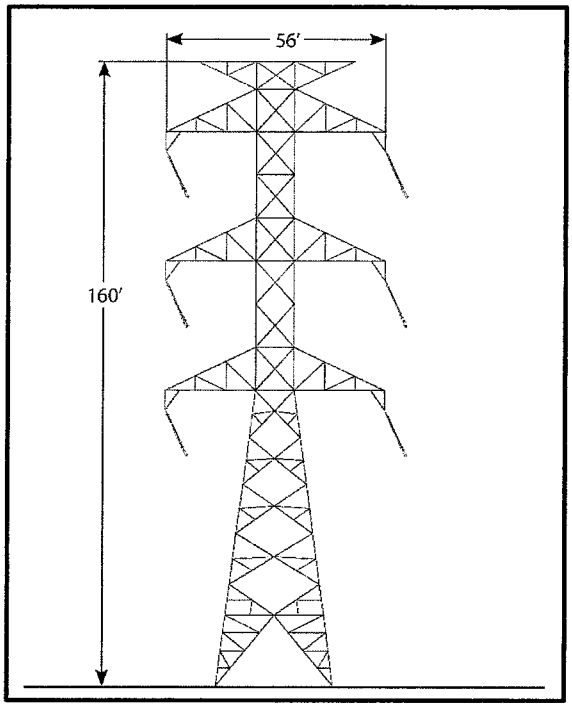


Figure 4. Typical 345-kV dead-end lattice structure diagram.

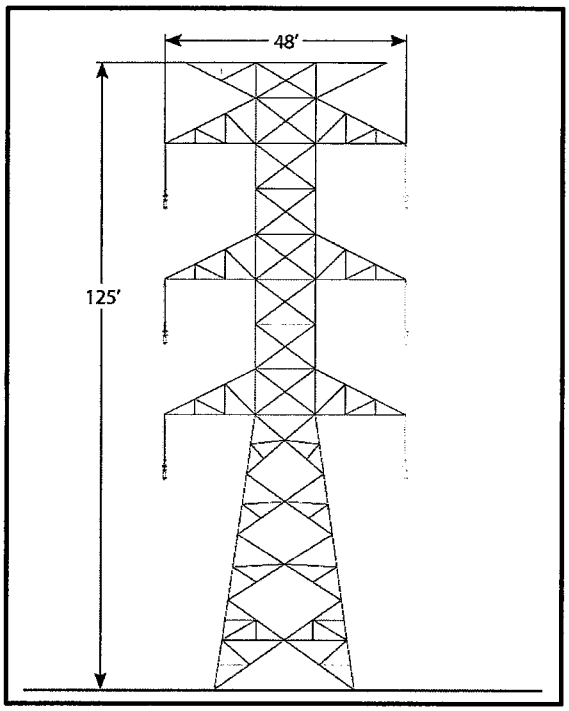


Figure 5. Typical 345-kV tangent tubular steel pole diagram.

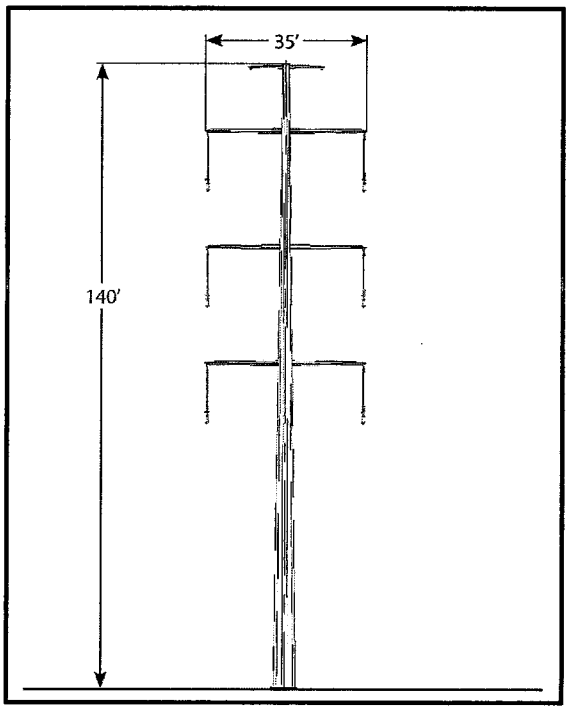
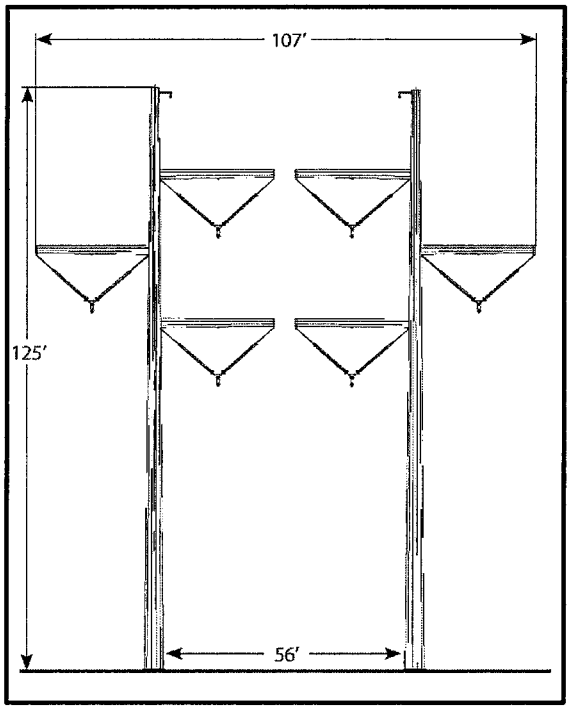


Figure 6. Typical 345-kV transposition tubular steel pole diagram.



It should be noted that the Department of Homeland Security, U.S. Customs and Border Protection, and/or DOD may have additional requirements beyond those described in chapter 5 below. Electrical properties, as described in table 3, indicate that the initial capacity on the New Build Section line would be 1,000 MW, but could ultimately be up to 2,000 MW. The proposed Project has been designed to meet a proposed Western Electricity Coordinating Council (WECC) path rating of 1,000 MW in each direction. Studies conducted to date in support of the WECC path rating (WECC 2015) indicate that the proposed Project would be limited to approximately 1,000 MW to ensure a high degree of reliability in the transmission system. If the existing system is improved and the elements limiting the proposed Project's rating are upgraded, then the Project could potentially have a higher rating in the future based on its physical capacity, which would need to be confirmed with new WECC studies and additional National Environmental Policy Act (NEPA) review as appropriate.

230-kV Structures – Upgrade Section

The 230-kV double-circuit transmission line is proposed to be tubular steel structures (figures 7–10; see also table 4). To accommodate the 230-kV line, the tubular steel structures are expected to be constructed of galvanized or self-weathering steel, with a height ranging from 100 to 140 feet. The exact height of the structure would be determined by topography and safety requirements for conductor clearance. Most tubular steel poles would have an approximate diameter at the structure base of 6 feet or less.

The distance between structures would depend on site-specific characteristics but is expected to be an average of 900 feet (or approximately 5 to 6 structures per mile). By comparison, the distance between existing structures averages approximately 700 feet. Therefore, although the proposed new structures that would be replacing the old structures would be taller, there would be fewer structures per mile. Spacing between the proposed structures would be designed to allow for the longest spans practical for this type of

construction. Each structure would be either directly embedded or foundation mounted in concrete. See discussion below for temporary and permanent disturbance estimates.

Figure 7. Typical 230-kV direct embedded tangent tubular steel pole diagram.

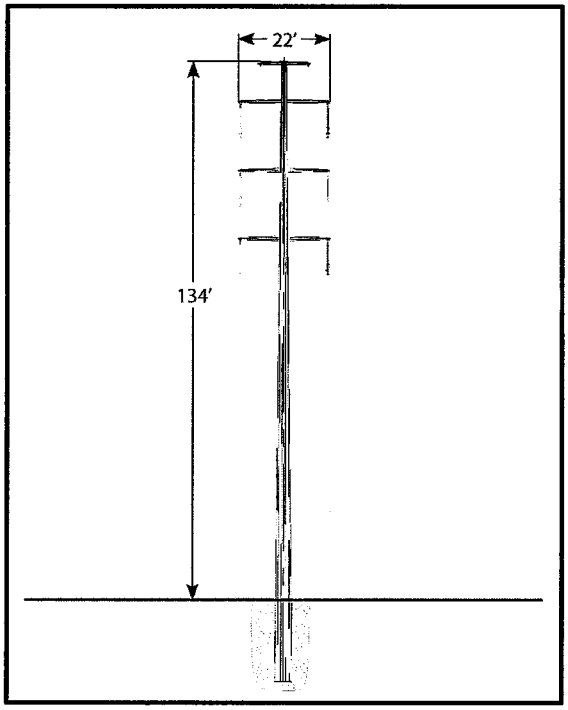


Figure 8. Typical 230-kV tangent tubular steel pole diagram (foundation type).

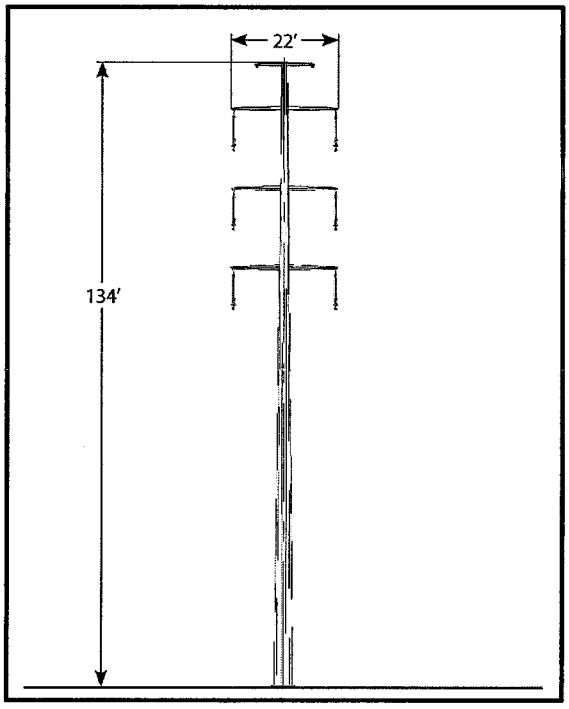


Figure 9. Typical 230-kV suspension angular tubular steel pole diagram.

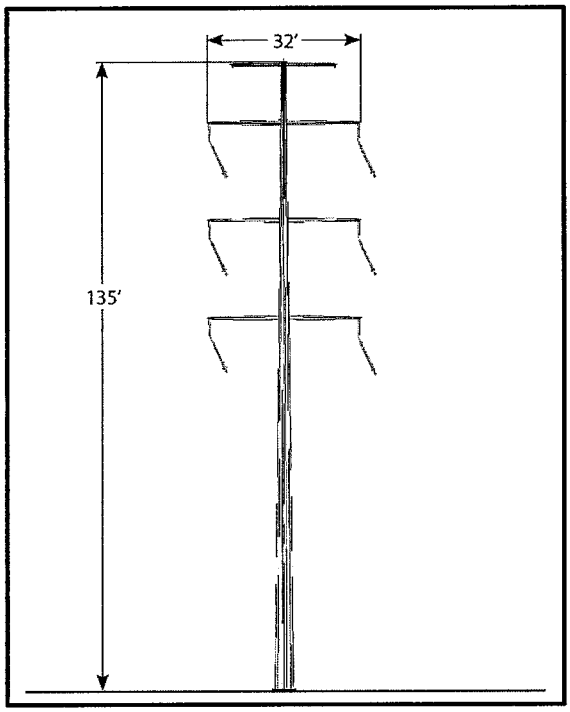


Figure 10. Typical 230-kV dead-end tubular steel pole diagram.

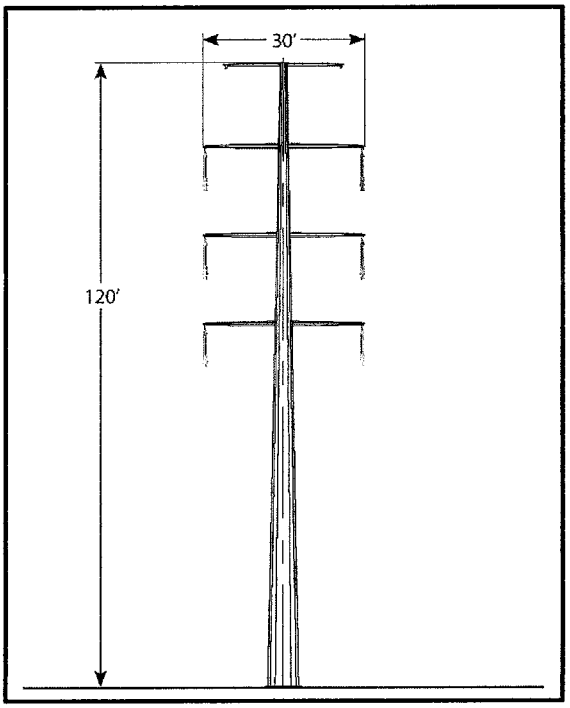


Table 4. Typical Design Characteristics of the Proposed Upgrade Section 230-kV Transmission Line

Feature	Proposed (Description)
General Description	
Structure type	Tubular steel poles (see figures 7–10)
Structure height	100–140 feet
Span length	700–1,100 feet
Number of structures per mile*	5–6
ROW width†	150 feet
Electrical Properties	
Normal voltage	230,000 volts (230 kV)
Capacity	1,000 MW (initial) 1,500 MW (ultimate)
Circuit configuration	Double-circuit
Conductor size	1,272–kcmil ACSR (1 subconductor per phase)
Shield wire size‡	7/16-inch extra-high-strength steel wire
Ground clearance of conductor§	28 feet

Notes: ACSR = aluminum conductor steel reinforced; kcmil = a thousand circular mils (a unit used to express large conductor sizes).

* Variable, depending on structure type and terrain.

† During design, a wider temporary and/or permanent ROW may be needed only in specific locations to accommodate rough terrain or long spans. Through urban Tucson, between Del Bac and Rattlesnake substations, the ROW will likely remain at the existing 100-foot width.

‡ Shield wire size: one shield wire position to be occupied by optical ground wire about 0.5 inch in diameter with 48 optical fibers.

§ Design minimum at temperature of 100 degrees Celsius.

Electrical properties, as described in table 4, indicate that the initial capacity on the Upgrade Section of the proposed line would be approximately 1,000 MW, but could ultimately be up to 1,500 MW. The proposed Project has been designed to meet a proposed WECC path rating of 1,000 MW in each direction. If the existing system is improved and the elements limiting the proposed Project's rating are upgraded, then the Project could potentially have a higher rating in the future based on its physical capacity, which would need to be confirmed with new WECC studies (WECC 2015).

3.2.2 Structure Foundations

Depending on soil and structure type, lattice structures and tubular steel structures are typically supported by cast-in-place drilled concrete pier foundations with detailed design to be completed once site-specific soil conditions can be evaluated. For lattice structures, steel reinforcing cages and stub angles would be installed. For tubular steel structures, either steel reinforcing cages with anchor bolts would be installed or the poles would be embedded directly into the ground. In rocky areas, foundation holes may be excavated by methods such as drilling or detonation of small charges in the drill holes used to break up the rock, or by installing special rock anchor or micro-pile type foundations. The rock anchoring or micro-pile system would be used in areas where site access is limited or where adjacent structures could be damaged as a result of rock breaking or hauling activities.

Each structure location would be evaluated individually during final engineering design to determine the recommended foundation dimensions and types. Anticipated structure type and associated foundation disturbance identified during final engineering would be accounted for in the Final POD.

Temporary and permanent land requirements for the foundations of the various types of both lattice structures and single-pole tubular steel structures for the 345-kV and 230-kV transmission lines are presented in table 5.

Table 5. Typical Structure Foundations – Temporary and Permanent Land Requirements

New Build Section	Disturbance Area
Temporary	
Structure work area	100 × 200 feet (20,000 square feet)
Wire pulling and tensioning (dead-end/angle)	200 × 500 feet (110,000 square feet)
Permanent	
Lattice (tangent)	1,225 square feet 35 × 35–foot structure base
Lattice (angle)	1,600 square feet 40 × 40–foot structure base
Lattice (dead-end)	2,025 square feet 45 × 45–foot structure base
Single-pole tubular steel pole (tangent)	40 square feet 7-foot-diameter foundation
Single-pole tubular steel pole (dead-end/angle)	100 square feet 2 poles × 8-foot-diameter foundation
Upgrade Section	
Temporary	
Structure work area	100 × 200 feet (20,000 square feet)
Wire pulling and tensioning (dead-end/angle)	150 × 500 feet (75,000 square feet)
Permanent	
Single-pole tubular steel pole (tangent)	30 square feet 6-foot-diameter foundation
Single-pole tubular steel pole (dead-end/angle)	50 square feet 8-foot-diameter foundation

3.2.3 Transmission Line Hardware

Conductors

Conductor is the wire cable strung between transmission line structures through which the electric current flows. The New Build Section 345-kV double-circuit transmission line would consist of a double-conductor bundle with two subconductors per phase; there would be three phases per circuit (six total). The subconductors are typically spaced approximately 18 inches apart in a vertical or horizontal configuration. For the 230-kV transmission line Upgrade Section, it is anticipated that one conductor per phase would be used. The conductor would be sized to provide adequate current-carrying capacity.

To minimize wind vibration flowing over the conductors, vibration dampers would be used. The type and number of dampers needed would be determined during final design. Each conductor span is anticipated to have two Stockbridge-type vibration dampers per wire; each shield wire/optical ground wire is anticipated to have four spiral dampers per wire for the 345-kV lines and two spiral dampers per wire for the 230-kV lines.

The minimum design height of the conductor aboveground at the maximum operating temperature would be 30 feet on the New Build Section and 28 feet on the Upgrade Section. Conductor phase-to-phase and phase-to-ground clearance parameters are determined in accordance with National Electric Safety Code (NESC) American National Standards Institute (ANSI) C2. This code provides recommendations for the minimum distances between the conductors and ground, crossing points of other lines and the transmission support structure and other conductors, and minimum working clearances for personnel during energized operation and maintenance activities (Institute of Electrical and Electronics Engineers 2007).

Avian Power Line Interaction Committee (APLIC) standards would be used in final design to minimize avian conflicts. The configuration of the bundle would be designed to provide adequate current-carrying capacity while minimizing interference from audible noise and to radio operations.

Insulators and Associated Hardware

Insulators, which are made of an extremely low-conducting material, such as porcelain, glass, or polymer, are used to suspend the conductors from each structure. Insulators inhibit the flow of electrical current from the conductor to the structure. The assemblies of insulators are designed to maintain appropriate electrical clearances between the conductor, the ground, and the structure. The New Build Section would have insulator assemblies that consist of single string or two strings of insulators, predominantly in the form of a "V." The Upgrade Section would have insulator assemblies that consist of suspension strings or braced post insulators.

Overhead Ground Wire

Overhead shield wires and optical ground wires would be installed between each structure for lightning protection. Current from lightning strikes would be transferred through the ground wires and structures into the ground.

Grounding

For the New Build and Upgrade sections, a grounding system would be installed at the base of each transmission structure that would consist of copper or copper-weld ground rods embedded into the ground in immediate proximity to the structure foundation and connected to the structure by buried copper or other suitable conductor.

3.2.4 Other System Facilities

Communication Systems

The proposed Project would include a communications system consisting of a fiber-optic network necessary for control and protection of the transmission system (referred to as supervisory control and data acquisition). For redundancy purposes, a secondary communications path would be provided via a power line carrier or microwave system. The type of communication system would be determined during final design.

The communication system is needed to transfer data for operation of the line and substations. The system would be reserved for the operation of the power system only, and would not be made available for commercial use. Primary communications for relaying and control would be provided via one optical ground wire that would be installed on one of the shield wire positions on the transmission line structures.

As the optical data signal is passed through the optical fiber cable, the signal degrades with distance. Consequently, communication regeneration stations are required to amplify the signals if the distance along the cable exceeds approximately 50 miles.

Communication Regeneration Station

Approximately two new communication regeneration stations would be required along the New Build Section: one between Apache and Hidalgo substations, and one between Hidalgo Substation and a new substation facility proposed for Luna County, New Mexico (referred to as Midpoint Substation). The two new fiber-optic regeneration sites would be located next to or in the ROW such that they would be accessed by access roads already required for transmission line maintenance. The existing substations along the Upgrade Section of the Project are close enough together that required communication equipment would be located within the substation perimeter (either existing or proposed new yards, as described above).

New communication regeneration sites would typically be 100 × 100 feet, with a fenced-in area of 75 × 75 feet. A 12 × 12 × 9–foot tall building (metal or concrete) would be placed on the site, and access would be available from the transmission line access roads. Entrances above the door of each building would be lit to allow for safe entrance and exit, but the rest of the site would not be lit at night.

Microwave regeneration sites would be co-located with fiber-optic sites if possible along the Upgrade Section, and are only anticipated to be needed along the New Build Section of the Project. As above, the existing substations along the Upgrade Section of the Project are close enough together that required communication equipment would be located within the substation perimeter (either existing or proposed new yards, as described above). The two new microwave regeneration sites along the New Build Section would be located off the ROW and their final location would be determined based on line of sight between substations. These locations would be determined during final engineering but would be located such that they would be accessed by access roads already required for transmission line maintenance.

New microwave communication regeneration sites would typically be 100 × 100 feet, with a fenced-in area of 75 × 75 feet. A typical site consists of a microwave equipment building, which houses telecommunication and network equipment, backup batteries, and chargers. The building would be approximately 12 × 12 × 9 feet tall and, where possible, microwave regeneration sites would be co-located with the fiber-optic regeneration site buildings (i.e., all equipment would be housed in the same building). Buildings would be finished to minimize visual impact, and lighting at night would be limited to an entrance light above the door for security and to allow for safe entrance and exit. The site would also have a microwave antenna installed on a self-standing tower approximately 100 feet tall.

Communication Regeneration Station Distribution Supply Lines

Power would likely be provided from a local electric distribution line, located in proximity to the regeneration site. The voltage of the distribution supply line is typically 12 kV or lower and carried on wooden poles. For the estimated two new sites, it would be necessary to extend the electric distribution line from a take-off point on the existing distribution line to the new site. The location and routing of the existing distribution lines to the new sites would be determined during the final design process.

3.2.5 Other Electrical Hardware

In addition to the conductors, insulator, and overhead shield and optical ground wires, other associated hardware would be installed on the structure as part of the insulator assembly to support the conductors

and shield wires. This hardware might include clamps, shackles, links, plates, and various other pieces composed of steel and aluminum.

3.2.6 Other Non-Electrical Hardware

Other hardware not associated with the transmission of electricity may be installed as part of the Project. This hardware may include aerial marker spheres or aircraft warning lighting, which may be required for the conductor on certain spans in accordance with FAA guidelines.

3.2.7 Substations

The proposed Project involves interconnection with and upgrades of 14 existing substations along the Project route in New Mexico and Arizona, and the potential construction of the proposed Midpoint Substation.

Project design has progressed resulting in a more refined Project description. As a result, at four substation locations within the Upgrade Section where the proposed Project was anticipated to include expansion of existing facilities, these expansions would more accurately be described as "new" substations. These four substation locations are Apache, Pantano, Marana, and Saguaro. Please note that these changes are only a refinement of the project description and do not change the disturbance areas and impact estimates.

A summary of substations associated with the proposed Project, land ownership, and the respective owner/operator is provided in table 6. Of the existing substations, there are two on BLM lands (Afton and Nogales), three on State lands in Arizona (Adams Tap, Pantano, and Tortolita), one on Reclamation lands (Rattlesnake), and eight on private land (Hidalgo, Apache, Vail, Del Bac, Tucson, DeMoss Petrie, Marana, and Saguaro). The Midpoint North Substation would be on New Mexico State Land Office–administered State and private lands.

Table 6. Project Interconnection Substations (Existing and Proposed)

Interconnection Substation	Owner/Operator	Section	Land Status
Afton	El Paso Electric	New Build	BLM
Midpoint*	Southline (owner); operator TBD	New Build	New Mexico State Land Office and private
Hidalgo	El Paso Electric	New Build	New Mexico State Land Office and private
Apache*	Southwest Transmission Cooperative (SWTC) and Southline	Upgrade	Private
Adams Tap	Western	Upgrade	Arizona State Land Department
Pantano*	SWTC and Southline	Upgrade	Arizona State Land Department
Vail	TEP	Upgrade	Arizona State Land Department and private
Nogales	Western	Upgrade	BLM
Del Bac	Western	Upgrade	Arizona State Land Department
Tucson	Western	Upgrade	Private
DeMoss Petrie	TEP	Upgrade	Private
Rattlesnake	Western	Upgrade	Reclamation
Marana*	SWTC and Western	Upgrade	Private

Table 6. Project Interconnection Substations (Existing and Proposed), Continued

Interconnection Substation	Owner/Operator	Section	Land Status
Tortolita	TEP	Upgrade	Arizona State Land Department
Saguaro*	Arizona Public Service and Western	Upgrade	Arizona State Land Department and private

* Midpoint Substation is a new proposed substation that is not interconnected with an existing adjacent substation. Apache Southline, Marana Tap-Sawtooth, and Sasco substations are new substation yards proposed to interconnect with neighboring substations ; all other substations in this table are existing substations.

As shown in table 6, substations along the New Build Section include the existing Afton and Hidalgo substations, as well as the proposed Midpoint Substation in New Mexico. Substations along the Upgrade Section include Apache/Apache (Southline), Adams Tap, Pantano/Pantano (Southline), Vail, Nogales, Del Bac, Tucson, DeMoss Petrie, Rattlesnake, Marana/Marana Tap-Sawtooth, Tortolita, and Saguaro/Sasco. Substation expansions and upgrades vary by substation.

3.2.8 Preliminary Access Road Information

Access roads would be required during construction for the movement of trucks, cranes, concrete trucks, bulldozers, and other light and heavy construction equipment to and along the ROW. Access roads would also serve as the primary means of movement for construction crews and Project materials. During operation, these roads would be needed to access transmission lines, substations, and ancillary facilities for period line inspections and scheduled and emergency maintenance over the life of the Project. As such, access roads must be sufficient to support the weight of construction equipment; upon completion of the proposed Project, access roads would be used by operation and maintenance vehicles.

The proposed Project would be designed, as feasible, to use existing access roads with minimal improvement. The level of construction for access roads would range from unimproved cross-country travel to completely bladed roads (see below for a description of access types A–E). For example, unimproved cross-country travel access (two-track) would be on flat, sparsely vegetated areas, and would be used to maintain the maximum amount of native vegetation and minimize overall disturbance instead of creating new roads, as appropriate. Improvements to existing roads that would be used as access roads would occur in areas where occasional blading would be needed on rough spots and would transition to more blading with other improvements on steep, rocky, or rough country. The intent is to do no more than is necessary to get equipment in and out safely and to prevent erosion. All roads would be within designated ROW, whether inside the main transmission line ROW, or outside in a 30-foot access road ROW.

In areas where improvements are required, access roads would be graded, as needed, to provide a smooth travel surface. Such improvements could include blading, widening of the road, or installing drainage structures, such as culverts. No graveling or paving is planned. Typically, Project access roads would have a travel surface width of 12 to 16 feet but could have a maximum width of 24 feet, depending on site-specific circumstances, such as steep terrain, and where needed to accommodate expanded turning areas for cranes and pole trucks. After construction, wider parts of the access roads would be revegetated. Access road types that could be used for this Project include existing roads that require no improvements, existing roads that require improvements, and new access roads.

Access roads would be designed to go directly from structure to structure, except in difficult terrain or where sensitive resources need to be avoided. In such cases, the road would follow suitable topography from structure to structure and would be built in areas that generally cause the least amount of overall disturbance, which may be outside the ROW in cases of difficult terrain. Typically, where the line spans a

river channel, or large steep-sided wash, access may come from either side to avoid damage to riparian vegetation.

The Access Road Plan for the proposed Project assumes that five primary types of access would be used[2]:

- **Access Type A** – Access from adequate private roads. This type of access would be used when there is no existing road adjacent or parallel to the alignment, but where there is a patchwork of existing roads in the area that would be crossed by the proposed Project ROW, and could be used to access the ROW and get close to the structure locations. Grading between the existing roads and each structure location would only be conducted where necessary and would depend on site conditions. Grading and other improvements may not be necessary, depending on site conditions. Typically, overall disturbance would be limited to a width of 16 feet or less. The purpose of using existing access from private roads would be to minimize overall disturbance.
- **Access Type B** – Parallel to maintained public roads. This type of access would be used when the alignment roughly parallels a nearby public road that is either paved or has gravel surfacing. Short spur roads would be used from the existing roads to each structure location as described below under access type E. Except in rare cases, the existing roads would not be upgraded, but any damage to public roads from construction activities would be repaired. The purpose of access roads parallel to a nearby public road would be to consolidate and minimize overall disturbance.
- **Access Type C** – Parallel to existing utility roads. This type of access would be used when the alignment roughly parallels an existing utility that already has an existing access road. Spur roads would be used from the existing utility roads to each structure location as described below under access type E. Generally, the existing utility roads would be improved. Grading between the existing utility roads and each structure location would only be conducted where necessary and would depend on site conditions. Grading and other improvements may not be necessary, depending on site conditions. Typically, overall disturbance would be limited to a width of 16 feet or less. The purpose of access roads parallel to a utility road would be to consolidate and minimize overall disturbance.
- **Access Type D** – New down-ROW primary access. This type of access would only be used when access types A–C are not feasible. It would consist of a 16-foot-wide road (12-foot travel surface plus 2 feet on either side for berms/ditches). As much as possible, new access would be entirely within the ROW. Typically, new down-ROW access would be used if any parallel roads are more than 700 feet from the alignment. This access type would also normally be used for alignments that parallel interstate highways and railroads because the owners of those facilities generally place restrictions on the use of their ROWs; these restrictions do not allow for the addition of spur roads or their related ROW crossings and gates in ROW fences.
- **Access Type E** – Spur roads–improved and unimproved access. Spur roads would be used to connect type A, B, and C access roads to the ROW and for temporary access to stringing and splicing sites. Spur roads would be unimproved (two-track) roads except in areas where grading may be required based on terrain, with an average of one new spur road per mile for temporary access and approximately five spur roads per mile in areas where type A, B, and C access roads are used for permanent access to structure locations. Only where necessary, spur roads would be improved, and the roads would be graded to 10 to 12 feet wide. Otherwise, spur roads would not be improved in areas with flat terrain and within grassland, desertscrub, sand scrub, and sand dune vegetation communities. Vegetation on unimproved roads may be crushed by driving, but cropping or blading vegetation would not be conducted. This would avoid removal of root mass

[2] Draft NEPA POD Note: Access roads and staging area locations shown in figures are preliminary only (especially along segments LD3a, LD3b, and P7a) and will be refined for the final POD.

and organics in the soil (no surface soil would be removed). The purpose of unimproved spur roads would be to preserve the maximum amount of native vegetation and minimize overall disturbance.

Once design is finalized, all access roads described above would be surveyed, appropriate ROW would be acquired, and ROW would be mapped and incorporated into the Access Road Plan and Management Plan.

3.3 INDUCED CURRENTS ON ADJACENT FACILITIES

Alternating current (AC) transmission lines have the potential to induce currents on adjacent metallic structures such as other transmission lines, railroads, pipelines, fences, or structures that are parallel to, cross, or are adjacent to the transmission line. To address induced-current effects on metallic facilities or structures within 200 feet of the proposed Project center line, these structures would be properly grounded as needed. This would eliminate the electric shock potential a person may experience when touching a metallic object near the proposed Project. Typically, the NESC determines what structures beyond 200 feet or more from the center line would require grounding. If grounding were required outside the ROW, a temporary use permit would be obtained, as needed.

3.4 LAND REQUIREMENTS AND CONSTRUCTION DISTURBANCE

The proposed ROW width for the New Build Section 345-kV double-circuit transmission line is 200 feet. The anticipated ROW width for the Upgrade Section 230-kV transmission line is 150 feet except in urban Tucson between Del Bac and Rattlesnake substations, where the ROW will likely remain at the existing width of 100 feet. These ROW widths have been requested to allow for the safe movement and operation of construction, operation, and maintenance equipment and to allow for sufficient clearance between conductors and the ROW edge, as well as equipment like bucket trucks, as required by the NESC. Southline is also requesting ROWs for ancillary Project facilities and for access to the transmission line.

3.4.1 Right-of-Way / Special-use Authorization Acquisition

New permanent and temporary ROW land rights would be required for the New Build Section. The requested ROW width for the New Build Section 345-kV double-circuit transmission line is 200 feet. New and temporary ROW may be required in areas along the Upgrade Section, depending on the final design considerations. No new ROW is anticipated in the Upgrade Section across Bar V Ranch in Pima County, and between the Del Bac and Rattlesnake substations; in these areas, the tear-down and rebuild in place method of construction would be necessary because in these congested areas, an additional 50 feet of ROW is not available. Tearing the line out and rebuilding in place requires outages on the existing line while construction is accomplished.

Temporary ROWs are also being requested for construction of the proposed Project facilities. These temporary use areas would include access to work areas at transmission line structure locations, material laydown yards, tensioning and pulling areas, splicing locations, and staging areas. Construction activities would be expected to occur over a 24-month period. Where access is needed outside the transmission line ROW, permanent ROWs for access roads to structure sites are also being requested in order to conduct maintenance throughout Project operation. Where ROW acquisitions are found to be necessary, Western or Southline would negotiate rights and compensate landowners. The landowner would retain the title and use of the easement with a few restrictions.

Before the start of construction of a project element, Southline would obtain a complete project element ROW through a combination of a ROW grant, special use permit, and easements from applicable Federal, State, and local governments, tribes, and private landowners. Close coordination with all property owners and land agencies during surveys and the construction phase of the proposed Project would be important for successful completion of the proposed Project. In the early stages of the proposed Project, landowners would be contacted to obtain right-of-entry for surveys and for geotechnical drilling at selected locations. Additional landowners would be contacted as needed throughout the proposed Project for additional surveys, including geotechnical work. Each landowner along the final centerline route would be contacted to explain the proposed Project and to secure right-of-entry and access to the ROW. Geotechnical drilling on Federal lands may require additional environmental analysis and field clearance under NEPA.

All negotiations with landowners would be conducted in good faith, and the proposed Project's effect on the parcel or other landowner concerns would be addressed. ROWs for transmission line facilities on private lands would be obtained as easements. Land for substation or regeneration stations would be obtained in fee simple where located on private land. A good-faith effort would be made to purchase the land and/or obtain easements on private lands through reasonable negotiations with the landowners. If Southline is unable to negotiate an easement or obtain clear title for the land right, Western may negotiate the easement, or obtain the necessary rights through condemnation proceedings, in accordance with Federal law. Western's policy is to avoid condemnation if at all possible.

Additional ROW may be required, depending upon site geography and terrain. These areas are identified to the extent possible during the NEPA process; however, some needs might be identified during the final engineering, preconstruction, or construction phases of the proposed Project. In some areas, longitudinal access roads would be sited within the transmission line ROW. In other areas, spur roads would connect existing roads to the transmission line ROW. Specific access road locations would be identified in the POD and subject to BLM approval through the ROD, as well as through the issuance of notice to proceed from the BLM. These areas would be subject to field surveys for cultural and biological resources, including native plant surveys and salvage prior to any disturbance. Planned access roads would be surveyed and specific ROW easements obtained from the landowners. All applicable PCEMs, as well as conditions in the Framework Plans, would apply.

3.4.2 Temporary and Permanent (Long-term) Construction Disturbance

Table 7 below includes a breakdown of potential temporary and permanent construction disturbance estimates, based on the proposed Project as described above and in the EIS. The component descriptions precede this section.

Table 7. Summary of Project Components and Estimated Temporary and Permanent Disturbance by Subroute, Segment, and Local Alternative

Subroute	Total Length (miles)	Land Ownership (miles)								Access Road Type (miles)					Total Length Access Roads (miles)	Total New Disturbance Access Roads (acres) (using road types C and D at 16-foot width less any existing disturbance and road type E at 12-foot width)	Subroute Structure Ground Disturbance Estimates				Substation Expansion (acres)		Construction Laydown Yard (acres)	Total Temporary Disturbance (acres) (structure, substation, and construction laydown yards)	Total Permanent Disturbance (acres) (access, substation expansion, and structure foundations)
																	Temporary Disturbance		Permanent Disturbance						
		BLM	BIA	DOD	Forest Service	Reclamation	State	County	Private	A	B	C	D	E			Acres	Acres/ Mile	Acres	Acres/ Mile	Temp	Perm			
New Build Route Group 1: Afton (New Mexico) to Hidalgo (New Mexico)																									
P1	5.1	3.0	0.0	0.0	0.0	0.0	1.9	0.0	0.2	0.0	0.0	0.0	5.1	0.0	5.1	9.9	28.7	5.6	0.5	0.1				28.7	10.4
P2	102.0	32.8	0.0	0.0	0.0	0.0	31.3	0.0	37.9	4.9	11.8	98.1	0.0	29.3	144.1	125.9	571.0	5.6	10.2	0.1			80.0	651.0	136.1
P3	31.1	25.4	0.0	0.0	0.0	0.0	1.4	0.0	4.2	0.0	0.0	0.0	31.1	0.0	31.1	60.3	174.2	5.6	3.1	0.1			20.0	194.2	63.4
P4a	8.9	4.2	0.0	0.0	0.0	0.0	3.7	0.0	1.1	0.0	0.0	8.8	0.0	1.9	10.7	10.2	50.0	5.6	0.9	0.1				503.0	11.1
Total	**147.1**	**65.5**	**0.0**	**0.0**	**0.0**	**0.0**	**38.3**	**0.0**	**43.4**	**4.9**	**11.8**	**106.9**	**36.2**	**31.2**	**206.3**	**206.3**	**824.0**		**14.7**		**20.0**	**35.0**	**100.0**	**944.0**	**256.0**
New Build Route Group 2: Hidalgo (New Mexico) to Apache (Arizona)																									
P5b	21.1	17.9	0.0	0.0	0.0	0.0	1.0	0.0	2.2	0.0	0.0	21.2	0.0	2.7	23.9	19.4	118.1	5.6	2.1	0.1			20.0	138.1	21.5
P6a	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.1	0.8	0.6	4.9	5.6	0.1	0.1			20.0	24.9	0.7
P6b	22.5	0.2	0.0	0.0	0.0	0.0	12.6	0.0	9.7	0.0	0.0	20.8	2.3	2.7	25.8	23.5	125.9	5.6	2.2	0.1				125.9	25.8
P6c	2.8	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	2.8	0.0	0.4	3.2	2.9	15.8	5.6	0.3	0.1			20.0	35.8	3.2
P7	22.3	2.3	0.0	0.2	0.0	0.0	8.5	0.0	11.3	0.0	0.5	22.1	0.0	3.8	26.4	21.6	125.1	5.6	2.2	0.1	0.0	0.0	20.0	145.1	23.8
P8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.5	0.1	2.8	5.6	0.1	0.1	0.0	0.0	0.0	2.8	0.1
LD3a	26.6	11.7	0.0	0.0	0.0	0.0	11.8	0.0	3.1	0.0	0.4	17.3	11.4	3.0	32.1	41.2	148.8	5.6	2.7	0.1			20.0	168.8	43.9
LD3b	2.2	1.3	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	2.0	0.0	2.2	0.0	2.2	4.2	12.2	5.6	0.2	0.1			20.0	32.2	4.4
Total	**98.8**	**34.3**	**0.0**	**0.2**	**0.0**	**0.0**	**37.6**	**0.0**	**26.8**	**0.5**	**0.9**	**84.9**	**15.9**	**12.8**	**114.9**	**113.5**	**553.5**		**9.9**		**20.0**	**53.0**	**120.0**	**693.5**	**176.4**

Table 7. Summary of Project Components and Estimated Temporary and Permanent Disturbance by Subroute, Segment, and Local Alternative (Continued)

Subroute	Total Length (miles)	Land Ownership (miles)								Access Road Type (miles)					Total Length Access Roads (miles)	Total New Disturbance Access Roads (acres) (using road types C and D at 16-foot width less any existing disturbance and road type E at 12-foot width)	Subroute Structure Ground Disturbance Estimates				Substation Expansion (acres)		Construction Laydown Yard (acres)	Total Temporary Disturbance (acres) (structure, substation, and construction laydown yards)	Total Permanent Disturbance (acres) (access, substation expansion, and structure foundations)
																	Temporary Disturbance		Permanent Disturbance						
		BLM	BIA	DOD	Forest Service	Reclamation	State	County	Private	A	B	C	D	E			Acres	Acres/ Mile	Acres	Acres/ Mile	Temp	Perm			
Upgrade Route Group 3: Apache (Arizona) to Pantano (Arizona)																									
U1a	16.1	0.4	0.0	0.0	0.5	0.0	8.8	0.0	6.4	4.9	0.0	11.9	0.0	7.0	23.9	18.9	81.9	5.1	0.2	0.01				81.9	19.1
U1b	2.9	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	2.7	0.0	0.1	2.8	2.5	14.8	5.1	0.0	0.01			20.0	34.8	2.5
U2	15.8	0.0	0.0	0.0	0.0	0.0	3.3	0.0	12.5	1.5	0.0	21.0	0.0	7.0	29.6	28.1	80.6	5.1	0.2	0.01				80.6	28.2
U3a	30.7	0.2	2.9	0.0	0.0	0.2	19.6	0.0	7.7	0.8	0.0	36.2	0.0	3.9	40.9	32.0	156.3	5.1	0.3	0.01			60.0	216.2	32.3
Total	**65.4**	**0.6**	**2.9**	**0.0**	**0.5**	**0.2**	**34.6**	**0.0**	**26.6**	**7.2**	**0.0**	**71.9**	**0.0**	**18.1**	**97.1**	**81.4**	**333.6**		**0.7**		**0.0**	**5.7**	**80.0**	**413.6**	**87.8**
Upgrade Route Group 4: Pantano (Arizona) to Saguaro (Arizona)																									
U3b	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.0	0.2	0.0	0.1	0.5	0.3	2.3	5.1	0.0	0.01				2.3	0.3
U3c	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.7	0.0	0.0	0.0	0.1	0.8	0.2	4.9	5.1	0.0	0.01				4.9	0.2
U3d	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.0	3.1	0.0	1.8	0.0	1.0	5.8	2.7	17.5	5.1	0.0	0.01				17.5	2.8
U3g	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.0	0.3	0.0	0.1	1.3	0.4	4.6	5.1	0.0	0.01				4.6	0.4
U3h	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.9	0.0	0.0	0.0	0.1	1.0	0.1	5.6	5.1	0.0	0.01				5.6	0.2
U3i	18.2	0.0	0.0	0.0	0.0	0.2	2.7	0.0	15.3	7.4	0.0	12.8	0.0	2.1	22.3	13.9	93.0	5.1	0.2	0.01			20.0	113.0	14.1
U3k	16.7	0.0	0.0	0.0	0.0	0.0	10.8	0.0	5.9	3.3	0.0	15.1	0.0	5.7	24.1	21.1	85.2	5.1	0.2	0.01			20.0	105.2	21.3
U3l	1.6	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.4	0.6	0.0	0.4	0.2	0.3	1.6	1.3	7.9	5.1	0.0	0.01				7.9	1.3
U3m	0.6	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.4	0.4	0.0	0.0	0.0	0.1	0.5	0.1	3.0	5.1	0.0	0.01				3.0	0.2
U4	1.9	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	1.8	0.0	0.5	2.3	1.6	9.8	5.1	0.0	0.01				9.8	1.6

Table 7. Summary of Project Components and Estimated Temporary and Permanent Disturbance by Subroute, Segment, and Local Alternative (Continued)

Subroute	Total Length (miles)	Land Ownership (miles)								Access Road Type (miles)					Total Length Access Roads (miles)	Total New Disturbance Access Roads (acres) (using road types C and D at 16-foot width less any existing disturbance and road type E at 12-foot width)	Subroute Structure Ground Disturbance Estimates				Substation Expansion (acres)		Construction Laydown Yard (acres)	Total Temporary Disturbance (acres) (structure, substation, and construction laydown yards)	Total Permanent Disturbance (acres) (access, substation expansion, and structure foundations)
																	Temporary Disturbance		Permanent Disturbance						
		BLM	BIA	DOD	Forest Service	Reclamation	State	County	Private	A	B	C	D	E			Acres	Acres/ Mile	Acres	Acres/ Mile	Temp	Perm			
U3aPC	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	4.7	1.5	0.0	1.3	7.5	3.1	31.6	5.1	0.1	0.01				31.6	3.2
MA1	1.1	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.0	0.0	0.0	0.0	0.2	1.2	0.3	5.6	5.1	0.0	0.01				5.6	0.3
TH1a	1.4	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.2	0.0	1.5	0.0	0.0	0.2	1.7	0.3	7.2	5.1	0.0	0.01				7.2	0.3
TH1-Option	1.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.3	0.0	0.4	0.0	0.0	0.1	0.5	0.1	5.0	5.1	0.0	0.01				5.0	0.1
Total	**55.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.2**	**18.9**	**0.4**	**36.0**	**18.5**	**6.6**	**33.9**	**0.2**	**11.9**	**71.2**	**47.3**	**283.07**		**0.6**		**36.0**	**45.4**	**40.0**	**359.1**	**93.3**

Note: Segment information presented only for the Agency Preferred Alternative in the Final EIS.

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Chapter 4

OPERATION AND MAINTENANCE

4.1 INTRODUCTION

Regular inspection and maintenance of transmission lines, substations, and support systems is critical for safe, efficient, and economical operation of the Project. This section provides information describing operation and maintenance activities, including transmission line patrols, inspections, tower and wire maintenance, vegetation maintenance, maintenance of access roads, and emergency maintenance.

4.2 SYSTEM INSPECTION, MAINTENANCE, AND REPAIR

Responsibly conducted inspections and routine maintenance activities are anticipated to have minimal impacts and are usually authorized under the transmission line easements and ROW grant. While carrying out routine maintenance activities, field personnel and contractors would adhere to basic standards and guidelines contained in other sections of the Project POD, special use stipulations, and any additional requirements (such as periodic review of the implementation plans associated with operation and maintenance) identified in the decision documents that apply to the specific area where work is to be done.

With the exception of emergency maintenance activities (refer to Section 4.2.3 – Emergency Maintenance Activities), Southline and Western would coordinate with the appropriate land management agency to review any new information or specific requirements concerning cultural, paleontological, and biological resources (e.g., federally listed species, special status species, seasonal restrictions, habitat concerns, etc.), prior to initiating inspection, maintenance (including vegetation management), and/or repair activities. PCEMs (refer to Chapter 5 – Environmental Mitigation Measures) apply to construction and operation and maintenance activities. If for any reason the operation or maintenance activities require deviation from the basic standards and guidelines or those approved by the land management agency, field personnel and contractors would coordinate with the designated agency contacts prior to initiating the activity and/or during the activity if any unanticipated biological, cultural, or paleontological resource issues are encountered.

This section describes the typical activities involved in the inspection and maintenance of the transmission line. The different activities can be categorized in three groups: Routine Activities (Section 4.2.1), Major Maintenance Activities (Section 4.2.2), and Emergency Maintenance Activities (Section 4.2.3).

4.2.1 Routine Activities

Routine Inspection

Regular ground and aerial inspections would be performed in accordance with the applicable Western/Southline requirements, which are in turn based on regulations, industry standards, and best management practices (BMPs). The transmission lines and substations would be inspected for corrosion, equipment misalignment, loose fittings, vandalism, and other mechanical problems. The need for vegetation management would also be determined during inspection patrols. Annual maintenance activities are typically conducted by using helicopters, ground vehicles (4 × 4 trucks or all-terrain

vehicles), or on foot. Visual or infrared inspections of the entire Project would be conducted annually. Typically, 10 percent of all structures would be inspected during annual structure-climbing inspections, so that each structure is inspected every 10 years. Aerial inspection would be conducted by helicopter, generally in the spring and fall.

Aerial inspection by helicopter is conducted during the spring and fall of each year based on weather conditions, helicopter availability, and statutory requirements of the states served by Southline. The aerial inspections are conducted to identify ROW encroachments and conditions that pose an immediate hazard to the public or employees, or that risk immediate loss of supply or damage to the electrical system. The aerial inspections use helicopters to get an observer in a position for observation above the transmission line. The observer assesses the condition of the transmission lines and hardware to determine whether any components need to be repaired or replaced or if other conditions exist that require maintenance or modification activities. Any conditions identified are to be resolved prior to peak demand in the summer and winter months. The aerial inspections are dependent on weather, flight-control restrictions, and the extent of damage assessment required.

Ground inspections would be done on approved access roads or along the transmission line ROW to each structure as appropriate and are anticipated to occur every 2 to 3 years. The inspector would access each of the structures and check all equipment and other components that could require repairs. Inspections assess the condition of the line and hardware to determine whether any component needs to be repaired or replaced and whether other conditions exist that may require maintenance or modification. Inspections also assess any unauthorized encroachments and/or trash dumping in the ROW that could constitute a safety hazard. Inspectors performing such inspections would use conventional four-wheel-drive trucks or four-wheel-drive all-terrain vehicles, or the inspector may walk the line. The annual ground inspection would be conducted at a time deemed appropriate based on the weather conditions, results of aerial inspections, and other conditions subject to change on an annual basis. Southline may perform minor repairs during its ground inspections such as installing new numbers, installing/repairing ground wire, or performing other minor tasks that would not involve long duration, specialized equipment, or large work crews. Climbing inspections would be conducted to coincide with bolt checking and tightening on lattice structures.

In the event of an outage or interruption in the transmission of electricity or other failure, Southline or its contractor would perform detailed inspections of the transmission line to determine the cause. The extent of activities associated with outage inspections is explained in more detail below in section 4.2.3.

Routine Maintenance

Routine maintenance activities are ordinary maintenance tasks that have historically been performed on a routine basis. In the Upgrade Section these activities have been performed following Western's standard procedures. Routine maintenance would include the replacement of individual structures, components, cables, lines, insulators, and other facilities that, due to obsolescence, age, wear, or isolated damage such as lightning or gunshot, are in need of replacement or repair. The work performed is typically repair or replacement of individual components, performed by relatively small crews using a minimum of equipment, and usually is conducted within a period from a few hours up to a few days. Routine maintenance activities may consist of more immediate activities, where repairs must be made within a short period of time in order to ensure the line does not suffer an outage or cause safety concerns, or longer-term routine maintenance activities, where repairs may be made during regularly scheduled maintenance activities.

The type of equipment used to perform routine maintenance activities varies depending on the extent of the work to be performed. Typical equipment used for these kinds of activities include four-wheel-drive

pickups, man-lifts, material flatbeds, line trucks, cranes, tractor trailer, high-reach boom trucks, and bulldozer/caterpillar.

Workers require access to the damaged portion of the line to allow for a safe and efficient repair of the facility. Equipment required for this work may include four-wheel-drive trucks, material (flatbed) trucks, low-reach boom trucks, high-reach boom trucks, bulldozer/caterpillar, or man lifts. Routine maintenance is scheduled and is typically required due to issues found during inspections. Typical items that may require periodic replacement on towers include conductors, insulators, shield wires, fiber-optic lines, and related equipment. It is expected these replacements would be required infrequently (every 5 to 10 years) or as determined by inspection.

Maintenance on transmission lines can often be completed safely using live-line techniques in order to avoid interruption of service to critical transmission line infrastructure. High-reach boom trucks, along with other equipment, are used to conduct these activities.

Typically, maintenance vehicles and equipment would remain within the permanent maintenance work area that surrounds the structure, and no new ground disturbance would be required. If maintenance activities and/or equipment are required beyond the permanent maintenance work area, maintenance crews would coordinate with the land management agency to obtain any required temporary use approval/permits to complete the work, and maintenance activities would be conducted within the previously disturbed temporary work areas from Project construction. In such cases, reapplication of reclamation treatments may be required after completion of maintenance activities, as determined by the appropriate land management agency. All PCEMs outlined in this POD apply to design, construction, and maintenance activities as reflected in Chapter 5 – Environmental Mitigation Measures.

Routine Vegetation Management

Work areas adjacent to electrical transmission structures and along the ROW would be maintained for vehicle and equipment access necessary for operations, maintenance, and repair. Vegetation management practices along the ROW would be in accordance with NESC ANSI A300 Part 7, "American Operations Integrated Vegetation Management" (BLM's Integrated Vegetation Management Handbook – H 1740-02, March 25) (BLM 2008), Western Order 430.1A and Order 450.3A (see Appendix C2 – Vegetation Management Standards), electric utility ROWs, and International Society of Arboriculture BMPs (Kempter 2004).

At a minimum, trees and brush, when present, would be cleared within a 10-foot radius of the base or foundation of all electrical transmission structures. Within or adjacent to the ROW, mature vegetation would be removed under or near the conductors to provide adequate electrical clearance, as required by the North American Electric Reliability Corporation (NERC) and Department of Energy. Trees and other vegetation would be removed selectively to provide the required transmission line clearance. Vegetation management activities would focus on establishing sustainable native plant communities that are compatible with the electric facilities. Establishment of vegetation would also reduce the potential for noxious weeds to become established in the ROW. If there is a conflict between the requirements of the land management agency or landowner and Western's standard procedures for vegetation management, the land management agency or landowner requirements would be followed unless they directly result in a violation of NERC standards. Where practicable, vegetation that does not pose a fire hazard or physical impedance would not be cleared.

The proposed Project primarily crosses areas of low-growing shrubs and grasses. Where needed, vegetation would be removed using mechanical equipment, such as chain saws, weed trimmers, rakes, shovels, mowers, and brush hooks. Shrubs and other obstructions would be removed regularly near

structures to facilitate inspection and maintenance of equipment comply with NERC Reliability Standard FAC-003-1, and ensure system reliability. In limited areas, chain saws may be required for trimming larger trees. The duration of activities and the size of crew and equipment required would be dependent on the amount and size of the vegetation to be trimmed or removed. It is assumed that a crew size of four with a working foreman would be able to complete 2 miles a day of vegetation maintenance. Although unlikely to be necessary, species-dependent herbicide could be applied subsequent to vegetation clearing to prevent regrowth of that vegetation and/or noxious and invasive weeds. All pesticide and herbicide applications would be performed by a licensed applicator and in accordance with all label instructions and Federal, State, and local regulations, and in compliance with land management agency and/or landowner requirements, including obtaining a Pesticide Use Permit if herbicide is used on agency-administered lands. Aerial application of herbicide would not be performed.

Routine Right-of-Way and Access Road Maintenance

Repairs to access roads within the ROW would be scheduled as a result of line inspections or would occur in response to a significantly degraded condition or an emergency situation. Ground disturbance during maintenance activities would be approved by the BLM authorized officers or would be authorized at Western's Desert Southwest Region. Where access would be required for maintenance of the line, Southline/Western shall maintain the approved access roads in a safe, usable condition, as directed in consultation with the appropriate land management agency. Required maintenance equipment may include a small bulldozer, a backhoe, a four-wheel-drive pickup truck, a front-end loader, and, on rare occasion, a motor grader. The bulldozer and loader have steel tracks or large tires, whereas the grader, backhoe, and truck typically have rubber tires.

Access road repairs include grading or repair of existing maintenance access roads and work areas and spot repair of sites subject to flooding or scouring. In some cases, cut and/or fill of foreign material may be required to repair the access roads into suitable condition for safe travel of maintenance repair vehicles such as high-reach boom trucks. When an approved access route into a structure location would need improvement, heavy equipment appropriate for the required work would be used after notifying the appropriate land management agency. Any berms or boulders that were in place to limit access would also be reclaimed after completion of the maintenance work. Activities related to ROW repair are usually conducted outside of the rainy season.

Routine Substation and Communication Regeneration Site Maintenance

Substation and regeneration stations are unmanned stations. Monitoring and control are performed remotely. Unauthorized entry into facilities is prevented with the provision of fencing and locked gates. Warning signs would be posted and entry to the operating facilities would be restricted to authorized personnel. Remotely monitored security systems would be installed. Several forms of security would be planned for each of the locations. Security measures may include fire detection in the control building via the remote monitoring system, alarming for forced entry, and a perimeter security system coupled with remote-sensing infrared camera equipment in the fenced area of the station to provide the system operator with visual observation of disturbances at the fence line. Minimal lighting for routine needs at the substation would be provided inside the substation fence. Maintenance crews would bring adequate lighting in the event that emergency repair work is required. All lighting would be shielded downward to minimize contributions to sky glow.

Maintenance activities include equipment testing, equipment monitoring and repair, and emergency and routine procedures for service continuity and preventive maintenance. It is anticipated that maintenance at each substation would require approximately six trips per year by a two- to four-person crew. Routine

operations would require one or two workers in a light utility truck to visit the substations monthly. Typically, a major maintenance inspection would take place once per year, requiring up to 15 personnel for 1 to 3 weeks. Regeneration stations would be visited every 2 to 3 months by one individual in a light truck to inspect the facilities. Annual maintenance would be performed by a two-person crew in a light truck over a 2- to 5-day period.

4.2.2 Major Maintenance Activities

Major maintenance activities would be relatively large-scale efforts that occur on an infrequent basis. These activities require planning and budgeting in advance, as well as agency coordination. They may involve larger work crews than routine maintenance activities and a variety of equipment, including heavy equipment, and usually require several days or longer to complete. Examples of major maintenance activities include structure relocation, conductor replacement, or access route reconstruction and relocations. Generally, these types of activities would occur on approximately 1 percent of structures annually, but may also occur during emergency outage conditions to replace damaged infrastructure.

Southline would identify proposed major maintenance activities and notify the designated contact for the appropriate land management agency before initiating major maintenance activities. Southline and the land management agency would identify what, if any, special notification or additional clearance approvals are required prior to conducting the proposed major activities.

When Southline's field personnel and contractors carry out major maintenance activities, they would be required to adhere to all standards and guidelines contained in the approved POD, terms and conditions of the ROD, any site-specific activity or timing constraints, and the requirements of any mutually agreed-upon additional clearance or special notification requirements. On BLM- administered public land, all stipulations and PCEMs identified as applicable in any of the POD volumes should be adhered to for the life of the BLM ROW grant.

4.2.3 Emergency Maintenance Activities

During the operation and maintenance of the transmission line, Southline would reduce or prevent, to the greatest extent possible, any emergency activities (defined as situations that could threaten life, property, or resources). Even so, unforeseen emergency conditions may arise. The operation of the system is remotely managed and monitored from control rooms at Southline's operation center in Arizona. Electrical outages or variations from normal operating protocols would be sensed and reported at this operation center. As well, the substations are equipped with remote monitoring, proximity alarms, and in some cases video surveillance.

Examples of emergency maintenance include activities necessary to restore power due to a transmission structure or conductor failure due to natural hazard, fire, or human-caused damages to a line. Such work is required to eliminate a safety hazard, prevent imminent damage to the power line, or restore service if there is an outage. In an emergency, Southline must respond as quickly as possible to restore power.

In practice, as soon as an incident is detected, the control room dispatchers would notify the responsible operations staff in the area(s) affected and crews and equipment would be organized and dispatched to respond to the incident. In these cases, Southline would notify the designated contact from the appropriate land management agency concurrently with responding to the emergency. The land management agency may elect to have a representative present during emergency operations and/or to conduct a post-event site visit to evaluate Southline's response, assess impacts, and propose remedial measures for discussion.

Southline would adhere to the same constraints identified for routine and major maintenance activities to minimize impacts to resources, when possible.

The equipment necessary to carry out emergency repairs is similar to that necessary to conduct routine maintenance, in most cases. Emergency response to outages may require additional equipment to complete the repairs.

Southline's employees and contractors would be equipped with approved suppression tools and equipment. Southline or their construction contractor(s) would notify local fire authorities and the appropriate land management agency if a Project-related fire occurs within or adjacent to a construction area.

If Southline becomes aware of an emergency situation caused by a fire on or threatening agency-managed lands and that could damage the transmission lines or their operation, they would notify the appropriate agency contact (refer to Appendix B10 – Emergency Preparedness and Response Plan for a complete list of appropriate emergency contacts). Specific construction-related activities and safety measures would be implemented during construction of the transmission line to prevent fires and to ensure quick response and suppression if a fire occurs.

Emergencies are events requiring immediate response to a condition and may include fires, car-to-pole contact, downed poles, transformer outages, vandalism, etc. All applicable fire laws and regulations, including land management agency fire-safety standards, would be observed during the operation period. If extreme fire conditions occur, the land management agency representatives would be contacted and access could be restricted. Maintenance personnel would coordinate with the agency representatives and implement practical measures to report and suppress fires. Measures may include brush clearing, stationing a water truck at the site to keep ground vegetation moist in extreme fire conditions, enforcing red flag warnings, etc.

Chapter 5

ENVIRONMENTAL MITIGATION MEASURES

5.1 INTRODUCTION

This section briefly describes the environmental issues by resources and the framework plans to be included as appendices to this POD, when finalized. Environmental mitigation measures are referred to in the EIS as PCEMs.

5.2 SUMMARY OF ENVIRONMENTAL ISSUES BY ENVIRONMENTAL RESOURCE

The summary in this section is intended to provide an overview of the types of environmental impacts associated with the construction, operation, and maintenance of the Project and context for the design features for environmental protection in the Project description and site-specific PCEMs.

5.2.1 Air Quality

Construction of the transmission lines and substations would result in emissions of air pollutants from equipment exhaust, vehicle exhaust from travel to and from construction areas, and fugitive dust from soil disturbance. Overall, impacts on air quality from the Project construction would be temporary, localized to the vicinity of the activity, and would disperse quickly or settle. The overall level of impact would be minor.

5.2.2 Noise

Construction of the transmission line may result in audible noise from Project equipment and vehicles. Unmitigated noise levels could result as high as 83 A-weighted decibels (dBA) to sensitive receptors near proposed Project construction activities (within 100 feet); however, construction noise would be major but temporary.

Corona-generated noise for both the New Build and Upgrade sections of the proposed Project would be highest in areas where the new lines would be constructed in close proximity to existing transmission lines. Overall, because of the relatively dry nature of the area crossed by the proposed Project, the overall level of operational noise would be minimal.

5.2.3 Geology and Mineral Resources

The only potential impacts identified for geology and mineral resources would be indirect impacts to mining districts during operation and maintenance of the transmission line. The New Build Section crosses small areas of active and inactive mining districts; however, no known mines, active or inactive, would be crossed. No metal or nonmetallic resources were specifically identified within the Upgrade Section. No known mines, active or inactive, would be crossed by the Upgrade Section. The Project would not produce obvious changes to the baseline conditions of the resource, and potential impacts would be minor.

5.2.4 Soil Resources

Potential impacts to the soil resources include accelerated rates of erosion and loss of soil productivity due to the removal of soils during construction of access roads, and at structure and substation sites. Clearing of vegetation and topsoil, as well as grading, would result in newly exposed, disturbed soils that could be subject to accelerated rates of erosion by wind or water. Construction may also cause disturbance to fragile biological crusts, increasing erosion and delaying reestablishment of plant communities. Indirect impacts associated with soil removal may include invasive plant colonization, soil erosion, and reduction in soil water retention due to compaction. Overall impacts to soil resources would be minor.

5.2.5 Paleontological Resources

Potential negative impacts to paleontological resources could result from the loss of important fossils due to ground-disturbing activities during construction in sensitive geological deposits. Potential positive impacts to paleontological resources could result from the discovery of important fossils as an inadvertent result of ground-disturbing activities that would otherwise be unavailable for study. The New Build Section crosses through areas with High Sensitivity for paleontological resources, whereas the Upgrade Section is almost entirely classified as Low Sensitivity.

Overall impacts to paleontological resources would range from no impact to moderate impact. If fossils are present, adverse impacts to paleontological resources would be mitigated in accordance with applicable laws and regulations. PCEMs would include paleontological surveys of sensitive geological deposits, the development and implementation of a Paleontological Resources Treatment Plan, education of construction and maintenance personnel, construction monitoring, and preparation and curation of collected fossils.

5.2.6 Water Resources

Potential impacts to water resources include the potential for discharge of pollutants, including sediment, to groundwater or surface water, the placement of larger structures within floodplains, and potential disturbance of waters of the U.S. (WUS) or wetlands. Proper implementation of BMPs and controls would prevent discharge of pollutants. Avoidance measures during final siting would prevent most disturbances of WUS or wetlands, and impacts would be minor.

5.2.7 Biological Resources

The construction, operation, and maintenance of the Project would result in both direct and indirect effects on biological resources. Direct effects associated with construction activities would likely include (1) behavioral disturbance and the displacement of wildlife (temporary); (2) habitat loss, modification, and fragmentation, including increased potential for the establishment and spread of noxious weeds in disturbed areas (long-term); (3) the long-term displacement of individual animals; and (4) the potential for mortality, primarily for wildlife species with limited mobility (temporary).

Indirect effects associated with Project-related activities can result from the construction of permanent access roads, which can be used by the general public to access currently inaccessible habitats. This additional human presence and activity and vehicle noise can result in displacement, abandonment of habitat, behavioral disruption, and additional stress during critical periods. New access into previously inaccessible habitats can increase displacement of wildlife and mortality by legal hunting or poaching.

Public use of access roads can facilitate the spread of noxious weeds and increase the risk of human-caused wildfire. These indirect effects can be permanent.

Vegetation

The proposed Project would involve the removal of vegetation during construction activities, resulting in the direct loss of plant communities. The primary direct and indirect impacts to vegetation and special status species during construction and operation of the proposed facilities would be associated with removal and/or crushing of vegetation communities from construction of the proposed Project; decreased plant productivity from fugitive dust; and plant community fragmentation.

There would also be indirect effects resulting from the fragmentation of connected vegetation types. Edge areas have different microclimatic conditions and structure, which could lead to a different species composition than in the interior area. The introduction and colonization of disturbed areas by invasive exotic plant species also would lead to changes in vegetation communities, including the possible shift to a more wildfire-prone vegetation that favors invasive exotic species over native species.

Much of the Project is located in previously disturbed areas and with the application of PCEMs, impacts to vegetation resources would be minor. PCEMs would be applied to reduce, avoid, or otherwise provide compensation for impacts to sensitive vegetation: (1) vegetation disturbance would be minimized to the extent practicable; (2) a Reclamation, Vegetation, and Monitoring Plan would be developed and implemented; (3) a Plant and Wildlife Species Conservation Measures Plan would be developed and implemented; (4) clearing of riparian vegetation would be avoided where possible; (5) a Noxious Weed Management Plan would be developed and implemented; and (6) construction equipment would be washed prior to moving onto the construction site to limit introduction and spread of noxious weeds. Additional mitigation provided by the AGFD around the Willcox Playa Wildlife Area is also considered.

Wildlife

Potential Project-related impacts on wildlife include the loss, degradation, and/or fragmentation of habitat; collisions with and crushing by construction vehicles; loss of burrowing animals in burrows in areas where grading would occur; increased invasive and noxious weed establishment and spread; increased noise/vibration levels; increased potential for migratory birds to strike transmission lines; and increased access for off-highway-vehicle (OHV) users.

The transmission line ROW would serve as a movement corridor for some species and as a barrier to others. The proposed Project would increase the amount of edge habitat along the ROW. Effects from increased amounts of edge would include decreased habitat block size. Decreased habitat block size may negatively impact those species that require large blocks of contiguous habitat and benefit other species that use edge habitats or have more general habitat requirements.

The following impacts to general wildlife and special status species may occur with construction and operation of the proposed transmission line:

- Habitat for the northern aplomado falcon (*Falco femoralis septentrionalis*), Sprague's pipit (*Anthus spragueii*), lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*), Mexican long-nosed bat (*Leptonycteris nivalis*), and Sonoran desert tortoise (*Gopherus morafkai*) would be impacted. Restoration of disturbed areas, measures to minimize invasive plant establishment and spread, and closure of access roads to OHV use would reduce impacts on habitat for these species.

- Segment P7 would pass northwest of Crane Lake and through the AGFD-managed Willcox Playa Wildlife Area. Mitigation (PCEMs) requested by the AGFD includes (1) funding the relocation of Crane Lake away from P7, (2) funding riparian emergent wetlands along Kansas Settlement Road, and (3) funding the management of non-native vegetation; these would be implemented to reduce the intensity of impacts to habitat in the Willcox Playa Wildlife Area.
- Potential mortality of wintering sandhill cranes (*Grus canadensis*) could occur at Willcox Playa where the proposed Project would intersect their daily migration flights to feed in agricultural fields to the south and east. There is the potential for sandhill crane collisions with the transmission line during daily migration, which could impact individual sandhill cranes. Implementing PCEMs such as the relocation of Crane Lake (see above), and installation of line marking devices, would decrease the potential for birds striking transmission lines near Willcox Playa.
- Impacts to northern Mexican gartersnake (*Thamnophis eques megalops*) proposed critical habitat at the Cienega Creek and San Pedro River crossings would be avoided through Project siting.
- Impacts on Gila chub (*Gila intermedia*) designated critical habitat downstream from the Cienega Creek crossing would be avoided through Project siting and erosion-control measures.
- Habitat for BLM Sensitive Species, New Mexico Wildlife Conservation Act Species, New Mexico Species of Greatest Conservation Need, Arizona Wildlife Species of Concern, Arizona Species of Greatest Conservation Need, and migratory birds would be lost, fragmented, and degraded. Measures to limit ground disturbance, avoid aquatic and riparian habitats, limit invasive plant establishment and spread, and restore disturbed areas would reduce impacts on habitat for these species.
- Habitat for the Tucson shovel-nosed snake (*Chionactis occipitalis klauberi*) would be impacted near the Santa Cruz River crossing in segment U3k.

With the application of PCEMs, impacts to wildlife resources would be minor. PCEMs to minimize impacts to wildlife habitat could include limiting the area of disturbance and restoration of disturbed areas, and avoidance of aquatic and riparian areas. PCEMs could also include preconstruction surveys, erosion-control measures, a worker training program, and measures to limit invasive species establishment and spread.

5.2.8 Cultural Resources

Potential impacts to cultural resources such as archaeological sites, historic built environment resources, trails, and American Indian traditional use areas and sacred sites could result from construction, operation, and maintenance of the proposed Project. Loss of integrity would be the primary adverse direct or indirect impact to cultural resources. In terms of historic properties, loss of integrity often stems from alterations of a resource's characteristics that make it eligible for the National Register of Historic Places (NRHP). During construction, direct impacts would result from ground disturbance if resources are present and would be long term; indirect impacts would result from visual encroachment on a resource's setting during structure and facility installation and would be long term. During operation and maintenance, long-term visual impacts would occur from the presence of the transmission line if resources are present.

Avoidance of resources through design and micro-siting would be the preferred mitigation measure (PCEMs). Even with the application of PCEMs, there would be some major impacts to cultural resources. If avoidance is not feasible, other types of mitigation such as monitoring or data recovery would be needed. A Historic Properties Treatment Plan (HPTP) would be developed to outline all non-avoidance

mitigation. Consultation with agencies, the New Mexico and Arizona State Historic Preservation Officers, and interested parties is ongoing, including the development of a Programmatic Agreement (PA). The PA outlines steps by the agencies, the Project proponent, and other consulting parties to be taken prior to construction and during operation and maintenance of the proposed Project to comply with the National Historic Preservation Act (NHPA).

5.2.9 Visual Resources

Regional landscapes in the Project area range from developed urban and suburban landscapes to rural areas and areas of intact character. Features within the Project area include foothills, mountains, basins, playas, valleys, and agricultural development ranging across the Chihuahuan and Sonoran deserts.

The construction, operation, and maintenance of the Project would result in direct effects on visual resources where:

- Landscape scenery would be degraded by the presence of vertical elements in the landscape (transmission line structures), areas of cleared vegetation (ROW clearing), and exposed soil from the construction of new permanent access roads.
- Views from sensitive viewpoints would be adversely modified through the introduction of Project components into the landscape
- The Project would not comply with Federal agency visual management objectives where Project components would contrast with or modify the characteristic landscape to a level that would not be consistent with the established management objectives or applicable planning documents.

During Project siting and engineering and design, PCEMs, where feasible, would be applied to all areas of potential moderate/high and moderate initial impacts to reduce impact levels where necessary and effective. Even with the application of PCEMs some minor to major impacts to visual resources would remain.

5.2.10 Land Use, Including Farm and Range and Military Operations

Land Use

The proposed Project would be constructed across lands owned and managed by Federal, State, private, or other entities, under a variety of RMPs, comprehensive plans, or other land use plans. The proposed Project cross large tracts of undeveloped land, as well as urban and suburban areas. Federal and State-managed lands are generally used for grazing, farming, recreation, and open space. BLM and State lands are primarily used for grazing or recreation in open-space areas. Residential uses are located on private lands in rural areas and near small cities and towns.

Major portions of the proposed Project parallel existing linear facilities in disturbed corridors, including transmission and distribution lines, roads, and abandoned railroad ROWs. The eastern portion (New Build Section) of the proposed Project would be located in open range–type land uses, crossing mountain ranges (including the Continental Divide) and valley/basins. Farther west (Upgrade Section), the distance between the valley/basins and mountain ranges becomes less, and urban populations surround the Tucson metropolitan area.

In general, land use impacts would be minimized where linear utilities are constructed within established or designated corridors. The alignment of the transmission line route was sited to maximize the use of established utility corridors, and to avoid conflicts with incompatible land uses such as wilderness, national parks and monuments, special management areas, conservation areas, densely populated areas, and military installations. Impacts to land uses would occur in some form along portions of the route that cross undeveloped lands, irrigated agricultural lands, residential subdivisions, and areas used for industrial or military testing and training. PCEMs would be effective in avoiding or minimizing direct impacts with land uses in most conditions. There would be no direct displacement of existing land use authorizations or ROWs, or residential, business, or industrial structures. Impacts to land use, including farm and range resources and military operations, would be minor.

Farm and Range Resources

Construction of the transmission line would have direct effects on farmlands and rangelands by removing land acreage from productivity. In the Upgrade Section, the existing transmission line has already resulted in conversion of Natural Resources Conservation Service–classified farmland to non-farmable condition. The proposed Project of upgrading to monopoles may have less of an impact on farmland than the existing H-frame transmission line. Except under extraordinary circumstances, all operation and maintenance activities would occur within the transmission line ROW and access roads. These activities would not directly or indirectly impact adjacent farmlands or rangelands. Landowners would continue to have use of the land within the ROW, and no new fences would be constructed that would block access unless specifically requested by the landowner. No direct effect would occur on farmlands and rangelands during the operation and maintenance phase of the proposed Project beyond the long-term loss of lands resulting from Project construction.

Military Operations

Impacts to military operations could occur from construction, operation, and maintenance of the proposed Project where the transmission line, substations, and ancillary facilities intersect with military-owned, leased, or withdrawn (including Electronic Proving Ground) lands. These lands could include military training visual routes or areas where training is for electronics and communications. Impacts would be below thresholds since the sections that may intersect military training areas include existing transmission line facilities, and the military operations have operated in conjunction with these facilities previously.

5.2.11 Special Designations

BLM special designations include congressionally designated national wild and/or scenic rivers; national conservation areas; national byways; and national scenic, historic, or recreation trails. The BLM may also create special designations through administrative resource inventories or during the planning process, such as cooperative management areas and protection areas, outstanding natural areas, forest reserves, wilderness study areas, areas of critical environmental concern, research natural areas, special recreation management areas, special management areas, backcountry byways, and energy zones.

Impacts from construction activities would include direct ground disturbance and temporary increases in ambient noise levels in areas where the transmission line, substations, and ancillary facilities intersect or are adjacent to special designations. Overall impacts on special designations would be minor.

5.2.12 Wilderness Characteristics

The proposed Project would not directly impact wilderness characteristics (naturalness and opportunities for solitude or primitive, unconfined recreation). Potential indirect impacts could result from construction activities and temporary increases in ambient noise levels in areas where the Project is near lands with wilderness characteristics.

5.2.13 Recreation

The proposed Project would result in minor changes to the recreation setting and desired recreation experiences during construction. The changes would be minor because the majority of the segments that form the proposed Project would follow existing facilities; thus, the recreation setting and desired recreation experiences would already include/anticipate the presence of transmission lines.

Where the proposed Project does not follow existing ROWs, the recreation setting and desired recreation experiences would change from the existing conditions of undeveloped landscape to a developed landscape. This change to the recreation setting is not anticipated to preclude any desired recreation experiences since recreational opportunity for all recreational pursuits in the area would still be available within the area except within the footprints of the transmission line towers. During construction, disrupted hunting opportunities would not be a significant impact, since the areas within game management units that are outside of the proposed Project footprint would remain available for hunting. No hunting opportunities would be displaced during operation and maintenance of the proposed Project. Overall impacts from the proposed Project on recreation would be minor.

5.2.14 Socioeconomics

In general, the proposed Project would not have a significant impact on regional population or housing as a result of construction or operation. Construction of the transmission line would directly and indirectly create jobs, some of which would be filled by local workers. The addition of non-local construction workers has the potential to create isolated, short-term shortages in temporary housing, especially in the more remote portions of the project area. The proposed Project would generate State and local tax revenues during both construction and operation/maintenance; overall impacts would be minor.

5.2.15 Environmental Justice

A high proportion of the census tracts crossed by the proposed Project can be defined as environmental justice communities, meaning they either have higher minority populations or a greater proportion of residents living below the poverty line, or both. These communities may be adversely affected by localized impacts, including noise and other disruptions during the construction phase, and potentially diminished property values and visual characteristics during the operation and maintenance of the Project.

Environmental justice communities may also be positively affected by the benefits of the proposed Project, including the short-term economic stimulus from construction activities and expenditures, short-term and longer-term increases in tax revenues, and added capacity and reduced congestion for electricity transmission. Because these benefits are likely to be more geographically dispersed than the localized adverse effects, however, it is uncertain whether or not low-income and minority populations would receive disproportionate benefits from the proposed Project. Given the prevalence of low-income and minority residents throughout the area, impacts on these groups are likely inevitable from any feasible transmission line alignment. Overall impacts from the proposed Project would be minor.

5.2.16 Public Health and Safety

Potential risks to public health and safety associated with construction activities would include, but would not be limited to, electrocution, exposure to extreme weather, falling, exposure to hazardous materials, and injury from equipment and materials. The implementation of Occupational Safety and Health Administration (OSHA) safety requirements through the use of PCEMs, and other safety requirements would minimize the chance that an accident could occur. Potential impacts could occur as a result of increase of electromagnetic fields in areas where they do not currently occur. However, with implementation of the PCEMs, the impacts to public health and safety would be expected to be minor.

5.2.17 Hazardous Materials and Hazardous and Solid Waste

All construction, operation, and maintenance activities would comply with all applicable Federal, State, and local regulations regarding the use of hazardous substance. Hazardous materials would not be drained into the ground or into streams or drainage areas. Totally enclosed containment would be provided for all trash. Portable toilets will be located at designated construction sites. All construction waste, including trash, litter, garbage, and other solid waste, petroleum products, human waste, and other potentially hazardous materials would be removed and transported to a disposal facility authorized to accept such materials. PCEMs would be implemented to prevent spills and leaks of hazardous materials and provide for adequate containment and cleanup if spills and leaks do occur; no impacts are anticipated.

5.2.18 Transportation

In general, the proposed Project would cross a sparsely populated rural area in the New Build Section and in the Upgrade Section with the exception of the Tucson metropolitan area. Traffic would be generated primarily during the construction, but also minimally during the maintenance and operation phases. Continued coordination with Federal, State and local transportation agencies would ensure that the proposed Project would not impact transportation plans in the New Build and Upgrade sections. Continued coordination with airports would ensure that the proposed Project would not interfere with flight paths or airport plans adjacent to the Project area.

The proposed Project in the New Build and Upgrade sections would impact BLM roads by increasing opportunities for illegal access to roads/areas currently closed to public access. This impact would most likely occur from the construction of new access roads. The impact of increasing access to BLM roads would be considered minor.

5.2.19 Intentional Acts of Destruction

Intentional acts of destruction could include sabotage or terrorism. Predicting the occurrence of intentional acts of sabotage or terrorism or the potential damage from these acts is not possible. By constructing and operating new transmission lines, saboteurs and terrorists would have a new potential target to carry out their acts. Historically, acts of sabotage and terrorism on transmission infrastructure have been rare, and the effects of events that have occurred have not had a significant impact to adjacent lands or public health and safety. Moreover, the addition of transmission lines and associated facilities generally strengthens the reliability of delivering electricity to the general public, because if one line is affected by an intentional act of destruction or any other disruption, other lines would be available to continue the delivery of electricity. Therefore, the potential impacts from the unlikely event of an act of terrorism or sabotage would be considered minor, and no impacts are anticipated.

5.3 OVERVIEW OF PROPONENT COMMITTED ENVIRONMENTAL MEASURES (BY RESOURCE)

Activities under the proposed Project would include PCEMs that are an integral part of the proposed Project. These design features are measures included in the project design by the Proponent in order to reduce or avoid potential environmental impacts resulting from Project-related activities. The PCEMs are presented in table 8. In addition, the PCEMs also include agency mitigation measures developed by the BLM and Western, as well as based on feedback from cooperating agencies and the public. All PCEMs listed in table 8 would be followed on any route selected, as site-specific circumstances dictate.

Table 8 presents a summary of the PCEMs required for the project. PCEMs are described in table 8 for the following:

- Standard mitigation
- Reclamation (site restoration, revegetation)
- Air quality and climate change
- Cultural resources
- Hazardous materials and waste
- Health and human safety
- Land use
- Farmlands and rangeland
- Geology and minerals
- Military operations
- Noise
- Paleontology
- Recreation
- Wilderness
- Trails
- Soils
- Socioeconomics
- Transportation
- Vegetation
- Visual resources
- Water resources
- Wildlife

BLM requires that a grant holder post a surety bond to ensure compliance with the terms, conditions, and stipulations of the grant, if issued, which would include PCEMs. The grant authorization, if issued, would be contingent upon Southline's complying with a list of terms, conditions, and stipulations.

Application of PCEMs will be considered and authorized, as part of detailed design and included in the final POD and associated Framework Plans, post-EIS. Because the final POD and Framework Plans are subject to approval by the BLM Authorized Officer, and the PCEMs found in table 8 are also included in the final POD, each PCEM is subject to review and approval by the BLM authorized officer.

5.4 OVERVIEW OF APPENDIX B

Southline and Western would ensure that their respective responsibilities and the requirements for each of the following Framework Plans are implemented. These plans have been developed to cover the entire Project, regardless of the responsible entity (e.g., landowner, ROW administrator, etc.).

5.4.1 Access Road Plan

Access road planning would be finalized if the proposed Project is approved. With the approved route known, the exact location of all access roads would be refined through detailed engineering. Once road locations are known, cultural resource and biological surveys would be conducted and road locations adjusted to avoid sensitive resources discovered during the surveys. No field disturbance would occur before the completion of these surveys and the completion of any necessary mitigation or treatment measures. Although the exact locations of final access roads are not yet known, the general location of needed access is known and has been used to define the potential environmental impacts for purposes of the EIS. Access road construction and improvement would include erosion, stabilization/reclamation/revegetation, and dust control measures. Access roads would be designed to ensure that slopes do not cause erosion and that turning radii are sufficient. The road locations would also be georeferenced and the location recorded, and appropriate access rights would be obtained from the landowner.

All roads would be constructed and maintained in accordance with Western and BLM standards for access roads and specified in the Access Road Plan, to be included as a Framework Plan in the POD.

5.4.2 Traffic and Transportation Management Plan

The purpose of a Traffic and Transportation Management Plan is to describe how roads would be improved and maintained for construction of the proposed Project; and to minimize the potential impacts of construction traffic at staging areas, work areas, and other places where traffic may increase. The plan would address equipment access to and from the proposed Project ROW, drainage improvements, dust control and maintenance measures, and reclamation and abandonment of roads. This plan is generally required by the BLM as a condition of the ROW grant and sometimes is required by State or local departments of transportation.

5.4.3 Stormwater Pollution Prevention Plan

Stormwater discharges from construction activities (such as clearing, grading, excavating, and stockpiling) that disturb 1 or more acres are regulated under the National Pollutant Discharge Elimination System (NPDES) stormwater program. Prior to discharging stormwater, construction operators must obtain coverage under an NPDES permit, which is administered by either the U.S. Environmental Protection Agency (EPA) (as is the case in New Mexico) or the State (as in Arizona). Construction stormwater discharges are normally permitted under the Construction General Permit, which requires compliance with effluent limits and other standard permit requirements, such as the development of a Stormwater Pollution Prevention Plan (SWPPP).

Table 8. Environmental Protection Measures by Resource

PCEM	Agency	Feature by Resource	Preconstruction	Construction	Operation and Maintenance	Decommissioning
Standard Mitigation						
	X	The boundaries of construction activities would be predetermined and staked or flagged prior to any construction activity. No permanent markings would be applied to rocks or vegetation.	X			
	X	Prior to construction, all construction personnel would be instructed on the protection of cultural and ecological resources.	X			
	X	All vehicle movement would be restricted to designated access, contracted acquired access, or public roads.	X	X	X	X
	X	To limit disturbance, existing access roads would be used to the extent practicable, provided that doing so does not additionally impact resource values. Widening and grading of roads would be kept to the minimum required for access by Project construction equipment.	X	X	X	X
	X	Structures and/or ground wire would be marked with high-visibility devices such as aerial marker balls, where required by government agencies such as the FAA.	X	X	X	
	X	Transmission line materials would be designed and tested to minimize audible noise, radio interference, electromagnetic interference (EMI), and television interference due to corona.	X	X	X	
	X	No widening or upgrading of existing roads would be undertaken in the area of construction and operations, except for repairs or modifications to make roads safely passable, where soils and vegetation are sensitive to disturbance, in areas of critical habitat for vegetation or wildlife, in areas of habitat for BLM special status species, or where such activities could harm historic properties.		X	X	
	X	During operation of the transmission lines, the ROW would be maintained free of non-biodegradable debris. Desert vegetation would be crushed in place to promote seeding and revegetation, and reduce erosion potential.			X	
	X	BLM and Western road construction specifications would be followed where unimproved spur roads cannot be employed.		X	X	
	X	Unimproved spur roads would be used to the extent practicable in areas where no grading would be warranted to access work areas, within the approved ROW. Unimproved spur roads would be used to access a site without specifically blading a road or significantly modifying the landscape. All vehicle movement would be restricted to designated access, even if that is unimproved access. Vegetation would be crushed where feasible, not cut. For all access types, soil would be compacted, but not removed, except when grading requires displacement of surface soil.		X	X	X
	X	Where new roads would be required, water bars and/or rolling dip cross-drains would be utilized to minimize erosion. Details of their use would be documented in the SWPPP.	X	X	X	
	X	Structures would be placed to avoid, and/or to allow conductors to span, sensitive features such as riparian areas, waterways, roads, trails, and cultural sites within limits of standard transmission line structure design. This would minimize the amount of sensitive features disturbed and/or reduce visual contrast.	X	X	X	
	X	Clearing of trees in and adjacent to the ROW would be minimized to the extent practicable to satisfy conductor-clearance requirements (NESC and up to 10 years' timber growth). Trees and other vegetation would be selectively removed to blend the edge of the ROW into adjacent vegetation patterns, as appropriate.		X	X	
	X	Separation between transmission lines and existing utilities, roads, and railroads would be minimized to the extent practicable. Opportunities to share portions of adjacent ROWs would also be explored.	X			
	X	All construction vehicle movement would be restricted to predesignated access, contractor-acquired access, and public roads.		X		
	X	The width of construction and new temporary access roads would be sited to keep to the minimum needed to avoid sensitive areas and to limit ground disturbance.		X		
	X	Surface elevations would be returned to approximate pre-Project conditions, as practicable.		X		X
WILD-1		A Worker Environmental Awareness Program (WEAP) would be prepared. All construction crews and field contractors would be required to participate in WEAP training prior to starting work on the Project. The WEAP training would include instructions for crews to report any issues; a review of the special status species; WUS; riparian habitat; cultural, paleontological, and other sensitive resources that could be impacted by the proposed Project; the locations of sensitive biological resources and their legal status and protections; and measures to be implemented for avoidance of these sensitive resources. A record of all trained personnel would be maintained during the construction period.	X	X		
	X	The process by which the BLM, Western, and Southline and its construction contractor would conduct environmental monitoring, compliance, and reporting activities during construction would be described in a Project compliance plan that would be prepared by the CIC after the CIC has been selected and reviewed by BLM. After issuance of the notice to proceed, a CIC, designated by the BLM and Western, would provide environmental oversight and compliance monitoring on BLM-managed lands during Project construction to ensure compliance with all design features and mitigation measures.	X	X		

Table 8. Environmental Protection Measures by Resource (Continued)

PCEM	Agency	Feature by Resource	Preconstruction	Construction	Operation and Maintenance	Decommissioning
Reclamation						
	X	A Reclamation, Vegetation, and Monitoring Plan would be developed and implemented.		X	X	X
	X	Reclamation would be accomplished with native species unless otherwise approved.		X	X	X
	X	Seeding would occur between November and March to ensure a greater chance of success. This would be tied to replacement of conserved topsoil with its natural seed stock.		X	X	X
Air Quality and Climate Change						
	X	Project activities would be in compliance with all applicable Federal, State, and local laws and regulations concerning prevention and control of air pollution during construction and operation.		X	X	
	X	An Erosion, Dust Control, and Air Quality Plan would be prepared as part of the final POD. The plan would be developed and implemented to minimize and mitigate potential air quality and climate change impacts. The Erosion, Dust Control, and Air Quality Plan would include a section detailing the Construction Emissions Mitigation Plan (CEMP). See appendix A6 of this POD for an outline of the information in the Erosion, Dust Control, and Air Quality Plan, including the CEMP.	X	X	X	X
	X	All necessary air quality permits would be obtained prior to construction or operating equipment that would result in regulated atmospheric or fugitive dust emissions.	X			
	X	Trackout control devices such as grizzly bars, wheel washers, gravel pads, etc., would be located at all entrances and exits.		X		
	X	Where implementation of these measures would have a meaningful impact on air quality, haul-truck cargo beds would be covered with tarps and travel speeds would be limited to no more than 15 miles per hour (mph) on unpaved roads.		X		
	X	Combustion emissions from mobile sources would be minimized by proper maintenance of equipment.		X	X	
AIR-1		Dust control measures consistent with all applicable State or local standards, as outlined in the Erosion, Dust Control, and Air Quality Plan, would be implemented; these include the following reasonable precautions: (1) frequent watering (no new water sources developed), stabilization, or covering (as appropriate) of excavations, spoils, access roads, storage piles, and other sources of fugitive dust (parking areas, staging areas, other) if construction activity causes visible emissions of fugitive dust beyond the work area; (2) reduction in the amount of disturbed area where possible; (3) planting of vegetative ground cover, as appropriate, in disturbed areas after construction activities have ended; and/or (4) treatment of actively disturbed areas with BLM-approved dust palliatives.		X		
AIR-2		To reduce the potential for greenhouse gas emissions, only properly trained Project personnel would handle sulfur hexafluoride, and a sulfur hexafluoride recovery and recycling program would be implemented.		X	X	X
Cultural Resources						
	X	Cultural resources would continue to be considered during post-EIS phases of work. Specific cultural resource inventory, protection, and mitigation measures to be employed would be outlined in the Project-specific PA, in accordance with Section 106 of the NHPA. The final POD would include the signed PA and the HPTP.	X	X	X	X
	X	A Native American Graves Protection and Repatriation Act (NAGPRA) Plan of Action would be developed to outline the procedures to be followed in the event that human remains are encountered during ground disturbance. The NAGPRA Plan of Action would be applicable to discoveries of human remains on Federal and Tribal land, and compatible with State laws from Arizona and New Mexico, which protect human remains on State or private lands. For State and private lands in Arizona, "burial agreements" are developed through the Arizona State Museum with each tribe that may claim cultural affiliation to possible human remains discoveries.	X	X	X	
CR-1	X	The area of potential effects would be defined in the PA and would consist of the approved alternative corridor and appropriate buffers; all areas and ancillary features that would sustain ground disturbance (access roads, construction yards, etc.) would be subjected to a Class III, 100 percent–coverage pedestrian inventory to identify all historic properties that may be affected by the proposed Project. Survey and reporting requirements would follow BLM Handbook 8110 requirements for a Class III Intensive Field Survey (BLM 2004).	X			
CR-2		Before construction, and as described in the WEAP, Southline and its construction contractor would provide cultural resources sensitivity training to all construction personnel so that Project personnel understand the procedures in the monitoring and discovery portion of the HPTP.	X	X		
CR-3		An HPTP would be developed and implemented to avoid, minimize, and mitigate the adverse effects of the Project on historic properties. Mitigation measures may range from avoidance and preservation in place to data recovery excavations conducted before the destruction of a site if avoidance is not feasible. The HPTP would include a Monitoring and Discovery Plan detailing procedures to be followed in the inadvertent discovery of a potentially significant archaeological site or human remains.	X	X	X	
CR-4		Ground-disturbing activities and other proposed Project components would be sited to avoid or minimize direct impacts on cultural resources listed as, or potentially eligible for listing as, unique archaeological sites, historical resources, or historic properties.	X	X	X	

Table 8. Environmental Protection Measures by Resource (Continued)

PCEM	Agency	Feature by Resource	Preconstruction	Construction	Operation and Maintenance	Decommissioning
Cultural Resources, cont'd.						
CR-5		Establish and maintain a protective buffer zone around each recorded archaeological site within or immediately adjacent to the ROW that would be treated as an "environmentally sensitive area" within which construction activities and personnel are not permitted.	X	X		
CR-6		Evaluate the significance of archaeological resources, buildings, and structures in the area of potential effects in terms of their eligibility for inclusion in the NRHP.	X			
CR-7		Activities would minimize ground surface disturbance within the bounds of significant archaeological sites, historical resources, or historic properties.	X	X		
CR-8		During construction, it is possible that previously unknown archaeological or other cultural resources or human remains could be discovered. Prior to construction, the Proponent would prepare a Construction Monitoring and unanticipated cultural resources Discovery Plan to be implemented if an unanticipated discovery is made.		X		
Hazardous Materials and Waste						
	X	Framework Plans prepared as part of the final POD would be developed and implemented to minimize and mitigate potential hazardous materials and waste; plans include SWPPP; SPCC Plan; Soil Management Plan; and HMMP. These plans would include requirements by the EPA, OSHA, Arizona Department of Environmental Quality, and the New Mexico and Arizona Departments of Transportation.	X	X	X	X
	X	The SWPPP would include BMPs to address the storage and handling of hazardous materials and sediment runoff during construction activities to minimize the risk of an accidental release. The SWPPP is required by, and enforced by, the EPA in New Mexico, and the Arizona Department of Environmental Quality in Arizona.	X	X	X	
	X	Construction, operation, and maintenance crew members who handle oil or other hazardous substances described in the SPCC Plan would be properly trained to deal with a spill, and appropriate spill response or containment material would be available for use at applicable work sites. Careful handling and designation of specific equipment repair and fuel storage areas, as outlined in the SPCC Plan, would reduce the potential for oil and fuel spills. In the event that there is an oil or fuel spill, immediate measures would be taken to control the spill, and the BLM, National Response Center, and/or Arizona Department of Environmental Quality or New Mexico Environment Department would be notified as defined in the SPCC Plan.	X	X	X	X
	X	Personnel, contractors, and transporters involved with hazardous materials management would be required to comply with Federal and State regulations established for the transportation, storage, handling, and disposal of hazardous substances, materials, and wastes. "Hazardous substances" means any substance, pollutant, or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended.		X	X	X
HAZ-1		The Project-specific HMMP and program would outline proper hazardous materials use, storage, and transport requirements and applicable handling procedures. EPA procedures for handling and storage of hazardous materials, OSHA requirements for proper storage and labeling on the job site, and New Mexico and Arizona Department of Transportation requirements for transportation of hazardous materials would be followed.	X	X	X	X
HAZ-2		If backfill material to be used is derived from a site that could possibly have contamination, it would be sampled and determined to be free of regulated contaminants before it is used to fill excavations. The results of any tested soils should be shared with the appropriate surface managing agency. No contaminated soils would be used as fill material for the Project.		X		
HAZ-3		New or expanded substation locations that involve the purchase or long-term leasing of land, purchased transmission line ROWs, and any other property to be acquired would be screened for environmental liabilities. The degree and level of screening would be based on knowledge or information available on the property to determine the probability of contaminants of concern or other environmental impairment. A Phase I Environmental Site Assessment would be conducted if preliminary screening indicates a reasonable risk that such environmental conditions may exist on the property and the property continues to be targeted for acquisition by the Project, consistent with American Society for Testing and Materials Standard E1527-13.	X			
HAZ-4		The Soil Management Plan would provide guidance for the proper handling, onsite management, and disposal of contaminated soil, if encountered during construction, operation, and maintenance activities. Appropriately trained personnel would be onsite during preparation, grading, and related earthwork activities to monitor the soil conditions encountered.	X	X	X	X
HAZ-5		In the event of a spill, workers in the immediate area would cease work, begin spill cleanup operations, and notify appropriate agencies as required by law and specified in the SPCC Plan. Southline and its construction contractor(s) are responsible for cleanup and assume liability for any and all releases of hazardous substances disposed on public land, in accordance with State, Federal, and local laws and regulations. Southline would immediately notify the BLM authorized officer of any and all releases of hazardous substances on public land.		X	X	X
HAZ-6		All construction and demolition waste, including trash and litter, garbage, and other solid waste, would be removed and transported to an appropriately permitted recycling or disposal facility. Southline and its construction contractor would prepare a Construction Waste Disposal Plan for all nonhazardous wastes generated during construction of the Project. The plan would contain a description of all nonhazardous solid and liquid construction wastes, recycling plans, and waste management methods to be used for each type of waste.		X		X
HAZ-7		Southline or the applicable contractors would maintain all vehicles in good working order. Equipment would be properly tuned and maintained to avoid leaks of fluids.		X	X	X
HAZ-8		Service and refueling procedures would not be conducted within 500 feet of a seep, wash, or other water body. Routine service of any vehicles or equipment would not be done within the ROW.		X	X	X

Table 8. Environmental Protection Measures by Resource (Continued)

PCEM	Agency	Feature by Resource	Preconstruction	Construction	Operation and Maintenance	Decommissioning
Health and Human Safety						
HEA-1 HEA-3		The HASP and Fire Protection Plan prepared as part of the Final POD would be developed and implemented to minimize and mitigate potential health and human safety impacts. Southline and its contractors would work with the appropriate surface-managing agencies to incorporate any fire restrictions that are put into effect during construction, operation, and decommissioning of the Project.	X	X	X	X
HEA-2		Southline and its construction contractor would locate overhead and underground utilities that may reasonably be expected to be encountered during construction. If a utility service interruption is known to be unavoidable, Southline and its construction contractor would coordinate with the service provider to notify members of the public, the jurisdiction, and the service providers affected by the interruption via letters and newspapers notices published no later than 7 days prior to the first interruption. Copies of the notices would be provided to the BLM and Western following notification.	X	X		
HEA-4		All permanent metallic objects within the Project's transmission line ROWs would be grounded in accordance with industry standards.	X	X	X	
		Southline and its construction contractor would provide a safety representative at all times with the construction crews, first aid kits stored in each construction vehicle, a worker trained in first aid included in each work group during construction, and the development and implementation of a HASP.		X		
	X	The HASP would address potential situations that workers could encounter during construction and maintenance. The purpose and goal of the worker safety and environmental training would be to communicate Project-related environmental and safety concerns and appropriate work practices to all field and construction personnel prior to the start of construction, including spill prevention, emergency response measures, accident prevention, use of protective equipment, medical care of injured employees, safety education, and fire protection. Training would encompass environmental training related to road designations and speed limits, promote "good neighbor" policies, and institute BMPs for construction. The training would emphasize site-specific physical conditions to improve hazard prevention in accordance with OSHA requirements (29 CFR 1910 and/or 1926, as applicable).	X	X	X	
Land Use						
		Although disturbance to Pima County Conservation Lands would primarily occur within the existing Western ROW for the existing line, every effort would be made to minimize and avoid impacts to these lands (such as Bar V Ranch, Tumamoc Hill, etc.), to the extent practicable.		X	X	
Farmlands and Rangeland						
FARM-1	X	Fences and gates would be repaired or replaced to their original, predisturbed condition (or better), as required by the landowner, BLM authorized officer, or other land managing entity if they are damaged or destroyed by construction activities. New temporary and/or permanent gates would be installed only with the permission of the landowner or the BLM. Temporary gates not required for postconstruction access control would be removed following construction completion and in accordance with the POD.		X		X
	X	Water facilities (e.g., tanks, developed springs, water lines, wells, etc.) would be repaired or replaced to their predisturbed condition if they are damaged or destroyed by construction, operation, or maintenance activities, as required by the landowner of land management agency. Temporary watering facilities would be provided for wildlife and livestock until permanent repair or replacement is complete.		X	X	X
	X	Laydown areas and substation development would be located on previously disturbed land, where possible, to reduce the impact to farm operations and production in active farmlands. If laydown areas cannot avoid farmlands, Southline would receive approval from the landowner of the farmland to lease the land required for the laydown area.	X	X		
	X	Temporary gates would be installed to prevent livestock from escaping rangelands and accessing roadways. Fences and gates would be repaired or replaced to their original, predisturbed condition, as required by the landowner or the BLM authorized officer if they are damaged or destroyed by construction activities. Cattle guards would be installed at access points to prevent livestock from exiting unsecured gates onto roadways.	X	X		
	X	On agricultural land, ROWs would be aligned, in so far as practicable, to reduce the impact to farm operations and agricultural production. This would typically be done in conjunction with negotiating ROW agreements with landowners.	X	X		
Geology and Minerals						
GEO-1		Southline would prepare a geotechnical engineering study prior to the final project design to identify site-specific geological conditions and potential geological hazards. The data collected from the study would be used to guide sound engineering practices and mitigate potential geological hazards.	X			

Table 8. Environmental Protection Measures by Resource (Continued)

PCEM	Agency	Feature by Resource	Preconstruction	Construction	Operation and Maintenance	Decommissioning
Military Operations						
DoD-1	X	The transmission line operator would work with Buffalo Soldier Electronic Testing Range (BSETR) to coordinate, and possibly limit, interconnections to the upgraded Tucson–Apache 230-kV transmission line to the extent allowed by Western's Open Access Transmission Service Tariff and Federal Energy Regulatory Commission (FERC) Orders. The transmission line operator would work with interconnection applicants to locate any future interconnection points on Western's upgraded Tucson–Apache 230-kV transmission line outside the BSETR and within 1 mile of its boundaries. New transmission facilities are defined to include substations, switchyards, and converter stations. Western's Open Access Transmission Service Tariff and the Federal Power Act, as amended, provide the framework, in accordance with Federal law, to consider interconnection requests. Western's Tariff substantively conforms with FERC Orders 888, 889, 890, 2003, and 2006, and ensures open access to Western's transmission system on an equal footing with regulated utilities.	X			
DoD-2	X	Southline and Western would work with BSETR to identify micro-siting opportunities during Project design.	X			
DoD-3	X	The transmission line operator would coordinate with BSETR during the design phase of the proposed Project to limit EMI. The proposed Project would be constructed using the best available construction techniques and technology (i.e., use of grounding, selective conductor type and arrangement, and conductor surface gradients), to the extent feasible and reasonably economical, in order to minimize EMI.	X			
DoD-4	X	The transmission line operator would coordinate with BSETR to allow for an updated measure of the "floor value" of the proposed Project over the first 6 months of operation once the proposed line is energized. Such cooperation could include provision of real-time operating and load information to BSETR to help calibrate the floor value of EMI.	X	X	X	
DoD-5	X	The transmission line operator would coordinate with BSETR to develop reporting standards, for potential inclusion in the transmission line maintenance and inspection program, to the extent allowable by FERC and NERC reliability standards. While normal inspection maintenance would take care of typical EMI issues, specific incidents such as storm damage or vandalism would need to be responded to outside of the normal maintenance cycle. If not detectable through transmission line monitoring, the operator would need to hear from someone experiencing interference in order to respond.	X	X	X	
DoD-6	X	The transmission line operator would coordinate planned outages (curtailment of power line operations for BSETR to implement testing) with BSETR to the extent feasible in order to meet necessary contractual commitments, utility mandates, laws and regulations, and power system requirements. The operator is very limited in the timing and duration of potential outages; outages stress the rest of the system, which can cause system failures.	X		X	
X		Use the optional structure height of 90 feet in areas intersecting the military training route (MTR) VR-263, which has a 100 feet above ground level flight altitude. Additionally, do not erect any structures exceeding 200 feet in height in areas intersecting MTRs VR-260 and VR-1233. Towers crossing the MTRs should also have anti-collision lighting to the maximum extent possible in order to make the hazard of transmission lines more apparent to pilots flying low altitude at night. These measures would mitigate impacts to military training and airspace usage, as well as contribute to the safe conduct of missions.	X	X		
X		Chart the transmission lines before they are erected.	X			
X		Identify transmission structures with high-visibility markers in areas where they intersect or parallel MTRs.	X	X		
MIL-1		The appropriate military scheduler(s) and U.S. Border Patrol representative(s) would be contacted to schedule airspace usage for any construction or maintenance activity on lands that could be used by the military and/or U.S. Border Patrol for training activities or other flights. Coordination would occur with the applicable scheduling office to schedule necessary airspace usage prior to maintenance activities.	X	X		
MIL-2		The proposed Project would comply with FAA regulations, including lighting regulations, to avoid potential safety issues associated with proximity to airports, military bases or training areas, or landing strips.	X	X	X	
Noise						
	X	Schedule construction activities and route construction traffic to minimize disruption to nearby residents and existing operations surrounding the Project.		X		
	X	Noisy construction activities (including blasting) should be limited to the least noise-sensitive times of day (daytime only between 7 a.m. and 10 p.m.) and to weekdays. In sensitive wildlife areas, they should be limited to between 1.5 hours after sunrise and 1.5 hours before sunset.		X		
	X	If warranted, in extreme circumstances, erect temporary wooden noise barriers around areas where construction equipment would disturb sensitive receptors[3] near substations. Barriers may reduce noise by 3 to 10 dBA (EPA 1971).		X		
	X	To the extent possible, locate noisy equipment away from sensitive receptors.		X		
	X	Whenever feasible, schedule noise-generating activities to occur at the same time, since additional sources of noise generally do not add noise. That is, less-frequent noise activities would be less annoying than frequent less-noisy activities.		X		
	X	If blasting or other activities that cause loud bursts of noise are required during the construction period, nearby residents would be notified in advance.		X		
	X	If possible, minimize trips for surveillance and monitoring of Project transmission lines.			X	

[3] As identified in the EIS, noise sensitive receptors include residential areas, schools and day care facilities, hospitals, long-term care facilities, places of worship, libraries, parks, and recreational areas specifically known for their solitude and tranquility (such as wilderness areas).

Table 8. Environmental Protection Measures by Resource (Continued)

PCEM	Agency	Feature by Resource	Preconstruction	Construction	Operation and Maintenance	Decommissioning
Noise, cont'd.						
NOI-1		Construction would comply with local noise ordinances. There may be a need to work outside the local ordinances to perform work during available line outage windows in order to take advantage of low electrical draw periods during nighttime hours. The construction contractor would comply with variance procedures required by local authorities.		X		
NOI-2		Construction equipment would be maintained in good working order in accordance with manufacturer's recommendations.		X		X
NOI-3		Idling of construction equipment and vehicles would be minimized during construction.		X		
NOI-4		Workers would be provided with appropriate hearing protection, if necessary, as described in the HASP.		X	X	X
Paleontology						
	X	The Project would avoid Potential Fossil Yield Classification (PFYC) 3 and 4 geological units where possible by spanning resource areas.	X			
PAL-1	X	In consultation with the appropriate land management agencies, Southline and its contractor would develop a Paleontological Monitoring Plan to address paleontological resources within the project area. This plan would address personnel education, predisturbance surveys, monitoring of ground disturbance, and the deposition and curation of fossils in a qualified repository.	X	X		
PAL-2		If scientifically significant fossils are encountered during construction, construction activities would be temporarily diverted away from the discovery and the authorized officer of the BLM would be notified. BLM would then implement the appropriate measures to avoid, protect, and/or recover the fossil remains.		X		
Recreation						
REC-1		Southline would not site additional workspace areas, such as contractor yards, in recreation areas in order to minimize impacts on recreational users during construction.	X	X		
REC-2		Southline and its contractor would coordinate with the BLM to display appropriate "closed" signage at the entrance to new spur roads to structure locations and access roads located on BLM-managed lands. This includes temporary signs during the construction phase of the Project and permanent signs and/or vehicle barriers that would close the spur routes to public travel during the operational phase. Signs would be removed as appropriate upon decommissioning.	X	X	X	X
REC-3		If temporary short-term closures to recreational areas are necessary for construction activities, Southline and its contractor would coordinate those closures with recreational facility owners. To the extent practicable, Southline and its construction contractor would schedule construction activities to avoid heavy recreational use periods (e.g., holidays or tournaments). Southline and its construction contractor would coordinate with the facility owner to post notice of the planned closure onsite 14 calendar days prior to the closure.	X	X	X	X
	X	Construction would be limited to certain areas of the ROW during specified hunting seasons (e.g., big-game hunting seasons) by sequencing construction activities along the ROW, in coordination with New Mexico Department of Game and Fish (NMDGF) and AGFD, in accordance with each agency's hunting regulations. Such coordination would allow the agencies to notify hunters of potential for T-line construction activities to affect their hunt. Where construction cannot avoid hunting seasons (e.g., mountain lion, "varmint," and other species with year-round hunting seasons) hunters would be required to avoid discharging firearms adjacent to the construction areas, in accordance with NMDGF and AGFD hunting regulations.	X	X		
	X	If the Arizona National Scenic Trail must be temporarily closed during construction, an alternate trail route (detour) would be provided during the closure. If it is necessary for trail users to leave the trail during the temporary closure, trail users would need to obtain permission from the Arizona State Land Department.	X	X		X
Wilderness						
	X	Wilderness Inventory Unit users would be notified by publication of the construction schedule in local media, posting the schedule at administering agency offices, posting the schedule at trailheads or other recreation access points to Wilderness Inventory Units, or other means of reaching visitors. This notification process would alert wilderness users to the potential temporary impacts of presence and sound of construction on opportunities for experiences of solitude and primitive recreation settings, and allow visitors to decide whether they want to reschedule their visit.	X	X		X
	X	Feather the edges of the shrubs and trees adjacent to the ROW when recontouring and revegetating the construction ROW in vegetation communities with a large shrub or tree component, to reduce the line or edge that would be apparent between the shrubs and trees and the grass of the reclaimed ROW.	X	X		X
Trails						
	X	In accordance with the "Design Features and Best Management Practices for National Trails and Associated Resources" (see appendix 1 in Manual 6280 (BLM 2012)), proposed projects within a National Trail Management Corridor would be designed and located in a manner that is compatible with trail purposes.	X	X		
	X	Minimize visual contrast of Project through use of Project design such as using low profile buildings; siting using the natural topography to hide or screen development, reducing the aerial extent of impact by clustering developments, using vegetative screening; mimicking the line, form, and texture of the surrounding landscape; painting infrastructure, using colors that camouflage the development and prevent glare; and other techniques developed to address the site-specific conditions (BLM 2012).	X	X		
	X	Avoid the use of dye, restrict administrative vehicle travel off of designated routes to minimize spread of exotic and invasive species with the National Trail Management Corridor, and consider alternative treatment methods such as use of backpacker sprayer (BLM 2012).	X	X		

Table 8. Environmental Protection Measures by Resource (Continued)

PCEM	Agency	Feature by Resource	Preconstruction	Construction	Operation and Maintenance	Decommissioning
Soils						
SOIL-1		As appropriate and feasible, Southline and its construction contractor would implement topsoil segregation and conservation practices at substation sites and as directed by the BLM and Western.		X		
	X	In construction areas (i.e., temporary use areas, structure sites, access roads, etc.) where grading is required, surface restoration would be implemented as required by the landowner or BLM authorized officer. The method of restoration would normally consist of returning disturbed areas back to approximate their normal contour, replacing topsoil, reseeding (where required), installing cross drains for erosion control, placing water bars in the road, and/or filling ditches. The Reclamation, Vegetation, and Monitoring Plan would include final details on the details of restoration.		X		
Socioeconomics						
	X	Southline should maximize local hiring, to the extent feasible, during construction. Local hiring could both maximize local economic benefits from the proposed Project, and help reduce potential housing issues and new public service demands.	X	X		
	X	Southline would develop plans for housing the temporary construction workforce during the periods of time when construction would focus on the western portions of the New Build Section (e.g., Hidalgo County) and the eastern portion of the Upgrade Section (e.g., northeastern Cochise County). If the Proponent Alternative is selected, housing planning should also include southern Luna County. The plan should be developed with input and review from local authorities in those areas to both minimize potential impacts on housing and public services and inform the communities of potential challenges associated with construction.	X	X		
Transportation						
TRA-1		Prior to the start of construction, Southline and its construction contractor would prepare a Traffic and Transportation Management Plan for the Project to address the timing and routing of Project trips in an effort to minimize Project impacts on local streets, highways, and railroad operations.	X			
TRA-2		At least 90 days prior to any construction-related helicopter use on the Project, Southline and its construction contractor would coordinate with the FAA for review and approval of plans for any helicopter flights that would take place during construction and operation. Southline and its construction contractor would then provide information to the BLM and Western regarding the intended need and use of helicopters during construction and operation of the Project, including the Flight and Safety Plan; the estimated number of days and hours that the helicopter would operate; the type and number of helicopters that would be used; the location, size, and number of staging areas for helicopter takeoffs and landings; and written approval from property owners for use of helicopter staging areas.	X	X	X	
	X	If any existing roads were to be damaged by Southline or its construction contractor during construction activities and/or truck traffic, the road would be repaired.		X		
	X	In order to mitigate traffic impacts on primary roads in metropolitan areas, shift changes for construction crews would not occur during the peak hours for the road during construction. Oversize or overweight vehicle movements would be planned for nighttime hours, where practical and not detrimental to safety or evening residential noise levels, or those specified in permitting regulations in order to minimize traffic disruptions.	X	X		
	X	In order to reduce public access to BLM roads and adjacent lands that are not currently accessible by the public, the Proponent would fence off or place restricted access signage at new access roads, where appropriate.	X	X	X	
	X	Throughout the permitting and design phase, the Proponent would correspond with Federal, State, and local transportation agencies in order to avoid Project inconsistencies with current and future transportation plans.	X			
	X	Throughout the permitting and design phase, the Proponent would correspond with Federal, State, and local airports in order to ensure that the FAA criteria for structures near airports are met, and to avoid Project inconsistencies with identified airport plans.	X			
	X	Identify transmission structures with high-visibility markers in areas where they intersect or parallel MTRs.			X	
	X	Provide gates and fencing in areas where OHV use would be restricted due to military operations, or to protect sensitive resources.		X	X	X
Vegetation						
VEG-1	X	Efforts would be made to minimize vegetation removal and permanent loss at construction sites to the extent practicable. Access would not be graded unless necessary for erosion control or other engineering reason. Final structure and spur road locations would be selected to avoid special status vegetation to the greatest extent feasible.		X		
VEG-2	X	Southline and its construction contractor would develop a Reclamation, Vegetation, and Monitoring Plan that would guide restoration and revegetation activities for all disturbed lands associated with construction of the Project and its eventual termination and decommissioning. The plan would address all land disturbances, regardless of ownership. It would be developed in consultation with appropriate agencies and landowners and would be provided to these entities for review and input. The plan would provide details on topsoil segregation and conservation, vegetation treatment and removal, salvage of appropriate species, and revegetation methods, including use of native seed mixes, application rates, transplants, and criteria to monitor and evaluate revegetation success.	X	X	X	X
VEG-3	X	Special-status plants, including the Pima pineapple cactus (*Coryphantha scheeri* var. *robustispina*), would be avoided. Where avoidance is not possible, special status plants would be conserved by relocating plants and/or reseeding, replacing topsoil with existing topsoil that was removed, and regrading in compliance with local ordinances (Pima County, Tohono O'odham Nation). Measures to conserve special status plants would be implemented through the Reclamation, Vegetation, and Monitoring Plan.	X	X		X

Table 8. Environmental Protection Measures by Resource (Continued)

PCEM	Agency	Feature by Resource	Preconstruction	Construction	Operation and Maintenance	Decommissioning
Vegetation, cont'd.						
VEG-4	X	Removal of riparian scrubland vegetation would be avoided where possible. Natural regeneration of native plants would be supported by selectively cutting vegetation with hand tools, mowing, trimming, or using other removal methods that allow root systems to remain intact.		X	X	X
VEG-5	X	In consultation with local BLM field offices and local resource agencies, Southline and its construction contractor would develop and implement a Noxious Weed Management Plan.	X	X	X	X
VEG-6	(see also PPC-3 and 4)	As required, equipment would be cleaned before ingress to minimize the potential for the spread of invasive species. These details would be described in the Noxious Weed Management Plan. Buffelgrass (*Pennisetum ciliare*) would be specifically addressed in the plan, which would outline efforts to control it within areas disturbed by the proposed Project to ensure that it does not spread to adjoining lands.	X	X	X	X
	X	Preconstruction native plant inventories and surveys for noxious weed species as stipulated by the appropriate land management agency would be conducted once transmission line center line, access road, and transmission line structure sites have been located.	X			
	X	Although the 150-foot ROW across the San Xavier District of the Tohono O'odham Nation was surveyed for Pima pineapple cactus in summer 2014, additional preconstruction species-specific surveys for the Pima pineapple cactus would be conducted once transmission line center line, access road, and transmission line structure sites have been located, as needed.	X			
	X	Preconstruction coordination with Pima County, the University of Arizona, and other appropriate groups would be conducted to minimize impacts to Tumamoc globeberry (*Tumamoca macdougalii*) monitoring plots and plants on Tumamoc Hill. Measures to conserve this plant, as well as other special status plants, would be implemented through the Reclamation, Vegetation, and Monitoring Plan.	X	X		X
	X	In construction areas where grading is not required, vegetation would be left in place wherever feasible, and original contours would be maintained to avoid excessive root damage and allow for regrowth. All existing roads would be left in a condition that is equal to or better than their condition before the construction of the transmission lines, as determined by the appropriate land management agency.		X		
		Field presence/absence surveys would be conducted for special status species in locations where such species are likely to occur within the Project ROW, and specifically locations where vegetation would be impacted, prior to any actual impacts. Surveys would be conducted following established protocols by qualified biologists approved by BLM.	X			
	X	Southline and its construction contractor would provide training to all appropriate field personnel working on the Project to identify noxious weeds and prevent spread. Training would discuss known invasive and noxious weed species, known locations, identification methods, and treatment protocols. Training materials and a list of Project personnel completing the course would be provided to the BLM and Western.		X		
	X	Invasive and noxious weed populations would be mapped and reported to BLM/Western. BLM and Western would determine which areas would necessitate vehicle washing, based on the results of the invasive/noxious weed surveys.	X	X		
	X	Noxious weeds and other exotic, invasive plant species would be inventoried by a qualified biologist in the immediate proximity to any sensitive plant communities and any special status species populations. This noxious weed inventory would then provide information to supplement mitigation plans for sensitive plant communities and/or special status species habitats, to prevent the expansion of any noxious weeds or other exotic invasive plant species into those locations. Mitigation planning shall be included as part of the Plant and Wildlife Species Conservation Measures Plan.	X			
	X	Southwest Regional Gap Analysis Project plant associations (communities) that are considered to be environmentally sensitive would be included in ground-truthing field surveys, such as wetlands, riparian areas, drainages, and special status species habitats, to confirm the presence and extent of such communities. If any such sensitive plant communities are identified and documented, the first response would be a determination regarding whether the sensitive community can be avoided. If avoidance is not possible, a mitigation plan (included as part of the Plant and Wildlife Species Conservation Measures Plan) would be developed as needed for those vegetation communities, including options to reduce impacts to those communities. Exclusion zones (at least 10 feet around the perimeter of the plant community) would be delineated around any such plant communities and marked with flagging. Construction monitoring shall be employed around any such sensitive plant communities, and the biological monitor shall have the authority to halt any construction activity deemed intrusive and causing impacts beyond those stated in the mitigation plan. Any changes in construction plans that occur after the Project approval would require additional field presence/absence surveys for such sensitive plant communities and would require a variance request from the BLM if such communities are found, and the above mitigation measures would apply.	X			
	X	A compensation plan would be developed as part of the Plant and Wildlife Species Conservation Measures Plan, to meet BLM requirements and approval. The compensation plan would include calculations of compensation ratios and mitigation acreages for special status plant species requiring additional mitigation. Compensatory mitigation could include payment of an in-lieu fee; acquiring mitigation land or conservation easements; or a combination of the two.	X			
	PPC-1	For Pima pineapple cactus that cannot be avoided, Southline would purchase credits in a U.S. Fish and Wildlife Service (FWS)-approved conservation bank for Pima pineapple cactus, corresponding to the area of permanent disturbance to occupied Pima pineapple cactus habitat. Alternatively, Southline may purchase suitable mitigation lands within Pima County's Pima pineapple cactus Priority Conservation Areas.	X			
	PPC-2	In compliance with Executive Order 13112 regarding invasive species, all disturbed soils that would not be landscaped or otherwise permanently stabilized by construction shall be seeded using species native to the project vicinity.		X		
	PPC-3	Also in compliance with Executive Order 13112 regarding invasive species, all earthmoving and hauling equipment shall be washed at the contractor's storage facility prior to arriving onsite to prevent the introduction of invasive species.		X		
	PPC-4	To prevent invasive species propagules from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris identified prior to leaving the construction site.		X		

Table 8. Environmental Protection Measures by Resource (Continued)

PCEM	Agency	Feature by Resource	Preconstruction	Construction	Operation and Maintenance	Decommissioning
Vegetation, cont'd.						
	PPC-5	Any Pima pineapple cactus that are not within the area of permanent disturbance, but are present within the Project vicinity, shall be flagged by a qualified biologist prior to the commencement of work to avoid accidental damage during construction. Flagging would be removed following construction.	X	X		
	PPC-6	Any Pima pineapple cactus that cannot be avoided would be conserved by relocating plants within the existing ROW, but outside of the area of any ongoing disturbance.	X	X		
	BO-CM (Biological Opinion-Conservation Measures)	BLM and Western would coordinate with the Arizona-Sonoran Desert Museum in salvaging for the museum's collection if individual Pima pineapple cactus cannot be relocated for some reason.	X	X		
		Preconstruction surveys for Chihuahua scurfpea and other special status plant species would occur in suitable habitat and ground disturbance in occupied habitat would be avoided to the extent practicable.	X	X		
Visual Resources						
VIS-1		In order to restore disturbed areas to an appearance that would blend back into the overall landscape, seeding and/or planting would be conducted in any area that has been cleared or disturbed during construction. Seed mix would be tailored to an area's soil type, existing vegetation, and native species.		X		X
VIS-2	X	The alignment of any new access roads (including unimproved spur roads) would stay within the designated access ROW and would follow the designated area's landform contours and avoid steep areas as much as feasible, provided that such alignment does not additionally impact resource values. This would minimize ground disturbance and/or reduce scarring (visual contrast).	X	X		
VIS-3		During the construction period, dust suppression measures would be used to minimize the creation of dust clouds potentially associated with the use of access roads.		X		
VIS-4	X	The Project would incorporate nonspecular conductors into the Project design to decrease reflectivity and visibility of Project features.	X	X		
	X	Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray," unless otherwise directed by the authorized officer based on a field evaluation of color choices that will demonstrate better measurable performance over Shadow Gray. BLM Visual Resource Management staff shall be consulted and shall approve color selection relative to site-specific structures to be painted.		X	X	
	X	All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated (BLM Environmental Color Chart "Shadow Gray").	X	X		
	X	Aerial markers or warning lights would be installed on conductors or structures if required by FAA, U.S. Customs and Border Protection, and DOD regulations for structures over 130 feet. The use of red strobe lighting would reduce potential impacts from artificial night lighting and would reduce impacts from night brightness and viewing of night skies. The minimum number and intensity of lights would be used, given that the tallest structures are under the 200-foot FAA requirement (FAA Advisory Circular 70/7460-1K (FAA 2007)). Exterior lights installed on conductors or other facilities would be aviation warning lights, or FAA L-864 aviation red-colored flashing lights with 20 to 40 flashes per minute standard flashing range.		X	X	
	X	The alignment of new access roads or cross-country routes would follow the landform contours where practicable to minimize ground disturbance and reduce visual scarring of the landscape, provided that the alignment does not affect other resource values.	X	X	X	
	X	Clearing of trees in and adjacent to the ROW would be minimized to reduce visual contrast to the extent practicable to satisfy conductor-clearance requirements. Trees and other vegetation would be removed selectively to blend the edge of the ROW into adjacent vegetation patterns, as practicable and appropriate.	X	X	X	
	X	All new or improved access that would not be required for maintenance would be closed or rehabilitated to make it less visually apparent.	X	X	X	
		Tower design may be modified, or an alternative tower type may be selected, to minimize visual contrast as appropriate (BLM 2013).	X	X	X	
	X	Standard tower design would be modified to correspond to spacing of existing transmission structures, where feasible and within the limits of standard tower design, to reduce visual contrast (BLM 2013).	X	X		
	X	At highway, canyon, and trail crossings, towers would be placed at the maximum feasible distance from the crossing within the limits of standard tower design to reduce visual impacts.	X	X		

Table 8. Environmental Protection Measures by Resource (Continued)

PCEM	Agency	Feature by Resource	Preconstruction	Construction	Operation and Maintenance	Decommissioning
Water Resources						
WAT-1		A Project-specific construction SWPPP would be prepared prior to the start of construction of the transmission line and substations in compliance with Clean Water Act (CWA) Section 402, if required. The SWPPP would use BMPs to address the storage and handling of hazardous materials and sediment runoff during construction activities to minimize the risk of an accidental release. As part of the SWPPP, soil disturbance at structure construction sites and access roads would be the minimum necessary for construction and would be designed to prevent long-term erosion, through activities such as restoration of disturbed soil, revegetation, and/or construction of permanent erosion control structures. A U.S. Army Corps of Engineers permit would be obtained prior to the start of construction of the transmission line and substations for the discharge of dredged or fill material in compliance with CWA Section 404, if required. Activities in and around streams and wetlands would be designed to avoid, minimize, and mitigate impacts to WUS.	X	X		
WAT-2		Construction equipment would be kept out of flowing stream channels, unless feasible alternatives are not available. Structures would be located to avoid active drainage channels, especially downstream of steep slope areas, to minimize the potential for damage by flash flooding and mud and debris flows.	X	X		X
WAT-3		Flood-control devices would be located where required to protect structures from flooding or erosion. Appropriate design of structure foundations would be used to prevent scour or inundation by a 100-year flood and to avoid disturbed areas. The locations of transmission structures would be designed to avoid steep, disturbed, or otherwise unstable slopes. If drainages cannot be avoided by structure placement, Southline and its construction contractor would design drainage crossings to accommodate estimated peak flows and ensure that natural volume capacity can be maintained throughout construction and upon post-construction restoration.	X	X		
	X	Roads would be built as close as possible to right angles to the streams and washes. Culverts or temporary bridges would be installed where conditions warrant. All construction and operations activities shall be conducted in a manner that would minimize disturbance to vegetation, drainage channels, and intermittent or perennial stream banks.		X		
	X	If a route is approved near the internal border, construction activities should be accomplished in a manner that does not change historic surface runoff characteristics at the international border. Copies of any hydrologic or hydraulic studies and site-specific drawings for work proposed in the vicinity of the international boundary would be submitted to the U.S. International Boundary and Water Commission.	X	X	X	X
	X	To the extent practicable, structures would be sited with a minimum distance of 200 feet from streams.	X			
Wildlife						
WILD-2		In consultation with the BLM and Western, Southline and its construction contractor would prepare and implement a Biological Monitoring Plan prior to issuance of a notice to proceed and prior to construction that would specify the level of biological monitoring to be provided throughout construction activities in all construction zones with the potential for presence of sensitive biological resources. The number of monitors and monitoring frequency would be specified for each work zone.	X	X		
WILD-3		Preconstruction surveys would be required in areas where Sonoran desert tortoise (now a separate species: Morafka's desert tortoise (*Gopherus morafkai*)), and Gila monster (*Heloderma suspectum*) are expected to occur. In consultation with the BLM and Western, Southline and its construction contractor would hire qualified biologists to conduct preconstruction surveys in ground disturbance areas within suitable habitat for appropriate special status species.	X			
WILD-4		To reduce impacts on the Sonoran (Morafka's) desert tortoise, known to exist in the western portion of the project area, only authorized biologists with a valid AGFD permit would handle desert tortoises if encountered within the Project area, following the most current desert tortoise handling guidelines published by the AGFD .		X		X
WILD-5		To reduce impacts on all species protected by the Migratory Bird Treaty Act (MBTA), (1) Southline and its construction contractor would conduct preconstruction surveys for active nests, and consult with the appropriate agencies (BLM or FWS) on a case-by-case basis when active nests are found in Project areas, unless directed to do otherwise by these same agencies; (2) a buffer would be placed around active bird nests, and nests would not be moved during breeding season, in compliance with the MBTA, unless the Project is expressly permitted to do so by the FWS or BLM, depending on the location of the nest; (3) all active nests and disturbance or harm to active nests would be reported to the FWS or BLM, upon detection; and (4) work would halt if it is determined that active nests would be disturbed by construction activities, until further direction or approval to work is obtained from the appropriate agencies.	X	X		
WILD-6		To reduce impacts on golden eagles and other raptors, Southline and its construction contractor would develop and implement an APP, in coordination with the BLM and Western for approval. The plan would be prepared in accordance with guidance provided by the FWS and in consultation with best practices such as the "Suggested Practices for Avian Protection on Power Lines" (APLIC 2006).	X	X	X	X
WILD-7		Southline and its construction contractor would follow Pima County guidelines for surveys prior to disturbance located in Pima County for western burrowing owls (*Athene cunicularia*). Surveys for western burrowing owl would also be conducted in Cochise County near agricultural fields surrounding the Willcox Playa.	X	X		
		Surveys for western burrowing owl in New Mexico would follow the NMDGF "Guidelines and Recommendations for Burrowing Owl Surveys and Mitigation" (NMDGF 2007).	X	X		
WILD-8		Final structure and spur road locations would be adjusted to avoid sensitive wildlife resources to the greatest extent feasible.	X	X	X	
AGFD-1	X	Preconstruction surveys for non-game sensitive species such as ornate box turtle (*Terrapene ornata*), western burrowing owl (*Athene cunicularia*), Texas horned lizard (*Phrynosoma cornutum*), kit fox (*Vulpes macrotis*), etc. Timing of the surveys would be determined through consultation with AGFD and NMDGF.	X			
		Preconstruction surveys for species listed under the Endangered Species Act or specified by the appropriate land management agency as sensitive or of concern would be conducted in areas of known occurrences or suitable habitat. Timing of the surveys would be determined by FWS-approved, species-specific survey protocol.	X			

Table 8. Environmental Protection Measures by Resource (Continued)

PCEM	Agency	Feature by Resource	Preconstruction	Construction	Operation and Maintenance	Decommissioning
Wildlife, cont'd.						
	X	Monitoring of construction activities would be required in some areas to ensure that effects on these species are avoided during construction. If bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*) nests are identified during preconstruction surveys, seasonal restrictions on construction within a specified buffer would be implemented where applicable, according to FWS protocols, to comply with the Bald and Golden Eagle Protection Act. Preconstruction nesting-season surveys for migratory birds and surveys for burrowing owls in suitable habitat would be conducted as needed to comply with the MBTA.		X		
	X	Surveys for bat roosts would be conducted within 0.25 mile of the Project ROW in areas that potentially contain caves, karst features, or mines. Occupied bat roosts would be avoided.	X			
	X	Clearing, grubbing, blading, and access road improvements occurring within identified sensitive areas would be conducted outside the breeding season for most desert-nesting migratory birds.	X	X		
	X	Construction holes left open overnight would be appropriately fenced or covered to prevent damage to wildlife or livestock.		X		
	X	Except where otherwise posted or allowed, a Project speed limit of 25 mph would be designated for all construction areas, spur roads, and new access roads to minimize the potential for construction equipment collisions with wildlife. In areas with mountainous terrain and/or poor site distances, the Project speed limit would be 15 mph.		X		
	X	In construction areas where recontouring is not required, vegetation would be left in place wherever possible, to avoid excessive root damage and allow for resprouting.		X		
	X	If designated suitable bighorn sheep (*Ovis canadensis*) habitat along subroute 1.2 in segment S2 were to become occupied by bighorn sheep, then no Project facilities except transmission lines would be built in that area, if that route is selected.		X		
	X	To avoid impacting roosting bats at the Ina Road bridge, blasting activities would be restricted to less than 130 decibels (dB) at the project site. If this dB limit cannot be met, then blasting activities would be limited to after sunset when the majority of adult bats would be away from the roost foraging, and/or blasting would not occur in April or May while the bat colony is present.		X		
AGFD-2	X	Southline would fund the relocation of Crane Lake, including acquisition of land if necessary, construction of the lake and associated infrastructure, revegetation, and visitor facilities. This would include operation and maintenance costs of the lake and infrastructure for the life of the Project, with the renewal of commitment upon future renewal of the Project permit.	X	X	X	
AGFD-3	X	Southline would provide funding to improve riparian emergent wetlands on three historic ponds near Kansas Settlement Road. Wetlands would be constructed to AGFD specifications and adequately equipped with pumps, liners, and drains to ensure that wildlife values are maintained.	X	X	X	
AGFD-4	X	Southline would fund the removal of non-native flora and revegetation with native flora on the Willcox Playa Wildlife Area.	X	X	X	
	LNB-1	All paniculate agaves (*Agave palmeri*, *A. parryi*, and *A. chrysantha*) and saguaros (*Carnegiea gigantea*) would be inventoried within the proposed ROW, and the potential to avoid or salvage each plant would be assessed. The priority would be avoidance when feasible.	X	X		
	LNB-2	All suitable (e.g., healthy, undamaged, not flowering) paniculate agaves that cannot be avoided would be salvaged using methods approved by the BLM/Western and FWS, but mature agaves would be given preference for avoidance when feasible. Plants salvaged from areas of permanent disturbance would be used to reclaim areas of temporary disturbance, or replanted outside disturbed areas if necessary.	X	X		
	LNB-3	Other species of agaves, such as *A. schotti*, that are not primary food plants for nectar-feeding bats would be salvaged and used for reclamation in accordance with to the Reclamation, Vegetation, and Monitoring Plan.	X	X		
	LNB-4	Saguaros less than 15 feet in height would be salvaged, unless prevented by site-specific conditions or poor plant health. Plants salvaged from areas of permanent disturbance would be used to reclaim areas of temporary disturbance, or replanted outside of disturbed areas if necessary. Larger saguaros would be avoided whenever feasible, but would be topped or removed if necessary.	X	X		
	LNB-5	Agave and saguaro salvage would be augmented, as necessary within 3 years after completion of initial restoration activities. Augmentation would occur within the ROW in areas of higher value to bats (e.g., in the vicinity of active roosts, within areas of high concentration of agaves) to achieve a goal of no net loss of forage plants. Plant stocks from local sources or approved nursery-grown plants would be used.	X	X		
	LNB-6	Salvaged plants would be monitored following reclamation for a period of 3 years, as described in the POD. Supplementary water would be provided, if monitoring indicates that rainfall is insufficient to achieve the goal of no net loss of forage plants. Plant survival through the monitoring period would be reported annually to the BLM/Western and FWS.	X	X		
	WF-1	All non-emergency construction and maintenance in riparian woodlands at the San Pedro River, Cienega Creek, and the Santa Cruz River would take place between September 15 and March 1, to avoid disturbance of breeding or nesting southwestern willow flycatchers (*Empidonax traillii extimus*).		X		
	WF-2 YBC-2	Line marking devices would be placed at the proposed crossings of the San Pedro River, Cienega Creek, and the Santa Cruz River to minimize the potential for avian collisions with transmission lines.		X		

Table 8. Environmental Protection Measures by Resource (Continued)

PCEM	Agency	Feature by Resource	Preconstruction	Construction	Operation and Maintenance	Decommissioning
Wildlife, cont'd.						
	YBC-1	All non-emergency construction and maintenance in riparian woodlands at the San Pedro River, Cienega Creek, and Santa Cruz River would take place between September 15 and March 1, to avoid disturbance of breeding or nesting yellow-billed cuckoos (*Coccyzus americanus*).		X		
	BAT-1	Construction activities that create sudden and sporadic loud noise (e.g., blasting) within 0.5 mile of the Volcano Mine complex would be limited to Spring (preferably April 1 to May 31), depending on the presence of bats to protect maternity roosts and potential hibernacula.		X		
	BO-CM	BLM and Western would work with FWS, AGFD, and NMDGF to implement recovery actions for lesser long-nosed bat (*Leptonycteris yerbabuenae*), Mexican long-nosed bat (*Leptonycteris curasoae*), southwestern willow flycatcher, and yellow-billed cuckoo.	X			
	BO-CM	BLM and Western would work with FWS, AGFD, and NMDGF to participate in recovery planning and implementation of conservation actions for northern Mexican gartersnake (*Thamnophis eques megalops*), particularly on efforts to remove harmful nonnative species from occupied northern Mexican gartersnake habitat.	X			
	BO-CM	BLM, Western, and Southline would use the smallest mesh size possible (<0.5 inch) for erosion-control products, or products that do not contain any mesh- or net-like attributes near occupied northern Mexican gartersnake habitat. BLM, Western, and Southline would refrain from using erosion-control products (such as wattles), that contain a mesh size of 0.5 inch (or 1.27 cm) within proposed critical habitat for the northern Mexican gartersnake.		X		
	BO-CM (appendix B)	Preconstruction surveys would take place in habitat classified as moderate or high suitability for the northern aplomado falcon (*Falco femoralis septentrionalis*) within the proposed ROW and a 1-mile buffer. Surveys should be conducted several times from January 15 to June 30 in order to detect breeding activity.	X			
	BO-CM (appendix B)	All existing raptor nests or other large nests found during preconstruction surveys would be preserved in place, if possible, or relocated if necessary. No relocation of active nests would occur, and no nests would be relocated until after consultation with the Federal action agencies and FWS.	X	X		
	BO-CM (appendix B)	Construction would not take place within 1 mile of occupied northern aplomado falcon nests between January 15 and September 1. Aplomado falcons are frequently observed on their breeding territories in southern New Mexico in January. Therefore, January 15 is the start date for seasonal restrictions.		X		
	BO-CM (appendix C)	Preconstruction desert tortoise surveys would be conducted in suitable habitat. A WEAP that includes information on desert tortoises would be implemented. Any desert tortoises encountered during preconstruction surveys or during construction activities would be handled in accordance with the AGFD "Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects" (AGFD 2007).	X			

A SWPPP for the proposed Project would identify sources of pollutants associated with construction activity that may affect the quality of stormwater, as well as stormwater management practices to abate pollutants in stormwater discharges from the construction site both during and after construction. The SWPPP would detail structural and non-structural controls that would be put in place to minimize negative impacts caused by offsite stormwater discharges to the environment. BMPs in the plan would include specific stabilization measures and structural controls, spill prevention containment and controls, final stabilization measures to be implemented after construction, and requirements for maintenance and inspection, subject to approval by an Erosion Control Coordinator.

5.4.4 Spill Prevention, Control, and Countermeasures Plan

The Spill Prevention, Control, and Countermeasures (SPCC) Plan would address requirements for petroleum spill prevention, preparedness, response, and notification to prevent oil discharges to waters and adjoining shorelines. The EPA's SPCC rule 40 CFR 112 is part of the Oil Pollution Prevention regulation, which requires specific facilities to prepare, amend, and implement SPCC Plans. The plan would addresses prevention and remediation of oil, hydraulic fluid, and petroleum fuel spills, including spills that could enter WUS.

5.4.5 Historic Properties Treatment Plan

Section 106 of the NHPA requires Federal agencies to consider the effects of their undertakings on historic properties (those cultural resources presently listed or determined to be eligible for listing in the NRHP). Due to the scope and complexity of the proposed Project, and because the effects on historic properties cannot be fully determined prior to the approval of an undertaking, the BLM and Western determined early in the process that the undertaking would have an "adverse effect" on historic properties. To resolve the adverse effects, a Project-specific PA is being developed among the consulting parties.

The PA, an HPTP, and a Monitoring and Discovery Plan would be developed pursuant to the PA, and would be incorporated into the POD. The HPTP provides a framework for conducting historic resource testing and data recovery for the proposed Project. It would describe measures that would be implemented to address the avoidance of impacts, minimization of impacts, and mitigation of possible impacts to historic properties. As noted in the PA, for the purposes of Section 106 of the NHPA, decommissioning would be a new action for Section 106 review and historic properties potentially affected by decommissioning would be considered in the BLM-approved Termination and Reclamation Plan in accordance with the pertinent laws, regulations, and policies extant at the time.

5.4.6 Blasting Plan

A Blasting Plan would outline the procedures and safety measures that the proposed Project contractor would adhere to while implementing blasting activities during construction. It would identify proposed blasting techniques, as well as blasting requirements and procedures such as proposed notification of agencies and affected landowners, safety, use, storage, and transportation of explosives. These procedures must be consistent with the minimum safety requirements defined by Federal, State, and local regulations. This plan would also identify and address areas of potential environmental concern as related to blasting along the proposed Project route. The Blasting Plan would be circulated to the appropriate Federal, State, and local agencies, as appropriate.

5.4.7 Plant and Wildlife Species Conservation Measures Plan

Federal agencies are required to consider the effects of their activities on protected species. The Plant and Wildlife Species Conservation Measures Plan would outline the avoidance and minimization of impacts to special-status plant and wildlife species as related to proposed Project construction activities. It would describe specific measures to be implemented in the event that State or federally listed species, BLM sensitive species, or Forest Service special-status species or their habitats are identified within or adjacent to the proposed Project ROW. The Plant and Wildlife Species Conservation Plan would incorporate appropriate Federal, State, and local agency guidance and regulation, such as the Pima County Regional Flood Control District Regulated Riparian Habitat Mitigation Standards.

5.4.8 Erosion, Dust Control, and Air Quality Plan

In order to maintain air quality in the vicinity of construction areas, the Erosion, Dust Control, and Air Quality Plan would identify sources of fugitive dust, such as grading activities, driving on dirt roads, or wind-driven dust from exposed soil; and then provide appropriate dust mitigation measures (PCEMs) such as application of water or soil additives, control of vehicle access, vehicle speed restrictions, or even work stoppage during extreme wind. The plan would also identify sensitive receptors that could be affected by dust from work areas, and outline dust monitoring and recordkeeping responsibilities. The Erosion, Dust Control, and Air Quality Plan would incorporate appropriate Federal, State, and local agency guidance and regulation and be circulated to the appropriate agencies to verify that the proposed Project is complying with the applicable air quality rules and regulations. Applicable County Plans, Laws, Ordinances, Regulations, and Standards Related to Air Quality are discussed in chapter 3 of the EIS.

Additionally, the Erosion, Dust Control, and Air Quality Plan would include a Construction Emission Mitigation Plan (CEMP) that would include fugitive dust source controls such as:

- stabilization of open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate at active and inactive sites during workdays, weekends, holidays, and windy conditions;
- installation of wind fencing and phased grading operations where appropriate;
- operation of water trucks for stabilization of surfaces under windy conditions; and
- prevention of spillage when hauling material and operating non-earthmoving equipment and limiting speeds to 15 miles per hour. Limiting speed of earth-moving equipment to 10 miles per hour.

The CEMP would also include mobile and stationary source controls such as:

- planning construction scheduling to minimize vehicle trips;
- limiting idling of heavy equipment to less than 5 minutes and verification through unscheduled inspections;
- maintenance and tuning of engines per manufacturer's specifications to perform at EPA certification levels, prevent tampering, and conduct unscheduled inspections to ensure these measures are followed; and
- where practicable, use new, clean equipment meeting the most current of applicable Federal or State Standards. In general, commit to the best available emissions control technology. Tier 4 engines should be used for Project construction equipment to the maximum extent feasible.

Lacking availability of non-road construction equipment that meets Tier 4 engine standards, the responsible agency should commit to using EPA-verified particulate traps, oxidation catalysts, and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site.

The CEMP would also include administrative controls such as:

- preparation of an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking; and
- development of a construction traffic management plan that maintains traffic flow and plan construction to minimize vehicle trips.

5.4.9 Hazardous Materials Management Plan

The purpose of the HMMP would be to reduce the risks associated with the storage, use, transportation, and disposal of hazardous materials anticipated to be used during the construction phase of the proposed Project. The HMMP would be required to meet BLM ROW grant conditions to provide a basic understanding of the hazards and techniques associated with the handling of hazardous materials so that the proposed Project personnel would be better able to protect their personal health, prevent damage to the environment, and comply with applicable laws, regulations, and policies.

5.4.10 Emergency Preparedness and Response Plan

The purpose of the Emergency Preparedness and Response Plan would be to help prevent emergencies, to ensure preparedness in the event emergencies do occur, and to provide a systematic and orderly response to emergencies. Emergencies may include be medical, fire, hazardous materials, extreme weather, or acts of sabotage. The plan would provide project-specific details regarding steps for various types of emergencies, including emergency notification and evacuation procedures, and would take into account the level of severity of each event.

5.4.11 Noxious Weed Management Plan

The primary focus of the Noxious Weed Management Plan would be to minimize the introduction of any noxious weed infestations, as well as the spread of weeds, during construction of the proposed Project and to eradicate noxious weeds following construction. Regulatory authority and requirements are provided by Federal regulations, including the Executive Order on Invasive Species and the Plant Protection Act, plus State regulations on noxious weeds. The plan would outline that invasive weeds are not controlled to the same standards as noxious weeds and would specifically address the elimination of buffelgrass (*Pennisetum ciliare*) from areas disturbed by the proposed Project to ensure that it does not spread to adjoining lands.

5.4.12 Fire Protection Plan

A Fire Protection Plan would help reduce the risk of fires and minimize the dangers posed by fires during construction and operation phases of the proposed Project. Because the proposed Project would be located in remote and isolated locations, the dangers posed by fire may be increased. The objective of this plan would be to eliminate causes of fire, minimize the potential loss of life and property by fire, and comply with OSHA standards on fire prevention. It also would provide information and guidelines to assist in recognizing, reporting, and controlling fire hazards.

5.4.13 Stream, Wetland, Well, and Spring Protection Plan

General water quality is protected under the Federal Clean Water Act, and a permit may be required if a project would result in discharges to regulated WUS. The purpose of a Stream, Wetland, Well, and Spring Protection Plan would be to describe measures to protect those resources from potential impacts during construction, operation, and maintenance activities. The plan would describe avoidance, minimization, and mitigation measures (PCEMs) and would be intended for use as a guide to determine the appropriate site-specific measures to be implemented during construction activities. The goals of the plan would be to prevent and control the proposed Project-related erosion and sedimentation into streams and wetlands, minimize disturbance and erosion of streambeds and banks, and protect springs and wells from Project impacts due to blasting and hazardous materials contamination. The Stream, Wetland, Well, and Spring Protection Plan would incorporate appropriate Federal, State, and local agency guidance and regulations, such as the Pima County Regional Flood Control District Regulated Riparian Habitat Mitigation Standards.

5.4.14 Soil Management Plan

A Soil Management Plan would define procedures for managing soils that are excavated during construction, along with plans for their storage and later reuse. This plan is often an appendix to a SWPPP. In addition to clean soil excavation, the plan would outline procedures for segregation of potentially contaminated soils, sampling and analysis of those soils, and disposal options if that becomes necessary. It also would define how topsoil would be segregated and stored, how stockpiles would be managed and protected, and used in site restoration. Use of topsoil for restoration activities would be described in the Reclamation, Vegetation, and Monitoring Plan. Erosion and sediment controls for excavated soil would also be discussed.

5.4.15 Reclamation, Vegetation, and Monitoring Plan

The Reclamation, Vegetation, and Monitoring Plan would be prepared for the BLM and Western to address the reconstruction of disturbed ecosystems by returning the land to a stable and productive condition. It would describe reclamation, revegetation, native plant management, and noxious and invasive weed control, with the purpose of restoring areas impacted by construction, operation and maintenance, and decommissioning. The plan would distinguish between Interim Reclamation Activities and Final Reclamation Activities with corresponding goals and objectives. Such plans typically include predisturbance site characterization, waste material management, site preparation and seeding, the use of native seeds, invasive species management, and compliance and effectiveness monitoring. Plan elements would help protect subsurface integrity and eliminate sources of ground and surface water contamination. Implementation of these elements would also maintain the biological, chemical, and physical integrity of the topsoil and subsoil, and reestablish slope stability and surface stability. The Reclamation, Vegetation, and Monitoring Plan would incorporate appropriate Federal, State, and local agency guidance and regulations, such as the Pima County Regional Flood Control District Regulated Riparian Habitat Mitigation Standards.

5.4.16 Health and Safety Plan

A HASP is not typically required by Federal law; however, section 18 of the Occupational Safety and Health Act of 1970 encourages States to develop and operate their own safety and health programs in the workplace. In New Mexico, the Occupational Health and Safety Bureau, part of the New Mexico Environment Department, has the responsibility of enforcing Occupational Health and Safety

Regulations. In Arizona, the Arizona Division of Occupational Safety and Health is responsible for enforcement and voluntary compliance.

The purpose of a HASP would be to ensure the safety of the proposed Project employees, construction personnel, and the public. The HASP would be tailored specifically for the proposed Project, and would include a description of hazards that may be encountered during the life of the proposed Project. The HASP would detail employee safety training procedures that would be used, structural and non-structural safety controls that would be put in place, personal protective equipment that would be required, emergency response procedures, protocols for Project-specific procedures such as confined space entry, and applicable standards, practices, and procedures specified by OSHA (29 CFR 1910).

5.4.17 Avian Protection Plan

An APP would be a Project-tailored plan designed to reduce avian electrocution and collision mortality that result from avian interactions with electric utility facilities. The overall goal of an APP is to reduce avian mortality. The 2005 APLIC and FWS APP Guidelines (APLIC 2005) provide a framework, along with principles and examples of APPs.

The APP would be designed as a living document to be continually evaluated and refined over the life of the proposed Project. The elements of the APP would include training, permit compliance, construction design and siting standards, nest management, a reporting system, risk assessment for evaluating the risks posed to migratory birds. The plan would also identify areas and issues of concern, mortality reduction measures, and avian enhancement options.

Examples of avian protection measures that *could* be included in the APP are:

- Marking wires (bird diverters) and/or using special structure design to increase visibility to birds;
- Applying special structural design to decrease the heights of ground wires and conductors;
- Monitoring to ensure that mitigation measures (PCEMs) are implemented; and/or
- Conducting additional avian studies, surveys, and/or monitoring to record the presence of birds and incidence of avian collisions, and provide data that could be useful to minimize the potential for collisions with the proposed Project, as well as with existing and future power lines in other locations.

Southline, BLM and Western would collaborate with agencies such as the FWS, AGFD, and NMDGF and other cooperating agencies on development of the APP, the goal of which is mitigate the collision risk and loss of productivity for all birds.

5.4.18 Waste Management Plan

The purpose of the Waste Management Plan would be to outline non-hazardous waste handling procedures to be used during the construction, operation, and maintenance phases of the proposed Project and to identify expectations for minimizing waste and recycling processes. Waste addressed in this plan would include all non-hazardous waste resulting from construction and land clearing, as well as material that is recycled, reused, salvaged, or disposed of as garbage.

The Waste Management Plan would attempt to predict the quantities and types of waste that would be generated during the construction, operation, and maintenances phases of the proposed Project, identify

the final destination of that waste, and estimate waste management costs. The Waste Management Plan would consider waste diversion goals and objectives, and would explore recycling and reuse alternatives.

5.4.19 Helicopter Flight Plan/Flight and Safety Plan

The Helicopter Flight and Safety Plan would describe the hours and estimated number of days that a helicopter would operate for construction of the proposed Project, the type and number of helicopters that would be used, and the kind of work to be performed. Additional information presented in this plan would include the location, size, and number of staging areas for helicopter takeoffs and landings, and safety measures to be implemented during helicopter operations. This plan would be reviewed and approved by the FAA prior to the commencement of helicopter operations.

5.4.20 Decommissioning Plan

The Decommissioning Plan would detail how the structures and facilities of the proposed Project would be removed after the useful life of the Project is reached, and how the affected properties would be reasonably restored in accordance with the BLM ROW grant. This plan would be a general outline of how the proposed Project would be decommissioned and how land would be restored to its original condition. Decommissioning procedures described would include the removal of structures, disposal of waste, and identification of what, if anything, may remain on the land upon completion. Restoration would include the stabilization and revegetation of the disturbance area to minimize erosion and return the land to productive use.

5.5 SELECTIVE MITIGATION BY MILEPOST

Files to be included with Final POD (post Final EIS) - not included herein.

Chapter 6

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Appendix A

CONSTRUCTION CONSIDERATIONS

Full text to be included with Final POD (post Final EIS) – text in the following section not fully developed.

APPENDIX A1
FLAGGING, FENCING, AND SIGNAGE PLAN

A1.1 Introduction

This Flagging, Fencing, and Signage Plan describes the methods that will be used in the field to delineate Southline Transmission Line Project (Project) limits of disturbance and protect sensitive environmental and cultural resources during Project construction. These methods are intended to ensure Southline Transmission, LLC (Southline, or the Proponent) personnel, the construction contractor(s), Bureau of Land Management (BLM), Western Area Power Administration (Western), compliance inspection contractor (CIC), and other monitors and visitors to the Project construction sites stay on approved access routes and within approved work areas.

As indicated in the Plan of Development (POD), this plan is applicable on Federal lands administered by the BLM as enforceable stipulations and measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western is involved in the Project, they may adopt this plan, where appropriate. The measures described in this plan are an integral part of the environmental compliance program for avoiding and minimizing impacts on sensitive resources. The objective of this plan is to provide information on the field markings (i.e., flagging, fencing, and signage) that will be used to identify approved Project travel and work areas, as well as sensitive resource areas where construction or travel is to be excluded.

A1.2 Regulatory Requirements

No Federal, State, or local laws, rules, or regulations specifically address flagging, fencing, and signage protocols for construction Projects. However, some of the Proponent Committed Environmental Measures (PCEMs) identified in the Environmental Impact Statement (EIS) for the Project (and also in table 8 in the POD), hinge on adequate field marking of work areas and/or of sensitive resource areas to avoid or reduce impacts. These PCEMs include flagging or fencing requirements to help protect vegetative cover, water quality, cultural resources, and special-status species and minimize the spread of invasive weeds.

A1.3 Methods

A1.3.1 Demarcating Project Facilities

A1.3.2 Environmental Exclusions

A1.3.3 Signing, Flagging, and Fencing Materials and Methods

Table A1-1. Signing and Flagging Scheme

Feature	Flagging or Sign Colors	Sign Text	What to Do
Project access road			
Temporary work areas (pulling sites, material yards, etc.)			
Public access			
Sensitive environmental areas			

Feature	Flagging or Sign Colors	Sign Text	What to Do
Reclamation project areas			
Wetlands			
Invasive weed cleaning stations			
Noxious weed problem areas			
Proposed structure locations			
Structure offsets			
Substation and communication regeneration station locations			
Outside edge of permitted ROW or center line			
Cadastral survey monument			
Non-authorized access road			

A1.3.2.1 SIGNING

A1.3.2.2 FLAGGING

A1.3.2.3 FENCING

A1.4 Installation, Monitoring, and Maintenance of Fencing, Flagging, and Signage

Figure A1-1. Typical Sign – PROJECT ACCESS ROAD

Figure A1-2. Typical Sign – SENSITIVE RESOURCE AREAS KEEP OUT

Figure A1-3. Typical Sign – Restoration in Progress – No Vehicle Traffic Allowed

Figure A1-4. Typical Sign – NO REFUELING

Figure A1-5. Typical Sign – DO NOT ENTER

Figure A1-6. Typical Sign – WEED CLEANING STATION

APPENDIX A2
GEOTECHNICAL INVESTIGATION

The Plan of Development (POD) for the geotechnical investigation includes detailed information on the geotechnical exploration program, including procedures the Proponent implemented during geotechnical exploration activities, and outlines the stipulations and Proponent Committed Environmental Measures (PCEMs) adopted by the Proponent to minimize potential impacts on resources and to ensure regulatory compliance. As indicated in the POD, stipulations and measures provided herein are applicable on Federal lands administered by the Bureau of Land Management (BLM) as enforceable measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western Area Power Administration (Western) is involved in the Project, they may adopt these stipulations and measures, where appropriate.

Information to be developed.

APPENDIX A3
PROJECT CONSTRUCTION

This section contains an overview of construction activities associated with the transmission line facilities. As indicated in the Plan of Development (POD), stipulations and measures provided herein are applicable on Federal lands administered by the Bureau of Land Management (BLM) as enforceable measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western Area Power Administration (Western) is involved in the Project, they may adopt these stipulations and measures, where appropriate.

Map Sets 1 and 2 of the POD will identify the transmission line route and environmental resources located within or adjacent to the transmission line corridor based on preconstruction surveys conducted prior to issuance of the ROW grant. POD Map Set 3 will identify, in more detail, access roads that will be used to access the construction ROW.

A3.1 Construction Schedule

A3.1.1 Preconstruction Activities

A3.1.1.1 SURVEYING AND STAKING

A3.1.1.2 PRECONSTRUCTION RESOURCE SURVEYS

Table A3-1. Preconstruction Resource Surveys

Survey Type and Resources	Plan Reference	Date Completed	Additional Surveys to be completed
Vegetation and Wetlands			
Special-status plants			
Wetland delineation			
Noxious weeds			
Water Resources			
Watercourse crossing inventory			
Springs/wells			
Wildlife Resources			
Bat roosts[4]			
Sonoran desert tortoise[5]			
Raptors and nests			
Migratory bird nests			
Cultural Resources			

[4] There would be surveys of bat roosts within 0.25 mile of the Project ROW in areas that potentially contain caves, karst features, or mines. Occupied bat roosts would be avoided

[5] Preconstruction desert tortoise surveys would be conducted in suitable habitat. A worker education program including information on desert tortoises would be implemented. Any desert tortoises encountered during preconstruction surveys or during construction activities would be handled in accordance with the AGFD *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects* (AGFD 2007).

Survey Type and Resources	Plan Reference	Date Completed	Additional Surveys to be completed
Literature search and Class III inventory			
Paleontological Resources			
Paleontological resources			

A3.1.1.3 RIGHT-OF-WAY PREPARATION

A3.1.1.4 PRECONSTRUCTION MEETING

A3.1.1.5 NOTICE TO PROCEED (BLM-ADMINISTERED LANDS ONLY)

A3.1.1.6 SPECIAL-USE AUTHORIZATION[6]

A3.2 Equipment Staging and Construction Yards

A3.3 Access Roads

A3.3.1 Snow Removal

A3.3.2 Agency Access Road Requirements

A3.3.3 Ground Disturbance/Access Levels

Table A3-2. Ground Disturbance/Access Levels

Access Levels	Description	Access Type
Level 1	Details on use of existing roads	
Level 2	Details on improvements to existing roads	
Level 3	Construct new access, flat to rolling terrain (0–8 percent slopes)	
Level 4	Construct new access, rolling terrain (8–5 percent slopes)	
Level 5	Construct new access, steep terrain (greater than 15 percent slopes)	

Table A3-3. Summary of Ground Disturbance and Vegetation Clearing

	Temporary Disturbance (acres)	Permanent Disturbance (acres)	Total Disturbance (acres)	ROW Vegetation Clearing (acres)
Total for Selected Route				

[6] Authorization would be required for other federal lands as well.

A3.4 Transmission Line Construction

A3.4.1 Geotechnical Investigations and Soil Boring

A3.4.2 Site Access and Preparation

A3.4.2.1 AGENCY SITE PREPARATION REQUIREMENTS

A3.4.3 Install Structure Foundations

A3.4.4 Erect Support Structures

A3.4.5 String Conductors, Shield Wire, and Fiber-Optic Ground Wire

A3.4.6 Sagging and Clipping

A3.4.7 Cleanup and Site Reclamation

A3.5 Substation Construction

A3.5.1 Access Roads

A3.5.2 Clearing and Grading

A3.5.3 Foundation Installation

A3.5.4 Oil Containment

A3.5.5 Structure and Equipment Erection/Installation

A3.5.6 Conduit and Control Cable Installation

A3.5.7 Landscaping and Construction Cleanup

Attachment A: Construction Schedule[7]

[7] Gantt Chart–type schedule

APPENDIX A4
SPECIAL CONSTRUCTION TECHNIQUES

This section provides an overview of special construction techniques that may be used on the Project depending on location and construction contractor's determination. As indicated in the Plan of Development (POD), stipulations and measures provided herein are applicable on Federal lands administered by the Bureau of Land Management (BLM) as enforceable measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western Area Power Administration (Western) is involved in the Project, they may adopt these stipulations and measures, where appropriate.

A4.1 Blasting

A4.1.1 Bat Roost Avoidance

Construction activities that create loud noise (e.g., blasting) within 0.5 mile of the Volcano Mine complex would be limited to Spring (preferably April 1 to May 31) depending on the presence of bats, to protect maternity roosts and potential hibernacula.

To avoid impacting roosting bats at the Ina Road Bridge, blasting activities would be restricted to less than 130 decibels (dB) at the project site. If this dB limit cannot be met then blasting activities would be limited to after sunset when the majority of adult bats would be away from the roost foraging, and/or blasting would not occur in April or May while the bat colony is present.

A4.2 Helicopter Activities

A4.2.1 Typical Helicopter Construction Description

A4.3 Temporary Water Use During Construction

A4.4 Shipping and Handling Guidelines for Sulfur Hexafluoride

A4.5 Literature Cited

APPENDIX A5
CONSTRUCTION WORKFORCE

A5.1 Introduction

As indicated in the Plan of Development (POD), stipulations and measures provided herein are applicable on Federal lands administered by the Bureau of Land Management (BLM) as enforceable measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western Area Power Administration (Western) is involved in the Project, they may adopt these stipulations and measures, where appropriate.

The proposed Project will be constructed primarily by contract personnel with Southline (Proponent). The Proponent will be responsible for Project administration. The Project will consist of several phases of construction at varying locations along the Project ROW. The construction workforce will consist of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel who will perform the construction tasks. Construction activities will consist of surveys, road construction, foundation installation, structure steel haul, structure assembly, structure erection, wire installation, cleanup, and road rehabilitation.

The construction contractor(s) will hold daily field meetings with their environmental monitors and the compliance inspection contractor (CIC) to review applicable environmental regulations and stipulations as well as potential environmental issues. The estimated number of workers and types of equipment required to construct the proposed transmission line are shown in tables A5-1 and A5-2.

Table A5-1. Anticipated Construction Workforce and Equipment, New Build Section

Activity	Equipment		Crew
ROW Survey	1 helicopter 2 all-terrain vehicles (ATVs)	2 pickup trucks	6
Geotechnical Investigations	1 (2-ton) drill truck 1 ATV	1 pickup truck	4
Access Road Construction	2 bulldozers (D-6 or D-8) 2 motor graders	2 pickup trucks 2 water trucks	8
Foundation Installation	3 augers 2 wagon drills 2 flatbed trucks w/ booms 2 (15-ton) hydro cranes 1 batch plant 4 concrete trucks 1 water truck	1 bulldozer (D-6) 1 front-end loader 2 dump trucks 2 (2-ton) trucks 3 pickup trucks 1 carry-all	32
Laydown Yard / Receiving	2 (40-ton) cranes 4 forklifts	2 pickup trucks	8
Structure Hauling	6 flatbed trailers 2 boom trucks	1 pickup truck 2 forklifts	10
Structure Assembly	3 (40-ton) cranes 3 carry-alls	3 (2-ton) trucks 3 pickup trucks	24
Structure Erection	2 (100-ton) cranes 2 boom trucks	2 (2-ton) trucks 2 pickup trucks	20

Table A5-1. Anticipated Construction Workforce and Equipment, New Build Section (Continued)

Activity	Equipment		Crew
Wire Stringing	1 light helicopter 3 drum pullers 3 double-wheeled tensioners 6 wire reel trailers 2 D-8 Cats with sag winches 2 splicing trucks	2 diesel tractors 2 haul trailers 2 (30-ton) cranes 6 boom trucks 4 (2-ton) trucks 6 pickup trucks	40
Road/ROW Restoration	1 bulldozer (D-6 or D-8) 1 front-end loader with bucket 1 tractor with seeding equipment 1 motor grader	1 pickup truck 1 dump truck 1 water truck	8
Clean-up	1 flatbed truck with bucket	2 pickup trucks	6

Table A5-2. Anticipated Construction Workforce and Equipment, Upgrade Section

Activity	Equipment		Crew
ROW Survey	1 helicopter 2 all-terrain vehicles (ATVs)	2 pickup trucks	6
Geotechnical Investigations	1 (2-ton) drill truck 1 ATV	1 pickup truck	4
Access Road Construction	1 bulldozer (D-6 or D-8) 1 motor grader	1 pickup truck 1 water truck	4
Foundation Installation	3 augers 2 wagon drills 2 flatbed trucks w/ booms 2 (15-ton) hydro cranes 1 batch plant 4 concrete trucks 1 water truck	1 bulldozer (D-6) 1 front-end loader 2 dump trucks 2 (2-ton) trucks 3 pickup trucks 1 carry-all	32
Laydown Yard / Receiving	2 (40-ton) cranes 4 forklifts	2 pickup trucks	8
Structure Hauling	6 flatbed trailers 2 boom trucks	1 pickup truck 2 forklifts	10
Structure Erection	2 (100-ton) cranes 2 boom trucks	2 (2-ton) trucks 2 pickup trucks	20
Wire Stringing	1 light helicopter 3 drum pullers 3 double-wheeled tensioners 6 wire reel trailers 2 D-8 Cats with sag winches 2 splicing trucks	2 diesel tractors 2 haul trailers 2 (30-ton) cranes 6 boom trucks 4 (2-ton) trucks 6 pickup trucks	40
Road/ROW Restoration	1 bulldozer (D-6 or D-8) 1 front-end loader with bucket 1 tractor with seeding equipment 1 motor grader	1 pickup truck 1 dump truck 1 water truck	8
Clean-up	1 flatbed truck with bucket	2 pickup trucks	6

A5.2 Construction Equipment and Traffic

A5.3 Environmental and Safety Training

APPENDIX A6
ENVIRONMENTAL COMPLIANCE MANAGEMENT PLAN

A6.1 Introduction

As indicated in the Plan of Development (POD), this plan is applicable on Federal lands administered by the Bureau of Land Management (BLM) as enforceable stipulations and measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western Area Power Administration (Western) is involved in the Project, they may adopt this plan, where appropriate.

The BLM and Western will be responsible for enforcement of the terms and conditions of the BLM ROW grant and other landowner agreements across Federal, State, and private lands during the term of the grant for the Southline Transmission Line Project (Project).The BLM will approve a third-party compliance inspection contractor (CIC) to act on behalf of the BLM on BLM-managed lands. The CIC may also coordinate with Western on those portions of the Project where Western is involved in the Project and oversees relevant portions of the POD.

The CIC will inspect and monitor preconstruction and construction activities, enforce the terms and conditions of the ROW or easement grants, and enforce requirements related to BLM responsibilities under the National Historic Preservation Act (NHPA) and the Endangered Species Act (ESA).
In addition, the Project will adhere to any terms and conditions of State and local permits, as well as private landowner agreements.

Southline Transmission, LLC (Southline, or the Proponent), has developed Proponent Committed Environmental Measures (PCEMs) to be incorporated as part of the Project. The goal of these PCEMs is to reduce or avoid potential adverse impacts to sensitive environmental resources (see the Environmental Impact Statement (EIS), and table 8 of the POD) in compliance with the terms and conditions of the ROW grant, landowner agreements, and Federal, State, and local permits. The Project ROW grant, landowner agreements, and permitting requirements are specified in the POD chapter 1 – Introduction and Appendix B – Environmental Protection Framework Plans.

A6.2 Environmental Compliance Management Plan Elements and Authority

This Environmental Compliance Management Plan (ECMP) is the primary guidance document that states how the Project participants will uphold, document, and manage compliance with the ROW on BLM lands and with other ROW or easement authorizations on non-BLM lands for which the BLM and Western have responsibilities. It describes the following essential elements:

- Roles and responsibilities of the participants
- Comprehensive inspection and monitoring program
- Documentation and corrective procedures in the event of noncompliance
- Protocols and procedures for variance requests
- Reporting requirements
- Comprehensive Project-specific environmental compliance training program

Southline's commitment to environmental compliance will be demonstrated by activities prior to, during, and following construction. The ECMP is intended to be a controlled document and may be revised as needed throughout the construction process. As previously stated, Western will adopt the ECMP where appropriate. However; because the Project will cross private, State, and Federal lands under the jurisdiction of several agencies as well as BLM land, the ECMP will be written as a comprehensive document that, where appropriate, can be applicable for all non-BLM permitting entities and landowners, as well.

A6.3 Roles and Responsibilities

This section outlines the roles and responsibilities of Southline, persons, and agencies involved in the Project in executing the ECMP, as well as detailing their reporting relationships (figure A6.l).
If additional participants become involved in the Project, they will also be required to adhere to the protocols, terms, and conditions outlined in this ECMP. Their reporting relationships would be case-specific according to their jurisdiction, expertise, and/or nature of their input but would follow the structure presented in figure A6.1. Each environmental support title depicted under the construction contractor(s) environmental team in Figure A6.1 does not necessarily have to be a separate person/position, for example the environmental trainer may also serve as the reporting coordinator.

This section also briefly discusses the variance request procedure for changes on BLM lands. However, a more detailed discussion of this process is found in Section A6.4.2 – Variance Procedures (Unforeseen Circumstances).

A6.3.1 Project Proponent

As the Proponent and grant holder, Southline is responsible for administration of the BLM ROW. Western is responsible for administering the ROW where Western is involved in the Project. As such, the Proponent is ultimately accountable for adherence to the environmental permit requirements specified in its agreements on BLM-managed lands. The Proponent is also responsible for ensuring that any adverse environmental impacts do not exceed those described in the Final EIS and approved in the POD.

The Proponent and Western are accountable for adherence to the environmental permit requirements where Western is involved. To manage this responsibility, the Proponent will maintain regular and consistent communication with the CIC and the construction contractor(s) to track the success of the implementation of the PCEMs and other compliance efforts prior to, during, and post-construction and will communicate its findings to the BLM and Western. In addition, the Proponent, as the grant holder, is responsible for ensuring that all noncompliance incidents are corrected.

The following describes the roles and responsibilities of Proponent personnel.

A6.3.1.1 PROJECT PROPONET

A6.3.1.2 PROPONENT'S PROJECT MANAGER

Reporting

Variances

A6.3.1.3 PROPONENT'S ENVIRONMENTAL COMPLIANCE MANAGER

Reporting

Variances

A6.3.1.4 PROPONENT'S CONSTRUCTION INSPECTOR

Reporting

A6.3.2 Agency Responsibilities

A6.3.2.1 BLM

Reporting

Variances

A6.3.2.2 WESTERN

Reporting

Variances

A6.3.2.3 COMPLIANCE INSPECTION CONTRACTOR PROJECT MANAGER

Reporting

Variances

A6.3.2.4 ASSISTANT COMPLIANCE INSPECTION CONTRACTOR

A6.3.2.5 COMPLIANCE INSPECTION CONTRACTOR FIELD MONITORS

Reporting

A6.3.3 Construction Contractor(s)

The construction contractor(s) will be contractually bound to comply with all laws, regulations, and other requirements, including the PCEMs and other specific stipulations and methods set forth in the ROW grant, POD, EIS, Record of Decision, and permits (Federal, State, and local) throughout all phases of the Project. Construction personnel are required to attend environmental training prior to work on the Project. The construction contractor(s) will coordinate with the BLM/Western, the Proponent, the CIC, and construction contractor's environmental inspectors to build the Project safely and in compliance with all Project terms and conditions. If a noncompliant incident occurs, the construction contractor(s) will remedy the situation as soon as possible.

A6.3.3.1 PROJECT CONSTRUCTION CONTRACTOR

A6.3.3.2 CONSTRUCTION CONTRACTOR'S PROJECT MANAGER

Reporting

Variances

A6.3.3.3 CONSTRUCTION CONTRACTOR'S SUPERINTENDENT(S)

Reporting

Variances

A6.3.3.4 CONTRACTOR'S CIVIL SURVEY SUPERVISOR

Reports and Variances

A6.3.3.5 CONSTRUCTION CONTRACTOR'S LEAD ENVIRONMENTAL INSPECTOR

Reporting

Variances

A6.3.3.6 CONSTRUCTION CONTRACTOR'S ENVIRONMENTAL INSPECTOR

Reporting

A6.3.3.7 CONSTRUCTION CONTRACTOR'S ENVIRONMENTAL REPORTING COORDINATOR

Reporting

Variances

A6.3.3.8 CONSTRUCTION CONTRACTOR'S ENVIRONMENTAL TRAINING COORDINATOR

A6.3.3.9 CONSTRUCTION CONTRACTOR'S ENVIRONMENTAL REPORTING COORDINATOR

Reporting

Variances

A6.3.3.10 CONSTRUCTION CONTRACTOR'S ENVIRONMENTAL CREW FOREMAN

A6.4 Procedures

A6.4.1 Compliance Levels

A6.4.1.1 ACCEPTABLE

A6.4.1.2 PROBLEM AREA

A6.4.1.3 NONCOMPLIANCE

A6.4.1.4 RESPONSE TO NONCOMPLIANT ACTIVITIES

Temporary Suspension

Work Stoppage Order

Grant Suspension or Termination

A6.4.2 Variance Procedures (Unforeseen Circumstances)

A6.4.2.1 LEVEL 1 VARIANCE – VARIANCES ACCOMPLISHED THROUGH FIELD RESOLUTION

Level 1 Variance Approval or Denial

Level 1 Variance Distribution

A6.4.2.2 LEVEL 2 VARIANCE – VARIANCES BEYOND FIELD RESOLUTION, NOT REQUIRING AN AMENDMENT TO THE RIGHT-OF-WAY GRANT OR SPECIAL-USE AUTHORIZATION

Level 2 Variance Approval or Denial

Level 2 Variance Distribution

A6.4.2.3 LEVEL 3 VARIANCE – VARIANCES REQUIRING AN AMENDMENT TO THE RIGHT-OF-WAY GRANT

A6.5 Communications

Effective communication between all parties involved in the Project is vital to maintain environmental compliance. Onsite personnel will remain in contact through the use of two-way radios and cellular telephones, allowing for real-time coordination between parties. Ongoing, effective communication will enable timely resolution of questions, monitoring requirements, and compliance issues prior and during to construction activities. However, oral communication will not substitute for written approvals when written approvals are necessary.

A6.5.1 Primary Inter-Party Communication Channels

A6.5.2 Daily Communications

A6.6 Training

A6.6.1 Preconstruction

A6.6.2 During Construction

A6.7 Reporting and Documentation

Several forms and reports will be completed on a daily or weekly basis during construction. The reports and forms will include:

- Daily Inspection Reports
- Problem Area Report Forms
- Noncompliance Report Forms
- Variance Request Forms
- Weekly Compliance Reports
- Weekly Training Log

A6.8 Project Closeout

A6.8.1 Reclamation and Post Construction

A6.8.2 End of Construction Project Report

A6.8.3 Construction Closeout Meeting

Appendix B

ENVIRONMENTAL PROTECTION / FRAMEWORK PLANS

Full text to be included with Final POD (post Final EIS) — not included herein.

APPENDIX B1
ACCESS ROAD PLAN

Access road planning would be finalized if the proposed Southline Transmission Line Project (the Project) is approved. With the approved route known, the exact location of all access roads would be refined through detailed engineering. Once road locations are known, cultural resource and biological surveys would be conducted and road locations adjusted to avoid sensitive resources discovered during the surveys. No field disturbance would occur before the completion of these surveys and the completion of any necessary mitigation or treatment measures.

All roads would be constructed in accordance with Western Area Power Administration (Western) and Bureau of Land Management (BLM) standards for access roads and specified in the Access Road Plan, to be included as a framework plan in the Plan of Development (POD). As indicated in the POD, framework plans are applicable on Federal lands administered by the BLM as enforceable stipulations and measures of the BLM ROW grant. This framework plan pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western is involved in the Project, they may adopt this plan, where appropriate.

APPENDIX B2
TRAFFIC AND TRANSPORTATION MANAGEMENT PLAN

B2.1 Introduction

This Traffic and Transportation Management Plan addresses regulatory compliance, traffic management practices, levels of right-of-way (ROW) access, and Proponent Committed Environmental Measures (PCEMs) to help reduce impacts related to transportation and the construction of temporary and long-term access within the vicinity of the Project. As indicated in the Plan of Development (POD), this plan is applicable on Federal lands administered by the Bureau of Land Management (BLM) as enforceable stipulations and measures of the BLM ROW grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western is involved in the Project, they may adopt this plan, where appropriate.

B2.2 Purpose

The purpose of this plan is to provide the BLM, Western, and other public agencies; the compliance inspection contractor (CIC); and the construction contractor(s) with a description of the type of access associated with the construction, operation, and maintenance of this Project and make evident the potential impacts that could be created by construction and operation of the Project. The goal of this plan is to ensure impacts from construction of the transmission line and any associated access are kept to a minimum through the use of management practices and PCEMs described throughout this appendix. These practices and measures are intended to mitigate the effects of transportation on environmental resources, roads, traffic, travel, and road safety.

B2.3 Regulatory

A number of agencies have jurisdiction over the transportation-related components of the Project. These include the BLM; New Mexico Department of Transportation; Arizona Department of Transportation; Federal Highway Administration; and local law enforcement and road departments. Encroachment permit applications will need to be filed with appropriate road agencies for those areas where the transmission line crosses public roads (e.g., Interstate 10) prior to construction.

Other permits and approvals not directly related to transportation could affect the construction, use, and/or maintenance of roads in certain areas. Persons responsible for Project transportation activities must be familiar with all relevant sections of Project's POD.

B2.4 Traffic Management Practices

B2.5 Types of Right-of-Way Access

B.2.5.1 Access Type A

Access from adequate private roads. This type of access would be used when there is no existing road adjacent or parallel to the alignment, but where there is a patchwork of existing roads in the area that would be crossed by the proposed Project ROW, and could be used to access the ROW and get close to the structure locations. Grading between the existing roads and each structure location would only be

conducted where necessary and would depend on site conditions. Grading and other improvements may not be necessary, depending on site conditions. Typically, overall disturbance would be limited to a width of 16 feet or less. The purpose of using existing access from private roads would be to minimize overall disturbance.

B.2.5.2 Access Type B

Parallel to maintained public roads. This type of access would be used when the alignment roughly parallels a nearby public road that is either paved or has gravel surfacing. Short spur roads would be graded from the existing roads to each structure location. Except in rare cases, the existing roads would not be upgraded, but any damage to public roads from construction activities would be repaired. The purpose of access roads parallel to a nearby public road would be to consolidate and minimize overall disturbance.

B.2.5.3 Access Type C

Parallel to existing utility roads. This type of access would be used when the alignment roughly parallels an existing utility that already has an existing access road. Spur roads would be graded from the existing utility roads to each structure location. Generally, the existing utility roads would be improved. Grading between the existing utility roads and each structure location would only be conducted where necessary and would depend on site conditions. Grading and other improvements may not be necessary, depending on site conditions. Typically, overall disturbance would be limited to a width of 16 feet or less. The purpose of access roads parallel to a utility road would be to consolidate and minimize overall disturbance.

B.2.5.4 Access Type D

New down-ROW primary access. This type of access would only be used when access types A–C are not feasible. It would consist of a 16-foot-wide road (12-foot travel surface plus 2 feet on either side for berms/ditches). As much as possible, new access would be entirely within the ROW. Typically, new down-ROW access would be used if any parallel roads are more than 700 feet from the alignment. This access type would also normally be used for alignments that parallel interstate highways and railroads because the owners of those facilities generally place restrictions on the use of their ROWs; these restrictions do not allow for the addition of spur roads or their related ROW crossings and gates in ROW fences.

B.2.5.5 Access Type E

Spur roads—improved and unimproved access. Spur roads would be used to connect type A, B, and C access roads to the ROW and for temporary access to stringing and splicing sites. Spur roads would be a combination of improved (bladed) and unimproved (two-track) roads, with an average of one new spur road per mile for temporary access and approximately five spur roads per mile in areas where type A, B, and C access roads are used for permanent access to structure locations. Where necessary, these spur roads would be improved, and the roads would be bladed and 10 to 12 feet wide. Otherwise, spur roads might not be improved in areas with flat terrain and within grassland, desertscrub, sand scrub, and sand dune vegetation communities. Vegetation on unimproved roads may be crushed by driving, but cropping or blading vegetation would not be conducted. This would avoid removal of root mass and organics in the soil (no surface soil would be removed). The purpose of unimproved spur roads would be to preserve the maximum amount of native vegetation and minimize overall disturbance.

B2.6 Proponent Committed Environmental Measures

B2.6.1 Transportation PCEMs:

B2.6.2 Other PCEMs:

B2.7 Other Specific Stipulations and Methods

APPENDIX B3
STORMWATER POLLUTION PREVENTION PLAN

B3.1 Introduction

In compliance with criteria in the U.S. Environmental Protection Agency's (EPA's) Clean Water Act, all construction site operators engaged in clearing, grading, and excavating activities that disturb 1 acre or more, must obtain a National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges (40 Code of Federal Regulations (CFR) 122 and 123).

NPDES Construction General Permits are issued by the EPA in New Mexico, while Arizona Pollutant Discharge Elimination System (AZPDES) Construction General Permits are issued by the Arizona Department of Environmental Quality (ADEQ). The general permits are issued only after submittal of a Notice of Intent (NOI) for construction activities, and preparation of a Stormwater Pollution Prevention Plan (SWPPP) that describes how erosion and sediment transport will be minimized to adjacent water bodies. Measures to ensure construction activities comply with State and EPA requirements for stormwater management to be incorporated into the SWPPP are outlined in this plan framework.

The construction Plan of Development (POD) will identify the party responsible for developing a Project-specific SWPPP and for obtaining coverage under the appropriate Construction General Permit by filing a NOI and appropriate fee in accordance with the NOI instructions.

B3.2 Purpose

The purpose of a SWPPP for the proposed Project is to identify and implement stormwater pollution prevention measures to reduce the quantity of impacted runoff and to deal with runoff in a manner minimizing environmental impacts during construction, operation, and maintenance of the Project.

A SWPPP is needed to minimize the volume of contaminated runoff, including sediment runoff, and to implement Proponent Committed Environmental Measures (PCEMs) in a manner minimizing environmental impacts. The SWPPP will also spell out design features for environmental protection specific to storing and handling fuel and oil, cement mix, and other materials that may contaminate stormwater. Temporary stabilization methods (silt-fences, straw bales, etc.) are not guaranteed or fail-safe measures without regular maintenance and field inspection throughout construction activities. In addition to conventional methods of erosion control there are numerous new and improved products and the construction contractor(s) is encouraged to review these progressive or improved materials in the development and implementation of a SWPPP. The proper implementation of PCEMs associated with a SWPPP is imperative during all construction activities.

Development and implementation of the SWPPP, and maintenance of the PCEMs and other stipulations presented in the SWPPP will provide the construction contractor(s) with the mechanisms for reducing soil erosion and minimizing pollutants in stormwater during construction. These activities will be conducted in an environmentally sensitive and responsible manner so no discharge of sediment or contaminants may be conveyed directly or indirectly to wetlands, waters of the U.S., or to waters of New Mexico or Arizona.

B3.3 Notification Requirements and Implementation

B3.4 Project Modifications

B3.5 Proponent Committed Environmental Measures

B3.5.1 Other Specific Stipulations and Methods

B3.6 Mitigation Maintenance, Inspection, Repair, and Monitoring

B3.7 Training

B3.8 Post-Construction Stormwater Management

APPENDIX B4
SPILL POLLUTION PREVENTION, CONTROL, AND COUNTERMEASURES PLAN

B4.1 Purpose

Southline Transmission, LLC (Southline), has developed this Spill Prevention, Control, and Countermeasures (SPCC) Plan for the Southline Transmission Line Project (Project). This SPCC Plan is not a complete plan, but rather serves as the framework document for the development of a complete SPCC Plan and will lay the foundation for both the construction and the operation and maintenance phases of the Project. The party responsible for completing the final SPCC Plan will be detailed in the construction Plan of Development (POD).

An SPCC Plan addresses prevention and control of oil, hydraulic fluid, and petroleum fuel spills, primarily spills that could enter navigable waters of the U.S. This SPCC Plan addresses four basic issues:

- design, operation, and maintenance procedures to prevent and control oil spills
- measures designed for the prevention of operational error and equipment failure involving oil, which are the causes of most spills
- control and recovery of oil spills by containment structures to prevent a spill from entering navigable waters
- oil discharge response procedures for project personnel: this encompasses countermeasures (a contingency plan) to contain, clean up, and mitigate the effects of an oil spill at or from the project

This SPCC Plan is required in defined circumstances by the U.S. Environmental Protection Agency (EPA) regulations contained in Title 40, Code of Federal Regulations, Part 112 (40 CFR 112), titled "Oil Pollution Prevention." This SPCC Plan provides preventive procedural actions associated with spills or releases of oil, including fuel, lubricant, or heat transfer media, during construction refueling activities and during operation and maintenance. This SPCC Plan also presents applicable Proponent Committed Environmental Measures (PCEMs) that were identified in the Environmental Impact Statement (EIS) and are included in table 8 of the POD as methods to minimize the environmental impact.

B4.2 Responsibility of Implementation

The SPCC Rule, administered by the EPA, is a rule that includes requirements for oil spill prevention, preparedness, and response to prevent discharges to navigable waters and adjoining shorelines. Specifically, the rule requires facilities to prepare, amend, and implement SPCC Plans. A facility is subject to SPCC regulations if the total aboveground storage capacity of oil and oil products exceeds 1,320 gallons; or if the underground storage capacity exceeds 42,000 gallons; and if, because of its location, the facility could reasonably be expected to discharge oil into navigable waters of the United States. Containers with a capacity of less than 55 gallons of oil or oil products are exempted from the requirements under the Oil Pollution Prevention regulations.

Southline, its construction contractor(s), and their inspectors shall be responsible for the implementation of the procedural actions, PCEMs, and other specific stipulations and methods of any and all applicable SPCC Plans. The construction contractor(s) will implement the SPCC Plan to ensure compliance with applicable Federal, State, and local regulations applicable to the location of refueling, storage, waste

removal, and other activities involving fuels and petroleum products in coordination with Southline. The final plan(s) shall be reviewed by Southline as appropriate.

A key component of SPCC implementation is training. All oil-handling personnel, including construction contractor employees and subcontractors involved with transporting or handling fueling equipment or maintaining construction equipment, will be required to complete spill training before they commence work on the project. Spill training will also be required for contractor and subcontractor supervisory personnel before beginning work on the project.

Spill training programs will be conducted by the construction contractor and the site safety coordinator and will accomplish the following:

- Provide information concerning pollution control laws, regulations, and rules
- Inform personnel of the proper operation and maintenance of fueling equipment
- Inform personnel of spill prevention and response requirements, including the operation and maintenance of equipment to prevent discharges
- Describe the measures and provisions of the SPCC Plan and discharge procedure protocols
- Assign roles and responsibilities for implementing the SPCC Plan

Measures, responsibilities, and provisions of this SPCC Plan and spill training will be provided through ongoing safety briefings, which will discuss safety and spill prevention and response, including personal responsibility to initiate appropriate procedures.

B4.3 Spill Prevention

B4.4 Petroleum Spills and Emergency Response

B4.4.1 First Response / Assessment and Initiation of Action

B4.4.2 Spill Control and Containment

B4.4.3 Cleanup

B4.4.5 Disposal

B4.4.6 Documentation and Reporting

B4.4.7 Agency Notification/External Reporting

B4.4.7.1 NEW MEXICO REPORTING REQUIREMENTS

B4.4.7.2 ARIZONA REPORTING REQUIREMENTS

B4.4.8 Assessment

B4.5 Proponent Committed Environmental Measures

B4.6 Emergency Contacts

APPENDIX B5
HISTORIC PROPERTIES TREATMENT PLAN

Appendix B5 is a confidential appendix that will contain the Historic Properties Treatment Plan (HPTP) that is being developed for the Project. As identified in the Programmatic Agreement, the HPTP will provide information on the following:

- A brief description of the proposed action
- A list of the properties where data recovery is to be carried out
- A list of properties that will require archaeological monitoring during construction
- An archaeological construction monitoring plan
- Research questions to be addressed
- Methods to be used during fieldwork for data recovery
- A cultural resource unanticipated discovery plan
- Methods to be used during analysis
- Reporting and curation of artifacts
- Schedule for the submission of progress reports
- Recommendations for treatment of cultural resources during operation and maintenance of the Project
- Qualifications of consultants employed to undertake the work
- Training protocols for contractors

Content to be developed.

APPENDIX B6
BLASTING PLAN

B6.1 Introduction

A blasting plan is needed if blasting will be required on the Southline Transmission Line Project (Project) to ensure human health and safety during construction blasting operations. The blasting plan also mitigates the effects of noise and vibration, impacts to flora and fauna, and ensures compliance with myriad rules and regulations regarding the transportation, storage, handling, and use of explosives. This Blasting Plan Framework is not a complete Blasting Plan, but rather serves as the baseline document for the development of a complete Blasting Plan to be developed by the construction and blasting contractor(s).

This Blasting Plan is a framework that outlines methods to mitigate risks and potential impacts associated with blasting procedures that may be required for construction of the Project. Also included in this section is a preliminary outline for the Blasting Plan and Proponent Committed Environmental Measures (PCEMs), as identified in the Environmental Impact Statement (EIS) and table 8 of the Plan of Development (POD). These measures are developed to reduce or avoid potential environmental impacts resulting from Project-related blasting activities. The Blasting Plan is to be prepared by the construction contractor(s) and submitted to Southline Transmission, LLC (Southline, or the Proponent), the Bureau of Land Management (BLM), and Western Area Power Administration (Western), if blasting is required. Blasting on State lands or other relevant jurisdictions may require additional approval. As indicated in the POD, this plan is applicable on Federal lands administered by the BLM as enforceable stipulations and measures of the BLM right-of-way (ROW) grant. Where Western is involved in the Project, they may adopt this plan, where appropriate.

B6.2 Purpose

Once completed, the Blasting Plan will provide construction crews, the compliance inspection contractor (CIC), and environmental monitors with Project-specific information concerning blasting procedures, including the safe use and storage of explosives. The objective of the Blasting Plan is to prevent adverse impacts on human health and safety, property, and the environment that could potentially result from the use of explosives during Project construction.

B6.3 Regulatory Compliance and Procedures

The construction and blasting contractor(s) will be responsible for preparing and implementing the Blasting Plan and must comply with all applicable Federal, State, and local laws and regulations that pertain to explosives. No blasting operations will be undertaken until approval and appropriate permits have been obtained from the applicable agencies. Failure to comply with such laws could result in severe consequences.

The construction and blasting contractor(s) will comply with rules and regulations set forth by the U.S. Department of Transportation; Federal Bureau of Alcohol, Tobacco, Firearms and Explosives; Occupational Safety and Health Administration (OSHA);, and all Federal, State, county, and local rules and regulations relating to the transportation, storage, handling, and use of explosives. The construction and blasting contractor(s) will use experienced and qualified blasting personnel that will use current and professionally appropriate blasting methods and implement appropriate safety precautions. Blasting procedures will be closely monitored by the CIC. Any damages that result solely from the blasting

activity will be repaired by the construction and blasting contractor(s), or the owner will otherwise be fairly compensated.

B6.4 Blasting Plan Outline

The Blasting Plan prepared by the construction and blasting contractor(s) shall contain the information necessary to, and shall be presented in a format to meet or exceed the industry standard and meet regulatory approval. Although the Blasting Plan will provide some general specifications and procedures for blasting on the Project, site-specific plans or amendments may be necessary in some circumstances and must first be approved by Southline and any applicable governmental authority that is required. The following is a suggested outline for the Blasting Plan:

- Purpose and Scope of Blasting
- Personnel and Chain of Command, Including:
    - Blast officer and other personnel who will be present
    - Site Safety Officer
- Site, Location, and Date(s) of planned blasting
    - Description of blasting area
    - Description of bedrock and geological problems
    - Description of adjacent utility facilities
- Explosives and blast design:
    - Type, quantity, and detonator device
    - Details of subsurface strata
    - Drilling pattern and spacing
    - Other, as required
- Means of transporting, storing, securing explosives:
- Procedures:
    - Handling explosive charges
    - Setting explosive charges
    - Wiring explosive charges
    - Firing explosive charges
    - Packaging and transportation of explosive materials
- Safety Considerations:
    - General
    - Procedures
    - Traffic control
    - Fire prevention
    - Emergency and first aid
    - Required personal protective equipment (PPE)
    - Minimum standoff distances
    - Clearing and controlling access to blast danger
    - Warning signs and signals

    - Minimum acceptable weather conditions
    - Stray current, static electricity, and lightning
    - Other, as required
- Mitigation measures for:
    - Protection of structures and utilities
    - Flying rock and debris
    - Ground vibration
    - Other, as required
- Procedures for handling misfires or other unusual occurrences
- Environmental Considerations
- Notifications for:
    - Nearby residences and businesses
    - Posted warning signs at Project entry points
    - Coordination with pipeline operators in the vicinity
    - Police, fire, and rescue
- Emergency action plan:
    - Phone numbers for ambulance, fire department, police
    - Location and phone number of nearest medical services facility
- Health and Safety Plan
- Attach a copy of Safety Data Sheet (SDS) for each explosive or other hazardous material expected to be used.
- Attach blast records, safety forms, approvals, and other relevant documents

B6.5 Safety Procedures

B6.5.1 Transportation

B6.5.2 Storage

B6.5.3 Handling

B6.5.4 Use

B6.6 Proponent Committed Environmental Measures

B6.7 Other Specific Stipulations and Methods

APPENDIX B7
PLANT AND WILDLIFE SPECIES CONSERVATION MEASURES PLAN

B7.1 Introduction

The purpose of the Plant and Wildlife Species Conservation Measures Plan for the Southline Transmission Line Project (Project) is to assist the Bureau of Land Management (BLM), Western Area Power Administration (Western), Southline Transmission, LLC (Southline, or the Proponent), the construction contractor(s), compliance inspection contractor (CIC), and other monitors in meeting their obligations to protect biological resources during the planning, design, and implementation of the proposed Project. This plan includes information on (1) regulatory requirements and agency considerations pertaining to biological resources, and (2) specific plant and wildlife species conservation Proponent Committed Environmental Measures (PCEMs) developed to reduce Project-related impacts on biological resources.

This plan provides information on anticipated impacts on plant and wildlife resources associated with the Project and identifies the PCEMs (as presented in the Environmental Impact Statement (EIS) for the Project and also in table 8 in the Plan of Development (POD)), along with stipulations, protocols, and/or techniques required to reduce these impacts. This plan does not identify PCEMs for aquatic biological resources. Protection for water resources, including PCEMs identified in Appendix B13 – Stream, Wetland, Well, and Spring Protection Plan, have met agency requirements to protect aquatic species. The plan is not intended to provide comprehensive, location-specific restrictions within the Project area.

As indicated in the POD, this plan is applicable on Federal lands administered by the BLM as enforceable stipulations and measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western is involved in the Project, they may adopt this plan, where appropriate.

B7.2 Regulatory Framework

B7.2.1 Federal Endangered Species Act

Pursuant to the federal Endangered Species Act (ESA) of 1973, the U.S. Fish and Wildlife Service (FWS) has authority over actions that may affect the continued existence of a species federally listed as Threatened or Endangered. Take of federally listed species is prohibited without specific exceptions or permits issued under Sections 7 or 10 of the ESA. Under the ESA, the definition of "take" includes to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. FWS has further defined harm to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Federal agencies must consult with the FWS under Section 7 of the ESA on actions they authorize, fund, or carry out to ensure these actions are not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat.

BLM and Western, as the lead Federal agencies in preparation of an EIS for the Project, consulted with FWS on the potential effects of the Project on federally listed species. The FWS concurred on December 30, 2014, that the Project may affect, and is likely to adversely affect, the lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*), the Mexican long-nosed bat (*Leptonycteris nivalis*), Pima

pineapple cactus (*Coryphantha scheeri* var. *robustispina*), and southwestern willow flycatcher (*Empidonax traillii extimus*). The Project may affect, but is not likely to adversely affect, the Gila chub (*Gila intermedia*) and its critical habitat; Huachuca water umbel (*Lilaeopsis schaffneriana* var. *recurva*); northern Mexican gartersnake (*Thamnophis eques megalops*) and its proposed critical habitat; and the yellow-billed cuckoo (*Coccyzus americanus*) and its proposed critical habitat. Pursuant to the Federal ESA of 1973, the FWS has authority over actions that may affect the continued existence of a species federally listed as Threatened or Endangered. Take of federally listed species is prohibited without specific exceptions or permits issued under Sections 7 or 10 of the ESA. Under the ESA, the definition of "take" includes to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. FWS has further defined harm to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Federal agencies must consult with the FWS under Section 7 of the ESA on actions they authorize, fund, or carry out to ensure these actions are not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat.

B7.2.2 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668) applies primarily to taking, hunting, and trading activities that involve bald or golden eagles. The act prohibits the taking of any individuals of these two species, as well as any part, nest, or egg. The term "take" as used in the act includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb (16 U.S.C. 668).

B7.2.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703) makes it unlawful to pursue, hunt, take, capture, kill, or possess any migratory bird, part, nest, or egg of such bird listed in wildlife protection treaties among the United States and Great Britain (on behalf of Canada), Mexico, Japan, and the former Union of Soviet Socialist Republics (USSR). This act also contains a clause that prohibits baiting or poisoning of these bird species. A list of species covered by the MBTA can be found in 50 Code of Federal Regulations (CFR) 10.13. The MBTA applies to many bird species, including raptors, and protects them from prohibited activities during construction, operation, and maintenance of the Project.

B7.2.4 Bureau of Land Management – Land Use Plans

The BLM Resource Management Plans provide management guidance and desired population and habitat conditions for wildlife on BLM-administered lands. BLM Field Offices monitor habitat conditions and manage crucial wildlife habitat jointly with the Arizona Game and Fish Department (AGFD) and New Mexico Department of Game and Fish (NMDGF). The BLM manages habitat for wildlife species by assessing the ability of a land area to supply the forage, cover, water, and space requirements of wildlife. Trend studies determine the directional change of a habitat from or toward desired conditions. These habitat and trend studies (BLM Manuals 6630.2, 6630.3, and 6630.4) allow the BLM to adjust management prescriptions through grazing or other public uses to improve habitat.

B7.2.5 Bureau of Land Management – Special Status Species Management Policy

BLM Manual 6840, "Special Status Species Management Policy," authorizes each BLM State Director to designate and protect sensitive species on lands managed by the BLM. In New Mexico, the BLM list of special status species is adopted from the Biota Information System of New Mexico (BISON-M) list of

sensitive wildlife species, and the New Mexico Rare Plant Technical Council's list of New Mexico rare plants. In Arizona, the BLM State Director has issued a list of species designated as BLM Sensitive. As stated in Instruction Memorandum No. AZ-2006-002 (BLM 2005), "BLM Sensitive species are not covered by any other 'safety net' of status designation. Therefore, the Arizona BLM Sensitive Species List does not include species that are already Federally-listed or State-listed."

The BLM affords its designated sensitive species the same level of protection as ESA Candidate Species. BLM Sensitive Species are those for which population viability is a concern, which is warranted by a downward trend in population numbers, density, or habitat conditions that would reduce a species' existing distribution. The BLM is responsible for ensuring that its actions do not further contribute to the need for Sensitive Species to become listed as threatened or endangered.

CORONADO NATIONAL FOREST – MANAGEMENT INDICATOR SPECIES POLICY

Forest Service Manual (FSM) 2670 directs each Regional Forester to designate sensitive species on public lands administered by the U.S. Forest Service (Forest Service). According to the manual, sensitive species are defined "as plant or animal species identified by a Regional Forester for which population viability is a concern, as evidenced by a significant current or predicted downward trend in population numbers or density, or significant current or predicted downward trends in habitat capability that would reduce an existing distribution of the species."

The FSM 2670 also establishes the following management direction and objectives for Forest Service sensitive species:

- Maintain viable populations of all native and desired non-native wildlife, fish, and plant species in habitats distributed throughout their geographic range on Forest Service–administered lands.
- Review programs and activities as part of the National Environmental Policy Act of 1969 process, through a biological evaluation, to determine their potential effect on sensitive species.
- Analyze, if impacts cannot be avoided, the significance of potential adverse effects on the population or its habitat within the area of concern and on the species as a whole.

The PCEMs described in this Plant and Wildlife Species Conservation Measures Plan will ensure that the Project is constructed, operated, and maintained in compliance with FSM 2670.

FSM 2620.5 defines Management Indicator Species (MIS) as "plant and animal species, communities or special habitats selected for emphasis in planning, and which are monitored during forest plan implementation in order to assess the effects of management activities on their populations and the populations of other species with similar habitat needs which they may represent" (Forest Service 1991:6). These regulations require that certain vertebrate and/or invertebrate species present in the area be identified as MIS within the planning area (i.e., Coronado National Forest lands) and that these species be monitored, as "their population changes are believed to indicate the effects of management activities" (36 CFR 219.19(a)(1)). Standard and Guideline No. 1 for Wildlife and Fish within the Coronado National Forest Plan (Forest Service 1986:31-1) directs the Coronado National Forest to "maintain or improve occupied habitat of . . . listed threatened and endangered species, and MIS through mitigation of Forest activities." The Coronado National Forest also maintains a list of sensitive species that are known to occupy Coronado National Forest lands.

B7.2.6 Bureau of Land Management – Executive Order 13112

Executive Order 13112 (Invasive Species) requires Federal agencies prevent the introduction and spread of invasive species and "not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species."

B7.2.7 Bureau of Land Management – Executive Order 11990

Executive Order 11990 (Wetlands) requires Federal agencies to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities.

B7.2.8 Sections 401, 402, and 404 of the Clean Water Act

Sections 401, 402, and 404 of the Clean Water Act regulate drainage and discharge of dredged or fill materials into waters of the U.S., including wetlands.

B7.2.9 Federal Land Policy Management Act of 1976

In accordance with the Federal Land Policy Management Act, BLM must make land use decisions based on principles of multiple use and sustained yield. As such, a grant of ROW must be limited to its necessary use and must contain terms and conditions that reflect BLM's management responsibilities under the Federal Land Policy Management Act, including minimizing impacts on fish and wildlife habitat.

B7.2.10 Wild Free-Roaming Horses and Burros Act of 1971

Wild free-roaming horses and burros are living symbols of the historic and pioneer spirit of the West; they contribute to the diversity of life forms within the Nation and enrich the lives of the American people. It is the policy of the Congress that wild free-roaming horses and burros shall be protected from capture, branding, harassment, or death; and to accomplish this they are to be considered in the area where presently found as an integral part of the natural system of the public lands.

B7.2.11 New Mexico State Requirement

B7.2.12 Arizona State Requirements

B7.2.13 Pima County Requirements

B7.3 Plant and Wildlife Concerns and Issues

B7.3.1 Plan Priorities and Goals

B7.3.1.1 DISTURBANCE AND DISPLACEMENT

Mitigation Goal

B7.3.1.2 HABITAT LOSS AND FRAGMENTATION

Mitigation Goal

B7.3.1.3 PLANT AND WILDLIFE MORTALITY

Mitigation Goal

B7.4 Biological Resource Proponent Committed Environmental Measures

B7.4.1 Resources of Concern

B7.4.1.1 MIGRATORY BIRDS

Background
Concerns

B7.4.1.2 RAPTORS

Background
Concerns

B7.4.1.3 BIG-GAME HABITAT

Background

Concerns

B7.4.1.4 SPECIAL STATUS WILDLIFE SPECIES

Background

Concerns

B7.4.1.5 SPECIAL STATUS PLANT SPECIES

Background

Concerns

B7.4.2 Plant and Wildlife Proponent Committed Environmental Measures

B7.4.2.1 VEGETATION PCEMS

B7.4.2.2 WILDLIFE PCEMS

B7.4.3 Other Specific Stipulations and Methods

Design and Engineering

Construction, Operation, and Maintenance

B7.4.4 Compensation Plan

APPENDIX B8
EROSION, DUST CONTROL, AND AIR QUALITY PLAN

B8.1 Introduction

This Erosion, Dust Control, and Air Quality Plan addresses regulatory compliance, environmental concerns, and Proponent Committed Environmental Measures (PCEMs) to ensure impacts associated with construction, operation, and maintenance activities on the Southline Transmission Line Project (Project) are minimized as they relate to soil conservation and air quality. As indicated in the Plan of Development (POD), this plan is applicable on Federal lands administered by the Bureau of Land Management (BLM) as enforceable stipulations and measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western is involved in the Project, they may adopt this plan, where appropriate.

B8.2 Purpose

This plan provides a detailed summary of the PCEMs identified in the Environmental Impact Statement (EIS) and other specific stipulations and measures to be used by Southline Transmission, LLC (Southline), and the construction contractor(s) to ensure regulatory compliance and protection of the soils and air quality that will be affected by the Project. This plan is a framework of the actions to be implemented during the construction, operation, and maintenance phases of the Project that were developed to address (1) soil erosion from wind and (2) air quality from fugitive dust and emissions from Project-related activities.

This plan first describes the concerns for impacts related to soil erosion and air quality and then presents the PCEMs and other specific measures that will be used to minimize the impacts. Determination of the appropriate control measures to use in a particular area will depend on a variety of factors, including weather conditions, selected construction techniques, site characteristics, extent of area to be disturbed, and other factors. Stormwater erosion is not covered in this plan but is discussed at length in Appendix B3 – Stormwater Pollution Prevention Plan. Proper methods for soil reclamation and revegetation are not covered in this framework plan, but are discussed at length in Appendix B15 – Reclamation, Revegetation, and Monitoring Plan.

B8.3 Regulatory Compliance

Construction, operation, and maintenance activities for the Project are subject to various regulations designed to protect environmental resources and the public from wind erosion, dust, and other possible effects on air quality. The following permits and documents contain requirements for preventing accelerated erosion and minimizing dust and emissions. Some permits appear unrelated to this topic; however, dust suppression and erosion control are conditions of those permits. Southline and the construction contractor(s) can refer to these documents, along with this plan, when assessing which PCEMs and other specific measures are appropriate for a specific area.

Since 1963, the Clean Air Act and subsequent amendments in 1970, 1977, and 1990 have provided the authority and framework for regulation of air emission sources. At a minimum, Southline and the construction contractor(s) will need to adhere to or obtain the following permits as required.

B8.3.1 State – New Mexico

B8.3.2 State – Arizona

B8.3.3 Local

B8.4 Environmental Concerns

B8.4.1 Soil Conservation and Erosion

B8.4.2 Air Quality and Dust Control

B8.5 Proponent Committed Environmental Measures

B8.6 Other Specific Stipulations and Methods

B8.7 Monitoring

APPENDIX B9
HAZARDOUS MATERIALS MANAGEMENT PLAN

B9.1 Introduction

The Hazardous Materials Management Plan (HMMP) for the Southline Transmission Line Project (Project) is intended to reduce the risks associated with the use, storage, handling, transportation, and disposal of hazardous materials (which in this document may include hazardous substances and hazardous wastes regardless of the statutory definitions of those terms). The term "hazardous materials," as presented in this plan, will refer to hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, and materials designated as "hazardous materials" for transportation as defined in 49 Code of Federal Regulations 171.8.

This plan will identify Project-specific Proponent Committed Environmental Measures (PCEMs), as in the Environmental Impact Statement (EIS) and table 8 in the Plan of Development (POD), and other specific stipulations and methods to address spill prevention, response, and cleanup procedures for the Project. This document provides a template for the development of a detailed HMMP to be completed once the construction POD is finalized by Southline Transmission Line (Southline).

As indicated in the POD, the HMMP is applicable on Federal lands administered by the Bureau of Land Management (BLM) as enforceable stipulations and measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western Area Power Administration (Western) is involved in the Project, they may adopt this plan, where appropriate. The HMMP will clearly identify which legal requirements apply to specific types of hazardous materials and will identify design features of the proposed action for environmental and human protection which, although not necessarily legally required, will be followed to reduce risks associated with hazardous materials. Nothing in this plan or in the final HMMP (once developed) shall be construed as an admission regarding the legal applicability of requirements or practices to any particular class of hazardous material.

B9.2 Purpose

The goal of this plan framework is to (1) minimize the potential for a spill of fuel or other hazardous material, (2) contain any spillage to the smallest possible area, (3) protect areas that are environmentally sensitive, and (4) minimize risks to human health, and (5) provide a template for the development of a detailed HMMP. This plan framework includes the following components:

- Framework for developing the HMMP
- Spill prevention procedures related to the transportation, storage, and disposal of hazardous materials
- Spill control, response, and cleanup methods
- An overview of the notification and documentation procedures to be followed in the event of a spill
- Operation and maintenance considerations
- Sample hazardous materials management forms which may be used as examples.

In general, hazardous materials will be stored in approved containers until they can be properly transported and disposed of at an approved treatment, storage, and disposal facility. Persons responsible for handling or transporting hazardous materials for the Project will be trained in the proper use/management of the materials and will be familiar with all applicable laws, policies, procedures, and the PCEMs applicable to their tasks. It is the responsibility of the construction contractor(s) to maintain file records of proper training/certification for any individual(s) who may potentially handle hazardous materials for the Project. Southline reserves the right to audit any subcontractors to ensure compliance.

B9.3 Regulatory Compliance

Major legislation pertaining to hazardous materials includes the Comprehensive Environmental Response, Compensation, and Liability Act; Resource Conservation and Recovery Act; Clean Air Act; and Clean Water Act.

Numerous other Federal, State, and local regulations also govern the use, storage, transportation, production, and disposal of hazardous materials. Some of the key requirements of these laws are outlined in:

- Occupational Safety and Health Administration (29 CFR 1900-1910 and 1926)
- Clean Water Act (40 CFR 100-149)
- Clean Air Act (40 CFR 50-99)
- Toxic Substances Control Act (TSCA) (40 CFR 700-799)
- Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act (40 CFR 300-399)
- Resource Conservation and Recovery Act (40 CFR 239–282)
- Hazardous Materials Transportation Act (49 CFR 100-199)
- State-Specific Regulations

B9.4 Framework for Developing the Hazardous Materials Management Plan

B9.4.1 Certifications, Acknowledgments, and Designation of Coordinator/ Responsible Person

B9.4.2 Facilities Description

B9.4.2.1 SITE MAP

B9.4.2.2 TYPES AND AMOUNTS OF HAZARDOUS MATERIALS

B9.4.3 Hazardous Waste and Materials Management

B9.4.3.1 RESPONSIBILITIES

B9.4.3.2 TRAINING

B9.4.3.3 LABELING AND HAZARD COMMUNICATION

B9.4.3.4 OVERVIEW OF HAZARDOUS MATERIALS AND EXPECTED PROJECT WASTE

B9.4.4 Operating Procedures

B9.4.4.1 REFUELING AND SERVICING

B9.4.4.2 TRANSPORTATION OF HAZARDOUS MATERIALS

B9.4.4.3 STORAGE AND LABELING OF HAZARDOUS MATERIALS

Storage Containers

Incompatible Materials

Ignitable or Reactive Materials

Secondary Containment

Security

Explosives

B9.4.4.4 DISPOSAL

Hazardous Waste

Container Management

Used Oil and Oil Filters

B9.4.5 Spill Contingency Plan

B9.4.5.1 SPILL EMERGENCY CONTACTS

B9.4.5.2 RESPONSE PROCEDURES

B9.4.5.3 EMPLOYEE TRAINING

B9.4.5.4 SPILL CONTINGENCY RESPONSE EQUIPMENT

B9.4.5.5 NOTIFICATION AND DOCUMENTATION

Spill Notification

New Mexico Reporting Requirements

Arizona Reporting Requirements

Spill Documentation

B9.4.6 APPENDICIES TO THE HMMP

B9.4.6.1 APPENDIX A. SITE PLAN

B9.4.6.2 APPENDIX B. EMERGENCY INFORMATION FOR SPILL RESPONSE (POSTED ONSITE)

B9.4.6.3 APPENDIX C. SPILL RESPONSE PROCEDURES (POSTED ONSITE)

B9.4.6.4 APPENDIX D. SAFETY DATA SHEETS

B9.4.6.5 APPENDIX E. EXAMPLE HAZARDOUS WASTE LABELS

B9.4.6.6 APPENDIX F. TYPICAL FUEL, LUBRICANTS, AND HAZARDOUS MATERIALS

B9.5 Proponent Committed Environmental Measures

APPENDIX B10
EMERGENCY PREPAREDNESS AND RESPONSE PLAN

B10.1 Introduction

Despite an organization's best efforts, accidents, acts of nature, and other emergency situations can occur. Effective preparations for emergency and response can reduce injuries, prevent or minimize environmental impacts, protect employees and the community, reduce asset losses, and minimize downtime. An effective emergency preparedness and response program will include provisions for identification of hazards, a chain of command and responsibility, and a strategy for emergency communications.

This Emergency Preparedness and Response Plan is intended to provide methods for prevention of and response to a broad spectrum of emergency situations. This document discusses the chain of command and emergency communications strategy to be used as a guide for an Emergency Preparedness and Response Plan to be completed by Southline Transmission, LLC (Southline), and other responsible parties identified in the construction Plan of Development (POD). As indicated in the POD, this plan is applicable on Federal lands administered by the Bureau of Land Management (BLM) as enforceable stipulations and measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western Area Power Administration (Western) is involved in the Project, they may adopt this plan, where appropriate.

The final Emergency Preparedness and Response Plan will be approved by the BLM, Western, and other agencies as appropriate. More specific emergency procedures for blasting, hazardous materials, and fire are included in Appendix B6 – Blasting Plan, Appendix B9 – Hazardous Materials Management Plan, and Appendix B12 – Fire Protection Plan.

Emergency response procedures will be implemented for the following potential events, or similar events:

- Downed transmission lines, structures, or equipment failure
- Fires and explosions
- Spills or releases of hazardous materials
- Sudden loss of power
- Natural disasters
- Serious personal injury

B10.2 Purpose

No plan can describe specific procedures and protocols for every potential event. However, having a general plan in place with hazards identification, a chain of command and responsibility, a strategy for emergency communications, and foresight and planning can mitigate for most significant events. This is particularly true and important for the initial response phase of an emergency situation.

The purpose of an Emergency Preparedness and Response Plan is to provide clear procedures and information to enable the Proponent, the construction contractor(s), the compliance inspection contractor (CIC), and the BLM, Western, or other agency Authorized officer or his/her designated representative to prepare for and effectively respond to emergency situations. The primary objective of this plan is to

prevent adverse impacts on human health and safety, property, and the environment that could potentially occur as a result of the construction, operation, and maintenance of the Project.

B10.3 Regulatory Compliance

There are numerous regulatory drivers that call for the preparation of an Emergency Preparedness and Response Plan. Health and safety guidelines related to high-voltage transmission lines are provided by a number of sources, including the National Electric Safety Code, American National Standards Institute, American Medical Association Council on Scientific Affairs, American Conference of Governmental Industrial Hygienists, various State regulations, other organizations, and Western. The Occupational Safety and Health Administration also provides regulations for construction and operational workplace activities.

Additional regulatory drivers include the Clean Water Act (CWA) requirements for Stormwater Pollution Prevention Plans (SWPPPs) and the CWA, Oil Pollution Act requirement for a Spill Prevention, Control, and Countermeasure Plan (SPCC Plan), and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, a.k.a. Superfund). The SWPPP (appendix B3) and SPCC Plan (appendix B4) also include response procedures for spills of oil or hazardous materials.

B10.4 Responsibilities

Southline and the construction contractor(s) are responsible for the effective response to any emergency situation or event related to the construction, operation, and maintenance of the Project. To ensure a coordinated and effective response, a chain of command will be developed as part of the Emergency Preparedness and Response Plan and followed in the event of an emergency. In the establishment of a chain of command, considerations to be taken into account include the levels of vertical and horizontal activation and the participation necessary to respond to specific situations are. In other words, does the response need to move further up the chain of command, or does the response need to broaden to include additional divisions or disciplines? Sometimes the response will be both, and higher levels of command may be needed to authorize or oversee additional divisions or disciplines. The following are factors for the establishment of a chain of command:

- Type of event (natural, injury, environmental, electrical supply/outage, external forces)
- Severity, location, and physiographic surroundings
- Multiple, interconnected, or combined events
- Anticipated duration
- Multi-division and/or multi-discipline response required
- External agency coordination
- Authority of various command levels

B10.5 Response Coordination

B10.6 Emergency Communications

B10.6.1 Emergency Contact List

In case of emergency, call 911 first. Additional potential emergency contacts are listed below and should be called as appropriate, depending on the situation (e.g., fire, injury). Further guidance on emergency response, notification, and reporting protocols are included in Appendix B3 – SWPPP, Appendix B4 – SPCC Plan, Appendix B6 – Blasting Plan, Appendix B9 – Hazardous Materials Management Plan, and Appendix B12 – Fire Protection Plan. The Emergency Contact List shall be verified at the beginning of construction and updated throughout the Project by the construction contractor(s) to ensure accurate contact information. Emergency contacts are just that – persons to be contacted to respond to an emergency. Notifications, both internal and to State and Federal agencies, may also be required on a case-by-case basis. When the emergency contact list is posted at a jobsite, it may be tailored to the locale as appropriate.

B10.7 Hazard Identifications and Key Response Criteria

APPENDIX B11
NOXIOUS WEED MANAGEMENT PLAN

B11.1 Background

The Bureau of Land Management (BLM) defines noxious weeds as "a plant that interferes with management objectives for a given area of land at a given point in time." The New Mexico Noxious Weed Act defines noxious weeds as "any weed or plant which the board of county Commissioners acting as the governing body of the district, and with the advice of the county agent, declares to be harmful or to possess noxious characteristics." The Arizona Department of Agriculture (ADA) defines a noxious weed as "any species of plant that is, or is liable to be, detrimental or destructive and difficult to control or eradicate and shall include any species that the director [Department of Agriculture], after investigation and hearing, shall determine to be a noxious weed." Noxious weeds are opportunistic plant species that may aggressively colonize in disturbed areas. Once established in an area, noxious weeds typically out-compete native plants for resources and may permanently degrade the native plant community. In addition, noxious weeds often become monocultures, which may alter the local fire regime by increasing the fine fuel load. Such changes usually exclude reestablishment of the native plant community in disturbed areas, and result in a long-term or permanent change in the local ecology. Infestations of noxious weeds may also have negative economic impacts. Infestations of certain noxious weeds on rangelands may poison livestock, and infestations in agricultural fields may lower crop yields.

The format and content of this Noxious Weed Management Plan is based on the principles and procedures outlined in the BLM Integrated Weed Management Manual 9015 (BLM 1992) and in Section 11.0 of the Western Area Power Administration (Western) (2011) Integrated Vegetation Management Guidance Manual. This plan includes a discussion on (1) the plan purpose, goals, and objectives, (2) the noxious weed inventory, (3) noxious weed management practices, (4) postconstruction monitoring, and (5) the proper use of herbicides within the Project area. As indicated in the Plan of Development (POD), this plan is applicable on Federal lands administered by the BLM as enforceable stipulations and measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western is involved in the Project, they may adopt this plan, where appropriate.

B11.1.1 Plan Purpose

This purpose of this Noxious Weed Management Plan is to provide preventive and treatment methods to control the potential occurrence of noxious weeds during and following construction-related activities for the Southline Transmission Line Project (Project). It is the responsibility of Southline Transmission, LLC (Southline), and the construction contractor(s), working in coordination with the compliance inspection contractor (CIC) and the BLM and Western or their designated representative, to ensure that noxious weeds are identified and controlled during construction, operation, and maintenance of Project facilities and that all Federal, State, county, and other local noxious weed requirements are satisfied. The BLM and/or Western will review and approve this Noxious Weed Management Plan prior to implementation.

B11.1.2 Goals and Objectives

The goal of this Noxious Weed Management Plan is to implement early detection, containment, and control of noxious weeds during Project construction. Information gathered by the Proponent during preconstruction surveys and provided by the BLM will be used to monitor and control the spread of

noxious weeds during the construction and operation of the Project. An evaluation of the effectiveness of the prescribed control measures will also be implemented during the operational phase of the Project.

B11.2 Regulatory Framework

B11.2.1 Bureau of Land Management Manual 9015

BLM Integrated Weed Management Manual 9015 directs the BLM to manage noxious weeds and undesirable plants on BLM lands by preventing the establishment and spread of new infestations, reducing existing population levels, and managing and controlling existing stands (BLM 1992). Required management for ground-disturbing actions includes determining the risk of spreading noxious weeds associated with the Project and ensuring that contracts contain provisions that hold contractors responsible for the prevention and control of noxious weeds caused by their operations if the activity is determined to be moderate to high risk (i.e., Class A weeds as defined by the BLM).

B11.2.2 New Mexico Noxious Weed Act

B11.2.2.1 STATE LISTED NOXIOUS WEEDS – NEW MEXICO

The State of New Mexico and the U.S. Department of Agriculture (USDA) maintain an official list of weed species designated as noxious for the state. The following is an explanation of the categories established for noxious weeds by the New Mexico Department of Agriculture (NMDA). The State of New Mexico has officially designated 33 weed species as noxious (USDA 2015a). The noxious weed species regulated by the State of New Mexico are shown in table B11-1.

Categories for Noxious Weeds in New Mexico

Table B11-1. Noxious Weed Species of Potential Concern – New Mexico

Scientific Name	Common Name	State Category	Known to Occur in the Project Area

B11.2.3 Arizona Noxious Weed Act

B11.2.3.1 STATE LISTED NOXIOUS WEEDS – ARIZONA

The State of Arizona and the USDA maintain an official list of weed species designated noxious for the state. The following is an explanation of the categories established for noxious weeds by the ADA.

The State of Arizona has officially designated 58 weed species as noxious (USDA 2015b). The noxious weed species regulated by the State of Arizona are shown in table B11-2.

Categories for Noxious Weeds in Arizona

Table B11-2. Noxious Weed Species of Potential Concern - Arizona

Scientific Name	Common Name	State Category	Known to Occur in the Project Area

B11.3 Noxious Weed Inventory

Baseline/background information on noxious weeds

B11.4 Noxious Weed Management

B11.4.1 Identification of Problem Areas and Education

B11.4.1.1 WEED MANAGEMENT PERSONNEL REQUIREMENTS

B11.4.2 Project Specific Stipulations and Methods

B11.4.3 Additional Preventative Measures

B11.4.3.1 NOXIOUS WEED CONTROL METHODS

Mechanical Control

Manual Control

Chemical Control

B11.4.3.2 SPECIES-SPECIFIC NOXIOUS WEED CONTROL METHODS

Management Recommendations

Chemical Control

B11.4.3.3 RECLAMATION ACTIONS

B11.5 Monitoring

B11.5.1 Reclamation Monitoring

B11.5.2 Ongoing Monitoring

B11.6 Pesticide Application, Handling, Spills, and Cleanup

B11.6.1 Pesticide Application and Handling

B11.6.2 Pesticide Spills and Cleanup

B11.6.3 Worker Safety and Spill Reporting

B11.7 Literature Cited

B11.8 Attachments

Attachment B11-1 – Noxious Weed Risk Assessment Worksheet
Attachment B11-2 – Herbicides Approved For Use on Public Lands

APPENDIX B12
FIRE PROTECTION PLAN

B12.1 Introduction

This plan details measures that will be implemented to (1) reduce the risk of starting a fire and (2) suppress a fire in the event one does occur within the construction area during the Southline Transmission Line Project (Project) construction. The precautions and procedures identified in this plan are also applicable for operation and maintenance activities. However, responsibilities for management of all fires and fire prevention measures are predominantly assumed by the Bureau of Land Management (BLM), Western Area Power Administration (Western), other Agency Fire Management Officers (FMOs), and the operation and maintenance crews of Southline Transmission, LLC (Southline). As indicated in the Plan of Development (POD), this plan is applicable on Federal lands administered by the BLM as enforceable stipulations and measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western is involved in the Project, they may adopt this plan, where appropriate.

B12.1.1 Purpose

The risk of fire danger during construction of a transmission line is related largely to the use of vehicles and other motorized equipment operating off roadways, the handling and use of explosive materials and flammable liquids, and welding. The purpose of this plan is to outline responsibilities, notification procedures, fire prevention measures and precautions, fire suppression equipment, initial response procedures, and post-fire rehabilitation strategies related to the Project. The goal is to minimize the risk of Project-related fires and, in case of fire, provide for immediate suppression within the construction area. Other plans containing information related to fire protection include: Appendix B6 – Blasting Plan, Appendix B9 – Hazardous Materials Management Plan, and Appendix B10 – Emergency Preparedness and Response Plan.

B12.1.2 Regulatory Compliance

The Project will be subject to State, County, and federally enforced laws, ordinances, rules, and regulations that pertain to fire prevention and suppression activities. Key regulatory agencies include the BLM and other agency and local fire protection agencies in Arizona and New Mexico.

B12.2 Responsibilities

B12.2.1 Bureau of Land Management

The BLM FMO or other Agency FMO(s) will oversee all fire control activities within their prospective administrative units. The FMOs will discuss fire protection stipulations at the notice-to-proceed meeting, which will be attended by the BLM and other Agency authorized officers or his/her designated representative; the compliance inspection contractor (CIC); the construction contractor(s); the environmental inspectors; and the Proponent.

B12.2.1.1 CONSTRUCTION CONTRACTOR(S)

It will be the responsibility of the construction contractor(s) to notify Southline, the BLM and/or Western when a Project-related fire occurs within or adjacent to the construction area. The construction

contractor(s) will be responsible for any fire started, in or out of the Project area, by its employees or operations during construction. The construction contractor(s) will be responsible for fire suppression and rehabilitation. The construction contractor(s) will take safe and immediate action to prevent and suppress fires on and adjacent to the Project area that are a result of contractor activities. The construction contractor(s) will use its workers and equipment on the Project for preventing the spread of fires started by contractor activities unless the fire exceeds immediate control, at which time all construction contractor employees will exit the area to predetermined locations safe from wildfire.

All Federal, State, and county laws, ordinances, rules, and regulations that pertain to prevention, pre-suppression, and suppression of fires will be strictly adhered to by the construction contractor(s). All personnel will be advised of their responsibilities under the applicable fire laws and regulations.

Construction Crew

Designated Fire Marshall

B12.2.1.2 COMPLIANCE INSPECTION CONTRACTOR

B12.2.1.3 NOTIFICATION

Table B12-1. Fire Notification Numbers

Contact Person	Phone Number
Bureau of Land Management	To be determined
BLM Authorized Officer or Designated Representative	To be determined
Western Designated Representative	To be determined
U.S. Forest Service Authorized Officer or Designated Representative	To be determined
Bureau of Indian Affairs Authorized Officer or Designated Representative	To be determined
DOD Authorized Officer or Designated Representative	To be determined
Bureau of Reclamation Authorized Officer or Designated Representative	To be determined
New Mexico	To be determined
Arizona Interagency Fire Center	To be determined
911 – Emergency	Dial 911

B12.3 Proponent Committed Environmental Measures

B12.4 Other Specific Stipulations and Methods

B12.4.1 Activity-Related Precautions

B12.4.1.1 FIRE DANGER RATINGS

B12.4.1.2 RED FLAG WARNINGS

In addition to observation of the Fire Danger Rating scales, the National Weather Service red flag warnings for low humidity and high winds will be observed. The Fire Precaution Levels in table B12-3

will be adhered to. The red flag warnings are posted on the National Weather Service's Western Region Fire Weather website at http://www.wrh.noaa.gov/firewx/main.php.

Table B12-2. Fire Precaution Levels

Fire Danger Rating	No Red Flag	Red Flag
Low	Normal fire precautions	Consider additional measures and resources
Moderate	Normal fire precautions	Consider additional measures and resources
High	One engine* is require for blasting	One engine* is required for blasting, welding, cutting, and grinding AND operations will shut down from noon until 8 p.m.
Very High	One engine* is required for blasting, welding, cutting, and grinding.	Two engines* required for blasting, welding, cutting, and grinding AND operations will shut down from 10 a.m. until 8 p.m. Power saws will be shut down from 10 a.m. until 8 p.m.
Extreme	Two engines required for blasting, welding, cutting, and grinding AND operations will shut down from 10a.m. until 8 p.m. Power saws will be shut down from 10 a.m. until 8 p.m.	Unless authorized by the land jurisdictional agency, ALL OPERATIONS SHUT DOWN EXCEPT on mineral soil involving watering or equipment maintenance.

B12.4.2 Burning (Not Allowed)

B12.4.3 Blasting

B12.4.4 Welding, Cutting, Grinding, or Drilling

B12.4.5 Spark Arrestors

B12.4.6 Smoking

B12.4.7 Warning Devices

B12.4.8 Parking and Vehicle Storage Areas

B12.4.9 Signage

B12.4.10 Power Saws

B12.4.11 Equipment Refueling

B12.4.12 Access

B12.5 Minimum Fire Prevention and Suppression Equipment Required

B12.6 In Case of Fire – Initial Response and Emergency Contacts

B12.7 Post-Fire Rehabilitation Strategies

APPENDIX B13
STREAM, WETLAND, WELL, AND SPRING PROTECTION PLAN

B13.1 Introduction

The purpose of this Stream, Wetland, Well, and Spring Protection Plan is to provide measures to protect these resources from potential impacts during construction, operation, and maintenance activities for the Southline Transmission Line Project (Project). This plan incorporates Proponent Committed Environmental Measures (PCEMs) identified in the Environmental Impact Statement and also in table 8 in the Plan of Development (POD). As indicated in the POD, this plan is applicable on Federal lands administered by the Bureau of Land Management (BLM) as enforceable stipulations and measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western Area Power Administration (Western) is involved in the Project, they may adopt this plan, where appropriate. The goals of this plan are to:

- Control Project-related erosion and sedimentation into streams and wetlands and minimize disturbance and erosion of streambeds and banks.
- Protect springs and wells in the Project area from impacts due to blasting and hazardous materials contamination.

B13.2 Regulatory Overview

The construction, operation, and maintenance phases of the Project are subject to various regulations designed to protect environmental resources and the public. Regulations relevant to water resources are outlined below.

B13.2.1 Federal

General water quality is protected under the federal Clean Water Act (CWA) and a permit may be required if a project will result in the alteration of or discharges into jurisdictional watercourses (waters of the U.S. (WUS)) and wetlands. The U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (EPA) regulate the placement of fill into WUS under Section 404 of the CWA. WUS include lakes, rivers, streams and their tributaries, and wetlands. The Project will result in the alteration of or discharge into jurisdictional WUS. To qualify under Section 404 Nationwide Permit (NWP) 12 for Utility Line Activities, the Project will need to meet the criteria for and fall within the thresholds of this NWP. As part of meeting the conditions of NWP 12, wetland delineations will need to be prepared and a Preliminary Jurisdictional Determination obtained from the USACE for the Project. The Preliminary Jurisdictional Determination will establish where WUS may be located that may be affected by the Project. An NWP 12 is typically issued after a 30- to 45-day review of the Preliminary Jurisdictional and Wetland Delineation Report, unless the USACE requests a field review, which will extend the review period. From the date of issuance, the NWP 12 is valid for 12 months.

Requirements related to stormwater pollution under Section 402 of the CWA are handled in New Mexico by the EPA. Requirements under Section 402 are detailed in Appendix B3 – Stormwater Pollution Prevention Plan.

B13.2.2 State

B13.3 Overview of Streams, Wetlands, Wells, and Springs

B13.3.1 Streams and Drainages

Potentially jurisdictional WUS crossed by the Project will be delineated during preconstruction stream and wetland surveys and provided to the USACE to obtain a Preliminary Jurisdictional Determination. The locations of streams and drainages will be shown in the POD.

Most streams and drainages crossed by the Project are ephemeral washes that typically do not flow except in response to precipitation events. However, there are several streams identified as potentially requiring special consideration due to intermittent or perennial flow. These include the Mimbres River, the San Pedro River, and Cienega Creek, two of which are existing crossings in the Upgrade Section.B13.3.2 Wetlands

Wetland delineations that follow the USACE Wetland Delineation Manual (1987) and Arid West Regional Supplement (2008) will be conducted prior to construction. The USACE Wetland Delineation Manual provides technical guidelines and methods for a three-parameter approach to determine the location and boundaries of potentially jurisdictional wetlands. This approach requires an area support positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology to be considered a wetland. Surveyors will gather wetland determination information on data forms in the field and map wetland boundaries using geographical positioning system technology. Wetlands that meet all three parameters will be presented to the USACE for a Preliminary Jurisdictional Determination. The locations of wetlands will be shown in the POD.

B13.3.2 Wells and Springs

B13.4 Proponent Committed Environmental Measures

B13.5 Other Specific Stipulations and Methods for Streams and Wetlands

B13.5.1 Stream Crossing Methods

B13.5.1.1 VEHICULAR STREAM CROSSINGS

B13.5.1.2 WETLAND CROSSING METHODS

B13.5.2 Spill Prevention

B13.5.3 Erosion and Sedimentation

B13.5.4 Reclamation and Revegetation of Steam Scrossings

B13.5.5 Storage of Soil or Organic Debris near Streams

B13.5.6 Stream Obstruction and Flash Flood Hazard

B13.5.7 Protection of Wells and Springs

B13.6 Literature Cited

APPENDIX B14
SOIL MANAGEMENT PLAN

A Soil Management Plan would define procedures for managing soils that are excavated during construction, along with plans for their storage and later reuse. This plan is often an appendix to a Stormwater Pollution Prevention Plan (SWPPP). In addition to clean soil excavation, the plan would outline procedures for segregation of potentially contaminated soils, sampling and analysis of those soils, and disposal options if that becomes necessary. It also would define how topsoil would be segregated and stored, how stockpiles would be managed and protected, and used in site restoration. Use of topsoil for restoration activities would be described in Appendix B15 – Reclamation, Vegetation, and Monitoring Plan. Erosion and sediment controls for excavated soil would also be discussed. As indicated in the Plan of Development (POD), this plan is applicable on Federal lands administered by the Bureau of Land Management (BLM) as enforceable stipulations and measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western Area Power Administration (Western) is involved in the Project, they may adopt this plan, where appropriate.

Content to be developed.

APPENDIX B15
RECLAMATION, REVEGETATION, AND MONITORING FRAMEWORK PLAN

B15.1 Introduction

This Reclamation, Revegetation, and Monitoring Framework Plan has been developed based on the principles and procedures established by the Bureau of Land Management (BLM) and Western Area Power Administration (Western). As indicated in the Plan of Development (POD), this plan is applicable on Federal lands administered by the Bureau of Land Management (BLM) as enforceable stipulations and measures of the BLM right-of-way (ROW) grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western Area Power Administration (Western) is involved in the Project, they may adopt this plan, where appropriate.

Requirements for reclamation, revegetation, and monitoring on private and State lands will be negotiated between Western, Southline Transmission, LLC (Southline), and the States of Arizona and New Mexico as well as affected landowners. The intent of this plan is to provide a framework for reclamation treatments to be applied to the Project on identification of construction-related disturbance, prevent unnecessary degradation of the environment during construction, rehabilitate temporary use areas, and reclaim disturbed areas such that these areas are ecologically functional and visually compatible with the surrounding environment to the greatest extent practicable.

B15.2 Regulatory Requirements and Authorities

Authority for the reclamation practices defined in this plan is provided under the following regulations, land use plans, initiatives, and general guidelines.

B15.2.1 Guide Documents

B15.2.1.1 BLM TERMS AND CONDITIONS OF RIGHT-OF-WAY GRANTS AND TEMPORARY USE PERMITS, 43 CFR 2881.2

"The authorized officer shall impose stipulations which shall include, but not be limited to requirements for reclamation, revegetation, and curtailment of erosion of the surface of the land [and] requirements designed to control or prevent damage to the environment (including damage to fish and wildlife habitat)."

B15.2.1.2 FEDERAL LAND POLICY AND MANAGEMENT ACT, SECTION 101 (A)(8)

Requires "public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition."

B15.2.1.3 ENDANGERED SPECIES ACT OF 1973, AS AMENDED, SECTION 7(A)(2)

Requires that federal agencies ensure any authorized action "will not result in the adverse modification" of critical habitat.

B15.3 Purpose

The purpose of this plan is to describe and recommend construction and reclamation treatment actions that will meet BLM and other agency goals and objectives under the applicable land use plans, guidelines, and initiatives described above for land health standards to recover habitat for sensitive plant species, and to provide protocols and/or requirements for implementing and monitoring required reclamation. Important actions in mitigating the effects associated with the Project include (1) minimizing to the greatest degree practicable, the effects associated with right-of-way (ROW) preparation and the construction of facilities, and (2) stabilizing temporarily disturbed construction areas to an acceptable condition to speed up natural recovery. The procedures outlined in this plan will assist in restoring plant communities to near-preconstruction conditions and associated wildlife habitat and range, preventing substantial increases in noxious weeds in the project area, minimizing Project-related soil erosion, and reducing visual impacts of sensitive areas caused by construction activities. To achieve these goals, this plan outlines actions to be applied during the preconstruction and post-construction phases of the Project.

B15.3.1 Responsible Parties

Southline will have the overall responsibility of directing and monitoring the reclamation efforts for the Project on BLM-managed lands in accordance with the stipulations in the Plan of Development (POD) and this plan. The ROW agreement holder (Western or Southline as appropriate) will have the responsibility of directing and monitoring reclamation efforts for the Project on State and private lands and may use the POD as appropriate. Southline and/or its construction contractor(s) may retain the services of a subcontractor (subject to the approval of the BLM, Western, and other agencies) who specializes in reclamation to implement the protocols identified in this plan during and following construction. It is anticipated that postconstruction reclamation monitoring would occur concurrent with the practices outlined in Appendix B11 – Noxious Weed Management Plan (as appropriate).

B15.4 Overview of Existing Environments

B15.4.1 Semidesert Grassland

B15.4.2 Chihuahuan Desertscrub

B15.4.3 Arizona Upland Subdivision of Sonoran Desertscrub

B15.4.4 Lower Colorado River Subdivision of Sonoran Desertscrub

B15.5 Reclamation Plan Methodology

B15.5.1 Identification of Reclamation Zones

B15.5.2 Identification of Reclamation Levels

B15.5.2.1 TYPES OF CONSTRUCTION ACTIVITIES AND FACILITY FEATURES

B15.5.2.2 DISTURBANCE DURATION

B15.5.2.3 DISTURBANCE TYPE

B15.5.2.4 RECLAMATION LEVELS

Reclamation Level 1 (RL1) – Minimal Level of Disturbance, Minimal Actions (Permanent)

Reclamation Level 2 (RL2) – Low Level of Disturbance, Few Actions (Temporary)

Reclamation Level 3 (RL3) – Moderate Level of Disturbance, Several Actions (Temporary)

Reclamation Level 4 (RL4) – Moderate/High Level of Disturbance, Few Actions (Permanent)

Reclamation Level 5 (RL5) – High Level of Disturbance, Maximum Actions (Temporary)

Table B15-2. Construction Component – Reclamation Levels

Construction Component	Disturbance Level	Disturbance Duration		Reclamation Level
		Permanent	Temporary	

B15.6 Reclamation Plan

B15.6.1 Right-of-Way Preparation and Preconstruction Actions

B15.6.1.1 WEED PLAN IMPLEMENTATION

B15.6.1.2 MONITORING TRANSECT SELECTION

B15.6.1.3 SELECTIVE CLEARING/FEATHERING (WIRE ZONE-BORDER ZONE TECHNIQUE)

Table B15-4. Reclamation Action Identification Table

Reclamation Level	Zone 1					Zone 2					Zone 3					Zone 4				
	RL1	RL2	RL3	RL4	RL5	RL1	RL2	RL3	RL4	RL5	RL1	RL2	RL3	RL4	RL5	RL1	RL2	RL3	RL4	RL5
Preconstruction Actions																				
Weed plan implementation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Selective clearing/ feathering			X	X	X												X	X	X	X
Topsoil segregation					X					X					X					X
Windrow vertical mulch			X	X	X			X	X	X								X	X	X
Post-construction Actions																				
Earthworks		X	X	X	X		X	X	X	X		X	X	X	X		X	X	X	X
Topsoil replacement					X					X					X					X
Seeding		X	X	X	X		X	X	X	X		X	X	X	X		X	X	X	X
Alternative seeding		X	X	X	X		X	X	X	X		X	X	X			X	X	X	
Supplemental planting																		X		X
Vertical mulch replacement			X		X			X		X								X		X
Permeon™ (or approved equal)			X	X	X			X	X	X			X	X	X			X	X	X
Supplemental mulch				X					X				X	X	X			X	X	X
Off-highway vehicle deterrent		X	X		X		X	X		X		X	X		X		X	X		X
Signage		X	X		X		X	X		X		X	X		X			X		X
Monitoring		X	X	X	X		X	X	X	X		X	X	X	X		X	X	X	X

B15.6.1.4 TOPSOIL SEGREGATION

B15.6.1.5 WINDROW VERTICAL MULCH

B15.6.2 Post-Construction Actions

B15.6.2.1 EARTHWORKS

B15.6.2.2 TOPSOIL REPLACEMENT

B15.6.2.3 SEEDING

B15.6.2.4 ALTERNATIVE SEEDING

B15.6.2.5 SUPPLEMENTAL PLANTING

B15.6.2.6 VERTICAL MULCH/SLASH

B15.6.2.7 SUPPLEMENTAL MULCH

B15.6.2.8 OFF-HIGHWAY VEHICLE DETERRENTS

B15.6.2.9 SIGNAGE

B15.6.2.10 RECLAMATION MONITORING

B15.6.3 Modifications and Field Changes

B15.7 Reclamation Success Standards, Monitoring, and Maintenance

B15.7.1 Reclamation Goals and Success Standards

B15.7.2 Monitoring Practices (Methodology)

B15.7.2.1 ROUTE MONITORING

Table B15. Reclamation Monitoring Requirements

B15.7.2.2 SITE MONITORING

B15.7.2.3 MONITORING REQUIREMENTS

B15.7.3 Data Collection

B15.7.3.1 QUALITATIVE (DESCRIPTIVE) INFORMATION

B15.7.3.2 QUANTITATIVE (NUMERICAL) INFORMATION

B15.7.4 Adaptive Management and Site Release

B15.8 Literature Cited

B15.9 Attachment

Attachment B15-1: BLM Example Seed Mixes

APPENDIX B16
HEALTH AND SAFETY PLAN

A Health and Safety Plan (HASP) is not typically required by Federal law; however, section 18 of the Occupational Safety and Health Act of 1970 encourages States to develop and operate their own safety and health programs in the workplace. In New Mexico, the Occupational Health and Safety Bureau, part of the New Mexico Environment Department (NMED), has the responsibility of enforcing Occupational Health and Safety Regulations. In Arizona, the Arizona Division of Occupational Safety and Health is responsible for enforcement and voluntary compliance.

The purpose of a HASP would be to ensure the safety of the proposed Project employees, construction personnel, and the public. The HASP would be tailored specifically for the proposed Project, and would include a description of hazards that may be encountered during the life of the proposed Project. The HASP would detail employee safety training procedures that would be used, structural and non-structural safety controls that would be put in place, personal protective equipment that would be required, emergency response procedures, protocols for Project-specific procedures such as confined space entry, and applicable standards, practices, and procedures specified by the Occupational Safe and Health Administration (OSHA) (29 CFR 1910).

Content to be developed.

APPENDIX B17
AVIAN PROTECTION PLAN

An Avian Protection Plan (APP) would be a Project-tailored plan designed to reduce avian electrocution and collision mortality that result from avian interactions with electric utility facilities. The overall goal of an APP is to reduce avian mortality. The 2005 Avian Power Line Interaction Committee (APLIC) and U.S. Fish and Wildlife (FWS) APP Guidelines (APLIC 2005) provide a framework, along with principles and examples of APPs.

The APP would be designed as a living document to be continually evaluated and refined over the life of the proposed Project. The elements of the APP would include training, permit compliance, construction design and siting standards, nest management, a reporting system, risk assessment for evaluating the risks posed to migratory birds. The plan would also identify areas and issues of concern, mortality reduction measures, and avian enhancement options.

Examples of avian protection measures that *could* be included in the APP are:

- Marking wires (bird diverters) and/or using special structure design to increase visibility to birds;
- Applying special structural design to decrease the heights of ground wires and conductors;
- Monitoring to ensure that Proponent Committed Environmental Measures (PCEMs) are implemented; and/or
- Conducting additional avian studies, surveys, and/or monitoring to record the presence of birds and incidence of avian collisions, and provide data that could be useful to minimize the potential for collisions with the proposed Project, as well as with existing and future power lines in other locations.

Southline Transmission, LLC (Southline), Bureau of Land Management (BLM), and Western Area Power Administration (Western) would collaborate with agencies such as the FWS, Arizona Game and Fish Department, and New Mexico Department of Game and Fish, and other cooperating agencies on development of the APP, the goal of which is mitigate the collision risk and loss of productivity for all birds.

Content to be developed.

APPENDIX B18
WASTE MANAGEMENT PLAN

B18.1 Waste Management Goals

B18.2 Responsibilities

B18.3 Waste Prevention, Packaging, and Recycling

B18.4 Communication and Education

B18.5 Expected Project Waste, Disposal, and Handling

Table B18-1.

Material	Quantity	Disposal Method	Handling Procedure

B18.6 Material Disposition/Waste Disposal Companies

B18.6.1 Wastes – Location of Disposal, Timing of Pickup

B18.6.2 Recycling – Location of Disposal, Timing of Pickup

B18.7 Housekeeping

B18.8 Documentation

APPENDIX B19
HELICOPTER FLIGHT PLAN/FLIGHT AND SAFETY PLAN

The Helicopter Flight and Safety Plan would describe the hours and estimated number of days that a helicopter would operate for construction of the proposed Project, the type and number of helicopters that would be used, and the kind of work to be performed. Additional information presented in this plan would include the location, size, and number of staging areas for helicopter takeoffs and landings, and safety measures to be implemented during helicopter operations. This plan would be reviewed and approved by the Federal Aviation Administration (FAA) prior to the commencement of helicopter operations.

Content to be developed.

APPENDIX B20
DECOMMISSIONING PLAN

The Decommissioning Plan would detail how the structures and facilities of the proposed Project would be removed after the useful life of the Project is reached, and how the affected properties would be reasonably restored in accordance with the Bureau of Land Management (BLM) right-of-way (ROW) grant. This plan would be a general outline of how the proposed Project would be decommissioned and how land would be restored to its original condition. Decommissioning procedures described would include the removal of structures, disposal of waste, and identification of what, if anything, may remain on the land upon completion. Restoration would include the stabilization and revegetation of the disturbance area to minimize erosion and return the land to productive use. As indicated in the Plan of Development (POD), this plan is applicable on Federal lands administered by the BLM as enforceable stipulations and measures of the BLM ROW grant. It pertains not only to the construction of the Project, but also to the operation and maintenance phase of the Project. Where Western Area Power Administration (Western) is involved in the Project, they may adopt this plan, where appropriate.

Content to be developed.

Appendix C

TRANSMISSION CONSTRUCTION AND VEGETATION MANAGEMENT STANDARDS

Content to be developed.

APPENDIX C1
TRANSMISSION CONSTRUCTION STANDARDS

Content to be developed.

APPENDIX C2
INTEGRATED VEGETATION MANAGEMENT STANDARDS

C2.1 Introduction

Southline Transmission, LLC (Southline or the Proponent), will manage vegetation within their rights-of-way (ROWs) and in access and service roads to minimize system reliability issues, to address safety issues, and to facilitate operation and maintenance activities. The vegetation management plan complies with the National Electric Safety Code, American National Standards Institute (ANSI) A300 Part 7: American Operations Integrated Vegetation Management (Bureau of Land Management (BLM) Integrated Vegetation Management Handbook – H 1740-02. March 25, 2008), Western Area Power Administration's (Western's) Integrated Vegetation Management Guidance Manual, and Electric Utility Rights-of-Way and the International Society of Arboriculture (ISA) Best Management Practices. The plan is based on the North American Electric Reliability Corporation (NERC) Reliability Standard FAC-003-1. If Western has an approved vegetation management plan for the area, that plan would govern vegetation management on State and private lands.

C2.2 Objectives

Objectives of Integrated Vegetation Management (IVM) on utility ROWs are to establish sustainable plant communities that are compatible with the electric facilities. The intent is to provide stable, low-growing plant ecotypes that reduce fire risk and maintain safe access to the line and associated facilities in order to ensure safe and reliable operation of the transmission line. Objectives include:

- Meeting requirements of the NERC Reliability Standards
- Prevent operation hazards (i.e., flashovers, trees growing into contact with conductors, danger trees)
- Provide access for maintenance and repair
- Protect facilities from fire
- Control spread of noxious weeds
- Protect public and worker safety
- Protect environmental quality
- Establish stable, low-growing plant communities on transmission line ROWs
- Adhere to principles of IVM

C2.3 Regulations

Because the regulatory environment is constantly changing, coordination with the regulatory agencies is essential to ensure compliance. Noxious weed regulation often falls to the county level, and therefore contact with the county regulatory agency should be made to check on additional or more stringent requirements.

C2.3.1 NERC Standards

On July 20, 2006, the Federal Energy Regulatory Commission (FERC) issued an order certifying NERC as the Electric Reliability Organization (ERO) for the United States. NERC substantially revised and strengthened its reliability standards and established a program to monitor and enforce compliance with their standards. The standards include Standard FAC-003-1-Transmission Vegetation Management Program, which requires that a transmission owner prepare and keep current a formal transmission vegetation management program that addresses the following: schedules and types of inspections; line clearances; qualifications and training of vegetation management personnel; Proponent Committed Environmental Measures (PCEMs) where line clearances cannot be attained; a process for immediate communication of vegetation conditions that present an imminent threat; annual planning for vegetation management work; and quarterly reporting of sustained transmission outages caused by vegetation. This standard (as well as those discussed below) applies to all transmission lines operated at 200 kilovolts and above and to any lower-voltage lines designated by the operator as critical to the reliability of the electric system in the region.

C2.3.2 Federal Requirements and Policies

- The National Environmental Policy Act (NEPA)
- The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)
- Users of restricted use (RU) pesticides should particularly note the following regulations:
    - Federal Land Management Agency Herbicide Restrictions
- The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):
- The Superfund Amendments and Reauthorization Act of 1986 (SARA Title III), also known as the Emergency Planning and Community Right-To-Know Act (EPCRA):
- The Federal Occupational Safety and Health Administration (OSHA):
- The U.S. Department of Transportation (DOT)
- The Federal Noxious Weed Act of 1974 (part of the Plant Protection Act of 2000) (7 CFR Part 360)
- Federal Land Management Agency Noxious Weeds and Federal Noxious Weed Lists
- The Endangered Species Act (50 CFR)
- Presidential Memorandum Dated April 26, 1994 for the Heads of Executive Departments and Agencies and Guidance for This Memorandum From the Office of the Federal Environmental Executive (August 10, 1995; 60 *Federal Register* 40837)
- Clean Water Act (40 CFR, Chapter I, Subchapter D)

C2.3.3 State Pesticide Regulations and Requirements

C2.3.4 State Weed Control Regulations and Requirements

C2.3.5 State Fire Hazard Reduction Regulations

C2.3.6 ANSI Standards and Other Pruning Guidance

C2.4 Methods

C2.4.1 Situations Requiring Vegetation Control

C2.4.1.1 WHAT METHODS ARE AVAILABLE?

C2.4.1.2 CONSIDERATIONS IN SELECTING THE BEST METHOD

Sections C2.4.2, C2.4.3, and C2.4.4 below provide overviews of the cultural, biological, and physical/mechanical options.

Table C-1. Factors which Influence Decisions About which Specific Vegetation Control Method to Use

Safety
Line voltage (which determines conductor clearances; see Section 10.0)
Proximity to restricted or sensitive environmental areas (adjacent land use)
Treatment objective
Type and density of vegetation – target and non-target species
Expected growth rates
Size of treatment area
Anticipated costs and equipment limitations
Effectiveness of possible treatments
Landowner or land management agency
Contractual rights
Accessibility
Climate/meteorological conditions at time of treatment (e.g., rainfall)
Herbicide use regulations
Site conditions – soils, slope, drainage
Presence of sensitive species or sensitive cultural resources

Table C-2. Vegetation Control Methods: Advantages and Disadvantages

Method	Advantages	Disadvantages	Where use is most appropriate
Cultural			
1. Develop and maintain stable, low-growing vegetation cover	Long-term effectiveness Required for physical or chemical treatment decreases with time Environmental benefits, e.g., wildlife habitat	None	All ROWs
2. Prescribed fire	Creates conditions for low-growing cover Removes excessive biomass (pile burning)	Any fire hazards must be controlled Limited areas appropriate for safe use	Low-growing vegetation with no hazard to overhead lines Slash piles
Biological			
1. Introduce natural insect predators	Targets specific noxious plants Perpetual, inexpensive	Intense monitoring efforts Availability of insects Long-term control option	Specific noxious weeds that can be controlled with specific insects, e.g., musk thistle
2. Animal grazing	Effective control Cost-effective Provides nitrogen	Timely grazing management is needed Also affects valuable vegetation Soil compaction Degrades riparian areas Soil erosion on steep slopes	Where agreement exists with landowner who raises livestock – existing "rangeland"
Physical/Mechanical			
1. Manual clearing with chain saw, machete, axe, etc.	Very selective Low soil impact Minimal disturbance of riparian and other sensitive areas	Low production rates High cost; high labor requirement If done without herbicide application, plants may resprout quickly Safety concerns for workers - falls, cuts, exposure to poisonous plants, snakes, etc. Exposure to vapors, dust	In sensitive areas In areas with low to moderate stem density Where limited clearing is the only approved option
2. Mowing with "bush hog" mower; mowing grass/weeds with mower	High production rates Low cost	Not selective - removes non-target plants If done, without herbicide application, plants may resprout quickly Slope, topographic restrictions Some soil disturbance and compaction Creates slash High labor requirement for mowing	Nonsensitive visual/environmental areas High stem density of small, noncompatible brush Areas with restrictions on herbicide use Vegetation will not resprout rapidly Yard/grass areas at substations and other facilities
3. Blading/Scarification	Low cost Effective	High erosion potential due to soil disturbance Not selective High visual impact Creates slash	As "last resort" where cannot gain access due to density of brush (e.g., along access routes to reach danger trees) Non-sensitive visual/ environmental areas only

Table C-2. Vegetation Control Methods: Advantages and Disadvantages (Continued)

Method	Advantages	Disadvantages	Where use is most appropriate
4. Use of geotextile barriers	Low cost Effective, especially when placed during initial construction/landscaping	May not eliminate unwanted vegetation that remains beneath barrier (roots) Need to use during initial construction/landscaping Not always stable on slopes	Landscaped areas Level ground New construction
Chemical			
1. Nonselective Herbicides			
1A. Spray	No moisture needed to activate Relatively low cost	Spills harder to contain/clean Need to be mixed Higher drift hazard	For any non-selective situation – where "bare ground control" is needed; for certain noxious weeds if applied selectively
1B. Granules	No need for mixing Drift hazard low Simple application equipment	Often more expensive than liquid May need moisture to activate	Around substations, yards, wood poles; possibly spot-treatment of certain noxious weeds
1C. Bio-barriers	Combine effectiveness of geotextile barrier with herbicide Time-release control	Must install during initial construction to be cost effective	Initial substation/yard construction
2. Selective Herbicides			
2A. Stump treatment (spray or capsule injection)	Very selective Limited or no drift to non-target vegetation Capsule injection- no chemical mixing; exposure limited	Timing critical - must apply immediately after cutting to be effective Early spring treatments not as effective as later season Capsule injection may require training and is labor intensive	Initial clearing Maintenance clearing when trees are too tall for foliage spray Near areas sensitive to drift, runoff
2B. Selective basal bark treatment	Selective Limited drift to non-target vegetation No brownout if applied during dormant season	Need to use oil-base formulation for best penetration	Maintenance clearing if brush too tall for foliage spray or need more selectivity
2C. Selective (low-vol.) foliar application	Less costly than others because less labor intensive, no oil use	Higher potential for drift onto non-target vegetation and workers Not as effective during hot weather More potential for runoff "Brownout" causes visual impact	Maintenance treatment when brush is 12–15 feet high and mostly tall-growing species. Not near areas sensitive to drift or "brownout."
2D. Growth inhibitors (grass)	Less costly than mowing because less labor intensive Lengthens maintenance cycles	Potential for drift onto non-target vegetation	Maintenance treatment where it is not practical to mow, but ground cover is desired

Table C-2. Vegetation Control Methods: Advantages and Disadvantages (Continued)

Method	Advantages	Disadvantages	Where use is most appropriate
2E. Tree growth regulators	Control branch growth without need for frequent pruning/trimming Long-term maintenance cycles More aesthetic than directional pruning, hard pruning More cost effective than frequent trimming	Will require training or contracting for application May be less effective on smaller-diameter trees on certain species Requires some time before see results	In sensitive areas (especially visual sensitivity) Where directional pruning/trimming is not desirable but full removal is not permitted and cannot be negotiated with land management agency or landowner
All Herbicides:	Prevent resprouting of woody vegetation - lengthen maintenance cycles; reduce costs; promote stable low-growing cover; lower life-cycle cost	Environmental and safety concerns - drift to non-target organisms, water contamination, proper application	

C2.4.2 Cultural Methods

C2.4.2.1 ESTABLISHMENT OF STABLE, LOW-GROWING PLANT SPECIES

C2.4.2.2 PRESCRIBED FIRE

C2.4.3 Biological Control Methods

C2.4.3.1 ANIMAL GRAZING

C2.4.4 Physical/Mechanical Methods

C2.4.4.1 PHYSICAL METHODS

C2.4.4.2 MECHANICAL METHODS

C2.4.5 Chemical Control Methods

C2.5 Noxious Weed Management

C2.6 Revegetation/Reclamation

C2.7 Attachments

Attachment A: Standard FAC-003-1 — Transmission Vegetation Management Program

Attachment B: Western Area Power Administration Order 430.1A Right-of-Way Management Guidance for Vegetation, Encroachments, and Access Routes

Attachment C: Western Area Power Administration Integrated Vegetation Management Guidance Manual

C2.8 Literature Cited

Appendix D

LAND (LEGAL) DESCRIPTION OF PROPOSED ROUTE ACROSS FEDERAL LANDS

Content to be developed.

Appendix M

BIOLOGICAL AND CONFERENCE OPINION AND CONFERENCE REPORT AND AMENDMENT FOR THE SOUTHLINE TRANSMISSION LINE PROJECT

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Las Cruces District Office
1800 Marquess Street
Las Cruces, New Mexico 88005
www.blm.gov/nm

TAKE PRIDE IN AMERICA

In Reply Refer To:

6841 (L0000)

JUL 2 7 2015

Memorandum

To: Field Supervisor, Arizona Ecological Services Office, USFWS, Phoenix, AZ

From: District Manager, Las Cruces, BLM, Las Cruces, NM

Subject: Request to Amend the Biological and Conference Opinion and Conference Report on the Proposed Southline Transmission Project with an Update to the Agency Preferred Alternative for the Final Environmental Impact Statement (EIS)

The Bureau of Land Management (BLM) and the Western Area Power Administration (Western) initiated formal consultation and conference on March 4, 2014, for the proposed Southline Transmission Project located in Doña Ana, Luna, Grant, and Hidalgo Counties, New Mexico; and Greenlee, Graham, Cochise, Pima, and Pinal Counties, Arizona. We received a draft biological opinion and conference report (BO) dated November 10, 2014. This draft BO included an analysis of impacts to the following species: the endangered lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*), the endangered Mexican long-nosed bat (*Leptonycteris nivalis*), the endangered Pima pineapple cactus (*Coryphantha scheeri* var. *robustispina*), the endangered southwestern willow flycatcher (*Empidonax traillii extimus*), the endangered Gila chub (*Gila intermedia*) and its critical habitat, the endangered Huachuca water umbel (*Lilaeopsis schaffneriana* var. *recurva*), the threatened northern Mexican gartersnake (*Thamnophis eques megalops*) and its proposed critical habitat, the threatened yellow-billed cuckoo (*Coccyzus americanus*) western distinct population and its proposed critical habitat, and the non-essential population of northern aplomado falcon (*Falco femoralis septentrionalis*).

The draft BO analyzed impacts on listed species from segment P7 near the Willcox Playa in Arizona. Segment P7 would be a new approximately 20-mile, 345-kV transmission line segment that would parallel an existing 230-kV line. This segment was analyzed in the February 2014 biological assessment and the Draft EIS. During review of the Draft EIS, the Arizona Game and Fish Department (AZGFD) and the U.S. Fish and Wildlife Service raised concerns about potential impacts to sandhill cranes (*Grus canadensis*) because of the route's proximity to the Willcox Playa Wildlife Area, an area managed by the AZGFD, and Crane Lake. In a letter dated July 10, 2014, the AZGFD recommended that the BLM and Western consider an alternative route to reduce impacts to this species. They suggested a reroute on the eastern side of the

Sulphur Springs Valley, which became P7a (an approximately 30-mile long route variation) and was part of the new Agency Preferred Alternative in the Administrative Final EIS. This was the route segment analyzed in the final BO, dated December 30, 2014.

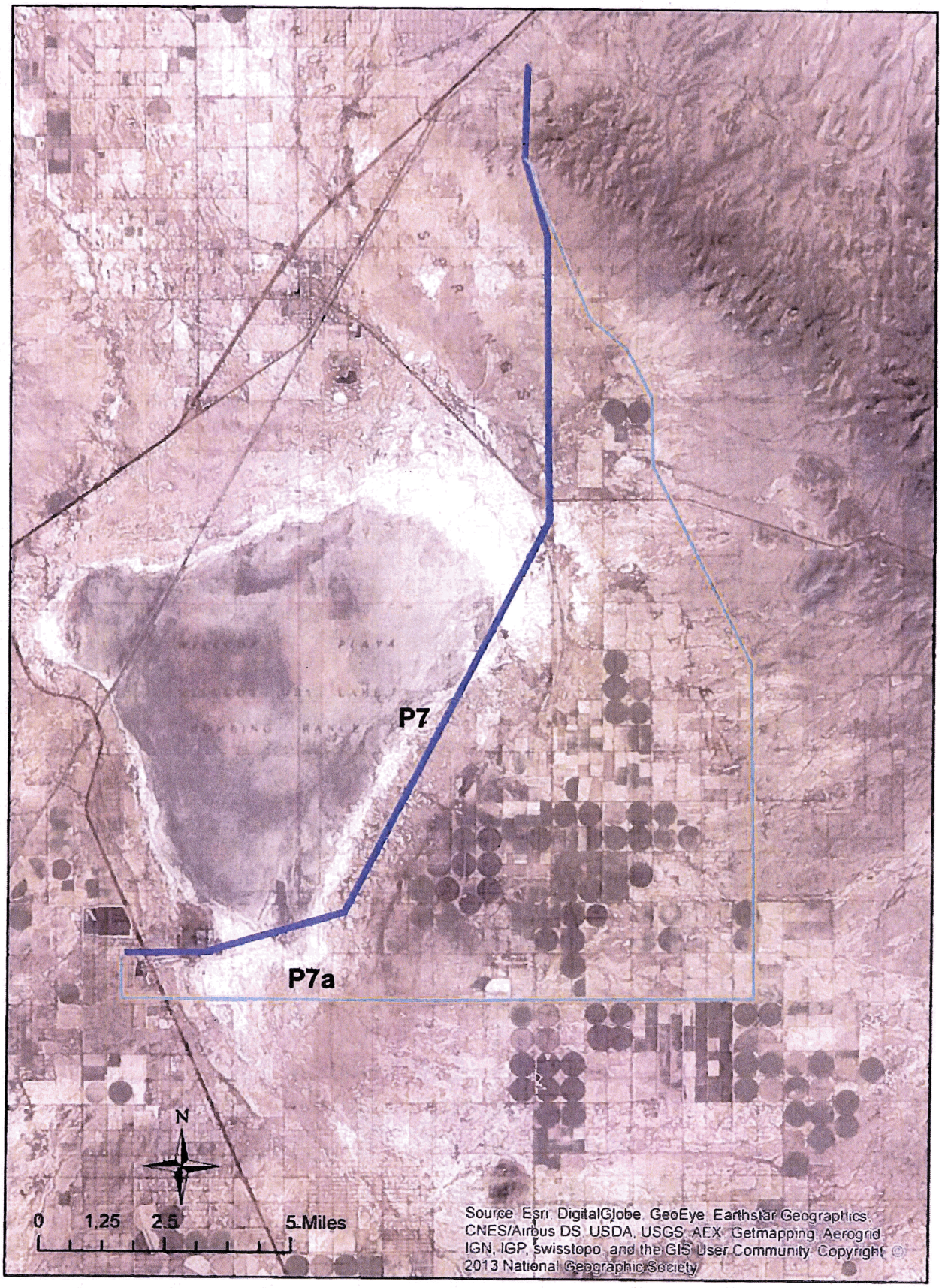
During the Administrative Final EIS review process, the BLM sent letters to over 1,000 landowners along Route Variation P7a and received numerous response letters of concern, particularly from owners and operators of vineyards and wineries in the area. Because of these concerns, the BLM and Western have decided to return to the original segment P7 as the Agency Preferred Alternative in the Final EIS.

Subsequent discussions with the AZGFD were held to address impacts to the sandhill crane with segment P7 as the Agency Preferred Alternative in the Final EIS. In a letter dated June 21, 2015, the AZGFD provided suggested measures that they feel would satisfactorily minimize or mitigate impacts to the Willcox Playa Wildlife Area. One of the measures would be to relocate Crane Lake, which would minimize potential bird strikes and therefore minimize impacts to cranes.

The BLM and Western have determined that the effect on listed species (i.e., the lesser-long nosed bat) from segment P7 and route variation P7a are essentially the same. Vegetation communities along both routes are similar, with the main vegetation communities being Apacherian-Chihuahuan Piedmont Semi-Desert Grassland and Steppe (65 percent), and Apacherian-Chihuahuan Mesquite Upland Scrub (25 percent). The only listed species with potential to occur along either route is the lesser-long nosed bat. There are no known roosts along either route. Impact to the species would be from potential loss of foraging habitat. However, as mentioned in the BO, forage plants would not be affected to the extent that would preclude this species from foraging within the area because of the relatively small area of forage that would be affected.

The BLM and Western are requesting an amendment to the biological opinion and conference opinion to include segment P7 as the Agency Preferred Alternative for the Final EIS. Questions concerning this consultation may be directed to Mark Massar, BLM Wildlife Biologist, at (760) 833-7121 or mmassar@blm.gov.

Bill Childress

1 Attachment:
1 – Attachment A. Routes P7 and P7a

Attachment A. Routes P7 and P7a