Corridor 46-270

Bagdad Corridor

Introduction

Corridor 46-270 extends eastward starting at the junction of Corridors 41-46 and 46-269 and ending just north of Bagdad (Figures 1 and 2). Federally designated portions of this corridor are entirely on BLM-administered lands; with a 3,500-ft width over its entire extent. Corridor 46-270 is designated multi-modal and can accommodate both electrical transmission and pipeline projects. The corridor spans 46.1-miles, with 36.7 designated miles on BLM-administered lands. The corridor's area is 14,840 acres or 23.19 square miles. This corridor is in Mohave and Yavapai counties in Arizona, under the jurisdiction of the Kingman Field Office within the Colorado River District. This corridor is entirely in Priority Region 1.

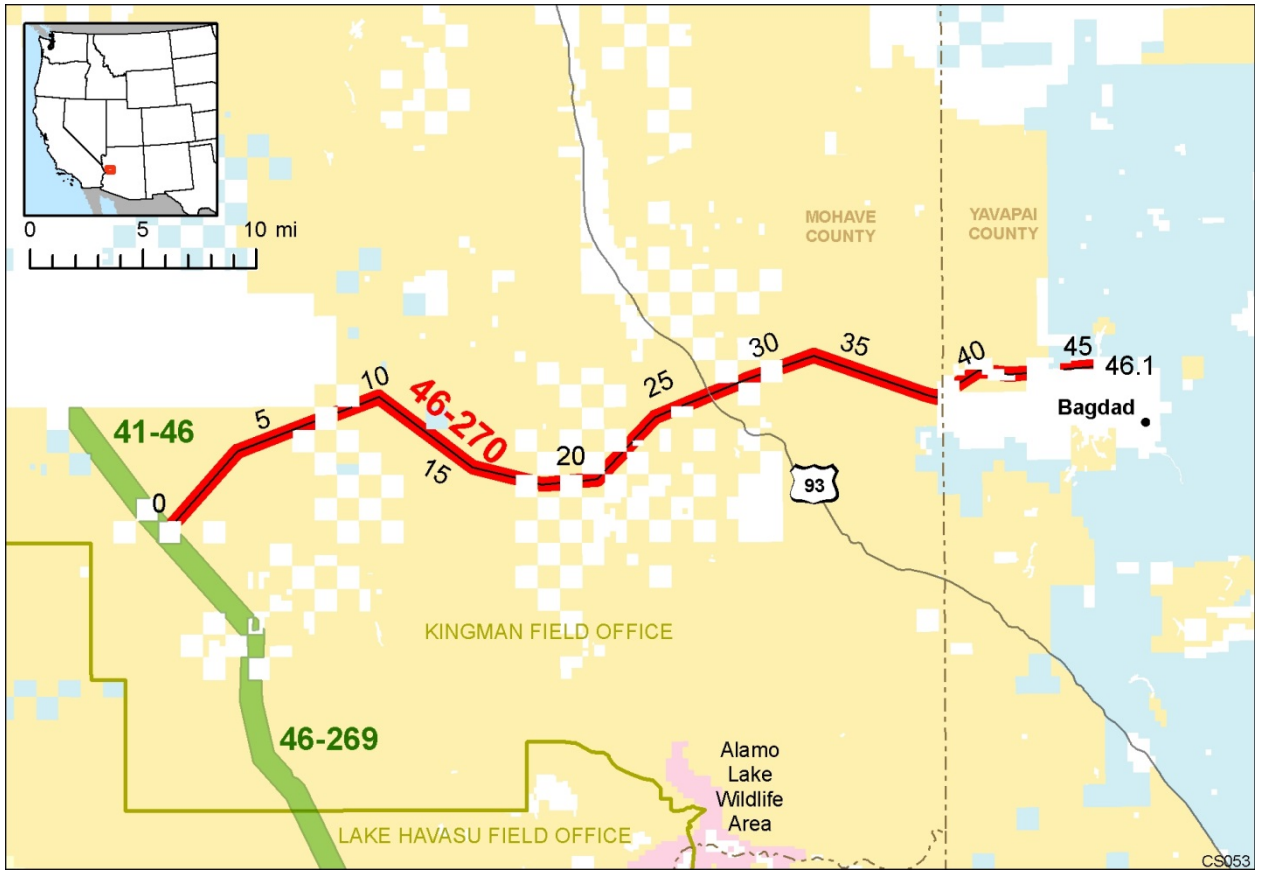
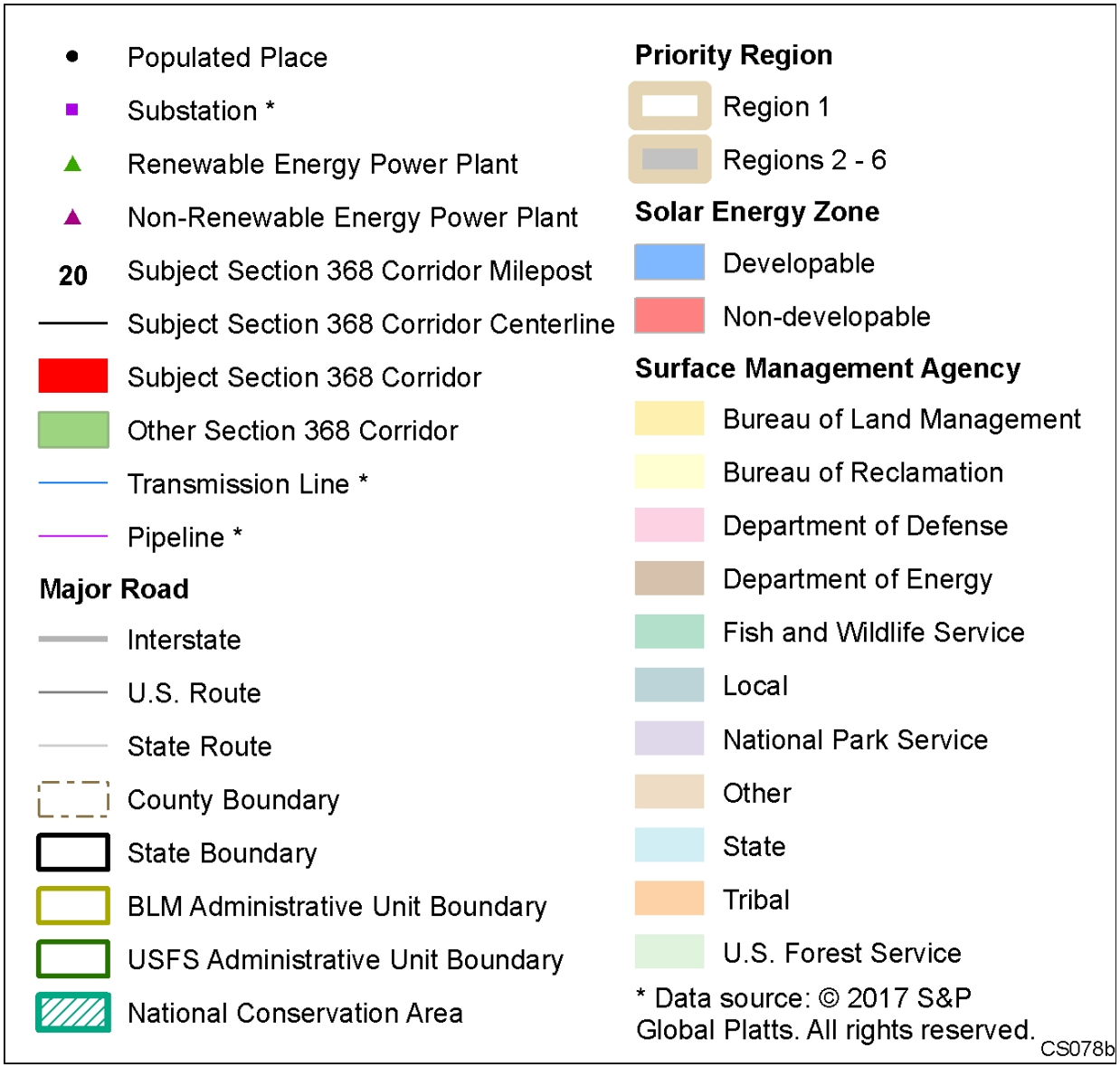


Figure 1. Corridor 46-270


Populated Place
Substation *
Renewable Energy Power Plant
Non-Renewable Energy Power Plant
20
Subject Section 368 Corridor Milepost
Subject Section 368 Corridor Centerline
Subject Section 368 Corridor
Other Section 368 Corridor
Transmission Line *
Pipeline *
Major Road
Interstate
U.S. Route
State Route
County Boundary
State Boundary
BLM Administrative Unit Boundary
USFS Administrative Unit Boundary
National Conservation Area
Priority Region
Region 1
Regions 2 - 6
Solar Energy Zone
Developable
Non-developable
Surface Management Agency
Bureau of Land Management
Bureau of Reclamation
Department of Defense
Department of Energy
Fish and Wildlife Service
Local
National Park Service
Other
State
Tribal
U.S. Forest Service
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Key

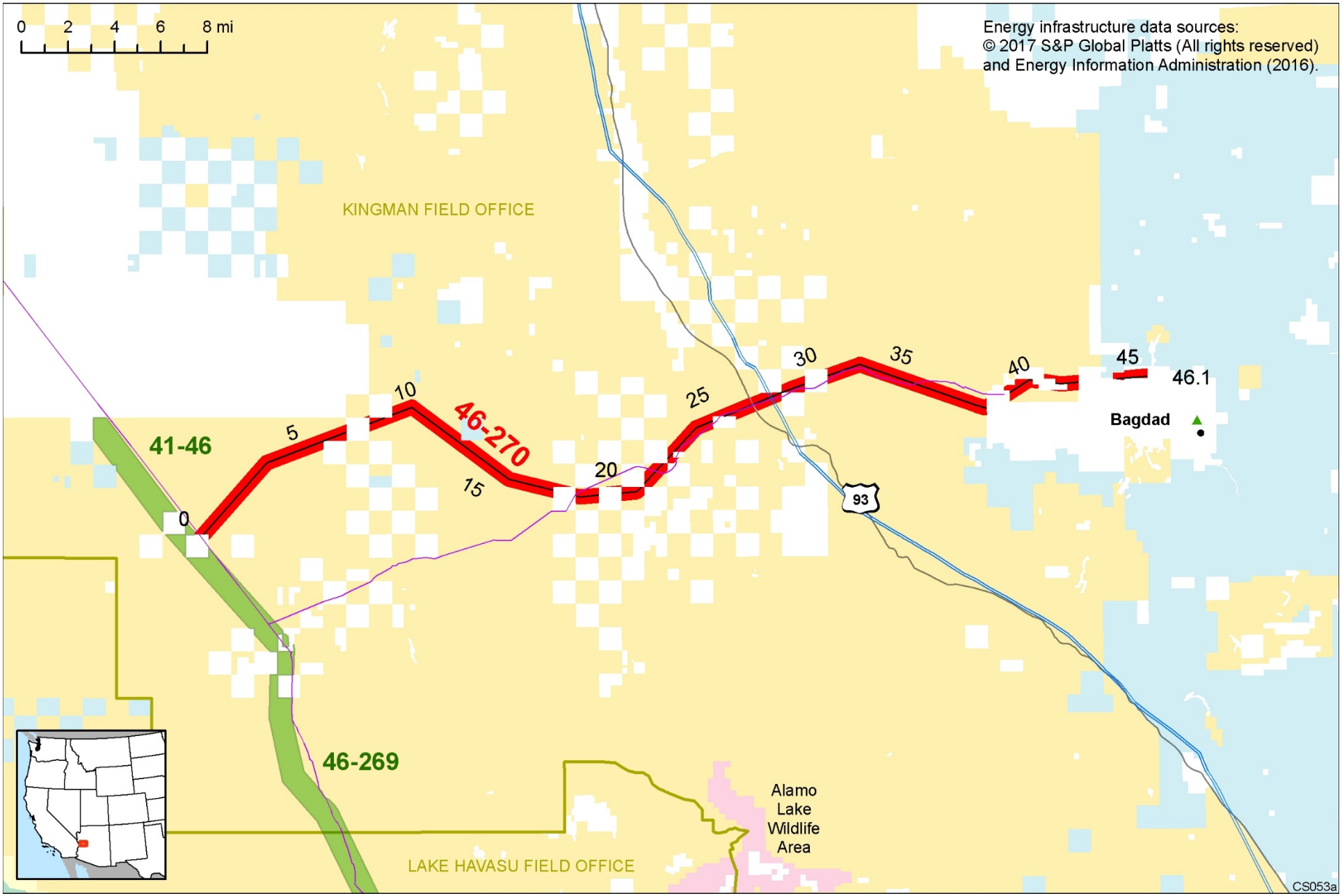

Figure 2. Corridor 46-270, Including Existing Energy Infrastructure

Corridor Rationale

During scoping for the WWEC PEIS, routes generally following this corridor were not suggested. However, the route was locally designated and was added to ensure future electric transmission access to the community of Bagdad, AZ.

Existing Infrastructure: Current approved projects occupying parts of the corridor include an existing low-voltage transmission line in a portion of the corridor. El Paso and Sempra Generation natural gas pipelines intersect the corridor at its starting point, and Unisource Energy Services natural gas pipeline runs through about one-third of the corridor. Existing Western Area Power Administration 345-kV and 500-kV lines (Mead-Phoenix Project) and a substation intersect the corridor, and an Arizona Electric Power Cooperative, Inc., transmission line (69 kV) follows a portion of the corridor.

Potential Future Development: There were no comments received from the Kingman Field Office regarding interest in this corridor during interviews for the Corridor Study. A REDA is located adjacent to the corridor that provides opportunity for the corridor to accommodate transmission tied to renewable energy development.

Corridor of Concern Status

Corridor 46-270 is a corridor of concern. Concerns regarding a Wild and Scenic River and Southwestern Willow Flycatcher Critical Habitat were identified in the Settlement Agreement. These issues are 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 the release of the draft abstracts in September 2016. A GIS view identifying high-,medium-, and low-conflict areas consistent with the screening criteria in 43 CFR 2804.35(a)-(c) have 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 review by Agencies, include jurisdictional concerns, special status species, lands with wilderness characteristics, military aviation concerns, specially designated areas, visual resources, and 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 a Wild and Scenic River, Southwestern Willow Flycatcher Critical Habitat, Sonoran Desert Tortoise Category I and II Habitat, and areas of “Very High" risk to the number and magnitude of flowline crossings. 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 46-270.

Corridor Analysis

The corridor analysis table below identifies concerns affecting Corridor 46-270, 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 46-270 – ANALYSIS TABLE							
ID	**Agency**	**Agency Jurisdiction**	**County**	**Primary Concern/Opportunity**	**Corridor Location (by Milepost [MP])**	**Source: Context**	**Agency Review and Analysis**
ENERGY PLANNING OPPORTUNITIES							
Appropriate and Acceptable Uses							
46-270 .003	BLM	Kingman FO	Mohave, AZ	Substation	MP 28.4	GIS Analysis.	Existing infrastructure does not interfere with use of corridor.
WWEC Purpose							
46-270 .004	BLM	Kingman FO	Mohave and Yavapai, AZ	Renewable-energy potential	Entire corridor	RFI: Could be a pathway to connect with Corridor 41-46 to get energy to Las Vegas or California, but not identified as a priority by Arizona utilities or solar developers.	Opportunity for the corridor to accommodate transmission tied to renewable-energy development.
ENERGY PLANNING CONCERNS							
Corridor Alignment and Spacing							
46-270 .001	BLM	Kingman FO	Mohave, AZ	El Paso and Sempra Generation natural gas pipelines	MP 0	GIS Analysis.	Existing infrastructure crosses corridor but does not affect future use of the corridor. Proposed project siting and collocation alternatives to address impacts would be analyzed as part of

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							the project-specific environmental review required under NEPA and other Federal laws.
46-270 .007	BLM	Kingman FO	Mohave, AZ	Natural gas pipeline	MP 19.0 to MP 36.1	GIS Analysis: natural gas pipeline meanders through a section of the corridor.	Proposed project siting and collocation alternatives to address impacts would be analyzed as part of the project-specific environmental review required under NEPA and other Federal laws.
46-270 .002	BLM	Kingman FO	Mohave, AZ	Arizona Electric Power Cooperative, Inc., 69-kV transmission line	MP 21.4 to MP 32.0	GIS Analysis.	Existing infrastructure within corridor does not affect future use of the corridor. Proposed project siting and collocation alternatives to address impacts would be analyzed as part of the project-specific environmental review required under NEPA and other Federal laws.
46-270 .006	BLM	Kingman FO	Mohave, AZ	Existing infrastructure	MP 22.6 to MP 36.3	GIS Analysis: corridor occupied and crossed by many transmission lines, pipelines, and U.S. Highway 93.	Proposed project siting and collocation alternatives to address impacts would be analyzed as part of the project-specific environmental review required under NEPA and other Federal laws.
LAND MANAGEMENT RESPONSIBILITIES AND ENVIRONMENTAL CONCERNS							
Ecology: Special Status Species							
46-270 .008	BLM	Kingman FO	Mohave, AZ	Sonoran Desert Tortoise Category I and II Management Habitat	MP 7.1 to MP 9.0 and MP 10 to MP 26.9.	RFI: corridor intersects Sonoran Desert Tortoise Category I or II Habitat. Stakeholders recommend rerouting the corridor to avoid siting new facilities in Sonoran Desert Tortoise Category I and II Management Habitat.	Sonoran Desert Tortoise is not listed but is a BLM sensitive species subject to conservation measures. Impacts would be analyzed and mitigated as part of the project-specific environmental review under NEPA and other Federal laws.
46-270 .009	BLM	Kingman FO	Mohave, AZ	Southwestern Willow Flycatcher Critical Habitat	MP 23.8 to MP 24.3	RFI: Reroute to avoid concern. Settlement Agreement. Comment on corridor abstract: minimize avian electrocutions for all above-ground lines.	There does not appear to be a nearby alternative route that would avoid critical habitat while also providing a link with other Section 368 energy corridors in an area with existing

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						GIS Analysis: Southwestern Willow Flycatcher Critical Habitat appears to be along creeks and rivers in the region.	infrastructure. While Southwestern Willow Flycatcher critical habitat crosses the corridor and there are potential impacts on habitat connectivity, there is existing infrastructure in the corridor where it crosses critical habitat. BLM would consult with USFWS under ESA Sec 7(a)(2) if the corridor crosses critical habitat. Impacts would be analyzed and mitigated as part of the project-specific environmental review under NEPA and other Federal laws. BLM would apply its policy on mitigation hierarchy to avoid, minimize, and mitigate impacts.
46-270 .010				Wildlife connectivity	Not specified	RFI: Scored Very High risk to connectivity flowlines across the landscape and High risk to landscape permeability by Defenders of Wildlife. Reroute to avoid "Very High" risk to the number and magnitude of flowline crossings by WWEC segments. Where flowlines must unavoidably be crossed, minimize impacts on connectivity.	There does not appear to be a nearby alternative route that would avoid connectivity habitat while also providing a link with other Section 368 energy corridors in an area with existing infrastructure. Impacts on habitat and habitat connectivity would be analyzed and mitigated as part of the project-specific environmental review required under NEPA and other Federal laws. BLM would apply its policy on mitigation hierarchy to avoid, minimize, and mitigate impacts.
46-207. new1				Arizona Cliffrose habitat	Not specified	A portion of the corridor is located in habitat of the federally listed endangered Arizona Cliffrose.	BLM would consult with USFWS under ESA Section 7(a)(2) if the corridor crosses habitat of the Arizona Cliffrose. Impacts on habitat and habitat connectivity would be analyzed and mitigated as part of the project-specific environmental review required under NEPA and other

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							Federal laws. BLM would apply its policy on use of the mitigation hierarchy to first avoid and then minimize impacts.
Hydrology: Surface Water							
46-270 .012	BLM	Kingman FO	Mohave and Yavapai, AZ	Burro Creek	MP 38.9 to MP 40.0	GIS Analysis: Burro Creek crosses the corridor in an undesignated corridor segment.	Linear ROWs can either span intermittent streams or be buried underneath them.
46-270 .013	BLM	Kingman FO	Yavapai, AZ	Boulder Creek	MP 41.4 to MP 45.8	GIS Analysis.	Linear ROWs can either span intermittent streams or be buried underneath them.
Lands and Realty: Rights-of-Way and General Land Use							
46-270 .014	BLM	Kingman FO	Yavapai, AZ	Land ownership	MP 44.8 to MP 46.1	GIS Analysis: A total of 263 acres originally designated as part of this corridor are no longer on federal land, according to the 5/12/2015 version of Surface Management Agency data.	BLM would consider adjusting the corridor designation in a future land use plan amendment to be consistent with the current jurisdiction, possibly during future project implementation.
Lands and Realty: Military and Civilian Aviation							
46-270 .015	BLM	Kingman FO	Mohave, AZ	Military Training Route – Visual Route	MP 1.6 to MP 17.3 and MP 21.3 to MP 28.2	GIS Analysis.	Adherence to IOP 1 under Project Planning in the WWEC PEIS RODs regarding coordination with DoD would be required.
46-270 .016	BLM	Kingman FO	Mohave and Yavapai, AZ	Military Training Route – Instrument Route (IR)	MP 21 to MP 45	GIS Analysis: military training route (IR-254) with floor of "SURFACE". Potential for an obstruction in airspace used for high-speed, low-altitude military aircraft operations, which presents a potential safety risk.	DoD recommends structures remain below any existing structures. Structures over 200 ft AGL will require further analysis for operational and safety impacts. Adherence to IOP 1 under Project Planning in the WWEC PEIS RODs regarding coordination with DoD would be required.
46-270 .new2	BLM	Kingman FO	Mohave, AZ	Military Training Route – IR	MP 10 to MP 17	Comment on abstract: military training routes (IR-214) (IR-213) with floor of 200 ft AGL. Potential for an obstruction in airspace used for high-speed, low-altitude military aircraft operations,	DoD recommends structures remain below 200 ft AGL. Taller structures will require further analysis for operational and safety impacts. Adherence to IOP 1 under Project Planning in the WWEC PEIS RODs

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						which presents a potential safety risk.	regarding coordination with DoD would be required.
Lands and Realty: Transportation							
46-270 .017	BLM	Kingman FO	Mohave, AZ	U.S. Highway 93	MP 28.0 to MP 28.1	GIS Analysis: U.S. Highway 93 in undesignated corridor segment.	In accordance with BLM ROW regulations, notification to adjacent ROW holders would be provided.
Lands with Wilderness Characteristics							
46-270 .new3	BLM	Kingman FO	Mohave, AZ	Citizens Proposed Wilderness (CPW) units	Aquarius Cliffs: MP 30 to MP 32 Lower Burro Creek: MP 32	Comment on corridor abstract: Corridor overlaps Aquarius Cliffs and Lower Burro Creek, which are CPW units. Transmission and pipeline development in lands with wilderness characteristics is not appropriate, and WWEC should be excluded from these areas. The Agencies should identify lands with wilderness characteristics as a constraint and ensure that their recommendations for corridor revisions, deletions, additions, and mitigation measures address them.	Prior to designating new corridors or prior to conducting surface-disturbing activities in areas of designated corridors or recommended corridor revisions, deletions, or additions, the BLM will be required to follow the procedures outlined in BLM Manual 6310 (Conducting Wilderness Characteristics Inventory on BLM Lands [Public]) and 6320.
Specially Designated Areas							
46-270 .011	BLM	Kingman FO	Mohave, AZ	Wild and Scenic River Eligible Segment: Big Sandy River	MP 23.8 to MP 24.3	Settlement Agreement: A section of river that crosses the corridor is eligible for Wild and Scenic River status (north of Alamo State Park). RFI: Reroute to avoid concern. GIS Analysis.	A segment eligible for Wild and Scenic River status crosses the corridor, but it has not been officially designated by Congress. Designation is possible but not being considered at this time. If designation occurs, a management plan would be developed within 3 years. Existing corridor designations would be a consideration in this planning process.
46-270 .018	BLM	Kingman FO	Mohave and Yavapai, AZ	Burro Creek, Three Rivers, and McCracken ACECs	MP 6.2 to MP 10.0, MP 21.0 to MP 22.3, and MP 38.3 to MP 43.1.	RFI: Intersects Burro Creek, Three Rivers, and McCracken ACECs. The corridor comes	The RMP decision for all three ACECs is that new major ROWS should be confined to existing corridors. Impacts would be analyzed as part of the

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						within 0.3 miles of the Clay Hills ACEC between MP 37 and 38	project-specific environmental review required under NEPA and other Federal laws.
46-270 .019	BLM	Kingman FO	Mohave, AZ	Joshua Forest Scenic Road	MP 28.0	GIS Analysis: Corridor crosses road (also known as US 93) at MP 28. The Arizona Department of Transportation designated the Scenic Road in 1992.	Development is allowed under the RMP in existing designated corridors. Impacts would be analyzed as part of the project-specific environmental review required under NEPA and other Federal laws.
Visual Resources							
46-270 .022	BLM	Kingman FO	Mohave and Yavapai, AZ	VRM Class II	MP 27.1 to MP 29.7, MP 30.1 to MP 30.5, MP38.7 to MP 38.9, and MP 39.7 to MP 40.3	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).
46-270 .021	BLM	Kingman FO	Mohave and Yavapai, AZ	VRM Class III	MP 23.7 to MP 27.1, MP 29.5 to MP 30.5, MP 31.5 to MP 36.8, MP 37.8 to MP 38.8, and MP 44.6 to MP 45.1	GIS Analysis.	
46-270 .020	BLM	Kingman FO	Mohave and Yavapai, AZ	VRM Class IV	MP 0 to MP 23.8, MP 35.9 to MP 38.2, MP 39.8 to MP 43.2, and MP 44.6 to MP 45.1	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 areas of high sensitivity or high impact (VRM MS-8400).

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INTERAGENCY OPERATING PROCEDURES (IOPS, OR BEST MANAGEMENT PRACTICES)							
46-270 .new4				Require IOPs (in consultation with USFWS) to avoid adverse modification to Southwestern Willow Flycatcher critical habitat and ACECs.		RFI.	For Southwestern Willow Flycatcher and its designated critical habitat on the Big Sandy River, BLM would consult with USFWS under ESA Sec 7(a)(2) if the corridor crosses critical habitat. There is an existing IOP that addresses important, sensitive, or unique habitats and BLM special-status, USFS-sensitive, and state-listed species. Resource management plans specify the management prescriptions of individual ACECs.
46-207. new5				Trenching		Comment on corridor abstract: to minimize wildlife becoming entrapped in open pipeline trenches, backfilling should occur close together, reducing open trench time. Avoid leaving trenches open at night; when trenches cannot be immediately backfilled, escape ramps should be constructed at least every 150 ft. 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. Trenching should occur in cooler months (October to March) when wildlife is less active.	Guidance for best management practices for reducing impacts and project approvals would be analyzed as part of the project-specific environmental review required under NEPA and other Federal laws.

Abbreviations: ACEC = Area of Critical Environmental Concern; AGL = above ground level; BLM = Bureau of Land Management; CPW = Citizens' Proposed Wilderness; DoD = Department of Defense; ESA = Endangered Species Act; FO = Field Office; GIS = geographic information system; IOP = Interagency Operating Procedure; MP = milepost; NEPA = National Environmental Policy Act; PEIS = Programmatic Environmental Impact Statement; RFI = Request for Information; RMP = Resource Management Plan;

ROD = Record of Decision; 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