

Corridor 41-46

Davis Dam Southeast

Introduction

Corridor 41-46 extends south from near Bullhead City to just east of Topock, then east, passing Franconia, and then turns southeast to the junction of Corridors 46-269 and 46-270 (Figures 1 and 2). Federally designated portions of this corridor are entirely on BLM-administered lands, with alternating widths across its length. Portions of the corridor at the northern end are 5,280 ft wide (including MP 0 to MP 24.8, MP 36.9 to MP 40.5, and MP 45.5 to MP 58.6) and remaining portions are 10,560 ft wide (including MP 24.9 to MP 36.9 and MP 40.6 to MP 45.3) consistent with existing land use plans prior to its designation as a Section 368 energy corridor, except for MP 40.6 to MP 45.3. Corridor 41-46 is designated multi-modal and can therefore accommodate both electrical transmission and pipeline projects. Two 5,280-ft-wide segments of the corridor from MP 36.9 to MP 40.5 and MP 45.5 to MP 58.6 are underground only. All existing projects in the corridor are pipeline projects. The corridor spans a 58.6-miles, with 38.7 designated miles on BLM-administered lands. The corridor's area is 31,741 acres or 49.6 square miles. This corridor is entirely in Mohave County, Arizona, and under the jurisdiction of the BLM Colorado River District and the Kingman and Lake Havasu Field Offices. This corridor is entirely in Priority Region 1.

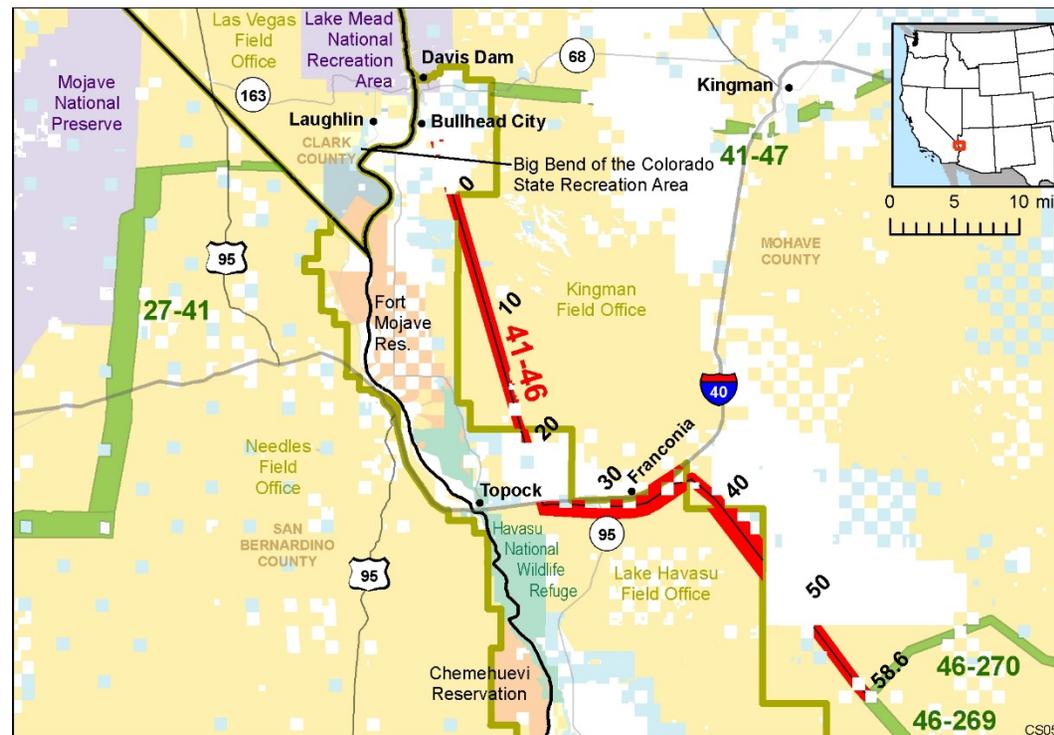
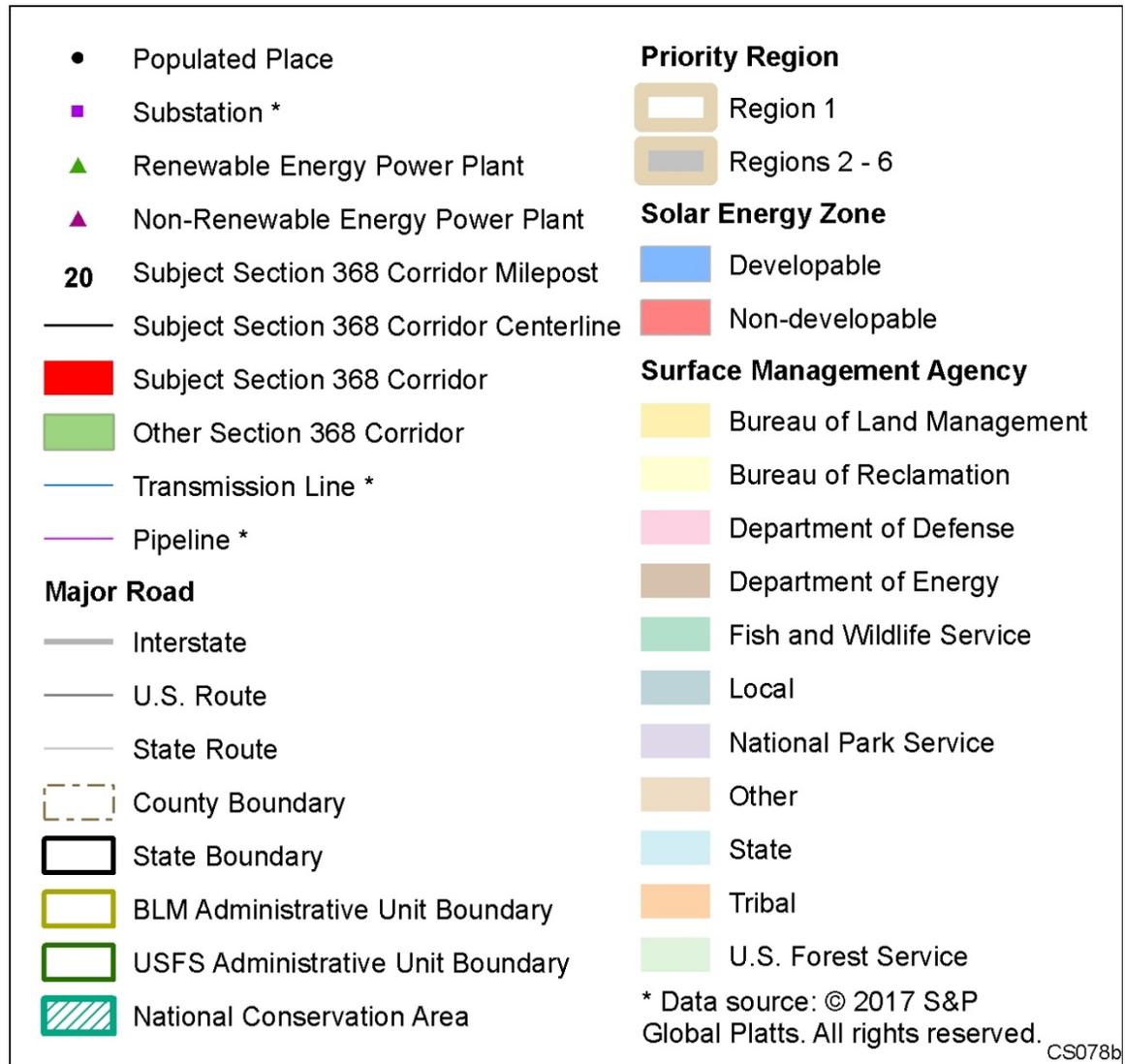


Figure 1. Corridor 41-46



Key

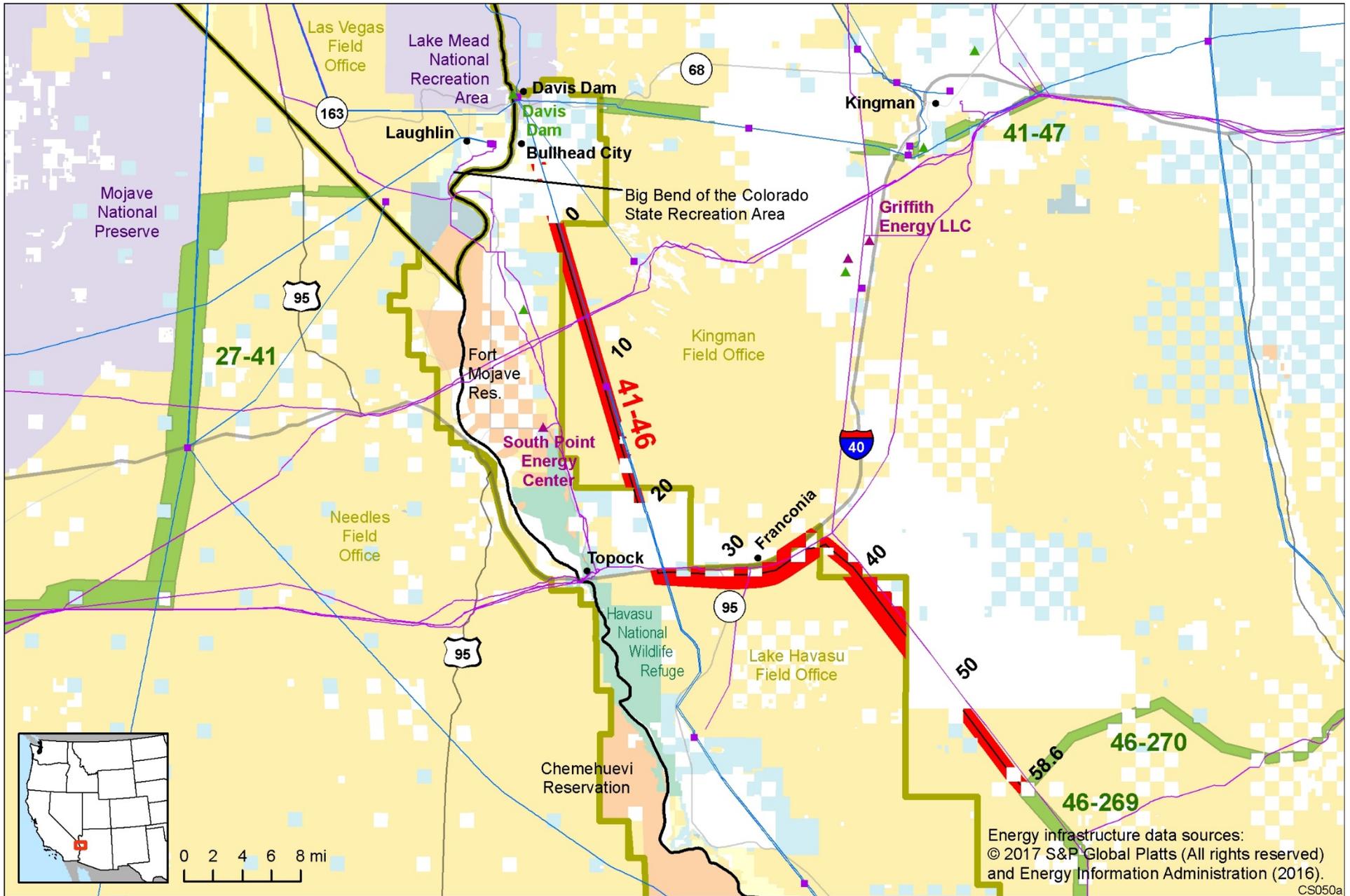


Figure 2. Corridor 41-46, Including Existing Energy Infrastructure

Corridor Rationale

During scoping for the WWEC PEIS, routes generally following this corridor were suggested by the Arizona Public Service Electric Company; National Grid; New Mexico Energy, Minerals, and Natural Resources Department; Pacific Gas and Electric Company; Tucson Electric Power Company; and the Western Utility Group. The corridor was designated to include existing infrastructure, to provide continuity with other Section 368 energy corridors in the vicinity of Laughlin, Nevada, and to avoid crossing the Havasu National Wildlife Refuge.

Existing Infrastructure: Current infrastructure occupying parts of the corridor includes three Western Area Power Administration transmission lines (230 kV), a Sempra natural gas pipeline, and five El Paso Natural Gas Company pipelines. Power plants near the corridor include Davis Dam (hydroelectric), Mojave Electric (solar), and South Point Energy Center (natural gas).

Potential Future Development: No applications for additional projects or pending ROWs were identified during interviews for the Corridor Study. Platts data indicate a planned project by Tucson Electric Power Company, with a preliminary/conceptual route overlapping a small section of the corridor from MP 32.2 to MP 37.5.

Corridor of Concern Status

Corridor 41-46 is a corridor of concern. Concerns regarding impacts on the Black Mountain population of Desert Tortoises were identified in the Settlement Agreement (however, the USFWS determined that listing of the Black Mountain population of desert tortoise under ESA was not warranted). This concern is highlighted in yellow in the Corridor Analysis table below.

Corridor Abstract Update

New data have been added to the Section 368 Energy Corridor Mapping Tool since release of the draft abstracts in September 2016. A GIS review identifying high-, medium-, and low-conflict areas consistent with the screening criteria in 43CFR 2804.35(a)-(c) has also been added to the mapping tool. A complete description of the mapping tool; the high-, medium-, and low-conflict areas; and a list of the GIS data sources are included in the report for the Region 1 Regional Review.

Additions to the corridor analysis table based on input from stakeholders and additional Agency analysis include special-status species, military and civilian aviation, visual resources, and the interagency operating procedures.

Revisions, deletions, or additions to Section 368 energy corridors would be made only during the land use planning process through a plan amendment for an individual project or a plan revision. However, the Settlement Agreement sets forth a systematic process for the Agencies to review Section 368 energy corridors and provide recommendations for revisions, deletions, or additions to the corridors. There were stakeholder recommendations in the 2014 RFI to reroute this corridor to avoid the Black Mountain population of Desert Tortoise and Sonoran Desert Tortoise Category I and II Habitat. There were no suggestions for corridor revisions, deletions, or additions in response to the release of the draft abstracts. On the basis of Agency analysis of these issues, corridor revisions, deletions, or additions are not recommended for Corridor 41-46.

Corridor Analysis

The corridor analysis table below identifies concerns affecting Corridor 41-46, the location of the concerns within the corridor, and the results of the analysis of the concerns by the Agencies. Concerns are checked if they are known to apply to the corridor.

Energy Planning Opportunities

- Appropriate and acceptable uses
- WWEC purpose (e.g., renewable energy)
- Transmission and pipeline capacity opportunity

Energy Planning Concerns

- Physical barrier
- Jurisdictional concern
- Corridor alignment and spacing
- Transmission and pipeline capacity concern

Land Management Responsibilities and Environmental Concerns

- Acoustics
- Air quality
- Climate change
- Cultural resources
- Ecological resources
- Environmental justice
- Hydrological resources
- Lands and realty
- Lands with wilderness characteristics

- Livestock grazing
- Paleontology
- Public access and recreation
- Socioeconomics
- Soils/erosion
- Specially designated areas
- Tribal concerns
- Visual resources
- Wild horses and burros
- Interagency Operating Procedures**

REGION 1 CORRIDOR 41-46 – ANALYSIS TABLE							
ID	Agency	Agency Jurisdiction	County	Primary Concern/ Opportunity	Corridor Location (by Milepost [MP])	Source: Context	Agency Review and Analysis
ENERGY PLANNING OPPORTUNITIES							
<i>WWEC Purpose</i>							
41-46 .001	BLM	Kingman and Lake Havasu FOs	Mojave, AZ	Renewable-energy potential	Entire corridor	Comment on corridor abstract: Corridor could be a pathway to Las Vegas or California, but was not identified as a priority by utilities or solar developers.	Opportunity for the corridor to accommodate transmission tied to renewable-energy development.
ENERGY PLANNING CONCERNS							
<i>Location-Specific Physical Barrier</i>							
41-46 .002	BLM	Kingman FO	Mojave, AZ	Underground-only designation	MP 36.9 to MP 40.5 and MP 45.5 to MP 58.6	GIS Analysis: The underground-only designation on portions of the corridor reduces the potential for future electrical transmission projects.	Underground-only designation is consistent with existing underground pipeline infrastructure and Kingman RMP. BLM may revisit this during RMP revision process.

REGION 1 CORRIDOR 41-46 – ANALYSIS TABLE							
ID	Agency	Agency Jurisdiction	County	Primary Concern/ Opportunity	Corridor Location (by Milepost [MP])	Source: Context	Agency Review and Analysis
Jurisdictional Concern							
41-46 .003	Non-federal	Kingman and Lake Havasu FOs	Mojave, AZ	Development, protected areas, and non-federal land jurisdictions	Undesignated extent at northern end of corridor (MP 0) and from MP 19 to MP 25.	GIS Analysis: Development, protected areas, and non-federal land jurisdictions may limit potential use of the corridor.	BLM can only analyze impacts on BLM land. There is an existing line both in the undesignated segment at the northern end of the corridor and between MP 19 and MP 25. Development on undesignated segments would require coordination outside of the Agencies.
LAND MANAGEMENT RESPONSIBILITIES AND ENVIRONMENTAL CONCERNS							
Ecology: Special Status Animal Species							
41-46 .004	BLM	Kingman and Lake Havasu FOs	Mohave, AZ	Sonoran Desert Tortoise Category I or II Habitat	MP 0.0 to MP 5.7, MP 13.5 to MP 15.7, MP 28.2 to MP 29.0, and MP 41.3 to MP 45.6.	RFI: corridor intersects Sonoran Desert Tortoise Category I or II Habitat. Reroute to avoid siting new facilities in this habitat in areas where there is no existing transmission and minimize transmission siting in these areas.	Sonoran Desert Tortoise is not listed but is a BLM sensitive species subject to conservation measures. BLM will consult on ESA-listed and proposed species during individual project reviews. There is no nearby alternative route that would avoid tortoise habitat and provide continuity with other Section 368 energy corridors in an area that already contains infrastructure and that would avoid crossing the Havasu NWR.
41-46 .005	BLM	Kingman and Lake Havasu FOs	Mohave, AZ	Black Mountain population of Desert Tortoise	MP 0 to MP 36	Settlement Agreement. RFI: Limited data are available on distribution of the Black Mountain tortoise population. Possible listing as a distinct population. Reroute to avoid concern in areas where there is no existing transmission and minimize transmission siting in these areas. Comment on corridor abstract: Stakeholders indicated that the BLM should perform studies to determine the regional extent	USFWS determined that listing of this population of Desert Tortoise under ESA was not warranted. The Black Mountain population of Desert Tortoise is a BLM sensitive species subject to conservation measures regardless of taxonomy. BLM will consult on ESA-listed and proposed species during individual project review. There is no nearby alternative route that would avoid tortoise habitat and provide continuity with other Section 368 energy corridors in an area that already contains infrastructure

REGION 1 CORRIDOR 41-46 – ANALYSIS TABLE							
ID	Agency	Agency Jurisdiction	County	Primary Concern/ Opportunity	Corridor Location (by Milepost [MP])	Source: Context	Agency Review and Analysis
						and specific identities of the “Black Mountain population” of tortoises, which will include genetics studies to determine geographical boundaries between the two species. Once these data are acquired, the BLM must then initiate formal consultation with the USFWS to determine if these tortoises warrant listing as a threatened or endangered distinct population.	and that would avoid crossing the Havasu NWR.
Hydrology: Surface Water							
41-46 .006	BLM	Lake Havasu	Mohave, AZ	Stream: Sacramento Wash	MP 24.5 and MP 33.7 to MP 36.4	GIS Analysis.	Linear ROWs can either span streams or be buried underneath them.
41-46 .007	BLM	Kingman and Lake Havasu FOs	Mohave, AZ	Intermittent Stream: Buck Mountain Wash, Crozier Wash	MP 34.1 to MP 51.2 and MP 58.2	GIS Analysis.	Utilities can either span or be buried under intermittent streams. Riparian vegetation can be avoided or impacts mitigated.
Lands and Realty: Rights-of-Way and General Land Use							
41-46 .008	BLM	Kingman and Lake Havasu FOs	Mohave, AZ	Land ownership	Scattered over full corridor length.	GIS Analysis: a total of 88 acres, which were originally designated as part of this corridor, are on private or state land, according to the 5/12/2015 version of Surface Management Agency data.	BLM would consider adjusting the corridor designation in future land use plans to be consistent with the current jurisdiction, possibly through plan amendment during future project implementation.
Lands and Realty: Military and Civilian Aviation							
41-46 .009	BLM	Kingman and Lake Havasu FOs	Mohave, AZ	Military Training Route – Instrument Route	MP 0 to MP 7.6	GIS Analysis. Comment on corridor abstract: military training route (IR-213) with floor of 200 ft AGL. Potential for an obstruction in airspace used for high speed, low altitude military aircraft operations, which presents a potential safety risk.	DoD recommends that structures remain below 200 ft AGL. Taller structures will require further analysis for operational and safety impacts. Adherence to IOP 1 - Project Planning regarding coordination with DoD would be required. Impacts would be analyzed and mitigated as part of the project-specific environmental analysis required under NEPA and other Federal

REGION 1 CORRIDOR 41-46 – ANALYSIS TABLE							
ID	Agency	Agency Jurisdiction	County	Primary Concern/ Opportunity	Corridor Location (by Milepost [MP])	Source: Context	Agency Review and Analysis
							laws, and in consultation with DoD (IOP).
41-46 .010	BLM	Kingman FO	Mohave, AZ	Sagebrush Trails Estates Airport	MP 51.6 to MP 52.6	GIS Analysis: Sagebrush Trails Airpark is in line with corridor in an undesignated non-Federal corridor segment.	Airpark/airport is currently not operational and may never be developed. Corridor is underground only in area adjacent to or near Sagebrush Trails Airpark. No conflict with airpark is anticipated, even if additional underground infrastructure is developed.
Lands and Realty: Transportation							
41-46 .011	BLM	Lake Havasu FO	Mohave, AZ	Railroad	MP 24.1 to MP 37.0	GIS Analysis: Railroad runs adjacent to and intersects corridor in undesignated corridor segment.	In accordance with BLM ROW regulations, notification to adjacent ROW holders would be provided.
41-46 .012	BLM	Lake Havasu FO	Mohave, AZ	I-40	MP 24.8 to MP 37.0	GIS Analysis: I-40 runs directly adjacent to and intersects corridor.	In accordance with BLM ROW regulations, notification to adjacent ROW holders would be provided.
41-46 .013	BLM	Lake Havasu FO	Mohave, AZ	State Highway 95	MP 29.3 to MP 30.2	GIS Analysis: State Highway 95 intersects I-40 and ends within the corridor.	In accordance with BLM ROW regulations, notification to adjacent ROW holders would be provided.
Public Access and Recreation							
41-46 .014	BLM and Private	Kingman FO	Mohave, AZ	Unofficial OHV recreation trail called Arizona Peace Trail	MP 0 to MP 20 on BLM lands and MP 25 to MP 50 on BLM and scattered private land locations	GIS analysis: Trail follows the existing transmission line. Website (http://www.arizonapeacetrail.com/)	The proposed Arizona Peace Trail will be incorporated into BLM travel management planning when and if it is formally designated. Use of these routes, along with stakeholder comment, will be considered in project permitting, regardless of the status of any formal designation.
Specially Designated Areas							
41-46 .015	BLM	Lake Havasu FO	Mohave, AZ	Bullhead Bajada Natural and Cultural ACEC	MP 0 to MP 2.1	RFI: Intersects Bullhead Bajada Natural and Cultural ACEC.	Lake Havasu RMP decision (LR-12) allows for utility ROWs within designated corridors in ACECs and other specially designated areas. Impacts would be analyzed and mitigated as part of the project-specific

REGION 1 CORRIDOR 41-46 – ANALYSIS TABLE							
ID	Agency	Agency Jurisdiction	County	Primary Concern/ Opportunity	Corridor Location (by Milepost [MP])	Source: Context	Agency Review and Analysis
							environmental review required under NEPA and other Federal laws.
41-46 .016	BLM	Kingman FO	Mohave, AZ	Historic Route 66 National Scenic Byway	MP 14.3 to MP 15.3	GIS Analysis.	The Agencies would need to review the Arizona Department of Transportation Route 66 Corridor Management Plan as part of project-specific environmental analysis required under NEPA and other Federal laws.
41-46 .017	BLM	Kingman FO	Mohave, AZ	Warm Springs Wilderness Area	MP 14.4 to MP 19.0	Corridor Study: The corridor is adjacent to special management areas (Warm Springs Wilderness).	When wilderness was designated in 1990 under the Arizona Desert Wilderness Act, many ROWs served as boundaries to those Wilderness Areas and predated the wilderness designation. Impacts would be analyzed and mitigated as part of the project-specific environmental analysis required under NEPA and other Federal laws.
INTERAGENCY OPERATING PROCEDURES (IOPS, OR BEST MANAGEMENT PRACTICES)							
41-46 .022				Require IOPs to address ACEC and desert tortoise habitat.		RFI.	There is an existing IOP that addresses important, sensitive, or unique habitats and BLM special-status species, USFS-sensitive, and state-listed species. Resource management plans specify the management prescriptions for individual ACECs.
41-46 .new1				Pipeline trenching and avian contact with powerlines		Comment on corridor abstract: recommend guidelines for reducing impacts on wildlife, including Guidelines for Handling Sonoran Desert Tortoise Encountered on Development Project; Desert Tortoise Survey Guidelines for Environmental Consultants; and Burrowing Owl Project Clearance Guidelines for Landowners. Consider placing all	Many of the topics regarding trenching and avian contact with power lines are incorporated into existing BMPs. Guidance for reducing impacts and obtaining project approvals would be analyzed as part of the project-specific environmental analysis required under NEPA and other Federal laws.

REGION 1 CORRIDOR 41-46 – ANALYSIS TABLE							
ID	Agency	Agency Jurisdiction	County	Primary Concern/ Opportunity	Corridor Location (by Milepost [MP])	Source: Context	Agency Review and Analysis
						connecting power lines associated with development underground, unless burial of the lines would result in greater impacts to biological or archaeological resources, or the terrain is prohibitive for such action All above-ground lines, transformers, or conductors should comply with the APLIC 2006/2012 standards to prevent avian fatality, including use of various bird deterrents and avian protection devices. (See “Reducing Avian Collisions with Power Lines 2012” and “Suggested Practices for Avian Protection on Power Lines 2006” [Edison Electric Institute].)	
41-46 .new2				Minimize habitat alterations.		Comment on corridor abstract: follow existing disturbed areas during installation. In low areas where the power line crosses drainages, the soil should be compacted to reduce the potential for erosion.	Objective is addressed by applying the BLM mitigation hierarchy to avoid and minimize impacts.
41-46 .new3				Trenching		Comment on corridor abstract: trenching and backfilling crews should be close together to minimize the amount of open trench at any given time and should operate during the cooler months when wildlife is less active. Avoid leaving trenches open overnight, as wildlife may become trapped. When trenches cannot be backfilled immediately,	Best practices would be analyzed as part of the project-specific environmental analysis required under NEPA and other Federal laws.

REGION 1 CORRIDOR 41-46 – ANALYSIS TABLE							
ID	Agency	Agency Jurisdiction	County	Primary Concern/ Opportunity	Corridor Location (by Milepost [MP])	Source: Context	Agency Review and Analysis
						escape ramps should be constructed at least every 45 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface. The slope should be less than 45 degrees (1:1). Trenches that have been left open overnight should be inspected and animals removed prior to backfilling.	
Visual Resources							
41-46 .020	BLM	Kingman FO	Mohave, AZ	VRM Class I	MP 14.3 to MP 19.0	GIS Analysis. The corridor is adjacent to VRM Class I areas.	The corridor does not intersect VRM Class I or VRM Class II areas. Impacts would be analyzed and mitigated as part of the project-specific environmental review required under NEPA and other Federal laws.
41-46 .021	BLM	Kingman FO	Mohave, AZ	VRM Class II	MP 27.3 to MP 28.3, MP 30.3 to MP 31.3, MP 32.3 to MP 37.0	GIS Analysis. The corridor is adjacent to VRM Class II areas.	
41-46 .018	BLM	Lake Havasu FO	Mohave, AZ	VRM Class III	MP 0 to MP 2.0, MP 15.1 to MP 17.2, MP 40.6 to MP 46.8	GIS Analysis.	VRM class objectives are binding land use plan decisions. Transmission facilities must demonstrate that they will conform to the VRM decisions in the land use plan through a hard-look visual impacts analysis outlined in BLM VRM Contrast Rating Handbook H 8431-1 (VRM Manual Section (MS) 8400, BLM 1986). Minimizing visual contrast remains a requirement of applicable VRM class objectives even when the proposed action is in conformance with these VRM class objectives (VRM MS-8400).
41-46 .019	BLM	Lake Havasu and Kingman FOs	Mohave, AZ	VRM Class IV	MP 0 to MP 15.4, MP 17.8 to MP 20.1, MP 24.8 to MP 43.0, MP 52.0 to MP 58.6	GIS Analysis.	While VRM Class IV objectives allow for major modification to occur and management activities may dominate the view, minimizing visual contrast remains a requirement of these VRM class objectives. Ratings are required in

REGION 1 CORRIDOR 41-46 – ANALYSIS TABLE							
ID	Agency	Agency Jurisdiction	County	Primary Concern/ Opportunity	Corridor Location (by Milepost [MP])	Source: Context	Agency Review and Analysis
							areas of high sensitivity or high impact (VRM MS-8400).
Other Issues							
41-46 .new4						There were concerns about habitat alterations from development within the corridor and suggestions to follow existing disturbed areas, among other development suggestions related to soil erosion.	Habitat alterations from development within the corridor and soil erosion would be addressed as part of the project-specific environmental review required under NEPA and other Federal laws. The Agencies encourage development alongside existing infrastructure, and that is one of the reasons that Corridor 41-46 was designated in the West-wide Energy Corridor PEIS.

Abbreviations: ACEC = Area of Critical Environmental Concern; AGL = above ground level; APLIC = Avian Power Line Interaction Committee; BLM = Bureau of Land Management; CFR = Code of Federal Regulations; ESA = Endangered Species Act; FO = Field Office; GIS = geographic information system; IOP = Interagency Operating Procedures; MP = milepost; NEPA = National Environmental Policy Act; OHV = Off Highway Vehicle; RFI = Request for Information; PEIS = Programmatic Environmental Impact Statement; ROW = right-of-way; USFS = U.S. Forest Service; USFWS = U.S. Fish and Wildlife Service; VRM = Visual Resource Management; WWEC = West-wide Energy Corridor.