

FINAL



**Environmental Assessment for Fort Hancock
Road Upgrade and Canal Crossing Project
Fort Hancock, Texas**

September 2019



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ENVIRONMENTAL ASSESSMENT
FOR
FORT HANCOCK ROAD UPGRADE AND CANAL CROSSING PROJECT,
FORT HANCOCK, TEXAS
U.S. CUSTOMS AND BORDER PROTECTION, EL PASO SECTOR
U.S. CUSTOMS AND BORDER PROTECTION
DEPARTMENT OF HOMELAND SECURITY
WASHINGTON, D.C.

September 2019

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**FINAL
FINDING OF NO SIGNIFIGANT IMPACT (FONSI)
FORT HANCOCK ROAD UPGRADE AND CANAL CROSSING PROJECT, FORT
HANCOCK, TEXAS**

**U.S. BORDER PATROL, EL PASO SECTOR, TEXAS
U.S. CUSTOMS AND BORDER PROTECTION
DEPARTMENT OF HOMELAND SECURITY
WASHINGTON, D.C.**

INTRODUCTION: U.S. Customs and Border Protection (CBP) plans to upgrade three roads and construct four associated canal crossings in the U.S. Border Patrol (USBP) Fort Hancock Station (FHT) Area of Responsibility (AOR). The Border Patrol Air and Marine Program Management Office (BPAM-PMO) within CBP has prepared an Environmental Assessment (EA). The EA will address the proposed upgrade of the three aforementioned roads and associated canal crossings (Figure 1-1). The BPAM-PMO is preparing this EA on behalf of the USBP Headquarters.

CBP is the law enforcement component of the U.S. Department of Homeland Security (DHS) responsible for securing the border and facilitating lawful international trade and travel. USBP is the uniformed law enforcement subcomponent of CBP responsible for patrolling and securing the border between the land ports of entry.

PROJECT LOCATION: The proposed new tactical infrastructure (TI) is located within the FHT AOR, El Paso Sector, Hudspeth County, Texas (Figure 1-1). The FHT AOR is located approximately 50 miles southeast of El Paso. It covers approximately 2,700 square miles and includes approximately 40 miles along the U.S. – Mexico border paralleling the Rio Grande River. The road corridors are located owned and private lands.

The Start/Stop Coordinates of the three proposed roads to be upgraded are as follows:

Riverside Road - 0.4 mile of road construction, to include construction of two crossovers (Start: N31.36960, W-105.95082; Stop: N 31.365781, W -105.957266) (Figure 1-2).

Rock Bridge Road – 0.8 mile of road construction (Start: N31.086283, W-105.595017; Stop: N31.08195, W-105.601717) (Figure 1-3)

Verduzco’s Road – 0.6 mile of road construction, to include construction of two crossovers (Start: N31.19861, W-105.77193; Stop: N31.19496, W-105.78054) (Figure 1-4).

PURPOSE AND NEED: The purpose of the Proposed Action is to improve mobility and accessibility for USBP Agents responding to illegal cross-border traffic.

The FHT currently has mobility and accessibility issues throughout their AOR. Limited ingress/egress points throughout the AOR and poor road conditions are two major factors that affect response times and limit Agent options when responding to traffic. Access points called

“Crossovers” allow the only passage across a drainage canal that parallels the entire Rio Grande levee in FHT’s AOR. Crossovers are scattered along the levee, which creates extended response times and limited access in the border area.

The need is to provide FHT AOR USBP agents with better access to the Rio Grande levee in order to expedite response time to address illegal cross-border traffic. The improved mobility and accessibility for agents will increase and sustain the certainty of arrest and help deter illegal cross-border activities by improving enforcement capabilities, thus preventing terrorists and terrorist weapons from entering the United States, reducing the flow of illegal drugs, and enhancing agents’ response time, while providing a safer work environment for USBP agents.

ALTERNATIVES: CBP analyzed two alternatives in the EA. Alternative 1 is the No Action Alternative. Under the No Action Alternative, the proposed road upgrades and canal crossings construction would not take place. In the absence of the proposed road and canal construction, the FHT would continue to experience major capability gaps due to limited mobility and accessibility throughout the AOR. Limited ingress/egress points throughout the AOR and poor road conditions would continue to affect agent response times and ability to respond to illegal cross-border traffic. The No Action Alternative does not meet the purpose and need for this project.

Alternative 2 is the Proposed Action. The Proposed Action would include the upgrade of three existing roads from narrow dirt track roads to Functional Classification (FC)-2, 20 to 30-foot wide roads, and the construction of four new canal crossovers within the FHT AOR. The upgrade of the three roads would be executed utilizing a design-bid-build approach. This project also includes the preparation of a road alignment study to determine the best location for a new proposed east –west border patrol road in Zone 39. Zone 39 is the largest zone in FHT consisting of 23.7 border miles.

ENVIRONMENTAL CONSEQUENCES: The Proposed Action would have permanent, negligible impacts on land use. Approximately 7.89 acres would be permanently converted from undeveloped land to law enforcement road, access, or canal crossing. The total acreages of the different land use types to be converted are as follows:

- 5.17 acres of active agricultural fields
- 1.36 acres of Chihuahuan desert scrub
- 0.47 acre of inactive agricultural fields
- 0.39 acre of saltcedar (*Tamarix* sp.) dominated riparian area
- 0.39 acre Bermuda grass (*Cynodon dactylon*) field
- 0.11 acre of cattail (*Typha* sp.)-saltcedar dominated drainage canal

Additionally, approximately 1.93 acres (1.03 acres of Chihuahuan Desert scrub, and 0.5 acre of Rio Grande riparian vegetation, and 0.40 acre of agricultural land) will be temporarily disturbed for use as staging areas for equipment and material.

Temporary, minor impacts would be expected on surface water quality during construction. The withdrawal of water for construction purposes could have a temporary, minor impact on surface

water resources. Long-term, permanent impacts would occur on approximately 1 acre of potentially jurisdictional wetlands; however, these impacts would be addressed during the permitting process. Best management practices (BMPs) and standard construction procedures will be implemented to minimize the potential for erosion and sedimentation during construction.

Minor impacts on soils and vegetative habitat and negligible impacts on wildlife would occur as a result of disturbing 9.82 acres for the road upgrades construction of canal crossing structures. Areas with highly erodible soils would be given special consideration when designing the Proposed Action to ensure incorporation of various BMPs, such as certified weed-free straw bales, aggregate materials, and wetting compounds to decrease erosion. A Stormwater Pollution Prevention Plan (SWPPP) would be prepared prior to construction activities and will include pre- and post-construction measures.

Four Federally listed species have the potential to occur within the project area: northern aplomado falcon (*Falco femoralis septentrionalis*), southwestern willow flycatcher (*Empidonax traillii extimus*), yellow-billed cuckoo (*Coccyzus americanus*), and Rio Grande silvery minnow (*Hybognathus amarus*). The Proposed Action may affect, but is not likely to adversely affect, any of the Federally listed species. No designated critical habitat occurs within the construction footprint. Endangered Species Act (ESA), Section 7 consultation with U.S. Fish and Wildlife Service (USFWS) is ongoing for this project.

No archaeological sites were recorded during surveys of the road corridors and therefore no archaeological sites would be affected by implementation of the Proposed Action.

The architectural/aboveground resources survey noted one previously recorded resource within the survey area of the three road corridors, the Madden Lateral Cemetery (Cemetery ID No. HZ-C005, Atlas No. 7229000505), which was located within the 1-mile search area of the Verduzco's Road Corridor. Construction of the road would not have an adverse effect on the cemetery.

Temporary and minor increases in air emissions would occur during construction of the canal crossing structures and road upgrades, maintenance, and repairs. Air emissions would be below the Federal *de minimis* thresholds for construction, operation, maintenance, and repair activities. Noise level increases associated with construction of the canal crossing structures and road upgrades, maintenance, and repairs would result in temporary, negligible impacts on wildlife within the vicinity of the construction areas.

Construction of the canal crossing structures and road upgrade activities would create a temporary, minor impact on roadways and traffic within the region. The increase of vehicular traffic near each road corridor site would occur during transportation of materials and work crews at each for a short period of time. Construction vehicles and equipment would use established roads with proper flagging and safety precautions.

The Proposed Action would have a long-term, moderate impact on aesthetic qualities within 5 miles or less of road upgrade and canal crossover site. The Proposed Action would not result in exposure of the environment or public to any hazardous materials. None of the sites are located

near residential areas, and all construction activities would strictly adhere to Occupational Safety and Health Administration (OSHA) guidelines. Proper fencing would be installed around the construction site to prevent children or others from entering the construction site. By implementing OSHA guidelines and practicing safe construction habits, no adverse effect relative to environmental justice or protection of children issues would occur.

BEST MANAGEMENT PRACTICES: BMPs were identified for each resource category that could be potentially affected. Many of these measures have been incorporated as standard operating procedures by CBP in similar past projects. The BMPs were also identified in the EA in Section 5.0 Best Management Practices.

FINDING: On the basis of the findings of the EA, which is incorporated by reference, and which has been conducted in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations, and DHS Management Directive, 023-01, Rev. 01, and Instruction Manual 023-01-001-01, Rev. 01., and after careful review of the potential environmental impacts of implementing the proposal, we find that there would be no significant impact on the quality of the human or natural environments, either individually or cumulatively; therefore, there is no requirement to develop an Environmental Impact Statement. Further, we commit to implement BMPs and environmental design measures identified in the EA and supporting documents.

Ntina Kalogeropoulos Cooper
Deputy Executive Director
Strategic Planning and Analysis
U.S. Border Patrol

Date

Eric P. Eldridge
Director
Facilities Management and Engineering

Date

EXECUTIVE SUMMARY

INTRODUCTION

The U.S. Customs and Border Protection (CBP) plans to upgrade three roads and construct four associated canal crossings in the U.S. Border Patrol (USBP) Fort Hancock Station (FHT) Area of Responsibility (AOR). The Border Patrol Air and Marine Program Management Office (BPAM-PMO) within CBP has prepared this Environmental Assessment (EA). The EA will address the proposed upgrade of the three aforementioned roads and associated canal crossings (Figure 1-1). The BPAM-PMO is preparing this EA on behalf of the USBP Headquarters.

CBP is the law enforcement component of U.S. Department of Homeland Security (DHS) responsible for securing the border and facilitating lawful international trade and travel. USBP is the uniformed law enforcement subcomponent of CBP responsible for patrolling and securing the border between the land ports of entry.

PROJECT LOCATION

The proposed new tactical infrastructure (TI) is located within Hudspeth County, Texas in the FHT AOR of USBP El Paso Sector (Figure 1-1). The FHT AOR is located approximately 50 miles southeast of El Paso. It covers approximately 2,700 square miles and includes approximately 40 miles along the U.S. – Mexico border paralleling the Rio Grande River. The road corridors are located predominantly on private lands.

The Start/Stop Coordinates of the three new proposed roads are as follows:

Riverside Road - 0.4 mile of road construction, to include construction of two crossovers (Start: N31.36960, W-105.95082 Stop: N 31.365781, W -105.957266) (Figure 1-2).

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Verduzco's Road – 0.6 mile of road construction, to include construction of two crossovers (Start: N31.19861, W-105.77193 Stop: N31.19496, W-105.78054) (Figure 1-4).

BACKGROUND

The FHT AOR encompasses 2,700 square miles of total area, with over 40 miles along the international border with Mexico paralleling the Rio Grande River. The FHT's main emphasis is line operations along the U.S.- Mexico border.

The FHT currently has major capability gaps due to limited mobility and accessibility throughout the AOR. Transnational Criminal Organizations (TCO's) are aware of these capability gaps, and constantly exploit them. Limited ingress/egress points throughout the AOR and poor road

conditions are the two major factors that affect response times and limit USBP Agent options when responding to traffic. Access points called “Crossovers” allow the only passage across a drainage canal that parallels the entire Rio Grande levee in FHT’s AOR. Crossovers are scattered along the Rio Grande levee, which creates extended response times and limited access in the border area. Response time in some areas is often greater than the adversaries vanishing time. This capability gap is further impacted by the inadequate number of Agents available for line operations. There are no access points within the Zone 39 and Agents currently have to drive to a neighboring zone to gain access to areas within the zone.

PURPOSE OF THE PROPOSED ACTION

The purpose of the Proposed Action is to improve mobility and accessibility for USBP Agents responding to illegal cross-border traffic.

NEED FOR THE PROPOSED ACTION

The need is to provide FHT AOR USBP agents with better access to the Rio Grande levee in order to expedite response time to address illegal cross-border traffic. The improved mobility and accessibility for agents will increase and sustain the certainty of arrest and help deter illegal cross-border activities by improving enforcement capabilities, thus preventing terrorists and terrorist weapons from entering the U.S., reducing the flow of illegal drugs, and enhancing agents’ response time, while providing a safer work environment for USBP agents.

PROPOSED ACTION AND ALTERNATIVES CONSIDERED

CBP analyzed two alternatives in this EA. Under the No Action Alternative (Alternative 1), the proposed road and canal crossings would not take place. The No Action Alternative serves as a basis of comparison to the anticipated effects of the other action alternatives, and its inclusion in the EA is required by NEPA regulations (40 CFR 1502.14(d)). USBP’s ability to detect and interdict cross-border violators would not be enhanced; thus, operational efficiency and effectiveness would not be improved within the area. USBP would continue to rely solely on traditional detection methodology that includes traditional sign detection, which requires both patrolling and dragging of roads. The No Action Alternative does not meet the purpose of and need for this project.

Alternative 2 is the Proposed Action. The proposed project would include the upgrade of three existing roads from narrow dirt tract roads to Functional Classification (FC)-2 standards. This would result in a total of three new unpaved 20 to 30-foot wide roads with aggregate surface material and four canal crossings within the FHT AOR. The road construction footprints would likely extend an additional 5 feet on each side. The delivery of the three new roads will be executed utilizing a design-bid-build approach. This project also includes the preparation of a road alignment study to determine the “best” location for a new proposed east –west border patrol road in Zone 39.

FC-2 roads are unpaved, all-weather roads consisting of a surface of imported aggregate material such as milled bituminous material or processed stone and gravel. These roads are typically 20

to 30 feet wide and are two-lane (Diagram 2-1, Photograph 2-4). Aggregate surface course roads work well for rural, urban, and mountainous areas. No special equipment is required, and construction can be completed using standard equipment such as excavators, graders, and water trucks. The thickness of the aggregate surface will be determined by a civil engineer with geotechnical expertise. The thickness of the aggregate surface course will be placed over prepared subgrade, which could simply be compacted native material, scarified and compacted native material, or possibly imported select material. The subgrade will be stabilized using either cement or lime additives in order to provide a stronger and more durable road base. The type of additive used will depend on the mechanical strength of the subgrade material. Aggregate surface roads require annual inspections with supplemental inspections after storm events. Repairs and maintenance include blading to remove ruts or wash-boarding and placing additional material as needed. The level of maintenance depends upon the use of the road and the impact of drainage conditions on the surface.

New canal crossing structures will consist of in kind bridge designs (of a design the same as or similar to bridges currently in place within the canal system).

AFFECTED ENVIRONMENT AND CONSEQUENCES

The Proposed Action would have permanent, negligible impacts on land use. Approximately 7.89 acres would be permanently converted from undeveloped land to law enforcement road, access, or canal crossing. The total acreages of the different land use types to be converted are as follows:

- 5.17 acres of active agricultural fields
- 1.36 acres of Chihuahuan desert scrub
- 0.47 acre of inactive agricultural fields
- 0.39 acre of saltcedar dominated riparian area
- 0.39 acre Bermuda grass field
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Additionally, approximately 1.93 acres (1.03 acres of Chihuahuan Desert scrub, and 0.5 acre of Rio Grande riparian vegetation, and 0.40 acre of agricultural land) will be temporarily disturbed for use as staging areas for equipment.

Minor impacts on soils and vegetative habitat and negligible impacts on wildlife would occur as a result of disturbing 9.82 acres for the construction or improvement of law enforcement access roads and construction of the canal crossings. Areas with highly erodible soils would be given special consideration when designing the Proposed Action to ensure incorporation of various Best management practices (BMPs), such as straw bales, aggregate materials, and wetting compounds to decrease erosion. A Stormwater Pollution Prevention Plan (SWPPP) would be prepared prior to construction activities and would include pre- and post-construction measures.

Three Federally listed species; northern aplomado falcon (*Falco femoralis septentrionalis*), southwestern willow flycatcher (*Empidonax traillii extimus*), yellow-billed cuckoo (*Coccyzus americanus*), and Rio Grande silvery minnow (*Hybognathus amarus*) have the potential to occur

within the project area. The Proposed Action may affect, but is not likely to adversely affect, any of the Federally listed species. No designated critical habitat occurs within the construction footprint. ESA, Section 7, consultation with United States Fish and Wildlife Service (USFWS) is underway for this project, and is expected to be completed prior to the signing of the FONSI.

No archaeological sites were recorded during surveys of the road corridors and therefore no archaeological sites would be affected by implementation of the Proposed Action.

The architectural/aboveground resources survey noted one previously recorded resource within the survey area of the three road corridors, the Madden Lateral Cemetery (Cemetery ID No. HZ-C005, Atlas No. 7229000505), which was located within the 1-mile search area of the Verduzco's Road Corridor. Construction of the road would not have an adverse effect on the cemetery.

Temporary and minor increases in air emissions would occur during improvement or construction of the law enforcement access roads and construction of the canal crossings. Air emissions would be below the Federal *de minimis* thresholds for construction, operation, maintenance, and repair activities. Noise level increases associated with road improvement or construction and construction, maintenance, and repair of canal crossing structures would result in temporary, negligible impacts on wildlife. Noise levels associated with the operation and inspection and maintenance of the upgraded roads and canal crossing structures would have permanent, negligible impacts on nearby resources.

No demands on utilities would be required as a result of the Proposed Action.

Construction or improvement of law enforcement access roads and construction of canal crossing structures would create a temporary, minor impact on roadways and traffic within the region. The increase of vehicular traffic near road corridor site would occur to transport materials and work crews at each for a short period of time. Road and canal crossing structure maintenance would also require vehicle travel to each site for material, equipment, and personnel delivery. The limited amount of anticipated vehicle trips for road and canal crossing structure maintenance would have a long-term, negligible impact on roadways and traffic. Construction vehicles and equipment would use established roads with proper flagging and safety precautions.

The Proposed Action would have a long-term, moderate impact on aesthetic qualities within 5 miles or less of each road corridor. The Proposed Action would not result in exposure of the environment or public to any hazardous materials. None of the road corridors are located near residential areas, and all construction activities would strictly adhere to Occupational Safety and Health Administration (OSHA) guidelines. Access would be limited to the construction sites to prevent children or others from entering the construction site. By implementing OSHA guidelines and practicing safe construction habits, no effect relative to environmental justice or protection of children issues would occur.

FINDINGS AND CONCLUSIONS

Based upon the analyses of the Environmental Assessment and the BMPs to be implemented, the Proposed Action would not have a significant adverse effect on the environment. Therefore, no further analysis or documentation (i.e., Environmental Impact Statement) is warranted. CBP, in implementing this decision, would employ all practical means to minimize the potential for adverse impacts on the human and natural environments.

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1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

U.S. Customs and Border Protection (CBP) plans to upgrade three roads and construct four associated canal crossings in the U.S. Border Patrol (USBP) Fort Hancock Station (FHT) Area of Responsibility (AOR). The Border Patrol Air and Marine Program Management Office (BPAM-PMO) within CBP has prepared an Environmental Assessment (EA). The EA will address the proposed upgrade of the three aforementioned roads and associated canal crossings (Figure 1-1). The BPAM-PMO is preparing this EA on behalf of the USBP Headquarters.

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1.2 PROJECT LOCATION

The proposed new tactical infrastructure (TI) is located within the FHT AOR, El Paso Sector, Hudspeth County, Texas (Figure 1-1). The FHT AOR is located approximately 50 miles southeast of El Paso. It covers approximately 2,700 square miles and includes approximately 40 miles along the U.S. – Mexico border paralleling the Rio Grande River. The road corridors are located predominantly on private lands.

The Start/Stop Coordinates of the three new proposed roads are as follows:

Riverside Road - 0.4 mile of road construction, to include construction of two crossovers (Start: N31.36960, W-105.95082 Stop: N31.365673, W-105.957414) (Figure 1-2).

Verduzco's Road – 0.9 mile of road construction, to include construction of two crossovers (Start: N31.19861, W-105.77193 Stop: N31.19496, W-105.78054) (Figure 1-3).

Rock Bridge Road – 0.8 mile of road construction (Start: N31.086283, W-105.595017 Stop: N31.08195, W-105.601717) (Figure 1-4).

1.3 PURPOSE OF THE PROPOSED ACTION

The purpose of the Proposed Action is to improve mobility and accessibility for USBP Agents responding to illegal cross-border traffic.

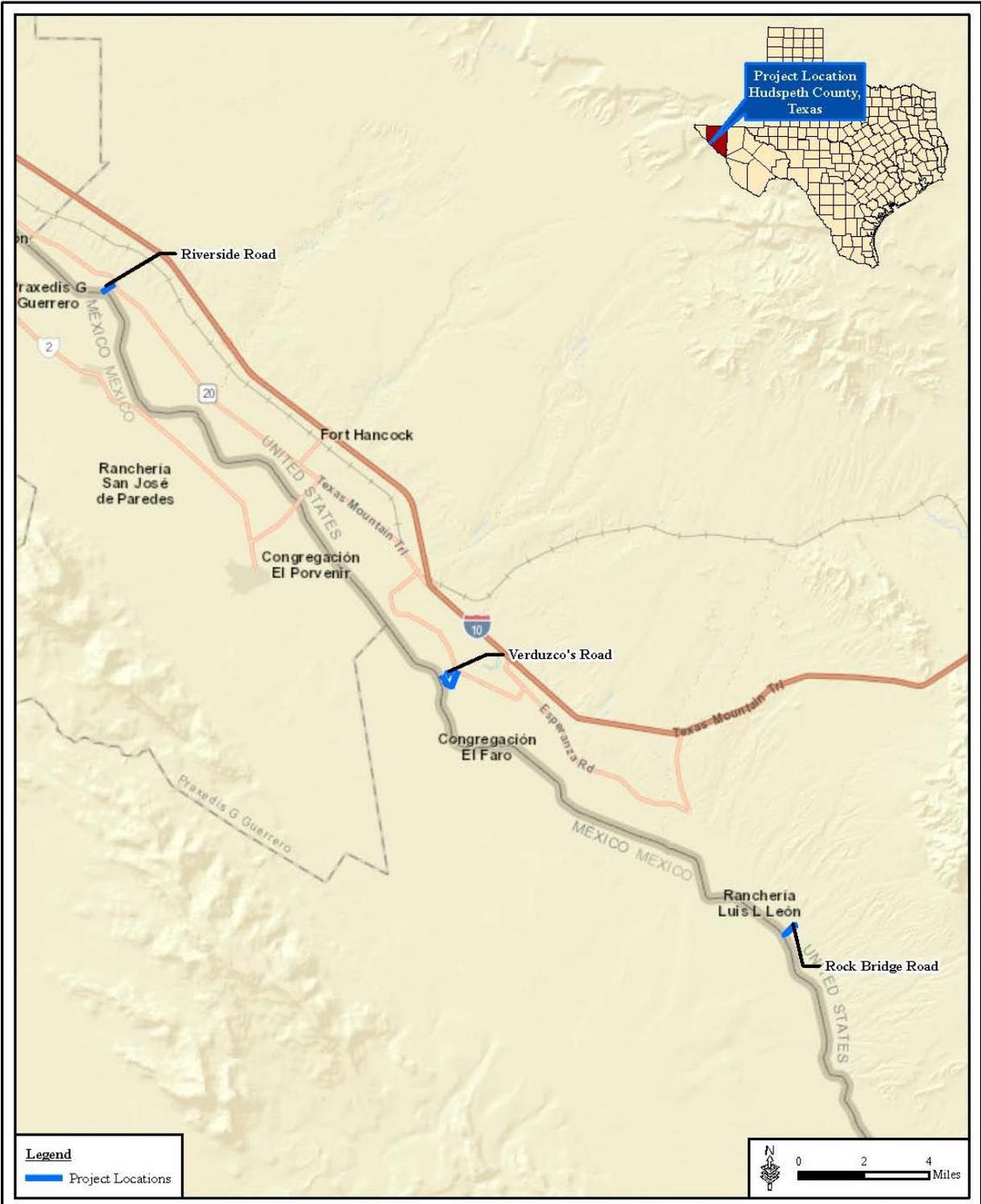


Figure 1-1. Project Location Map





Figure 1-2. Riverside Road Project Area



Figure 1-3. Verduzco's Road Project Area

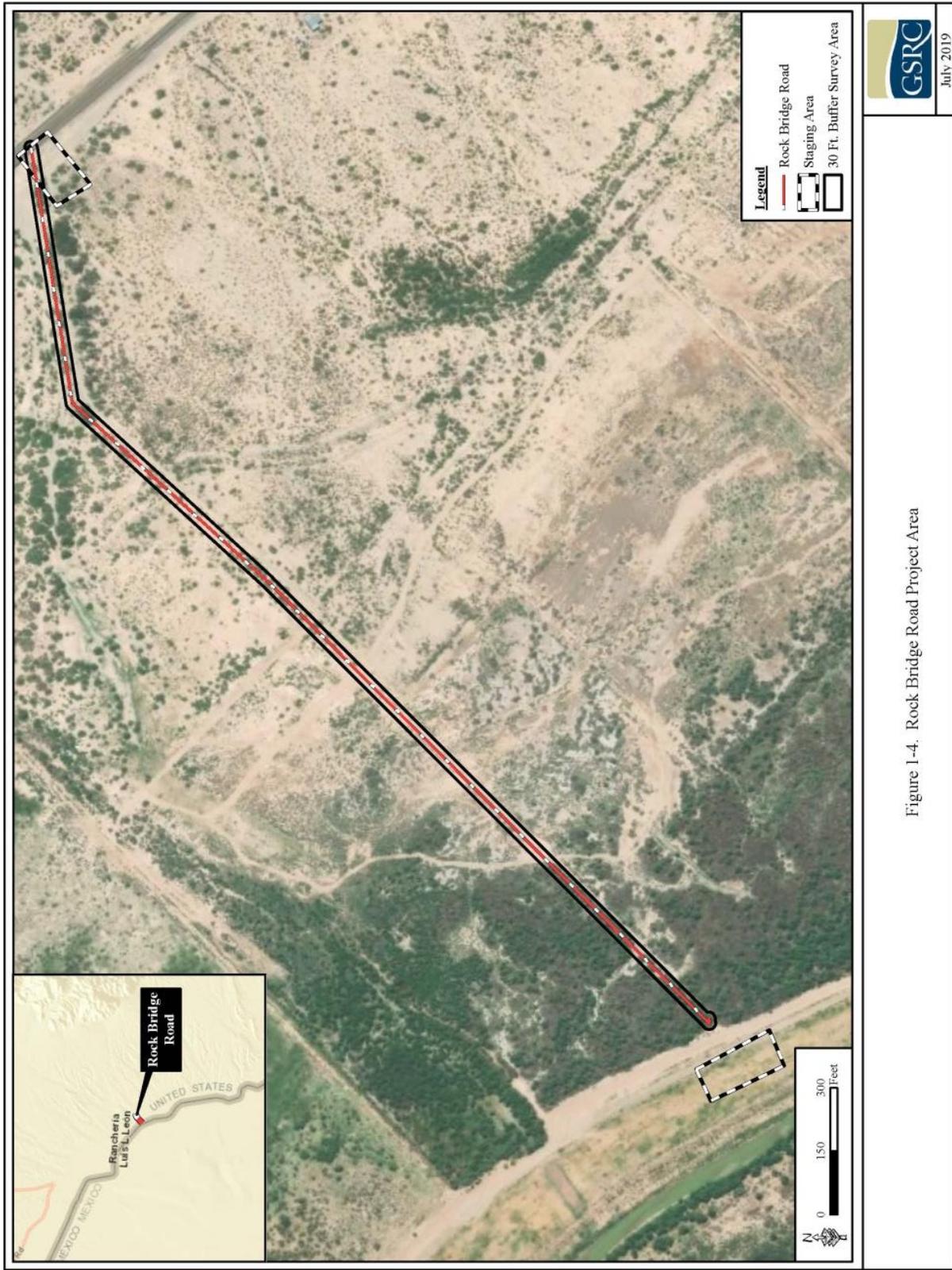


Figure 1-4. Rock Bridge Road Project Area

1.4 NEED FOR THE PROPOSED ACTION

The need is to provide FHT AOR USBP agents with better access to the Rio Grande levee in order to expedite response time to address illegal cross-border traffic. The improved mobility and accessibility for agents will increase and sustain the certainty of arrest and help deter illegal cross-border activities by improving enforcement capabilities, thus preventing terrorists and terrorist weapons from entering the U.S., reducing the flow of illegal drugs, and enhancing agents' response time, while providing a safer work environment for USBP agents.

1.5 SCOPE OF ENVIRONMENTAL ANALYSIS AND DECISIONS TO BE MADE

The scope of the EA will include the direct, indirect, and cumulative effects on the natural, social, economic, and physical environments resulting from the construction, installation and maintenance of three upgraded roads and four new canal crossings within FHT's AOR (see Figure 1-1).

The EA briefly provides sufficient evidence and analysis for determining whether to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI). The EA will allow decision makers to determine if the Proposed Action will or will not have a significant impact on the natural, social, economic, and physical environments, as well as whether the action can proceed to the next phase of project development or if an EIS is required. The process for developing the EA also allows for input and comments on the Proposed Action from the concerned public and interested government agencies to inform agency decision making. The EA has been prepared as follows:

1. Conduct interagency and intergovernmental coordination for environmental planning. The first step in the National Environmental Policy Act (NEPA) process is to solicit comments from Federal, state, and local agencies and Federally recognized tribes about the proposed project to ensure that their concerns are included in the analysis.
2. Prepare a draft EA. CBP will review and address relevant comments and concerns received from Federal, state, and local agencies or Federally recognized tribes during preparation of the draft EA.
3. Announce that the draft EA has been prepared. A Notice of Availability (NOA) will be published in the *Hudspeth Herald*, *El Paso Times*, and *The El Paso Herald-Post* to announce the public comment period and the availability of the draft EA and FONSI, if appropriate.
4. Provide a public comment period. A public comment period allows for all interested parties to review the analysis presented in the draft EA and provide feedback. The draft EA will be available to the public for a 30-day review at the Fort Hancock Public Library with branches located at 101 W School Drive and at 460 Knox Avenue starting in July of 2019. The draft EA will be available for download from the CBP internet web page at the following URL address: <http://www.cbp.gov/about/environmental-cultural-stewardship/nepa-documents/docs-review>.

5. Prepare a final EA. A final EA will be prepared following the public comment period. The final EA will incorporate relevant comments and concerns received from all interested parties during the public comment period. The published NOAs, as well as the comments received during the public comment period and CBP's responses to those comments will be provided in Appendix A of the final EA.
6. Issue a Finding of No Significant Impact (FONSI). The final step in the NEPA process is the signature of a FONSI, if the environmental analysis supports the conclusion that impacts on the quality of the human and natural environments from implementing the Proposed Action will not be significant. In this case, no EIS would be prepared. The Final EA and signed FONSI will be distributed to Federal, state, and local agencies or Federally recognized tribes.

1.6 ENVIRONMENTAL REVIEW AND CONSULTATION REQUIREMENTS

CBP will follow applicable Federal laws and regulations. The EA is developed in accordance with the requirements of NEPA, regulations issued by the Council on Environmental Quality (CEQ) published in 40 Code of Federal Regulations (CFR) Parts 1500-1508, and DHS Directive Number 023-01, Rev. 01, and Instruction Manual 023-01-001-01, Rev. 01; *Implementation of the National Environmental Policy Act* and other pertinent environmental statutes, regulations, and compliance requirements. The EA will be the vehicle for verifying compliance with all applicable environmental statutes, such as the Endangered Species Act (ESA) of 1973, 16 United States Code (U.S.C.) Part §1531 et seq., as amended, the National Historic Preservation Act (NHPA) of 1966, 16 U.S.C. §470a et seq., as amended.

1.7 PUBLIC INVOLVEMENT

In accordance with 40 CFR §1501.7, 1503, and 1506.6, BPAM-PMO initiated public involvement and agency scoping activities to identify significant issues related to the Proposed Action. BPAM-PMO is consulting, and will continue to consult, with appropriate local, state, and Federal government agencies, as well as Federally recognized tribes, throughout the EA process. BPAM-PMO has coordinated with the following agencies and Federally recognized tribes (Appendix A):

Federal Agencies:

- U.S. Fish and Wildlife Service (USFWS)
- U.S. Environmental Protection Agency (USEPA)
- U.S. Army Corps of Engineers (USACE)
- International Boundary and Water Commission, U.S. Section (USIBWC)
- Federal Aviation Administration (FAA)
- National Telecommunications and Information Administration (NTIA)

State Agencies:

- Texas Parks and Wildlife Department (TPWD)
- Texas State Historic Preservation Officer (SHPO)
- Texas Historical Commission (THC)
- Texas Department of Transportation (TxDOT)
- Texas Commission on Environmental Quality (TCEQ)

Native American Tribes:

- Comanche Indian Tribe
- Fort Sill Apache
- Isleta Pueblo
- Kiowa Tribe
- Ysleta del Sur Pueblo (Tigua)
- Mescalero Apache Tribe
- White Mountain Apache Tribe
- Alabama-Coushatta Tribe of Texas

County:

- Hudspeth

2.0 PROPOSED ACTION AND ALTERNATIVES

The proposed action would include the upgrade of three existing roads from narrow dirt track roads to FC-2, 20 to 30-foot wide roads, and the construction of four new canal crossings within the FHT AOR. The upgrade of the three roads would be executed utilizing a design-bid-build approach. This project also includes the preparation of a road alignment study to determine the best location for a new proposed east –west border patrol road in Zone 39.

As required by NEPA and CEQ regulations, the No Action Alternative reflects conditions within the project area should the Proposed Action not be implemented. The following paragraphs describe the site selection process.

2.1 CRITERIA FOR SITE SELECTION

CEQ's *Regulations for Implementing the Procedural Provisions of NEPA* (40 CFR Parts 1500–1508) (CEQ 2005) require that agencies rigorously explore and objectively evaluate reasonable alternatives. Only those alternatives determined to be reasonable (i.e., practical or feasible from a technical and economic standpoint) and that meet the project's purpose and need require detailed analysis.

Alternatives were identified by evaluating the ability of each alternative to meet the purpose of and need for the Proposed Action and the following screening factors:

- Proximity to existing roads
- Basic site conditions such as the terrain, soil type, drainage, available space, and slope of the site
- Proximity to sensitive biological and cultural resources, waters of the United States, floodplains, and wetlands
- Ability to acquire rights to the land via fee title or easement
- Ability to meet USBP's mission

Representative site conditions at each proposed construction area are shown in Photographs 2-1 through 2-3.

CBP carried forward one alternative for further evaluation because it was the only alternative that meets the purpose of and need for the Proposed Action, as well as the screening factors. The No Action Alternative does not meet the purpose of or need for the Proposed Action, but is carried forward for analysis as required under the CEQ regulations (40 CFR §15 1502.14[d]).



Photograph 2-1. Representative site conditions at the Riverside Road construction area



Photograph 2-2. Representative site conditions at the Rock Bridge Road construction area



Photograph 2-3. Representative site conditions at the Verduzco’s Road construction area

2.2 PROPOSED ACTION

The Proposed Action consists of the upgrading of a total of three existing, unimproved dirt track roads to FC-2, 20 to 30-foot wide roads to include four canal crossovers within the FHT AOR. The road construction footprints would likely extend an additional 5 feet on each side. This project also includes the preparation of a road alignment study to determine the “best” location for a new proposed east –west border patrol road in Zone 39. The delivery of the three road upgrades and canal crossings will be executed utilizing a design-bid-build approach.

All aspects of road and canal crossing construction and structures will conform to those outlined in the *Department of Homeland Security Customs and Border Protection Facilities & Engineering Border Patrol Facilities & Tactical Infrastructure Tactical Infrastructure Design Standards - 2012*.

FC-2 roads are unpaved, all-weather roads consisting of a surface of imported aggregate material such as milled bituminous material or processed stone and gravel. These roads are typically 20 to 30 feet wide and are two-lane (Diagram 2-1, Photograph 2-4). Aggregate surface course roads work well for rural, urban, and mountainous areas. No special equipment is required, and construction can be completed using standard equipment such as excavators, graders, and water trucks. The thickness of the aggregate surface would be determined by a civil engineer with geotechnical expertise. The aggregate surface course would be placed over prepared subgrade, which could simply be compacted native material, scarified and compacted native material, or possibly imported select material. The subgrade will be stabilized using either cement or lime additives in order to provide a stronger and more durable road base.

FC 2 – All-Weather Roads

The proposed all weather road facility consists of two (2) 3.6 m (12 ft) travel lanes at a 4% cross slope. The proposed section consists of 150 mm (6 in) of compacted aggregate base. Parallel ditches with a 1V:3H front slope and a 1V:4H back slope are proposed to provide proper drainage. Existing FC 2 roadways may vary from proposed roadway specifications.

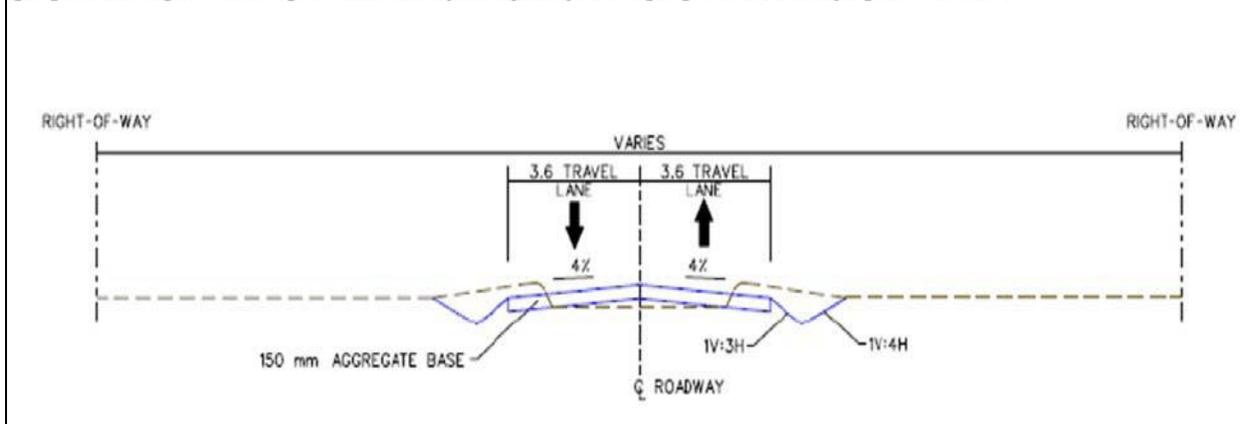


Diagram 2-1. Components of a FC-2 all-weather road (Diagram provided by CBP)



Photograph 2-4. Example of FC-2 all-weather road (Photograph provided by CBP)

The type of additive used will depend on the mechanical strength of the subgrade material. Aggregate surface roads require annual inspections with supplemental inspections after storm events. Repairs and maintenance include blading to remove ruts or wash-boarding and placing

additional material as needed. The level of maintenance depends upon the use of the road and the impact of drainage conditions on the road surface.

Canal crossing structures will conform to the American Association of State Highway and Transportation Officials (AASHTO) *Standard Specifications for Highway Bridges, 17th Edition – 2002*. Potential canal crossing structure types include: Bailey trussed bridge (Figure 2-5), prestressed box beambridge, and concrete slab bridge. When selecting a crossing type, CBP will produce a bridge design selection report, which will discuss and evaluate at least two superstructure alternatives and two sub-structure alternatives. The evaluation will include such items as the ability to meet operational need, material availability, constructability, and immediate and life cycle costs. Once the type of crossing structure is selected, CBP will follow industry standards for production of bridge plans, details, specifications, and cost estimating. The type of bridge selected may influence on the attractiveness of the bridge structure to nesting birds and on their impacts to other aspects of the environment such as floodplains and waters of the U.S. Additional NEPA analysis may be appropriate when considering which designs will be followed at each crossover location.



**Photograph 2-5. Example of in kind bridge serving as a canal crossing structure
(Photograph provided by CBP)**

Equipment and materials needed for the road upgrades and construction of the canal crossing structures will be stockpiled in temporary staging and laydown areas. CBP will locate staging and laydown areas within the construction area footprints, in previously disturbed areas if possible. The ground surface within the designated staging areas will be cleared, grubbed, and sealed. Equipment staging and laydown areas will be located in upland areas to avoid contamination of natural aquatic and wetland systems with stormwater runoff. A stormwater

pollution prevention plan (SWPPP) will be developed and implemented to ensure that contamination of surrounding areas from the staging and laydown areas is prevented or mitigated. The SWPPP will describe best management practices (BMPs) including the deployment of secondary containment such as drip pans under equipment and certified weed-free straw wattles or earthen berms around material stockpiles to prevent immigration of contaminants from the staging and laydown areas into the surrounding landscape.

The proposed road upgrades and canal crossing construction is estimated to be complete in February 2020.

The following is a list of heavy equipment and vehicles expected to be used during each phase of road improvement and canal crossing structure construction:

- Front-end loader or equivalent
- Drill rig
- Excavator
- Post hole digger
- Water truck
- Crane
- Bulldozer
- Concrete trucks
- Dump trucks
- Flatbed delivery trucks
- Crew trucks

The total time for all phases of construction, including inspection and operational testing of canal crossing structures, for each proposed road corridor is expected to be approximately 270 to 365 days. All construction would be restricted to daylight hours to the greatest extent practicable.

2.3 NO ACTION ALTERNATIVE

The No Action Alternative serves as a basis of comparison to the anticipated effects of the other action alternatives, and its inclusion in the EA is required by NEPA regulations (40 CFR 1502.14(d)). Under the No Action Alternative, the proposed road upgrades and canal crossings would not take place. In the absence of the proposed road upgrades and canal construction, the FHT would continue to experience major capability gaps due to limited mobility and accessibility throughout the AOR. Limited ingress/egress points throughout the AOR and poor road conditions would continue to affect Agent response times and ability to respond to illegal cross-border traffic.

2.4 ALTERNATIVES SUMMARY

The two alternatives selected for further analysis are the Proposed Action and the No Action Alternative. The Proposed Action is CBP's preferred alternative for the proposed project. It fully meets the purpose of and need for the project, and the selected road sites offer the best combination based on the selection criteria (accessibility, operability, constructability, and

environmental constraints). An evaluation of how the Proposed Action meets the project’s purpose and need is provided in Table 2-1.

Table 2-1. Alternatives Matrix of Purpose of and Need for Alternatives

Purpose and Need	Proposed Action	No Action Alternative
Provide improved surveillance and detection capabilities that facilitate rapid response	Yes	No
Provide more efficient and effective means of assessing cross-border activities	Yes	No
Provide rapid detection and accurate characterization of potential threats	Yes	No
Provide coordinated deployment of resources in the apprehension of illegal aliens	Yes	No
Increase surveillance and interdiction efficiency	Yes	No
Enhance the deterrence of illegal cross-border activity	Yes	No
Enhance agent safety	Yes	No

3.0 AFFECTED ENVIRONMENT AND CONSEQUENCES

3.1 PRELIMINARY IMPACT SCOPING

This section describes the natural and human environments that exist within the region of influence (ROI) and the potential impacts of the No Action Alternative and Proposed Action Alternative outlined in Section 2.0 of this document. The ROI for the road upgrades and canal crossing structure construction is the FHT AOR in Hudspeth County, Texas. These road corridors are located on private lands. Only those issues that have the potential to be affected by any of the alternatives are described, per CEQ guidance (40 CFR § 1501.7 [3]).

Some topics are limited in scope due to the lack of direct effect from the Proposed Action on the resource or because that particular resource is not located within the project corridor (Table 3-1).

Table 3-1. Resources Analyzed in the Environmental Impact Analysis Process

Resource	Potential to Be Affected by Implementation of Proposed Action Alternative	Analyzed in This EA	Rationale for Elimination
Wild and Scenic Rivers	No	No	No rivers designated as Wild and Scenic Rivers (16 U.S.C. § 551, 1278[c], 1281[d]) are located within or near the project corridor.
Land Use	Yes	Yes	Not Applicable
Geology	No	No	No geologic resources would be affected.
Soils	Yes	Yes	Not Applicable
Prime Farmlands	Yes	Yes	Not Applicable
Water Resources	Yes	Yes	Not Applicable
Floodplains	Yes	Yes	Not Applicable
Vegetative Habitat	Yes	Yes	Not Applicable
Wildlife Resources	Yes	Yes	Not Applicable
Threatened and Endangered Species	Yes	Yes	Not Applicable
Cultural, Archaeological, and Historical Resources	Yes	Yes	Not Applicable
Air Quality	Yes	Yes	Not Applicable
Noise	Yes	Yes	Not Applicable
Utilities and Infrastructure	Yes	Yes	Not Applicable
Radio Frequency Environment	Yes	Yes	Not Applicable
Roadways and Traffic	Yes	Yes	Not Applicable
Aesthetic and Visual Resources	Yes	Yes	Not Applicable

Resource	Potential to Be Affected by Implementation of Proposed Action Alternative	Analyzed in This EA	Rationale for Elimination
Hazardous Materials	Yes	Yes	Not Applicable
Unique and Sensitive Areas	Yes	Yes	Not Applicable
Socioeconomics	No	Yes	Not Applicable
Environmental Justice and Protection of Children	No	Yes	Not Applicable

Impacts (consequence or effect) can be either beneficial or adverse and can be either directly related to the action or indirectly caused by the action. Direct effects are caused by the action and occur at the same time and place (40 CFR § 1508.8[a]). Indirect effects are caused by the action and are later in time or further removed in distance but that are still reasonably foreseeable (40 CFR § 1508.8[b]). As discussed in this section, the alternatives may create temporary (lasting the duration of the project), short-term (up to 3 years), long-term (3 to 10 years following construction), or permanent effects.

Whether an impact is significant depends on the context in which the impact occurs and the intensity of the impact (40 CFR § 1508.27). The context refers to the setting in which the impact occurs and may include society as a whole, the affected region, the affected interests, and the locality. Impacts on each resource can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. For the purpose of this analysis, the intensity of impacts would be classified as negligible, minor, moderate, or major. The intensity thresholds are defined as follows:

- **Negligible:** A resource would not be affected or the effects would be at or below the level of detection, and changes would not be of any measurable or perceptible consequence.
- **Minor:** Effects on a resource would be detectable, although the effects would be localized, small, and of little consequence to the sustainability of the resource. Mitigation measures, if needed to offset adverse effects, would be simple and achievable.
- **Moderate:** Effects on a resource would be readily detectable, long-term, localized, and measurable. Mitigation measures, if needed to offset adverse effects, would be extensive and likely achievable.
- **Major:** Effects on a resource would be obvious and long-term, and would have substantial consequences on a regional scale. Mitigation measures to offset the adverse effects would be required and extensive, and success of the mitigation measures would not be guaranteed.

The following discussions describe and, where possible, quantify the potential effects of each alternative on the resources within or near the project area. Each road corridor will be upgraded from its existing width to a width of approximately 30 feet. The estimated impact footprint for each road corridor is provided in Table 3-2.

Table 3-2. Estimated Impact Footprint (Acres) for the FHT AOR Road Upgrades

Riverside Rd	
<i>Road corridor (Permanent Impacts)</i>	
Active agricultural fields	1.93
Cattail-Saltcedar dominated manmade drainage canal	0.11
<i>Staging areas (Temporary Impacts)</i>	
Active agricultural fields	0.68
Total	2.72
Verduzco's Rd	
<i>Road corridor (Permanent Impacts)</i>	
Active agricultural fields	3.6
<i>Staging areas (Temporary Impacts)</i>	
Active agricultural fields	0.53
Total	4.13
Rock Bridge Rd	
<i>Road corridor (Permanent Impacts)</i>	
Inactive agricultural fields	0.83
Chihuahuan desert scrub	1.03
Saltcedar dominated riparian area	0.39
<i>Staging areas (Temporary Impacts)</i>	
Chihuahuan desert scrub	0.33
Bermuda grass field	0.39
Total	2.97

3.2 LAND USE

The Project Area is located within the Fort Hancock census-designated place (CDP). The Fort Hancock CDP is located in Hudspeth County, Texas approximately 52 miles southeast of El Paso, Texas. Hudspeth County encompasses approximately 4,566 square miles (2,922,240 acres). Most of this land (3,527 square miles [2,257,280 acres]) is farm land (TxDOT 2013). The predominant form of agriculture in Hudspeth County is livestock ranching (Sloan 2005). A total of 167 farms are located within Hudspeth County, with 83 percent (139) of those being classified as rangeland for cattle (U.S. Department of Agriculture [USDA] 2012).

The Fort Hancock CDP occupies approximately 37.65 square miles (roughly 24,103 acres) (Pena et al. 2005). The area distribution of the recognized land use types within Fort Hancock CDP are summarized in Table 3-3. The land use practices within and adjacent to the road footprints are summarized in Table 3-4.

Table 3-3. Estimated Distribution of Land Use Practices in the Fort Hancock CDP

Land Use Type	Acres	Percentage of Fort Hancock CDP
Open Space	5,066.58	18
Resources Protection (land designated for agriculture)	11,721.83	43
Rural	3,885.08	14
Urban	3,429.58	12
Residential	3,357.62	12
General Service	37.13	0.001
Public Use	20.66	0.0007
Neighborhood Service	1.96	0.0001
Cemeteries and Churches	6.40	0.0002
Total Area	27,526.84	100

From: Pena et al. 2005

Table 3-4. Proposed Road Location Ownership and Land Use

Road ID	Land Ownership Type	Land Use
Riverside Road	Private	Rangeland/Undeveloped
Verduzco's Road	Private	Rangeland/Undeveloped
Rock Bridge Road	Private	Scrubland/Undeveloped

3.2.1 Alternative 1: No Action Alternative

Under the No Action Alternative, no direct impacts on land use would occur. Under the No Action Alternative, the proposed road upgrades and canal crossing construction would not take place, and the FHT would continue to experience major capability gaps due to limited mobility and accessibility throughout the AOR.

3.2.2 Alternative 2: Proposed Action

The Proposed Action would have permanent, negligible impacts on land use. Approximately 7.89 acres would be permanently converted from undeveloped or agricultural land to law enforcement road, access, or canal crossing structure to a developed land use as a result of access road maintenance and repair activities. Further, approximately 1.93 acres would be temporarily disturbed as a result of the establishment of staging areas for material and equipment during the duration of the construction process. The direct impact from the conversion of approximately 7.89 acres of undeveloped or agricultural land to law enforcement infrastructure would be minimal to moderate due to the small size of the project footprint relative to the size of the ROI.

3.3 SOILS AND PRIME FARMLAND

There are four soil types associated with the road upgrade and canal crossing construction areas. Each of these soil types are described in Table 3-5. The Farmland Protection Policy Act of 1980 and 1995 was established to preserve the Nation’s farmland. In Section 7 of the CFR Part 657.5, prime farmlands are defined as having the best combinations of physical and chemical properties to be able to produce fiber, animal feed, and food, and are available for these uses. None of the four soil types are considered prime farmland.

Table 3-5. Soil Types

Road and Crossing ID	Dominant Soil Unit Mapped & Description	Percent of Footprint
Riverside Road	Belen, Glendale, and Poptosa soils, 0 to 1% slope (BGA) – Areas of this soil are very deep, and well-drained that formed in clayey alluvium of old oxbow lakes that are underlain by loamy alluvium several feet thick. These soils typically occur on nearly level floodplains of major streams at elevations of 3,000 to 5,000 feet.	100
Verduzcos Road	BGA – Areas of this soil are very deep, and well-drained that formed in clayey alluvium of old oxbow lakes that are underlain by loamy alluvium several feet thick. These soils typically occur on nearly level floodplains of major streams at elevations of 3,000 to 5,000 feet.	100
Rock Bridge Road	Castolo, Gadsen, and Lomapelona soils, 0 to 1% slopes, occasionally flooded (CBA)	62.9
	Pantera-Riverwash complex, 0 to 2% slopes, frequently flooded (PRA)	23
	Changas-Corazones complex, 1 to 30% slopes (CBA)	8.1
	Tornillo very fine sandy loam, 0 to 2% slopes, rarely flooded (TOA)	6

3.3.1 Alternative 1: No Action Alternative

No ground-disturbing activities would occur as a result of this alternative. Therefore, the No Action Alternative would have no direct impacts, either beneficial or adverse, on soils, including prime farmland soils. Under the No Action Alternative, USBP’s detection and threat classification capabilities would not be enhanced and operational efficiency would not be improved within the FTH AOR. Potential indirect benefits associated with the Proposed Action would not be realized under the No Action Alternative.

3.3.2 Alternative 2: Proposed Action

Under the Proposed Action, approximately 7.89 acres of soils (none of which are considered prime farmland soils) would be permanently disturbed or removed from biological production from construction of roads and associated canal crossings. Further, approximately 1.93 acre would be temporarily disturbed as a result of the staging and laydown areas. The direct impact from the disturbance and removal from biological production of approximately 7.89 acres of soil would be negligible due to the small size of the project footprint relative to the amount of the

same soils throughout the ROI. Upon completion of construction, all temporary disturbance areas would be revegetated with a mixture of native plant seeds or nursery plantings or allowed to revegetate naturally.

3.4 VEGETATIVE HABITAT

The project area is located within the Chihuahuan Basins and Playas Ecoregion of west Texas (Griffith et al. 2007). This ecoregion historically contained flora adapted to the large ranges in seasonal and daily temperatures, low moisture availability, and extremely high evapotranspiration rate characteristic of habitats within the Chihuahuan Desert as well as highly saline soil conditions of the soils within the playas and basins of this ecoregion (Griffith et al. 2007). Typical floral species of Chihuahuan basin and playa habitats include: creosote bush (*Larrea tridentata*), tarbush (*Florenzia cernua*), ocotilla (*Fouquieria splendens*), catclaw acacia (*Senegalia greggii*), whitethorn acacia (*Vachellia wrightii*), viscid acacia (*Acacia neovernicosa*), mariola (*Parthenium incanum*), range ratany (*Krameria erecta*), honey mesquite (*Prosopis glandulosa*), feather dalea (*Dalea formosa*), skeletonleaf goldeneye (*Viguiera stenoloba*), allthorn (*Koeberlinia spinosa*), catclaw mimosa (*Mimosa biuncifera*), lechuegilla (*Agave lechuguilla*), little-leaf sumac (*Rhus microphylla*), silver dalea (*Dalea bicolor* v. *argyraea*), beebrush (*Aloysia gratissima*), Berlandier wolfberry (*Lycium berlandiera*), bricklebrush (*Brickellia* spp.), desert zinnia (*Zinnia acerosa*), dogweed (*Thymophylla acerosa*), blackfoot daisy (*Melampodium leucanthum*), brown spine prickly pear (*Opuntia phaeacantha*), purple prickly pear (*Opuntia macrocentra*), tree cholla (*Opuntia imbricata*), claret cup cactus (*Echinocereus coccinea*, *E. triglochidiatus*, and *E. dasycanthus*), eagle claws cactus (*Echinocactus horizionthalonius*), Texas rainbow cactus (*Echinocactus pectinatus*), cat claw cactus (*Ancistrocactus uncinatus*), Parry's agave (*Agave parryi*), Palmer's agave (*Agave palmeri*), desert spoon (*Dasyllirion wheeleri*) sotol (*Dasyllirion leiophyllum* and *texanum*), clapweed (*Ephedra antisiphilitica*), Torrey's jointfir (*Ephedra torreyana*), longleaf jointfir (*Ephedra trifurca*), silver dalea (*Dalea bicolor* var *argyraea*) (TPWD 2018).

Typical species of the riparian areas of Hudspeth include: Rio Grande cottonwood (*Populus fremontii* var *wizlizeni*), tornillo mesquite (*Prosopis pubescens*), Gooding's willow (*Salix goodinngi*), net-leaf hackberry (*Celtis reticulata*), velvet ash (*Fraxinus velutina*), coyote willow (*Salix exigua*), seepwillow baccharis (*Baccharis salicifolia*), seepwillow (*Baccharis glutinosa*), Torrey's wolfberry (*Lycium torreyi*), arrowweed (*Pluchea sericea*), Drummond's clematis (*Clematis drummondii*), four wing saltbush (*Atriplex canescens*), common reed (*Phragmites australis*), pickleweed (*Allenrolfea occidentalis*), desert seepweed (*Suaeda suffrutescens*), seepweed (*Suaeda depressa*), blueweed (*Helianthus ciliaris*), hardstem bulrush (*Scirpus acutus*), Olney's bulrush (*Scirpus olneyi*), cosmopolitan bulrush (*Scirpus maritimus*), three-square bulrush (*Scirpus americanus*), spikerush (*Eleocharis* spp.), rushes (*Juncus* spp.), sedges (*Cyperus* spp.), and narrowleaf cattail (*Typha latifolia*). Grasses include saltgrass (*Distichlis spicata*), alkali sacaton (*Sporobolus airoides*) and alkali muhly (*Muhlenbergia asperifolia*) (TPWD 2018).

A complete list of floral species observed during biological survey of the road corridor sites is included in Table 3-6.

Table 3-6. Floral Species Observed During Biological Resources Surveys

Common Name	Scientific Name	Common Name	Scientific Name
Alkalai sacaton	<i>Sporobolus airoides</i>	High mallow	<i>Malva sylvestris</i>
Anderson’s wolfberry	<i>Lycium andersonii</i>	Honey mesquite	<i>Prosopis glandulosa</i>
Bermuda grass	<i>Cynodon dactylon</i>	Iodine bush	<i>Allenrolfea occidentalis</i>
Catclaw acacia	<i>Vachelia greggii</i>	London rocket	<i>Sysimbrium irio</i>
Whitethorn acacia	<i>Vachelia constricta</i>	Orange globe mallow	<i>Sphaeralcea coccinea</i>
Christmas cholla	<i>Cylindropuntia leptocaulis</i>	Plains lovegrass	<i>Eragrostis intermedia</i>
Common fiddleneck	<i>Amsinckia intermedia</i>	Purple pricklypear	<i>Opuntia macrocentra</i>
Cottonwood	<i>Populus fremontii</i>	Russian thistle	<i>Salsola tragus</i>
Creosote bush	<i>Larrea tridentata</i>	Saltcedar	<i>Tamarix chinensis</i>
Desert seepweed	<i>Suaeda suffrutescens</i>	Silver-leaf nightshade	<i>Solanum elaeagnifolium</i>
Desert willow	<i>Chilopsis linearis</i>	Singlewhorl burrobrush	<i>Hymenoclea monogyra</i>
Fluffgrass	<i>Dasyochloa pulchella</i>	Southern cattail	<i>Typha domingensis</i>
Four-winged saltbush	<i>Atriplex canescens</i>	Tree cholla	<i>Cylindropuntia imbricata</i>
Graythorn	<i>Ziziphus obtusifolia</i>		

3.4.1 Alternative 1: No Action Alternative

No ground-disturbing activities would occur as a result of this alternative. Therefore, the No Action Alternative would have no direct impacts, either beneficial or adverse, on vegetative habitat. However, vegetative habitat within the vicinity of roads and associated canal crossings are directly and indirectly affected by illegal cross-border violator pedestrian traffic and consequent law enforcement activities. Under the No Action Alternative, USBP’s detection and threat classification capabilities would not be enhanced and operational efficiency would not be improved within the FTH AOR.

3.4.2 Alternative 2: Proposed Action

The Proposed Action would have a permanent, minor impact on vegetation in the project area. Approximately 1.53 acres of native vegetative communities (1.03 acres of Chihuahuan Desert scrub, and 0.5 acre of Rio Grande riparian vegetation) would be directly impacted as a result of the road upgrades and canal crossover construction sites. Additionally, 0.33 acre of Chihuahuan Desert scrub would be temporarily disturbed during construction activities for use as staging areas. The remaining acreages impacted either permanently or temporarily from the construction of the proposed road upgrade and canal crossing sites are located within either active or inactive agricultural areas or within a nonnative Bermuda grass field.

It is estimated that approximately 1.53 acres of locally and regionally common vegetative habitat would be permanently cleared as a result of access road maintenance and repair activities. Further, approximately 0.33 acre of vegetative habitat would be temporarily disturbed as a result of road upgrade and canal crossover construction activities for the establishment of staging areas.

The native vegetative communities that would be impacted are both locally and regionally common, and the permanent loss of the limited amount of acreage permanently impacted would

not adversely affect the population viability of any plant species in the region. In order to ensure that the Proposed Action does not actively promote the establishment of non-native and invasive species in the area, BMPs (described in Section 5.0-BMPs) would be implemented to minimize the spread and reestablishment of non-native vegetation. Upon completion of construction, all temporary disturbance areas would be revegetated with a mixture of native plant seeds or nursery plantings or allowed to revegetate naturally. These BMPs, as well as measures protecting vegetation in general, would reduce potential impacts from non-native invasive species to a negligible amount.

3.5 WILDLIFE RESOURCES

The ROI is within the Trans-Pecos Region of west Texas. The greatest number of unique elements in the mammal fauna of Texas occur in the Trans-Pecos region. Almost one-third of the 92 species of mammals that occur in the Trans-Pecos region are primarily restricted in distribution to that region. Most of these mammals are species characteristic of the arid Mexican Plateau and southwestern United States or the montane woodlands of the western United States. Mammal species of the Trans-Pecos region include white-tailed deer (*Odocoileus virginianus*), mule deer (*Odocoileus hemionus*), pronghorn (*Antilocarpa americana*), desert bighorn sheep (*Ovis candensis nelsoni*), American badger (*Taxidea taxus*), muskrats (*Ondatra zibethicus*), long-tailed weasels (*Mustela frenata*), spotted skunk (*Spilogale gracilis*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), gray fox (*Urocyon cinereoargenteus*), kit fox (*Vulpes macrotis*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), mountain lion (*Puma concolor*), desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), black-tailed prairie dog (*Cynomys ludovicianus*), rock squirrels (*Otospermophilus variegatus*), ringtail (*Bassariscus astutus*), black bear (*Ursis americanus*), silver-haired bat (*Lasionycteris noctivagans*), eastern red-bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), big brown bat (*Eptesicus fuscus*), spotted bat (*Euderma maculatum*), western red-bat (*Lasirus blossewillii*), Yuma myotis (*Myotis yumanensis*), fringed myotis (*Myotis thysanodes*), tri-colored bat (*Perimyotis tricolor*), California myotis (*Myotis californicus*), Mexican long-nose Bat (*Leptonycteris nivalis*), pallid bat (*Antrozous pallidus*), Mexican free-tailed bat (*Tadarida brasiliensis*), desert shrew (*Notiosorex crawfordi*), Merriam's kangaroo rat (*Dipodomys Merriami*), hispid cotton rat (*Sigmodon hispidus*), and collared peccary (*Pecari tajacu*) (Davis and Schmidly 1994).

Bird species known to occur in this region include scaled quail (*Callipepla squamata*), Gambel's quail (*Callipepla gambelii*), Mearn's quail (*Cyrtonyx montezumae*), turkey (*Meleagris gallopavo*), mourning dove (*Zenaida macroura*), wood duck (*Aix sponsa*), white-tailed kite (*Elanus leucurus*), Mississippi kite (*Ictinia mississippiensis*), American avocet (*Recurvirostra americana*), monk parakeet (*Myiopsitta monachus*), American crow (*Corvus brachyrhynchos*), common yellowthroat (*Geothlypis trichas*), western meadowlark (*Sturnella neglecta*), green-winged teal (*Anas crecca*), Mexican duck (*Anas diazi*), black-chinned hummingbird (*Archilochus alexandri*), common nighthawk (*Chordeiles minor*), lesser nighthawk (*Chordeiles acutipennis*), killdeer (*Charadrius vociferous*), solitary sandpiper (*Tringa solitaria*), snowy egret (*Egretta thula*), great blue heron (*Ardea herodias*), turkey vulture (*Carhates aura*), golden eagle (*Aquila chrysaetos*), osprey (*Pandion haliaetus*), American kestrel (*Falco sparverius*), Chihuahuan raven (*Corvus cryptoleucus*), Cassin's sparrow (*Aimophila cassinii*), lark bunting

(*Calamosiza melanocorys*), chipping sparrow (*Spizella passerine*), cliff swallow (*Petrochelidon pyrrhonota*), crissal thrasher (*Toxostoma crissale*), burrowing owl (*Athene cunicularia*), great horned owl (*Bubo virginianus*) (TPWD 2002).

The Chihuahuan Desert supports more than 170 reptile and amphibian species, and the Chihuahuan Desert Ecoregion (a larger area not strictly defined by the desert itself) supports approximately 217 native species (Fitzgerald et al. 2004).

Reptile and amphibian species with potential to occur within the ROI include Mojave rattlesnake (*Crotalis scutulatus*), coachwhip (*Coluber flagellum*), New Mexico Whiptail (*Aspidocelis neomexicana*), red-spotted toad (*Bufo punctatus*), Trans-pecos ratsnake (*Bogertophis subocularis*), Texas banded gecko (*Coleonyx brevis*), Texas horned lizard (*Phrynosoma cornutum*), greater earless lizard (*Cophosaurus texanus*), western marbled whiptail (*Aspidoscelis marmorata marmorata*), spiny lizard (*Sceploporus* spp.), Great Plains toad (*Anaxyrus cognatus*), green toad (*Anaxyrus debilis*), Couch’s spadefoot toad (*Scaphiopus couchii*), ornate box turtle (*Terrapene ornate*), yellow mud turtle (*Kinosternon flavescens*), eastern collared lizard (*Crotaphytus collaris*), round-tailed horned lizard (*Phrynosoma modestum*), great plains Skink (*Plestiodon obsoletus*), four-lined skink (*Plestiodon tetragrammus brevilineatus*), Chihuahuan spotted whiptail (*Aspidoscelis exsanguis*), little striped whiptail (*Aspidoscelis inornata*), glossy snake (*Arizona elegans*), gopher snake (*Pituiphis catenifer*), black-tailed rattlesnake (*Crotalus molossus*), and blackneck garter snake (*Thamnophis cyrtopsis*) (Fitzgerald et al. 2004).

Wildlife species observed during biological resources surveys within the Fort Hancock road corridor sites are provided in Table 3-7.

Table 3-7. Observed Wildlife Species at the Fort Hancock Road Corridor Sites

Common Name	Scientific Name
BIRDS	
American kestrel	<i>Falco sparverius</i>
American white pelican	<i>Pelecanus erythrorhynchos</i>
Western burrowing owl	<i>Athene cunicularia</i>
Common merganser	<i>Mergus merganser</i>
Crissal thrasher	<i>Toxostoma crissale</i>
Gambel’s quail	<i>Callipepla gambelii</i>
Great blue heron	<i>Ardea herodias</i>
Great egret	<i>Ardea alba</i>
Greater roadrunner	<i>Geococcyx californianus</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>
Marsh wren	<i>Cistothorus palustris</i>
Northern harrier	<i>Circus hudsonius</i>
Pyrrhuloxia	<i>Cardinalis sinuatus</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Say’s phoebe	<i>Sayornis saya</i>

Common Name	Scientific Name
Swainson's hawk	<i>Buteo swainsoni</i>
Turkey vulture	<i>Cathartes aura</i>
Vesper sparrow	<i>Pooecetes gramineus</i>
Western meadowlark	<i>Sturnella neglecta</i>
White-crowned sparrow	<i>Zonotrichia leucophrys</i>
Yellow-rumped warbler	<i>Setophaga coronata</i>
MAMMALS	
Coyote	<i>Canis latrans</i>
Black-tailed jackrabbit	<i>Lepus californicus</i>
Raccoon	<i>Procyon lotor</i>
White-tailed deer	<i>Odocoileus virginianus</i>
Rock squirrel	<i>Otospermophilus variegatus</i>
BUTTERFLIES	
Cabbage white	<i>Pieris rapae</i>
Painted lady	<i>Vanessa cardui</i>

3.5.1 Alternative 1: No Action Alternative

No ground-disturbing activities or clearing of wildlife habitat would occur as a result of this alternative. Therefore, the No Action Alternative would have no direct impacts, either beneficial or adverse, on wildlife resources. Under the No Action Alternative, USBP's detection and threat classification capabilities would not be enhanced and operational efficiency would not be improved within the FTH AOR.

3.5.2 Alternative 2: Proposed Action

The permanent loss of approximately 1.53 acres of native vegetative communities (1.03 acres of Chihuahuan desert scrub, and 0.5 acre of Rio Grande riparian vegetation) would occur as a result of the road upgrades and construction of the proposed canal crossovers. Additionally, establishment of temporary staging areas would have a short-term, negligible impact and temporary degradation of approximately 0.33 acre of the various vegetative habitats would have a short-term, minor impact on wildlife. Therefore, minor impacts would occur to wildlife by the implementation of the Proposed Action. Soil disturbance and operation of heavy equipment could result in the direct loss of less mobile individuals such as lizards, snakes, and ground-dwelling species such as mice and rats. However, most wildlife would avoid any direct harm by escaping to surrounding habitat. The degradation and loss of habitat could also impact burrows and nests, as well as cover, forage, and other important wildlife resources. The loss of these resources would result in the displacement of individuals that would then be forced to compete with other wildlife for the remaining resources. Although this competition for resources could result in a reduction of total population size, such a reduction would be extremely minimal in relation to total population size and would not result in long-term effects on the sustainability of any wildlife species. The wildlife habitat present in the project area is both locally and regionally common, and the permanent loss of approximately 1.53 acres of wildlife habitat would not adversely affect the population viability or fecundity of any wildlife species in the

region. Upon completion of construction, all temporary disturbance areas would be revegetated with a mixture of native plant seeds or nursery plantings or allowed to revegetate naturally.

Noise associated with road upgrade and canal crossover construction, would result in temporary, negligible impacts on wildlife. Elevated noise levels associated with construction and maintenance activities would occur. The effects of this disturbance would include temporary avoidance of work areas and competition for unaffected resources. BMPs as outlined in Section 5.0 would reduce noise associated with operation of heavy equipment.

BMPs would be implemented to reduce disturbance and loss of wildlife such as surveys prior to construction activities scheduled during nesting season and covering or providing an escape ramp for all steep-walled holes or trenches left open at the end of the construction workday.

3.6 THREATENED AND ENDANGERED SPECIES

The ESA was enacted to provide a program for the preservation of endangered and threatened species and to provide protection for the ecosystems upon which these species depend for their survival. All Federal agencies are required to implement protective measures for designated species and to use their authorities to further the purposes of the ESA. The Secretary of the Interior is responsible for the identification of threatened or endangered species and development of any potential recovery plan. USFWS is the primary agency responsible for implementing the ESA, and is responsible for birds and other terrestrial and freshwater species. USFWS responsibilities under the ESA include (1) the identification of threatened and endangered species; (2) the identification of critical habitats for listed species; (3) implementation of research on, and recovery efforts for, these species; and (4) consultation with other Federal agencies concerning measures to avoid harm to listed species. The USFWS is part of the Department of the Interior and reports to the Secretary of the Interior.

An endangered species is a species officially recognized by USFWS as being in danger of extinction throughout all or a significant portion of its range. A threatened species is a species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Proposed species are those that have been formally submitted to Congress for official listing as threatened or endangered. Species may be considered eligible for listing as endangered or threatened when any of the five following criteria occur: (1) current/imminent destruction, modification, or curtailment of their habitat or range; (2) overuse of the species for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; and (5) other natural or human-induced factors affecting their continued existence.

In addition, USFWS has identified species that are candidates for listing as a result of identified threats to their continued existence. The candidate designation includes those species for which USFWS has sufficient information to support proposals to list as endangered or threatened under the ESA; however, proposed rules have not yet been issued because such actions are precluded at present by other listing activity. Although not afforded protection by the ESA, candidate species may be protected under other Federal or state laws.

Federally Listed Species

There are a total of nine Federally endangered or threatened species known to occur within Hudspeth County (USFWS 2018). A list of these species is presented in Table 3-8. Biological surveys of the proposed road upgrade and canal crossing construction sites were conducted by Gulf South Research Corporation (GSRC) on February 12, 2019. These investigations included surveys for all Federally listed and state-listed species potentially occurring at or near each proposed road and canal crossing site and assessment of their suitable habitat. During the investigations no Federally or state listed species were observed. Federally listed species for which a potential effect was assessed are discussed in the following subsections.

Table 3-8. Federally Listed Species for Hudspeth County, Texas

Common/Scientific Name	Federal Status	Habitat	Potential to Occur at Sites	Effect Determination
BIRDS				
Northern aplomado falcon <i>(Falco femoralis septentrionalis)</i>	E	Open country, especially savanna and open woodland, and sometimes in very barren areas; grassy plains and valleys with scattered mesquite, yucca, and cactus; nests in old stick nests of other bird species.	Yes, foraging and nesting habitat are located within the vicinity of the project area	May affect, not likely to adversely affect
Mexican spotted owl <i>(Strix occidentalis lucida)</i>	T	Mature, old growth forests of white pine, Douglas fir (<i>Pseudotsuga menziessi</i>), and ponderosa pine (<i>Pinus ponderosa</i>). They are generally associated with steep slopes, canyons, and rocky cliffs.	No	No effect
Southwestern willow flycatcher <i>(Empidonax trailii extimus)</i>	E	Inhabits dense riparian habitats along streams, reservoirs, or other wetlands containing tree and shrub species such as willow (<i>Salix</i> spp.), baccharis (<i>Baccharis</i> spp.), boxelder (<i>Acer negundo</i>), stinging nettle (<i>Urtica dioica</i>), blackberry (<i>Rubus</i> spp.), cottonwood (<i>Populus</i> spp.), arrowweed (<i>Pluchea sericea</i>), saltcedar (<i>Tamarix</i> spp.), and Russian olive (<i>Elaeagnus angustifolia</i>).	Yes, could use riparian vegetation along the drainage canal or the nearby Rio Grande for nesting and foraging habitat	May affect, not likely to adversely affect
Yellow-billed cuckoo <i>(Coccyzus americanus occidentalis)</i>	T	Associated with large tracts of deciduous, broad-leafed woodland with thick, scrubby undergrowth usually along water courses, as well as dense riparian thickets, marshes, and stands of successional hardwood forest. In the west it will also utilize mesquite scrubland adjacent to riparian woodlands.	Yes, could use riparian vegetation along the drainage canal or the nearby Rio Grande for nesting and foraging habitat	May affect, not likely to adversely affect
Interior least tern <i>(Sterna antillarum athalassos)</i>	E	Nesting habitat of the least tern includes bare or sparsely vegetated sand, shell, and gravel beaches,	No	No effect

Common/Scientific Name	Federal Status	Habitat	Potential to Occur at Sites	Effect Determination
		sandbars, islands, and salt flats associated with rivers and reservoirs. Highly adapted to nesting in disturbed sites, terns may move colony sites annually, depending on landscape disturbance and vegetation growth at established colonies. For feeding, least terns need shallow water with an abundance of small fish. As natural nesting sites have become scarce, the birds have used sand and gravel pits, ash disposal areas of power plants, reservoir shorelines, and other man-made sites.		
Red knot (<i>Calidris canutus rufa</i>)	T	Breeds in dry tundras and grasslands. Outside of the breeding period it is primarily associated with intertidal marine habitats such as inlets, bays, and estuaries. It is a rare migratory visitor to Hudspeth county	No	No effect
Piping plover (<i>Charadrius melodus</i>)	E	Three distinct breeding populations exist in the U.S.; the northern Great Plains, the Great Lakes, and the Atlantic Coast populations. Nests on coastal beaches, sandflats, barrier islands, sparsely vegetated dunes, and washover areas in coastal areas, and on gravel beaches adjacent to alkali wetlands, and riverine sandbars in inland populations. Overwinters along the northern Gulf Coast, in Mexico and Central America.	No	No effect.
FISH				
Rio Grande silvery minnow (<i>Hybognathus amarus</i>)	E	Occurs in desert streams, and utilizes silt substrates in areas of low or moderate water velocity, and eddies created by debris piles, pools, and riffles	Yes	May affect, not likely to adversely affect
PLANTS				
Guadalupe fescue (<i>Festuca ligulata</i>)	E	Formerly part of the vegetative understory in pine, oak, and juniper woodlands above 6,000 feet. Only one remaining location known within the U.S. in the Chisos Mountains.	No	No effect

Source: USFWS 2018.

E – Endangered, T – Threatened, C - Candidate

Northern Aplomado Falcon (*Falco femoralis septentrionalis*)

Northern aplomado falcon (NAF) is a small, predatory bird. Its habitat consists of grasslands and open terrain in arid landscapes with scattered trees or shrubs. They currently range throughout most of South and Central America. In the United States, NAF once occupied desert grasslands and coastal prairies in Texas, New Mexico, and Arizona. The last naturally occurring pair of NAF to breed in the United States was recorded in New Mexico in 1952 (USFWS 1990). Reintroduction of the species into the United States began in 1985 in Texas, predominantly on private lands through Safe Harbor Agreements. Later, reintroductions occurred in New Mexico and Arizona, predominantly onto public lands (USFWS 2006). NAF eat mostly birds and insects and often hunt in pairs. They do not build their own nests, but use stick nests previously constructed by other birds.

Agricultural practices and overgrazing that encouraged brush encroachment destroyed much of the open grassland habitat in the United States that was once occupied by NAF. Channelization of desert streams destroyed wetland communities that may have been important sources of prey, and pesticide contamination also likely contributed to declines. In 2005, there were 46 pairs of NAF in captivity that produced more than 100 young per year. From captive populations, 1,142 birds have been released in Texas under Safe Harbor Agreement permits with an enrollment of more than 1.8 million acres. A total of 44 pairs have become established in south Texas and adjacent Tamaulipas, Mexico. Reintroduced NAF began breeding in 1995 and have fledged more than 244 young (USFWS 2006). In 2005, the USFWS announced plans to establish a breeding population in New Mexico and Arizona through the introduction of captive-bred falcons on private and public lands (USFWS 2006). A 5-year status review was initiated in 2010 (USFWS 2014a), no change in its status was recommended per the 5-year status review (USFWS 2014a). No Critical Habitat for NAF has been declared.

Southwestern Willow Flycatcher (*Empidonax trailii extimus*)

The southwestern willow flycatcher (SWFL) was listed as endangered, without Critical Habitat on February 27, 1995 (60 FR 10695). Critical Habitat was designated in 1997 and 2005; a revision to the 2005 rule was published on January 3, 2013 (78 FR 343). In 2013 the USFWS designated approximately 1,227 stream miles as SWFL Critical Habitat. The designated stream segments include the lateral extent of riparian areas and other streams that occur within the 100-year floodplain or flood-prone areas encompassing a total of approximately 208,973 acres across California, Nevada, Utah, Colorado, Arizona, and New Mexico.

The SWFL is a small grayish-green passerine bird (Family Tyrannidae) measuring approximately 5.75 inches. The SWFL is a neotropical migrant that breeds in the southwestern United States and migrates to Mexico, Central America, and possibly northern South America. Reasons for decline are attributed primarily to loss, modification, and fragmentation of riparian breeding habitat, loss of wintering habitat, and brood parasitism by the brown-headed cowbird (*Molothrus ater*). A variety of factors cause habitat loss and degradation, including urban, recreational, and agricultural development, water diversion and groundwater pumping, stream and river channelization, dam construction, and unmanaged livestock grazing. Fire is an increasing threat to SWFL habitat (U.S. Department of the Interior [DOI] 2015), especially in monotypic saltcedar (*Tamarix* spp.) vegetation and where water diversions and/or groundwater pumping desiccates riparian vegetation. SWFL nests can be parasitized by brown-headed

cowbirds, which lay their eggs in the host's nest. Cowbirds can be attracted to SWFL breeding habitats by the presence of livestock and range improvements such as feed and water facilities and corrals; agriculture; urban areas; golf courses; and trash areas. When these attractants are in close proximity to SWFL breeding habitat, especially coupled with habitat fragmentation, cowbird parasitism of SWFL nests may increase (DOI 2015).

New Mexico's historic breeding range of the SWFL is considered to have been primarily from the Rio Grande Valley westward; breeding was unconfirmed in the San Juan and Pecos drainages (DOI 2015). Contemporary surveys documented that SWFL persist in the Rio Grande, Chama, Zuni, San Francisco, and Carson watersheds and that small breeding populations also occur in the San Juan drainage and along Coyote Creek in the Canadian River drainage, but breeding remains unconfirmed in the Pecos watershed. Surveys within Carson Valley have been able to establish that this area contains one of the largest known SWFL populations (DOI 2015).

The SWFL breeds in dense riparian habitats from sea level in California to approximately 8,500 feet in Arizona and southwestern Colorado. The SWFL's habitat is dynamic and can change rapidly; nesting habitat can grow out of suitability; saltcedar habitat can develop from seeds to suitability in about 4 to 5 years; heavy runoff can remove/reduce habitat suitability in a day; and river channels, floodplain width, location, and vegetation density may change over time. The SWFL's use of habitat in different successional stages may also be dynamic. For example, over-mature or young habitat not suitable for nest placement can be occupied and used for foraging and shelter by migrating, breeding, dispersing, or non-territorial SWFL. SWFL habitat can quickly change and vary in suitability, location, use, and occupancy over time (DOI 2015).

The SWFL's nesting and foraging habitat includes exotic saltcedar in the central part of the species' breeding range in Arizona, southern Nevada and Utah, and western New Mexico. Saltcedar had been believed by some to be a habitat type of lesser quality for the SWFL; however, comparisons of reproductive performance, prey populations, and physiological conditions of SWFL breeding in native and exotic vegetation have revealed no difference (DOI 2015).

The Trans-Pecos region of Texas is apparently the eastern limit of the SWFL's breeding range. SWFL breeding activity has been reported from the Fort Hancock area along the Rio Grande, the Davis Mountains, Big Bend National Park, and possibly the Guadalupe Mountains. No recent survey data are available for SWFL populations in Texas, and the current status in Texas is essentially unknown (USFWS 2002).

Yellow-Billed Cuckoo (*Coccyzus americanus*)

The yellow-billed cuckoo (YBC) is a medium-sized bird about 12 inches in length and weighing about 2 ounces. The species has a slender, long-tailed profile, with a fairly stout and slightly down-curved bill, which is blue-black with yellow on the basal half of the lower mandible. Plumage is grayish-brown above and white below (Hughes 1999). The legs are short and bluish-gray, and adults have a narrow, yellow eye ring. Juveniles resemble adults, except that the tail patterning is less distinctive, and the lower bill may have little or no yellow coloration. Males and females differ slightly.

Historically, the YBC occupied and bred in riparian zones from western Washington (possibly southwestern British Columbia) to northern Mexico, including Oregon, Washington, southwestern Idaho, California, Nevada, Utah, western Colorado, Arizona, New Mexico, and western Texas. Today, the species is absent from Washington, Oregon, and most of California, is likely extirpated in Nevada, is rare in Idaho and Colorado, and occurs in the balance of its range in riparian habitats that are much reduced from their previous extent and are heavily affected by human use (USFWS 2014b).

The YBC is associated primarily with cottonwood (*Populus* spp.) and willow (*Salix* spp.) dominated riparian habitats. Cottonwood-willow is the predominant and preferred habitat, but they also use very tall mesquite (*Prosopis* spp.) stands, as well as a mixture of tamarisk, cottonwood, and willows (DOI 2015). Vegetation density, distance to water, and the length and width of the habitat area are important characteristics when surveying for yellow-billed cuckoos. The species breeds in large blocks of riparian habitats (particularly woodlands with cottonwoods and willows). Dense understory foliage appears to be an important factor in nest site selection, and cottonwood trees are an important element of foraging habitat (DOI 2015). Yellow-billed cuckoos are true neotropical migrant birds, in that they typically would arrive at habitats in the project area in March and April and depart for southern wintering grounds in September and October (Bennett and Keinath 2003).

Western populations of YBC have undergone widespread decline since 1980. Habitat fragmentation, agricultural pesticides, livestock grazing, and drought are some of the factors driving population declines (Wiggins 2005). In New Mexico, the species is found in riparian zones with dense understory vegetation, most commonly in the south and along major drainages. Current information is inadequate to judge trends, but the species was fairly common in the mid-1980s along the Rio Grande between Albuquerque and Elephant Butte Reservoir, and along the Pecos River in southeastern New Mexico (Parametrix, Inc. and Southern Sierra Research Station 2016). Numbers may have increased there in response to saltcedar colonization of riparian areas formerly devoid of riparian vegetation. A review on the status of the species in New Mexico concluded that the species would likely decline in the future due to loss of riparian woodlands. In the eastern third of the state, saltcedar has provided habitat for approximately 1,000 pairs of yellow-billed cuckoos in historically unforested areas (Parametrix, Inc. and Southern Sierra Research Station 2016). The broad-scale clearing of exotic vegetation, such as saltcedar along the Pecos River, will likely result in additional loss of nesting habitat for the yellow-billed cuckoo. In the western portion of the state, damage to native riparian habitat is occurring. Along the Rio Grande, understory is being removed to reduce fire risk, and land is being converted to agriculture (USFWS 2011). Throughout New Mexico, grazing is impacting the quality of riparian habitat available to yellow-billed cuckoos. Surveys were conducted by the U.S. Bureau of Reclamation (Reclamation) from 2006 through 2015 along the middle Rio Grande, from Highway 60 downstream to Elephant Butte Reservoir (Parametrix Inc. and Southern Sierra Research Station 2016). The area covered by the surveys increased from 35.5 river miles in 2006 to 89.6 river miles in 2009. There were an estimated 28 territories detected in 2006, 36 in 2007, 45 in 2008, and 56 in 2009; however, these estimates are not directly comparable due to variation in survey efforts and protocols. These surveys have documented a sizable population that is potentially increasing (Parametrix, Inc. and Southern Sierra Research Station 2016).

The portion of Texas west of the Pecos River has also been identified as within the historic range of the western population. The species still occurs in this area but information on its status is lacking. Population reports of the YBC in the Trans-Pecos area of western Texas, near Big Bend National Park, support scattered populations of yellow-billed cuckoo. These populations tend to be associated with areas of springs and developed wells or earthen ponds supporting mesic vegetation such as cottonwood and willow (66 FR 38611). The bird checklist of Guadalupe Mountains National Park on the New Mexico border lists the yellow-billed cuckoo as a rare summer and fall breeder. YBC population trends from 1966 to 1998 for the entire state of Texas are showing a decline (66 FR 38611). YBC call studies from the University of Texas at El Paso, conducted from 1988 to 1998, found a significant decline in response calls over numerous sites in southern New Mexico and western Texas. Average response percentages went from 30 percent in 1988 to 5 percent in 1998. The study concluded that the YBC is a rare and highly vulnerable species in the Rio Grande Valley of southern New Mexico and extreme west Texas (66 FR 38611). The TPWD currently does not separate the eastern and western populations of the YBC and identifies the species as globally abundant and state-secure since the state ranking was last revised in 1994. However, subsequent publications by the TPWD indicate that the species is becoming increasingly rare and declining due to urban development and reduction of habitat. The species is considered to be fairly common at elevations of 3,000 to 7,500 feet in El Paso, Hudspeth, Culberson, and Presidio counties, and is considered widespread and uncommon to common in central and eastern Texas, although the YBC might be declining due to habitat destruction in El Paso County (USFWS 2011).

Rio Grande Silvery Minnow (*Hybognathus amarus*)

The Rio Grande Silvery minnow was listed as Federally endangered in 1994. Its historical range included approximately 2,400 river miles in the Rio Grande from Espanola, New Mexico through Texas to the Gulf of Mexico. Its current range includes a single, approximately 174-mile stretch of the Rio Grande in New Mexico between the Cochiti Dam and the headwaters of the Elephant Butte Reservoir (USFWS 2010).

The Rio Grande silvery minnow is a small, relatively heavy-bodied minnow, round to ovate in cross-section, with moderately small eyes and a small, slightly oblique mouth. The dorsal coloration is greenish-yellow and the ventral coloration is light cream to white. The Rio Grande silvery minnow uses only a small portion of the available aquatic habitat, and is predominantly associated with areas of low to moderate water velocity such as eddies created by debris piles, pools, and embayments. It is herbivorous and feeds on algae growing on the surface of river sand. Spawning events coincide with increased flow events such as spring runoff or summer rainstorms. Spawning occurs in the water column when water temperatures are between 18 and 24°F. Free-swimming larvae develop approximately 4 days after spawning in water that is 25°F but development can take up to 10 days in cooler water (USFWS 2010).

The Rio Grande silvery minnow has been declining in abundance and distribution for over 50 years and is now absent from greater than 93 percent of its historical range. The decline of this species has been largely attributed to alterations in the flow and stream conditions in the rivers and tributaries such as damming, dewatering, channelization, and pollution. Other factors impacting population persistence of Rio Grande silvery minnow include disease, predation by

non-native fish (i.e., northern pike [*Esox Lucius*] and channel catfish [*Ictalurus punctatus*], and lack of state-level regulatory mechanisms (USFWS 2010).

In December 2008, Rio Grande silvery minnows were reintroduced into the Rio Grande in Texas near Big Bend National Park. The reintroduced Rio Grande silvery minnows and their progeny are considered part of a non-essential experimental population under section 10(j) of the ESA. The expected extent of the reestablishment of Rio Grande silvery minnow in Texas is from the confluence of the Devil’s River and the Rio Grande in Vale Verde County, Texas, westward to Fort Quitman in Hudspeth County Texas (USFWS 10). Rio Grande silvery minnows occurring within the segments of the Rio Grande or the irrigation canal adjacent to any of the three road construction project areas would be considered members of this non-essential experimental population.

Critical Habitat

The ESA also calls for the conservation of what is termed Critical Habitat: the areas of land, water, and air space that an endangered species needs for survival. Critical Habitat also includes such things as food and water, breeding sites, cover or shelter, and sufficient habitat area to provide for normal population growth and behavior. One of the primary threats to many species is the destruction or modification of essential habitat by uncontrolled land and water developments.

None of the proposed road upgrade corridors overlap with any designated Critical Habitat for any Federally protected species.

Texas State-Listed Species and Species of Greatest Conservation Need

TPWD lists several state-listed species that may also occur near the various project areas in Hudspeth County. Table 3-9 provides state-listed species with potential to occur in the project areas. A complete listing of Species of Greatest Conservation Need (SGCN) that could potentially occur within the project areas is provided in Appendix B.

Table 3-9. Texas State Listed Species with the Potential to Occur in Hudspeth County

Scientific Name	Common Name	ESA	TX Status
BIRDS			
<i>Falco femoralis septentrionalis</i>	Northern aplomado falcon	LE	E
<i>Falco peregrinus anatum</i>	American peregrine falcon	DL	T
<i>Falco peregrinus</i>	Peregrine falcon	DL	T
<i>Sternula antillarum athalassos</i>	Interior least tern	LE	E
<i>Strix occidentalis lucida</i>	Mexican spotted owl	LT	T
FISH			
<i>Notropis simus</i>	Bluntnose shiner		T
<i>Hybognathus amarus</i>	Rio Grande silvery minnow	LE	E
MAMMALS			
<i>Ursus americanus</i>	Black bear		T
REPTILES			

Scientific Name	Common Name	ESA	TX Status
<i>Trimorphodon vilkinsonii</i>	Chihuahuan Desert lyre snake		T
<i>Phrynosoma hernandesi</i>	Mountain short-horned lizard		T
<i>Phrynosoma cornutum</i>	Texas horned lizard		T

DL=Delisted; LE = Federally list endangered; LT = Federally listed threatened; E = state listed endangered; T = state listed threatened

3.6.1 Alternative 1: No Action Alternative

Under the No Action Alternative, there would be no direct impacts on threatened or endangered species or their habitats as no construction activities would occur. In the absence of the proposed road and canal construction, the FHT would continue to experience major capability gaps due to limited mobility and accessibility throughout the AOR. Limited ingress/egress points throughout the AOR and poor road conditions would continue to affect Agent response times and ability to respond to illegal cross-border traffic.

3.6.2 Alternative 2: Proposed Action

Four Federally listed species (NAF, SWFL, YBC, and Rio Grande silvery minnow) have the potential to occur within the project area. Based on the information outlined below, the Proposed Action may affect, but is not likely to adversely affect, any of the four Federally listed or candidate species. Section 7 consultation with USFWS is underway, and is expected to be completed prior to signing of FONSI.

Northern Aplomado Falcon

Negligible effects on NAF are anticipated, because limited (1.03 acres) nesting and foraging habitat for NAF would be impacted, and measures to reduce potential impacts would be implemented. Approximately 1.03 acres of desert scrub would be cleared which contains potentially suitable NAF foraging habitat. Increased human activity and traffic associated with construction and maintenance of the crossing structures and upgrading the roads would potentially disturb NAF, causing them to take flight and depart the immediate area. These disturbances would likely be discountable because they would be short in duration and limited in their area of effect. NAF are a highly mobile species that would easily relocate a short distance from such disturbances. However, effects would be greater if a NAF nest were to occur in the immediate area. To minimize the likelihood of this possibility, GSRC biologists inspected each site for any sign of NAF or nests. No nests, and few trees suitable for NAF nesting were present at the road upgrade sites. Additionally, if construction occurs during the nesting season, a biologist would survey the road upgrade site and adjacent area for signs of nesting NAF and any active nest would be avoided.

Southwestern Willow Flycatcher

SWFL potentially utilize riparian brush along the Rio Grande near Fort Hancock for nesting and foraging including habitat within the road construction areas. Approximately 0.11 acre of saltcedar dominated drainage, and 1.03 acres of Chihuahuan desert scrub, potentially suitable for SWFL foraging and nesting would be cleared. Additionally, 0.39 acre of saltcedar dominated riparian area along the Rio Grande, potentially suitable for SWFL foraging and nesting would be temporarily disturbed for the establishment of staging areas. Minor effects to SWFL are

anticipated because of the limited amount of potential nesting and foraging habitat that will be altered or cleared. Increased human activity and traffic associated with construction and maintenance of the crossing structures and upgrading the roads would potentially disturb SWFL, causing them to take flight and depart the immediate area, or potentially interfering with mate-seeking vocalizations. Measures to reduce potential impacts will be implemented. Effects to SWFL would be greater if nests were to occur in the immediate area. To minimize the likelihood of this possibility, biologists inspected each crossing construction site for any sign of SWFL or nesting activity. Additionally, if construction occurs during the nesting season, a biologist would survey the road upgrade site and adjacent area for signs of nesting SWFL and any active nest would be avoided.

Yellow-Billed Cuckoo

Known nesting habitat for YBC in Texas occurs from the Pecos River westward and includes the road UPGRADE and crossing construction sites. Minor effects to YBC are anticipated because of the limited amount of potential nesting and foraging habitat that will be altered or cleared. Increased human activity and traffic associated with construction and maintenance of the crossing structures and upgrading the roads would potentially disturb YBC, causing them to take flight and depart the immediate area, or potentially interfering with mate-seeking vocalizations. Measures to reduce potential impacts will be implemented. Effects to YBC would be greater if nests were to occur in the immediate area. To minimize the likelihood of this possibility, biologists inspected each road upgrade and crossing construction site for any sign of YBC or nesting activity. Additionally, if construction occurs during the nesting season, a biologist would survey the site and adjacent area for signs of nesting YBC and any active nest would be avoided.

Rio Grande Silvery Minnow

Rio Grande silvery minnow potentially occurs within segments of the Rio Grande and connected irrigation canals adjacent to and within the vicinity of the road and crossing construction sites. Negligible effects to Rio Grande silvery minnow are anticipated because no alterations to stream flow of the Rio Grande or associated canals will be made during the course of road and crossing structure construction or maintenance. Small amounts of sediment and/or pollutants could potentially escape from the construction sites into the adjacent segments of the Rio Grande or connected irrigation canal, but these quantities will be negligible. Measures to reduce potential impacts will be implemented such as to development of a SWPPP to prevent or minimize pollutant containing sediment from the constructions sites and staging areas from entering nearby waterways. Furthermore, any Rio Grande silvery minnows inhabiting segments of the Rio Grande or connected irrigation canals adjacent to or within the vicinity of the construction sites would be considered to be part of a non-essential experimental population.

State-Listed Species

TPWD lists several state-listed species that may occur near the project areas in Hudspeth County. Under the Proposed Action, approximately 1.53 acres of native vegetative communities (1.03 acres of Chihuahuan desert scrub, and 0.5 acre of Rio Grande riparian vegetation) would be directly impacted as a result of the construction of the proposed road upgrades and canal crossing construction. Additionally, 0.33 acre of Chihuahuan desert scrub would be temporarily disturbed during construction activities for use as staging areas. The remaining acreages impacted either permanently or temporarily from the construction of the proposed road upgrade and canal

crossover crossing sites were located within either active or inactive agricultural areas or within a nonnative Bermuda grass (*Cynodon dactylon*) field.

Texas horned lizard (*Phrynosoma cornutum*) inhabits open, arid, and semi-arid regions with sparse vegetation including grasses, cacti, scattered brush, and shrubby trees with soil that varies from sandy to rocky. If present in the project areas, the Texas short-horned lizard could be impacted by ground disturbing activities from construction and road upgrades. A useful indicator that Texas horned lizard may occupy project areas is the presence of harvester ant (*Pogomyrmex barbatus*) nests since harvester ants are the primary food source of Texas horned lizards. Texas horned lizards may hibernate on-site in loose soils a few inches below ground during cool months from September to April. Horned lizards are active above ground when temperatures exceed 75 degrees Fahrenheit. Nesting horned lizards, gravid females, newborn young, or individuals that are hibernating or are lethargic from cool temperatures may be unable to move away from approaching construction equipment and may be impacted by construction and road upgrade activities. Therefore, horned lizard specific BMPs provided by TPWD and outlined in Section 5.0 (Best Management Practices) will be implemented in order to avoid or minimize impacts to this species.

Chihuahuan lyre snake (*Trimorphodon wilkinsonii*) is mostly crevice-dwelling in predominantly limestone-surfaced northwest of the Rio Grande from Big Bend to the Franklin Mountains especially in areas with jumbled boulders and rock/fault fissures. This species is secretive and eats mostly lizards. Potential habitat for this species is present at the Rock Bridge Road project area. Chihuahuan lyre snake may be impacted by ground disturbing activities and could potentially experience mortality from construction equipment and vehicles entering the project area during the life of the road upgrade and canal crossover construction project. Specific recommendations for avoiding and minimizing impacts to Chihuahuan lyre snake have been provided by TPWD and are outlined in Section 5.0 (Best Management Practices).

North American black bears may occasionally utilize areas in, near, or within the immediate vicinity of the project areas, but this species occupy large home ranges and losses of negligible amounts of Chihuahuan desert scrub and riparian area is not expected to impact this species.

Several SGCNs have been recorded within, near, or could potentially occur within or near the project areas. These include but are not limited to western burrowing owl (*Athene cunicularia*) (observed during biological surveys), sand prickly pear (*Opuntia arenaria*) (one Texas Natural Diversity Database [TXNDD] record within the Riverside Road project area), black-tailed prairie dog (*Cynomys ludovicianus*) (potential), western box turtle (*Terrapene ornata*) (potential), Pecos River muskrat (*Ondatra zibethicus*) (potential), and desert pocket gopher (*Geomys arenarius*) (potential). Recommendations for avoiding and minimizing impacts to these species have been provided by TPWD and are outlined in Section 5.0 (Best Management Practices). Additional SGCNs have the potential to occur in the project areas (see Appendix B). Observations of these species made during the construction period will be submitted to TXNDD following the observation submission instructions provided on the TXNDD website and additional BMPs will be implemented to prevent or minimize impacts to these species.

3.7 GROUNDWATER

The predominant aquifer within the ROI is the Hueco Bolson Aquifer, which extends throughout most of El Paso County and the southwestern portion of Hudspeth County (George et al. 2005). The Hueco Bolson Aquifer is an unconfined aquifer that covers 1,376 square miles. It consists of Cenozoic basin-fill sediments that occur as minor sand lenses interstratified with clays and silty clays (George et al. 2005). Groundwater within the Hueco Bolson Aquifer generally flows south and southwest from the Diablo Plateau and discharges along the Rio Grande, and depth-to-groundwater within the ROI can range from 1 to 100 feet. Groundwater levels have not changed significantly over the last 50 years. Very little groundwater recharge occurs within the ROI, and water quality measurements within the Hueco Bolson Aquifer shows a general increase in total dissolved solids from 1,000 to 3,000 milligrams per liter (mg/L) near the Diablo Plateau to 3,000 to 10,000 mg/L along the Rio Grande (George et al. 2005).

3.7.1 Alternative 1: No Action Alternative

Under the No Action Alternative no additional impacts on groundwater resources would occur as a result of the proposed construction, installation, and maintenance of three upgraded roads and associated canal crossings within FHT's AOR.

3.7.2 Alternative 2: Proposed Action

Under the Proposed Action, all water would be supplied to the construction site by water truck or nearby sources. A SWPPP will be developed and implemented to ensure that contamination of surface areas from the staging and laydown areas is prevented or mitigated, preventing potential infiltration of contaminants into groundwater. The SWPPP will describe BMPs including the deployment of secondary containment such as drip pans under equipment and straw wattles or earthen berms around material stockpiles. A BMP would be in place in case of an accidental spill of oil, petroleum, or lubricants from the water trucks to prevent this spill from entering the groundwater. Therefore, the Proposed Action would have negligible impacts on groundwater resources within the region.

3.8 SURFACE WATER AND WATERS OF THE UNITED STATES

The Clean Water Act (CWA) §303[d][1][A] requires that each state monitor surface waters and compile a "303[d] List" of impaired streams and lakes. The proposed road upgrades and canal crossings are located within the Rio Grande Basin, which enters Texas at El Paso and travels 1,248 miles to the Gulf of Mexico forming the international boundary between the United States and Mexico. The closest jurisdictional water body is the Rio Grande, which is approximately 36 to 330 feet from the endpoints of the proposed road upgrade sites. In addition, there are numerous canals within the Rio Grande Basin that transport irrigation water from the Rio Grande to agricultural lands.

Waters of the United States are defined within the CWA, and jurisdiction is addressed by USACE and USEPA. There could be temporary impacts to waters of the United States if drainage structures within agricultural ditches need replacement. These actions would be covered under Section 404 of the CWA, Nationwide Permit 14 (linear transportation) and are considered negligible.

Wetlands are a subset of the waters of the United States that may be subject to regulation under Section 404 of the CWA (40 CFR 230.3). Wetlands are those areas inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The western 386 feet of the Rock Bridge Road segment including one of the proposed staging areas traverses an area mapped as freshwater shrub wetland by the USFWS National Wetland Inventory (NWI) per the Cowardin classification system (Federal Geographic Data Committee [FGDC] 2013).. Additionally, the proposed staging area at the western end of the Rock Bridge Road segment is located within an area mapped as a freshwater emergent wetland by the NWI Freshwater forested/shrub wetland by the USFWS per the Cowardin classification system (FGDC 2013). However, observations by GSRC biologists during site investigations on February 12, 2019 indicate that the western 386 feet of the Riverside Road segment traverses an area dominated by non-hydrophytic vegetation characteristic of an inactive agricultural field reverting to Chihuahuan desert scrub; such as four-winged saltbush and Bermuda grass, or incised saltcedar (*Tamarix* sp.) dominated riparian edge that lacks hydrological indicators of inundation. The proposed staging area at the western end of the segment is within a disturbed area separated from the Rio Grande by a dirt levee dominated by Bermuda grass. These observations indicate that no wetlands are present within the Rock Bridge Road segment or associated staging areas. There are no wetlands within the road upgrade corridors or proposed staging areas at either the Riverside Road or Verduzco's Road sites.

Activities that result in the dredging and/or filling of waters of the United States, including wetlands, are regulated under Sections 404 and 401 of the CWA. As such, any dredging or fill activities within the potential jurisdictional wetland would require a Department of the Army permit for those activities under Section 404 of the CWA. In addition, a TCEQ Section 401 permit would also have to be obtained prior to any activities within the potentially jurisdictional wetland.

According to the 2014 Texas Integrated Water Report (TCEQ 2014), none of the segments of the Rio Grande near any of the road corridors or any other surface water bodies within the vicinity of the road corridors are considered impaired.

3.8.1 Alternative 1: No Action Alternative

Under the No Action Alternative, no additional impacts on surface waters or waters of the United States would occur. The proposed road upgrades and canal construction would not take place, and the FHT would continue to experience major capability gaps due to limited mobility and accessibility throughout the AOR.

3.8.2 Alternative 2: Proposed Action

The Proposed Action may potentially have temporary, negligible impacts on surface waters as a result of increases in erosion and sedimentation during periods of construction. Disturbed soils and hazardous substances (i.e., antifreeze, fuels, oils, and lubricants) could indirectly impact water quality during a rain event. The use of BMPs would minimize these effects. A Construction Stormwater General Permit would be obtained prior to construction, and this would require approval of a site-specific SWPPP. A site-specific Spill Prevention, Control and Countermeasure Plan (SPCCP) would also be in place prior to the start of construction. BMPs

outlined in these plans would reduce potential migration of soils, oil and grease, and construction debris into local surface waters. Once the construction project is complete, the temporary construction footprints (staging areas) would be revegetated with native vegetation, as outlined in the SWPPP, which would mitigate the potential of non-point source pollution to enter local surface waters. There would be no net loss of wetlands or waters of the United States and the Proposed Action would be in compliance with Executive Order (E.O.) 11990.

3.9 FLOODPLAINS

A floodplain is the area adjacent to a river, creek, lake, stream, or other open waterway that is subject to flooding when there is a major rain event. Floodplains are further defined by the likelihood of a flood event. If an area is in the 100-year floodplain, there is a 1-in-100 chance in any given year that the area will flood. Federal Emergency Management Agency (FEMA) floodplain maps were reviewed to identify project locations within mapped floodplains (FEMA 2019). The proposed road upgrades within the Riverside and Verduzco's Road corridors and canal crossing locations are not located within any currently mapped floodplains (FEMA 2019). Approximately 631 feet of the northeastern portion of the Rock Bridge Road corridor, from N31.086557, W-105.955267 to N31.085986, W-105.597168, as well as one of the proposed staging areas located at N31.086258, W -105.595241 are located within the 100-year floodplain of an unnamed arroyo. Approximately 575 feet of the Rock Bridge Road corridor, from N31.082497, W-105.601007 to N31.08195, W-105.601717, as well as one of the proposed staging areas located at N31.081725, W-105.601985, are situated within the 100-year floodplain of the Rio Grande.

3.9.1 Alternative 1: No Action Alternative

Under the No Action Alternative no construction activities would occur within floodplains; therefore, there would be no direct impacts. The proposed road upgrades and canal construction would not take place, and the FHT would continue to experience major capability gaps due to limited mobility and accessibility throughout the AOR.

3.9.2 Alternative 2: Proposed Action

The FEMA *Eight-Step Planning Process for Flood Plains and Wetlands* was completed for the Proposed Action. The Proposed Action would not increase the risk or impact of floods on human safety, health, and welfare, or adversely impact the beneficial values that floodplains serve. Additionally, the Proposed Action would not increase duration, frequency, elevation, velocity or volume of flood events. Although portions of the Rock Bridge Road corridor and proposed staging areas are located within 100-year floodplains, the road upgrade activities and construction of canal crossovers would not cause a significant impact on, or loss of, floodplain resources. BPAM-PMO is coordinating with the USIBWC regarding potential impacts on the floodplain from the proposed road upgrades and construction of canal crossings within the floodplain. Additionally, the locations of the road upgrades and canal crossing structures are driven by USBP operational requirements, and as such using areas outside the 100-year floodplain would not meet the purpose of and need for the Proposed Action. Therefore, the Proposed Action is in accordance with E.O. 11988 and would result in negligible impacts on floodplain resources. BPAM-PMO will notify the public of the availability of this final EA through publication of a public notice in in the *Hudspeth Herald*, *El Paso Times*, and *The El Paso Herald-Post*.

3.10 AIR QUALITY

The USEPA established National Ambient Air Quality Standards (NAAQS) for specific pollutants determined to be of concern with respect to the health and welfare of the general public. Ambient air quality standards are classified as either "primary" or "secondary." The major pollutants of concern, or criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), particulate matter less than 10 microns (PM-10), particulate matter less than 2.5 microns (PM-2.5) and lead. NAAQS represent the maximum levels of background pollution that are considered safe, with an adequate margin of safety, to protect the public health and welfare. The NAAQS are included in Table 3-10.

Areas that do not meet these NAAQS are called non-attainment areas; areas that meet both primary and secondary standards are known as attainment areas. The Federal Conformity Final Rule (40 CFR Parts 51 and 93) specifies criteria and requirements for conformity determinations of Federal projects. The Federal Conformity Rule was first promulgated in 1993 by the USEPA, following the passage of Amendments to the Clean Air Act in 1990. The rule mandates that a conformity analysis be performed when a Federal action generates air pollutants in a region that has been designated a non-attainment or maintenance area for one or more NAAQS.

A conformity analysis is the process used to determine whether a Federal action meets the requirements of the General Conformity Rule. It requires the responsible Federal agency to evaluate the nature of a Proposed Action and associated air pollutant emissions and calculate emissions that may result from the implementation of the Proposed Action. If the emissions exceed established limits, known as *de minimis* thresholds, the proponent is required to perform a conformity determination and implement appropriate mitigation measures to reduce air emissions. The USEPA has designated Hudspeth County as in attainment for all NAAQS (USEPA 2019).

The major GHG-producing sectors in society include transportation, utilities (e.g., coal and gas power plants), industry/manufacturing, agriculture, and residential. End-use sector sources of GHG emissions include transportation (40.7 percent), electricity generation (22.2 percent), industry (20.5 percent), agriculture and forestry (8.3 percent), and other (8.3 percent). The main sources of increased concentrations of GHG due to human activity include the combustion of fossil fuels and deforestation (CO₂), livestock and rice farming, land use and wetland depletions, landfill emissions (CH₄), refrigeration system and fire suppression system use and manufacturing (CFC), and agricultural activities, including the use of fertilizers (California Energy Commission 2007).

Table 3-10. National Ambient Air Quality Standards

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Times
Carbon Monoxide	9 ppm (10 mg/m ³)	8-hour ⁽¹⁾	None	None
	35 ppm (40 mg/m ³)	1-hour ⁽¹⁾	None	None
Lead	0.15 µg/m ³ ⁽²⁾	Rolling 3-Month Average	Same as Primary	Same as Primary
	1.5 µg/m ³	Quarterly Average	Same as Primary	Same as Primary
Nitrogen Dioxide	53 ppb ⁽³⁾	Annual (Arithmetic Average)	Same as Primary	Same as Primary
	100 ppb	1-hour ⁽⁴⁾	None	None
Particulate Matter (PM-10)	150 µg/m ³	24-hour ⁽⁵⁾	Same as Primary	Same as Primary
Particulate Matter (PM-2.5)	15.0 µg/m ³	Annual ⁽⁶⁾ (Arithmetic Average)	Same as Primary	Same as Primary
	35 µg/m ³	24-hour ⁽⁷⁾	Same as Primary	Same as Primary
Ozone	0.075 ppm (2008 std)	8-hour ⁽⁸⁾	Same as Primary	Same as Primary
	0.08 ppm (1997 std)	8-hour ⁽⁹⁾	Same as Primary	Same as Primary
	0.12 ppm	1-hour ⁽¹⁰⁾	Same as Primary	Same as Primary
Sulfur Dioxide	0.03 ppm	Annual (Arithmetic Average)	0.5 ppm	3-hour ⁽¹⁾
	0.14 ppm	24-hour ⁽¹⁾	0.5 ppm	3-hour ⁽¹⁾
	75 ppb ⁽¹¹⁾	1-hour	None	None

Source: USEPA 2019 at <http://www.epa.gov/green-book>

Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb - 1 part in 1,000,000,000) by volume, milligrams per cubic meter of air (mg/m³), and micrograms per cubic meter of air (µg/m³).

⁽¹⁾ Not to be exceeded more than once per year.

⁽²⁾ Final rule signed October 15, 2008.

⁽³⁾ The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

⁽⁴⁾ To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective January 22, 2010).

⁽⁵⁾ Not to be exceeded more than once per year on average over 3 years.

⁽⁶⁾ To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.

⁽⁷⁾ To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective April 15, 2015).

⁽⁸⁾ To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (effective April 15, 2015).

⁽⁹⁾ (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as USEPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

(c) USEPA is in the process of reconsidering these standards (set in March 2008).

⁽¹⁰⁾ (a) USEPA revoked the 1-hour ozone standard in all areas, although some areas have continuing obligations under that standard ("anti-backsliding").

(b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1.

⁽¹¹⁾ (a) Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.

GHG Considerations

The CEQ has published draft guidance on how NEPA analysis and documentation should address greenhouse gas (GHG) emissions. This Draft NEPA Guidance on Consideration of GHG Emissions, if finalized, would replace the final guidance CEQ issued on August 1, 2016, titled "Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews," which was withdrawn effective April 5, 2017, for further consideration pursuant to Executive Order 13783 of March 28, 2017, "Promoting Energy Independence and Economic Growth." The draft guidance entails that Agencies to attempt to quantify a proposed action's projected direct and reasonably foreseeable indirect GHG emissions when the amount of those emissions is substantial enough to warrant quantification, and when it is practicable to quantify the using available data and GHG Quantification tools (CEQ 2019).

The draft guidance defines GHGs as CO₂, CH₄, N₂O, HFC, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride (CEQ 2019). These GHG have varying heat-trapping abilities and atmospheric lifetimes. CO₂ equivalency (CO₂e) is a measuring methodology used to compare the heat-trapping impact from various greenhouse gases relative to CO₂. Some gases have a greater global warming potential than others. N₂O for instance, have a global warming potential that is 310 times greater than an equivalent amount of CO₂ and CH₄ is 21 times greater than an equivalent amount of CO₂ (CEQ 2012).

3.10.1 Alternative 1: No Action Alternative

The No Action Alternative would not result in any direct impacts on air quality because there would be no road upgrade or canal crossing construction activities.

3.10.2 Alternative 2: Proposed Action

Temporary and minor increases in air pollution would occur from the use of construction equipment (combustion emissions) and the disturbance of soils (fugitive dust) during road upgrades and canal crossing construction. Particulate emissions would occur as a result of construction activities such as vehicle trips on unimproved roads, bulldozing, compacting, truck dumping, and grading operations. Construction activities would also generate minimal hydrocarbon, NO₂, CO₂, and SO₂ emissions from construction equipment and support vehicles. Fugitive dust would be generated during these construction activities, especially during the road upgrade activities. Fugitive dust and other emissions would minimally increase during construction; however, these emissions would be temporary and return to pre-project levels upon the completion of construction. Emissions as a result of the Proposed Action are expected to be below the *de minimus* threshold (i.e., 100 tons per year) and therefore would not be considered significant. BMPs, such as dust suppression and maintaining equipment in proper working condition would reduce the temporary construction impacts. Furthermore, due to the generally remote location of the various road upgrade and canal crossover construction sites, good wind dispersal conditions, and because Hudspeth County is in attainment, impacts to air quality are expected to be minimal under the Proposed Action.

BMPs to be incorporated to ensure that fugitive dust and other air quality constituent emission levels do not rise above the minimum threshold as required per 40 CFR § 51.853(b)(1) are listed below:

- Standard construction BMPs such as routine watering of the construction site, as well as access drives to the site, would be used to control fugitive dust and thereby will assist in limiting potential PM-10 excursions during the construction phase of the Proposed Action.
- All construction equipment and vehicles would be required to be maintained in good operating condition to minimize exhaust emissions.

3.11 NOISE

Noise is generally described as unwanted sound, which can be based either on objective effects (i.e., hearing loss, damage to structures) or subjective judgments (e.g., community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level. The perceived threshold of human hearing is 0 dB, and the threshold of discomfort or pain is around 120 dB (USEPA 1974). The dBA is a measurement of sound pressure adjusted to conform to the frequency response of the human ear.

Noise levels occurring at night generally produce a greater annoyance than do the same levels occurring during the day. It is generally agreed that people perceive intrusive noise at night as being 10 dBA louder than the same level of intrusive noise during the day, at least in terms of its potential for causing community annoyance. This perception is largely because background environmental sound levels at night in most areas are also about 10 dBA lower than those during the day.

Long-term noise levels are computed over a 24-hour period and adjusted for nighttime annoyances to produce the day-night average sound level (DNL). DNL is the community noise metric recommended by the USEPA and has been adopted by most Federal agencies (USEPA 1974).

Residential Homes

When noise affects humans, it can be based either on objective effects (i.e., hearing loss, damage to structures) or subjective judgments (e.g., community annoyance). A 65 dBA DNL is the impact threshold most commonly used for noise planning purposes near residents and represents a compromise between community impact and the need for activities like construction (U.S. Department of Housing and Urban Development [HUD] 1984).

All of the road and canal crossover sites are located in remote locations in the ROI.

Noise Attenuation

As a general rule, noise generated by a stationary noise source, or “point source,” will decrease by approximately 6 dBA over hard surfaces and 9 dBA over soft surfaces for each doubling of the distance. For example, if a noise source produces a noise level of 85 dBA at a reference distance of 50 feet over a hard surface, then the noise level would be 79 dBA at a distance of 100 feet from the noise source and 73 dBA at a distance of 200 feet. To estimate the attenuation of the noise over a given distance, the following relationship is utilized:

$$\text{Equation 1: } dBA_2 = dBA_1 - 20 \log^{(d_2/d_1)}$$

Where:

dBA_2 = dBA at distance 2 from source (predicted)

dBA_1 = dBA at distance 1 from source (measured)

d_2 = Distance to location 2 from the source

d_1 = Distance to location 1 from the source

Source: California Department of Transportation (Caltrans) 1998

3.11.1 Alternative 1: No Action Alternative

Under the No Action Alternative, the sensitive noise receptors and wildlife within the vicinity of the proposed road upgrade sites would not experience construction or operational noise associated with construction and maintenance and repair; however, noise emissions associated with illegal cross-border violators off-road travel and consequent law enforcement actions would be long-term and minor and would continue under the No Action Alternative.

3.11.2 Alternative 2: Proposed Action

Short-Term Construction Noise Emissions

The construction of the canal crossings and maintenance and upgrades to the existing roads would require the use of common construction equipment. Table 3-13 describes noise emission levels for construction equipment that range from 63 dBA to 85 dBA at a distance of 50 feet (FHWA 2007).

Table 3-11. A-Weighted (dBA) Sound Levels of Construction Equipment and Modeled Attenuation at Various Distances¹

Noise Source	50 feet	100 feet	200 feet	500 feet	1000 feet
Bulldozer	82	76	70	62	56
Concrete mixer truck	85	79	73	65	59
Crane	81	75	69	61	55
Drill rig	85	79	73	65	59
Dump truck	84	78	72	64	58
Excavator	81	75	69	61	55
Front-end loader	79	73	67	59	53
Generator	47	41	35	26	20

Source: FHWA 2007

1. The dBA at 50 feet is a measured noise emission. The 100- to 1,000-foot results are GSRC modeled estimates.

Assuming the worst case scenario of 85 dBA from general construction equipment, the noise model predicts that noise emissions would have to travel 1,138 feet before they would be attenuated to acceptable levels equal to or below 57 dBA, which is the criterion for National Monument and Wildlife Refuges (23 CFR § 722, Table 1), or 482 feet to attenuate to 65 dBA, which is the criterion for residential receptors.

All of the road upgrade and canal crossing construction sites are located in areas far from sensitive noise receptors such as residential homes or National Wildlife Refuges.

Noise generated by the construction activities would be intermittent and last for approximately 2 months, after which noise levels would return to ambient levels. To minimize impacts, construction activity should be limited to daylight hours, between 8:00 a.m. to 5:00 p.m. on Monday through Friday. Therefore, the noise impacts from construction activities would be considered temporary and minor.

Long-Term Operational Noise

Long-term noise emissions refer to noise emissions that would occur after the road upgrades or new road and canal construction has been completed. While in operation, the only noise generated from the sites of the road upgrade and canal crossover sites would be from vehicle crossings by CBP agents and other law enforcement personnel, and from periodic road maintenance and repair. These noise disturbances would be infrequent, short in duration, and low in intensity. Therefore, the noise impacts from ongoing use of the upgraded roads and canal crossings would be considered negligible.

3.12 CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES

Cultural resources include aboveground/built resources, archaeological resources, and sacred sites. Significant cultural resources are those resources that are determined to be Historic Properties, as defined by the NHPA. Historic properties are defined by the NHPA as any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion in the National Register of Historic Places (NRHP), including artifacts, records, and material remains relating to the district, site, building, structure, or object (National Park Service [NPS] 2006). To be considered eligible for the NRHP a property would need to possess integrity of location, design, setting, materials, workmanship, feeling, and association and must also meet at least one of four criteria (NPS 2002):

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

A Traditional Cultural Property (TCP) is a specific type of historic property that is eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining and the continuing cultural identity of the community (Parker and King 1998). Given the broad range in types of historic properties, historic properties can often include other types of cultural resources such as cultural items, archaeological resources, sacred sites, and archaeological collections.

Cultural items as defined by the Native American Graves Protection and Repatriation Act (NAGPRA) are defined as human remains, as well as both associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony or objects that have an ongoing

historical, traditional, or cultural importance to a Native American group or culture (NPS 2006). Archaeological resources, as defined by the Archaeological Resources Protection Act (ARPA), consist of any material remains of past human life or activities that are of archaeological interest and are at least 100 years of age. Such items include, but are not limited to, pottery, basketry, bottles, weapons, weapon projectiles, tools, structures or portions of structures, pit houses, rock paintings, rock carvings, intaglios, graves, human skeletal remains, or any portion or piece of those items (NPS 1996). Sacred sites are defined by E.O. 13007, Indian Sacred Sites, as any specific, discrete, narrowly delineated location on Federal land that is identified by a Native American tribe or Native American individual determined to be an appropriately authoritative representative of a Native American religion as sacred by virtue of its established religious significance, or ceremonial use by, an Native American religion, provided that the tribe or appropriately authoritative representative of a Native American religion has informed the Federal land-owning agency of the existence of such a site (NPS 1996).

Cultural Resources Investigations and Recorded Cultural Resources

An archival record check was performed using the *Texas Archeological Site Atlas* maintained by the Texas Historic Commission. All previously conducted archaeological investigations and archaeological sites that were located within the footprints of the proposed road upgrade and canal crossing construction sites and their associated access roads and utility corridors were identified. In addition, all NRHP-listed properties, Official Texas Historical Markers (OTHM), Recorded Texas Historic Landmarks (RTHLs), and Historic Texas Cemeteries (HTCs) recorded within the visual areas of potential effect of the proposed road upgrade and canal crossing construction sites were also identified. The NRHP includes buildings, structures, sites, objects, and districts that possess significance at a local, state, or National level and retain sufficient integrity to convey that significance. An RTHL is a property judged by the THC to be historically and architecturally significant. The THC awards RTHL designation to buildings at least 50 years old that are judged worthy of preservation for their architectural and historical associations. The THC administers another type of marker program that is solely educational in nature and conveys no legal designation or restrictions on the property. A resource that falls within this category is listed as an OTHM. Administered by the THC, HTC designation is an official recognition of family and community graveyards and encourages preservation of historic cemeteries. The designation imposes no restrictions on private owners' use of the land adjacent to the cemetery, but provides for the recordation of the cemetery into the county deed records as a historically dedicated property worthy of preservation.

Three archaeological investigations have been conducted within 1 mile of the proposed road corridors. Two of the investigations were surveys that were conducted in 1976 for the USIBWC. Neither of those surveys overlap with the current road construction corridors or canal crossings. The final investigation was an archaeological and historic resources survey which was conducted for CBP to assess the potential cultural resources impacts for the Fort Hancock Roads Upgrade Project. Two isolated occurrences consisting of a modern irrigation feature and a concrete block or foundation were recorded during the archaeological surveys. Neither of the resources is considered to represent an archaeological site and both are recommended not eligible for the NRHP. The architectural/aboveground resources survey noted one previously recorded resource within the survey area of the three road corridors, the Madden Lateral Cemetery (Cemetery ID No. HZ- C005, Atlas No. 7229000505), which was located within the 1-mile search area of the

Verduzco's Road Corridor. Construction of the road would not have an adverse effect on the cemetery. Other built environment noted during the architectural surveys included small farms and houses, barns, canals, roads, and agricultural land. An extensive canal and irrigation system is immediately adjacent to all three of the road corridors. As there are multiple irrigation districts from the same timeframe and using the same construction methods all along the Rio-Grande River, each of these Districts also has the potential to be considered eligible, and should be treated as potentially eligible until a full system-wide survey can be undertaken by THC. The irrigation district in this case is Hudspeth County Conservation and Reclamation District 1, which was founded in 1923.

3.12.1 Alternative 1: No Action Alternative

Under the No Action Alternative there would be no construction and no impacts would be anticipated to cultural resources.

3.12.2 Alternative 2: Proposed Action

Under the Proposed Action Alternative, no significant archaeological resources would be impacted by the proposed upgrades of the road or their associated canal crossings. Construction of the three roads would not constitute as an adverse effect to the canal system physically. The new bridges would follow in kind designs that would match the existing bridges of the canal system in appearance. Given that the new bridges would utilize in kind bridge designs, no adverse effects on the canal system are anticipated from the construction of the new bridges. As a result, no adverse impacts to cultural resources are anticipated from the implementation of the Proposed Action.

3.13 UTILITIES AND INFRASTRUCTURE

Currently, electrical power for the project corridor is provided by El Paso Electric Company (EPE) through its regional power grid. In the rural portions of the project corridor, electric power supply is available adjacent to the irrigation canals to support scattered rural farm homes and intermittent irrigation pumping equipment along the project corridor. EPE provides power to an approximately 10,000-square-mile area of Texas and New Mexico, and participates in balance area agreements with surrounding power companies, including those in Mexico, to provide additional power during peak user times. The 2015 peak daily demand for EPE was 1,787 megawatts (Fullerton et al. 2016). EPE maintains a 16 percent margin of available power above firm peak demand (El Paso Regional Economic Development Corporation [REDCO] 2006).

3.13.1 Alternative 1: No Action Alternative

Under the No Action Alternative there would be no construction and no impacts would be anticipated to regional utilities and infrastructure.

3.13.2 Alternative 2: Proposed Action

The Proposed Action would result in negligible effects on the availability of utilities throughout the ROI because of the negligible amperage needed by during the road upgrade process and canal crossover construction and periodic road and canal crossover inspection and maintenance.

3.14 ROADWAYS AND TRAFFIC

Texas Highway 20 and Interstate 10 is the primary route for vehicular traffic within the ROI. Texas Highway 20 starts in El Paso, Texas near Union Plaza and terminates south of McNary, Texas where it converges with Interstate 10. Interstate 10 is the main north-south route connecting areas within the ROI to areas outside of the ROI. There are two United States-Mexico Border Crossings within the ROI, which are located in the City of El Paso (the Interstate 110/Puerta Cordova Crossing and the Americas Avenue Crossing).

3.14.1 Alternative 1: No Action Alternative

Under the No Action Alternative, impacts on roadways and traffic would remain status quo.

3.14.2 Alternative 2: Proposed Action

With the implementation of the Proposed Action, canal crossover construction and road upgrade activities at and within the vicinity of the project areas would have a temporary, minor impact on roadways and traffic within the project area. An increase of vehicular traffic along Texas Highway 20, and the adjacent county roads would occur to supply materials and work crews to the road upgrade and canal crossover construction sites during the construction phase and also in support of inspection and maintenance trips.

Road and canal crossing structure inspection and maintenance requires vehicle travel to each of the proposed sites. The number of maintenance and inspection trips would be limited. Traffic impacts associated with maintenance and inspection would be long-term and negligible.

3.15 AESTHETIC AND VISUAL RESOURCES

The ROI consists predominantly of undeveloped Chihuahuan desert scrub and agricultural and ranch lands in various stages of use. Many oxbow lakes are found throughout. Other aesthetic resources include the Rio Grande. Metropolitan areas adjacent to the project area include El Paso, Tornillo, Fabens, and Fort Hancock. Texas Highway 20 and Interstate 10 are the main roads through the project area.

Federal lands are often assigned visual resource inventory classes. Neither the State of Texas nor the USFWS have an established visual resource impact inventory classification system; however, the Bureau of Land Management (BLM) visual zone classes were used as a means to quantify the visual impacts of each road upgrade and canal crossing structure site analyzed in this EA. These landscapes are often subdivided into three distance zones based on relative visibility from observation points. The three zones are: foreground-middleground, background, and seldom-seen. The foreground-middleground zone includes areas seen from highways, rivers, or other viewing locations that are less than 5 miles away and where management activities might be viewed in detail. This zone can be more visible to the public and changes may be more noticeable. The background zone includes areas beyond the foreground-middleground zone but usually less than 15 miles away. This does not include areas in the background that are so far distant that the only thing discernible is the form or outline. Areas that are not visible within the foreground-middleground zone or background zone are in the seldom-seen zone (BLM 2009). No Federal lands will be affected by the proposed action.

3.15.1 Alternative 1: No Action Alternative

Under the No Action Alternative there would be no road upgrades and no construction of canal crossovers and thus, there would be no impacts on aesthetic or visual resources.

3.15.2 Alternative 2: Proposed Action

The Proposed Action would have a long-term, negligible impact on aesthetic qualities within the project area. Due to the existing levees, vegetation, and development that are within the project area, no roads or canal crossovers are expected to be visible from more than 5 miles away.

Temporary aesthetic and visual resource impacts during the construction phase of the project would occur at the road upgrade and canal crossover construction sites. Generally these temporary impacts would involve the presence of construction equipment on the landscape and temporary ground disturbances. Post-construction revegetation with native species and surface contouring would be utilized to minimize and reduce these temporary impacts.

3.16 HAZARDOUS MATERIALS

Hazardous materials are substances that cause physical or health hazards (29 CFR 1910.1200). Materials that are physically hazardous include combustible and flammable substances, compressed gases, and oxidizers. Health hazards are associated with materials that cause acute or chronic reactions, including toxic agents, carcinogens, and irritants. Hazardous materials are regulated in Texas by a combination of mandated laws promulgated by the USEPA and the TCEQ.

A Phase 1 Environmental Site Assessment was conducted for each proposed road and crossing construction sites in accordance with the American Society for Testing and Materials International Standard E1527-05. These assessments were performed to evaluate any potential environmental risk associated with the construction and implementation and operation of the proposed road upgrade and canal crossings. Each assessment included a search of Federal and state records of known hazardous waste sites, potential hazardous waste sites and remedial activities and included sites that are either on the National Priorities List or being considered for the list. The Riverside Road and Verduzco's Road sites had evidence of *de minimus* amounts hazardous materials associated with above ground and underground petroleum storage tanks detected during the site inspections conducted on February 12, 2019. None of the road and crossing construction sites exhibits a potential business environmental risk to CBP for existing hazardous materials.

3.16.1 Alternative 1: No Action Alternative

Under the No Action Alternative, no roads would be upgraded and no canal crossings would be constructed; therefore, no existing hazardous materials risks would be encountered and no potential for hazardous materials spills during construction would be realized. No impacts from hazardous materials would result from the No Action Alternative.

3.16.2 Alternative 2: Proposed Action

Upgrade and construction of roads and installation of crossing structures at the sites indicated for the Proposed Action would involve the use of heavy construction equipment. There is a

potential for the release of hazardous materials such as fuels, lubricants, hydraulic fluids, and other chemicals during the clearing, grading, and deposition of surface material of the road sites and installation of the crossing structures. The impacts from spills of hazardous materials during construction would be minimized by utilizing BMPs during construction such as fueling only in controlled and protected areas away from surface waters, maintaining emergency spill cleanup kits at all sites during fueling operations, maintaining all equipment in good operating condition to prevent fuel and hydraulic fluid leaks, and protecting surface waters on and near the road upgrade and canal crossing construction sites from stormwater runoff. Therefore, negligible impacts from hazardous materials would occur.

If hazardous materials are encountered at the road upgrade sites during excavation, proper cleanup and disposal of any contaminated soil by a certified hazardous waste transporter would occur, thereby minimizing impacts on the environment and preventing contamination of soil or surface waters off-site.

3.17 RADIO FREQUENCY ENVIRONMENT

The radio frequency (RF) environment refers to the presence of electromagnetic (EM) radiation emitted by radio waves and microwaves on the human and biological environment. EM radiations are self-propagating waves of electric and magnetic energy that move through space via radio waves and microwaves emitted by transmitting antennas. RF is a frequency or rate of oscillation within the range of about 3 hertz and 300 gigahertz. This range corresponds to frequency of alternating current and electrical signals used to produce and detect radio waves. The EM radiation produced by radio waves and microwaves carry energy and momentum and can interact with matter. New RF emitting equipment would not be a part of the proposed action, and, therefore, will not be discussed in detail.

Currently, CBP, USFWS, local law enforcement agencies, and the military use 2-way radios as part of their daily operations in the project area. Further, several of these agencies operate and maintain radio repeaters within the ROI.

3.17.1 Alternative 1: No Action Alternative

Under the No Action Alternative, the new communications equipment would not be installed or operated. Daily radio operations by CBP and USFWS, and local law enforcement would continue within the project area. The existing RF emitted would continue to have adverse, negligible impacts on the human or natural environments.

3.17.2 Alternative 2: Proposed Action

The Proposed Action would not involve the installation new communications equipment within the project area. There would be a negligible increase in RF energy associated with increased law enforcement activity and associated communication from and between 2-way radios and existing radio repeaters within the ROI after the roads are upgraded and canal crossovers construction is complete.

No RF energy levels emitted from the proposed equipment are outside OSHA safety standards.

3.18 SOCIOECONOMICS

This socioeconomics section outlines the basic attributes of population and economic activity in Hudspeth County, Texas, which is the ROI for socioeconomics.

Demographic data shown in Table 3-12 provide an overview of the socioeconomic environment in the ROI. Hudspeth County is very rural, with an estimated population in 2017 of 4,408 in 2018. In 2010, Hudspeth County had 0.8 persons per square mile, while Texas and the U.S. had 87.4 and 96.3 persons per square mile, respectively. Hudspeth County is heavily Hispanic, with approximately 78 percent of the population identifying as Hispanic. Per capita income is very low, at 50 percent of the U.S. per capita income, and the average annual unemployment rate (6.0 percent) is well above Texas (4.3 percent) and the U.S. (4.4 percent).

Table 3-12. Population, Income, Labor Force, and Unemployment

	2017 Population Estimate*	Average Annual Growth Rate 2000-2017 (Percent)	Per Capita Income (Dollars)	Per Capita Income As a Percent of the United States (Percent)	Unemployment Rate (2017) (Percent)
Hudspeth County	4,408	3.8	\$14,776	50	6.0
Texas	27,469,114	2.1	\$27,828	93	4.3
United States	321,418,820	0.8	\$29,829	100	4.4

Source: U.S. Census Bureau 2018; BLS 2018a, BLS 2018b

3.18.1 Alternative 1: No Action Alternative

Under the No Action Alternative, the road upgrades and new construction would not occur. There would be no direct impacts on socioeconomics since the roads would not be upgraded. The USBP’s ability to detect and interdict illicit cross-border activity would not be enhanced.

3.18.2 Alternative 2: Preferred Alternative

The Preferred Alternative would have temporary, minor adverse socioeconomic impacts in some of the areas immediately adjacent to the roads. The proposed roads are in very rural areas. The closest inhabited residence is located approximately 2,000 feet northwest of the Riverside Road site. Therefore, no impact on residences from temporary increases in construction traffic, noise, and dust would occur.

Temporary, minor beneficial impacts in the form of jobs and income for area residents, revenues to local businesses, and sales taxes to Hudspeth County and the State of Texas from locally purchased building materials could be realized if construction materials are purchased locally and local construction workers are hired for road construction. Additionally, the road upgrades would provide better access for USBP agents focused on interdiction of those involved in illegal cross-border activities, thereby enhancing rapid response capabilities. Agents could be more efficiently deployed to patrol the areas, which would likely contribute to a decrease in cross-

border violators. The decrease in cross-border violator activities could have a beneficial effect on the incidence of crime and enhanced safety, providing long-term beneficial impacts in the region.

3.19 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

Environmental Justice. EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued by President Clinton on February 11, 1994. It was intended to ensure that proposed Federal actions do not have disproportionately high and adverse human health and environmental effects on minority and low-income populations and to ensure greater public participation by minority and low-income populations. It required each agency to develop an agency-wide environmental justice strategy. A Presidential Transmittal Memorandum issued with the EO states that “Each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by the NEPA 42 U.S.C. section 4321, et seq.” The Department of Defense (DoD) has directed that NEPA will be used to implement the provisions of the EO.

EO 12898 does not provide guidelines as to how to determine concentrations of minority or low-income populations. However, analysis of demographic data on race and ethnicity and poverty provides information on minority and low-income populations that could be affected by the proposed actions. The U.S. Census Bureau reports numbers of minority individuals and the U.S. Census American Community Survey (ACS) provides the most recent poverty estimates available. Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, Pacific Islander, or Other. Poverty status is used to define low-income. Poverty is defined as the number of people with income below poverty level, which was \$24,858 for a family of four in 2017, according to the U.S. Census Bureau (U.S. Census Bureau 2017). A potential disproportionate impact may occur when the percent minority in the study area exceeds 50 percent or a disproportionate impact may occur when the percent minority and/or low-income in the study area are meaningfully greater than those in the region.

Protection of Children. EO 13045 requires each Federal agency “to identify and assess environmental health risks and safety risks that may disproportionately affect children” and “ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.” This EO was prompted by the recognition that children, still undergoing physiological growth and development, are more sensitive to adverse environmental health and safety risks than adults. The potential for impacts on the health and safety of children is greater where projects are located near residential areas.

Table 3-13 presents U.S. Census Bureau data for minority population and poverty rates for the ROI.

Table 3-13. Minority and Poverty

	Minority Population (Percent)	All Ages in Poverty (Percent)
Hudspeth County	82.4	21.4
Texas	58.0	14.7
United States	39.3	12.3

Source: U.S. Census Bureau 2018

3.19.1 Alternative 1: No Action

Under the No Action Alternative, the road upgrades and new construction would not occur. There would be no direct impacts on people, so there would be no disproportionately high and adverse human health or environmental effects on minority populations and low income populations. There would be no environmental health or safety risks that could disproportionately affect children. The USBP's ability to detect and interdict illicit cross-border activity would not be enhanced.

3.19.2 Alternative 2: Preferred Alternative

Hudspeth County has high minority and high poverty populations. However, there are no residences in the vicinity of the proposed roads. There would be no long-term impacts on people and only temporary, minor impacts associated with construction, so there would be no disproportionately high and adverse human health or environmental effects on minority populations and low income populations. There would be no environmental health or safety risks that could disproportionately affect children.

3.20 SUMMARY OF IMPACTS

Table 3-14 is provided to summarize the impacts of the No Action Alternative and Proposed Action on each of the elements discussed in this section (Affected Environment).

Table 3-14. Summary Matrix of Potential Impacts

Affected Environment	No Action Alternative (Alternative 1)	Proposed Action (Alternative 2)
Land Use	No direct impacts would occur.	The Proposed Action would have a permanent, negligible impact on land use. Approximately 7.89 acres of undeveloped and agricultural land would be converted to law enforcement roads land use.
Soils	No direct impacts would occur.	The Proposed Action would have a direct, minor impact on soils. Permanent impacts on approximately 7.189 acres of soil would occur through the conversion of undeveloped land to use as law enforcement roads and canal crossover structures. An additional 2.75 acres of soil would be temporarily disturbed during road upgrade and canal crossing construction and maintenance and repair.
Vegetative Habitat	No direct impacts would occur.	The Proposed Action would permanently alter approximately 1.53 acres of native vegetative communities (1.03 acres of Chihuahuan Desert scrub, and 0.5 acres of Rio Grande riparian vegetation). The plant communities associated with the road upgrade and canal crossover construction sites are both locally and regionally common, and the permanent loss of approximately 1.53 acres of vegetation would not adversely affect the population viability of any plant or animal species in the region.
Wildlife Resources	No direct impacts would occur.	The Proposed Action would have a long term negligible impact on wildlife resources due to the permanent removal of approximately 7.17 acres of habitat. The temporary degradation of approximately 1.53 acres of disturbed and native habitat and the noise impacts associated with construction activities would have a short-term, negligible impact on wildlife.
Protected Species and Critical Habitats	No direct impacts would occur.	The Proposed Action may affect, but is not likely to adversely affect, NAF, SWFL, YBC, and Rio Grande silvery minnow. No designated critical habitat is present within the project footprint.
Groundwater	No direct impacts would occur.	Negligible impact on groundwater resources.
Surface Waters and Waters of the United States	No direct impacts would occur.	Surface water quality could be temporarily impacted during construction activities as a result of erosion and sedimentation. Negligible to minor impacts on surface water resources from usage for construction purposes. Minor impact to wetlands and waters of the United States; however, impacts would be mitigated through permitting process.
Floodplains	No direct impacts would occur.	Impacts on floodplains would be minor and all proper permits would be obtained prior to construction.
Air Quality	No direct impacts would occur.	Temporary and minor increases in air pollution would occur from the use of construction equipment (combustion emissions) and the disturbance of soils (fugitive dust) during construction and the maintenance and repair of access roads.
Noise	No direct impacts would occur.	Temporary and negligible increases in noise would occur during construction and maintenance and repair of access roads.
Cultural Resources	No direct impacts would occur.	No significant archaeological resources would be impacted by the Proposed Action.
Utilities and Infrastructure	No direct impacts would occur.	Negligible demands on power utilities would be required as a result of the Proposed Action.
Roadways and Traffic	No direct impacts would occur.	Construction activities would have a temporary, minor impact on roadways and traffic within the region. The increase of vehicular traffic would occur to supply materials and work crews at each road upgrade and canal crossing construction sites during construction.
Aesthetics and Visual Resources	No direct impacts would occur.	The Proposed Action would have a long-term, moderate impact on aesthetic qualities within the project area. Most road upgrade sites and canal crossing structures would be visible up to 5 miles away from the site. Temporary aesthetic impacts during the construction phase of the project would occur at the road upgrade and canal crossing construction sites, and these impacts would include the visual impacts of construction equipment.
Hazardous Material	No direct impacts would occur.	The Proposed Action would not result in the exposures of the environment or public to any hazardous materials. The potential exists for minor releases of petroleum, oil, and lubricant during construction or operational activities. BMPs will be implemented to minimize any potential contamination at the road upgrade and canal crossing construction sites during construction activities and operation.
Socioeconomics	No direct impacts would occur	Minor to negligible impacts would occur.

4.0 CUMULATIVE IMPACTS

This section of the EA defines cumulative impacts, identifies past, present, and reasonably foreseeable projects relevant to cumulative impacts, and analyzes the potential cumulative impacts associated with the implementation of the Proposed Action and other projects/programs planned within the ROI.

4.1 DEFINITION OF CUMULATIVE IMPACTS

The CEQ defines cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR § 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time by various agencies (Federal, state, or local) or individuals. CEQ guidance on cumulative effects requires the definition of the scope of the other actions and their interrelationship with the Proposed Action (CEQ 1997). The scope must consider geographic and temporal overlaps with the Proposed Action and all other actions occurring within the ROI. Informed decision making is served by consideration of cumulative impacts resulting from activities that are proposed, under construction, recently completed, or anticipated to be implemented in the reasonably foreseeable future.

This cumulative impacts analysis summarizes expected environmental effects from the combined impacts of past, current, and reasonably foreseeable future activities affecting any part of the human or natural environment impacted by the Proposed Action. Activities were identified for this analysis by reviewing CBP and USBP documents, news/press releases, and published media reports, and through consultation with planning and engineering departments of local governments and state and Federal agencies.

4.2 PAST IMPACTS WITHIN THE REGION OF INFLUENCE

The ecosystems within the ROI have been significantly impacted by historical and ongoing activities such as ranching, livestock grazing, mining, agricultural development, cross-border violator activity and resulting law enforcement actions, and climate change. All of these actions have, to a greater or lesser extent, contributed to several ongoing threats to the ecosystem, including loss and degradation of habitat for both common and rare wildlife and plants and the proliferation of roads and trails due to cross-border violator activity and resulting law enforcement actions. Although activities that occurred on Federal lands (DOI and BLM) were regulated by NEPA, the most substantial impacts of these activities within the ROI such as ranching, livestock grazing, and cross-border violator activity and resulting law enforcement actions, were not or are not regulated by NEPA and did not include efforts to minimize impacts.

4.3 CURRENT AND REASONABLY FORESEEABLE CBP PROJECTS WITHIN AND NEAR THE REGION OF INFLUENCE

USBP has conducted law enforcement actions along the border since its inception in 1924 and has continuously transformed its methods as new missions, modes of operations of cross-border

violators, agent needs, and National enforcement strategies have evolved. Development and maintenance of training ranges, station and sector facilities, detention facilities, roads, and fences have impacted thousands of acres, with synergistic and cumulative impacts on soil, wildlife habitats, water quality, and noise. Beneficial effects, too, have resulted from the construction and use of these roads and fences, including, but not limited to, increased employment and income for border regions and its surrounding communities; protection and enhancement of sensitive resources north of the border; reduction in crime within urban areas near the border; increased land value in areas where border security has increased; and increased knowledge of the biological communities and prehistory of the region through numerous biological and cultural resources surveys and studies.

With continued funding and implementation of CBP's environmental conservation measures, including use of biological monitors, wildlife water systems, and restoration activities, adverse impacts due to future and ongoing projects would be avoided or minimized. Recent, ongoing, and reasonably foreseeable proposed actions will result in cumulative impacts; however, the cumulative impacts will not be significant. CBP is currently planning, is conducting, or has completed several projects in the FHT and neighboring AORs, including the following:

- Proposed new patrol road in Zone 39.
- Demolition of eight USBP owned housing units at Falcon Village, Texas, which included completely removing all housing and related infrastructure (fences, underground storage tanks, aboveground storage tanks, septic tanks, cisterns, walkways, and trees and vegetation). Falcon Village is located at the southeastern tip of Falcon Lake in Starr County, Texas.
- Construction, operation, and maintenance of USBP Falfurrias Station Traffic Checkpoint.
- Establishment of a 6-acre construction staging/laydown area adjacent to the proposed Falfurrias Station Traffic Checkpoint and temporarily grading approximately 8 acres within an existing gas pipeline right-of-way (ROW) adjacent to the checkpoint.
- Maintenance and repair of tactical infrastructure along the US/Mexico international border in the El Paso, Big Bend, Del Rio, Laredo, and Rio Grande Valley (RGV) sectors.
- Construction and maintenance of 32 RVSS towers and associated roads within the Falfurrias, Brownsville, Harlingen, Fort Brown, and Kingsville Station's AORs.

In addition, TxDOT and EPE are currently planning or conducting several projects in the ROI and include:

- Replacement of bridges and railings along Interstate 10.
- Widening the roadway to eight lanes along Interstate 10.
- Micromill and longitudinal joint repair along Interstate 10
- Construction of a new road, 5.58 miles in length, connecting Bob Hope Drive and Zaragoza Road.
- Surfacing and roadway restoration along State Loop 375 to Farm-to-Market Road (FM) 1110.
- Installation of a raised median, profile edge line markings, and profile centerline markings along FM 76 and Colina.
- 2019-2028 EPE system expansion plan.

A summary of the anticipated cumulative impacts relative to the Proposed Action is presented below. The discussion is presented for each of the resources described previously.

4.4 ANALYSIS OF CUMULATIVE IMPACTS

Impacts on each resource were analyzed according to how other actions and projects within the ROI might be affected by the No Action Alternative and Proposed Action. Impacts can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. For the purpose of this analysis the intensity of impacts will be classified as negligible, minor, moderate, or major. These intensity thresholds were previously defined in Section 3.1. A summary of the anticipated cumulative impacts on each resource is presented below.

4.4.1 Land Use

A major impact would occur if any action is inconsistent with adopted land use plans or if an action would substantially alter those resources required for, supporting or benefiting the current use. Approximately half of the project area is currently undeveloped scrub and brush rangeland located in rural areas. Under the No Action Alternative, land use would not change. However, cross-border violator activities would continue to impact land use in the project area. Although the Proposed Action would convert approximately 7.89 acres of undeveloped land to a developed use, the Proposed Action and other CBP actions would not initiate an increase of development in the immediate vicinity of the projects. Therefore, the Proposed Action, when combined with past and proposed actions in the region, would not be expected to result in a major cumulative adverse effect.

4.4.2 Soils

A major impact on soils would occur if the action exacerbates or promotes long-term erosion, if the soils are inappropriate for the proposed construction and would create a risk to life or property, or if there would be a substantial reduction in agricultural production or loss of prime farmland soils. Modification of soils would not occur under the No Action Alternative; however, soils would continue to be impacted due to cross-border violator activity in the ROI. The Proposed Action and other CBP actions would not substantially reduce prime farmland soils or agricultural production regionally, as much of the land developed by CBP has not been previously used for agricultural production. Pre- and post-construction SWPPP measures would be implemented to control soil erosion. Indirect beneficial impacts due to the deterrence of cross-border violator activity within the ROI resulting in a reduction in soil disturbances are anticipated. The permanent impact on 7.89 acres of soils (none of which are considered prime farmland soils) from the Proposed Action, when combined with past and proposed actions in the region, would not be considered a major cumulative adverse effect.

4.4.3 Vegetative Habitat

A major impact on vegetation would occur if a substantial reduction in ecological processes, communities, or populations would threaten the long-term viability of a species or result in the substantial loss of a sensitive community that could not be offset or otherwise compensated. Vegetative habitat would not be disturbed or removed under the No Action Alternative since the proposed road upgrades and associated canal crossover construction and improvements would not occur. However, long-term direct and indirect impacts on vegetation communities would continue as a result of cross-border violator activities that create unauthorized roads and trails,

damage vegetation and promote the dispersal and establishment of nonnative invasive species. The Chihuahuan Basins and Playas ecoregion encompasses approximately 12,625 square miles in west Texas. Therefore, due to the permanent impact of only 1.53 acres (road and canal crossovers sites) on native vegetation, in conjunction with other past, ongoing and proposed regional projects, the Proposed Action would not create a major cumulative effect on vegetative habitat in the region.

4.4.4 Wildlife Resources

A major impact on wildlife and aquatic resources would occur if a substantial reduction in ecological processes, communities, or populations would threaten the long-term viability of a species or result in the substantial loss of a sensitive community that could not be offset or otherwise compensated. Under the No Action Alternative, no direct impacts on wildlife or wildlife habitats would occur. However, off-road cross-border violator activity and required interdiction actions would continue to degrade wildlife habitat through a loss of cover, forage, nesting or other opportunities and potentially a loss of suitable habitat over large areas. The wildlife habitat present in the project area is both locally and regionally common. Therefore, due to the permanent impact of only 1.53 acres of native habitat, in conjunction with other past, ongoing, and proposed regional projects, the amount of habitat potentially removed would be minor on a regional scale. Thus, the Proposed Action would not create a major cumulative effect on wildlife populations in the region.

4.4.5 Threatened and Endangered Species

A major impact on protected species would occur if any action resulted in a jeopardy opinion for any endangered, threatened, or rare species. Under the No Action Alternative, there would be no direct impacts on threatened or endangered species or their habitats as no construction activities would occur. However, the direct and long-term impacts of illegal border activities throughout the project area and surrounding areas would continue due to the creation of trails, damage to vegetation, and the promotion of the dispersal and establishment of invasive species which can result in catastrophic wildfires.

Although potential habitat for the SWFL, YBC, Rio Grande silvery minnow, and NAF exists at and near the proposed road upgrade and canal crossing sites, the construction, operation, inspection, and maintenance activities associated with the road improvements, and construction, and maintenance of the canal crossovers would not likely adversely affect these species. Likewise, BMPs, which limit potential impacts on these species, would be in place during the construction of the Proposed Actions and would continue to be in place once the upgraded roads and canal crossovers are in use. Thus, when combined with other existing and proposed actions in the region, the Proposed Action would not result in major cumulative impacts on protected species or designated Critical Habitats. Any indirect, cumulative impacts on protected species would be negligible to minor.

4.4.6 Groundwater, Surface Water, Waters of the U.S., and Floodplains

Under the No Action Alternative, no impacts on water resources would occur because the proposed road upgrades associated canal crossover construction would not occur. No groundwater withdrawals are expected as a result of the Proposed Action; therefore, there would be no cumulative effects. Drainage patterns of surface waters would not be impacted by the

Proposed Action and minimal amounts of surface waters for construction purposes would be used within the ROI. Water quality would remain unchanged under the Proposed Action. A potentially jurisdictional wetland would be impacted; however, through the permitting process a no net loss of wetlands would be achieved. Therefore, no cumulative impacts would occur on wetlands. As mentioned previously, specific erosion and sedimentation controls and other BMPs would be in place during construction as standard operating procedures. There is potential to impact the 100-year floodplain as a result of the Proposed Action; however, CBP is coordinating with the USIBWC regarding potential impacts on the floodplain from the proposed road upgrade and canal crossing construction within the floodplain. The reforestation of current agricultural land would have a minimal impact on flows within the floodplain. Therefore, the Proposed Action, in conjunction with other past, ongoing, and proposed regional projects, would not create a major cumulative effect on water resources in the region.

4.4.7 Air Quality

No direct impacts on air quality would occur due to construction activities under the No Action Alternative; however, fugitive dust emissions created by illegal cross-border violators and resulting law enforcement actions, as well as vehicle traffic on authorized roads, would continue. The emissions generated during the road upgrade and canal crossover construction activities, and all associated road construction, repair, and improvement would not exceed Federal *de minimis* thresholds and would be short-term and minor. Generator emissions from use during construction of canal crossings would be short-term, sporadic, and would not exceed Federal *de minimis* thresholds. There would be no long-term increase in vehicular traffic in the region's airshed. Therefore, the Proposed Action, when combined with other past, ongoing, and proposed actions in the region, would not result in major adverse cumulative impacts.

4.4.8 Noise

A major impact would occur if ambient noise levels permanently increased to over 65 dBA. Under the No Action Alternative, the sensitive noise receptors and wildlife near the proposed road upgrade and canal crossover sites would not experience construction or operational noise associated with the law enforcement use of the roads and canal crossings; however noise emissions associated with cross-border violators and consequent law enforcement actions would be long-term and minor, and would continue under the No Action Alternative. The vast majority of the noise generated by the Proposed Action would occur during road upgrade and canal crossing construction and inspection and maintenance. These activities would be temporary and would not contribute to cumulative impacts on ambient noise levels. Operational noise associated with law enforcement vehicle use of the roads and crossings would also be sporadic and would not increase ambient noise conditions above 65 dBA. Thus, the generated by the Proposed Action, when considered with the other existing and proposed actions in the region, would not result in a major cumulative adverse effect.

4.4.9 Cultural Resources

Although no impacts on cultural resources would occur from construction activities under the No Action Alternative, potential adverse impacts on cultural resources would continue to occur due to cross-border violators within the ROI. The Proposed Action would not affect cultural resources or historic properties once mitigation measures have been implemented but is anticipated to provide increased protection from disturbance due to the deterrence of cross-

border violators within the ROI. Therefore, the Proposed Action, when combined with other existing and proposed actions in the region, would not result in major cumulative impacts on cultural resources or historic properties. Additionally, beneficial impacts in the form of increased knowledge of the past, including site density and distribution, are realized as a result of surveys conducted as part of the Proposed Action, and other past, ongoing, and proposed actions in the region.

4.4.10 Utilities and Infrastructure

Actions would be considered to cause major impacts if they require greater utilities or infrastructure use than can be provided. The proposed road upgrades associated canal crossing construction would not occur under the No Action Alternative, so the availability of utilities would not be affected. Electrical power needs during the road upgrade and canal crossing construction process would be met by on-site generators or would connect to existing commercial grid power infrastructure. The use of commercial grid power would not require greater utilities or infrastructure than can be provided. Therefore, when combined with past, ongoing, or proposed actions in the region, no major cumulative adverse effect on utilities or infrastructure would occur as a result of the Proposed Action.

4.4.11 Roadways and Traffic

Impacts on traffic or roadways would be considered to cause major impacts if the increase of average daily traffic exceeded the ability of the surface streets to offer a suitable level of service for the area. Under the No Action Alternative, impacts on roadways and traffic would remain status quo. In general, the roads in the vicinity of the proposed road upgrades associated canal crossover construction sites are very lightly travelled and construction activities for the Proposed Action would be limited in duration, and maintenance and inspection trips would be sporadic. Therefore, when combined with past, ongoing, or proposed actions in the region, no major cumulative adverse effect on roadways and traffic would occur as a result of the Proposed Action.

4.4.12 Aesthetics and Visual Resources

Actions that cause the permanent loss of the characteristics that make an area visually unique or sensitive would be considered to cause a major impact. Aesthetics would not be directly affected by the No Action Alternative because proposed road upgrades associated canal crossover construction would not occur. No major impacts on visual resources would occur from construction of the proposed road upgrade and canal crossover sites. The Proposed Action, in conjunction with other past, ongoing, and proposed actions in the region, would result in moderate adverse cumulative impacts on the region's visual resources.

4.4.13 Hazardous Materials

Major impacts would occur if an action creates a public hazard, if the project area is considered a hazardous waste site that poses health risks, or if the action would impair the implementation of an adopted emergency response or evacuation plan. Under the No Action Alternative, no impacts associated with the use of hazardous materials would be expected. Only minor increases in the use of hazardous substances would occur as a result of the Proposed Action. BMPs would be implemented to minimize the risk from hazardous materials during road upgrade canal crossover construction at the road corridor sites. If hazardous materials are encountered at any of

the sites during construction, proper cleanup and disposal of any contaminated soil would minimize the impact on the environment and prevent contamination of soil or surface waters off-site. Through the use of BMPs, no health or safety risks would be created by the Proposed Action. The effects of the Proposed Action, when combined with other past, ongoing, and proposed actions in the region, would not be considered a major cumulative effect.

4.4.14 Radio Frequency (RF) Environment

Under the No Action Alternative, daily radio operations by CBP and other law enforcement would continue. The Proposed Action would not involve the installation new communications equipment within the project area. There would be a negligible increase in RF energy associated with increased law enforcement activity and associated communication from and between 2-way radios and existing radio repeaters within the ROI after the roads are upgraded and canal crossovers construction is complete. No other known actions would affect the EM and RF environment within the project area; thus, the Proposed Action would have a negligible cumulative effect.

4.4.15 Socioeconomics and Environmental Justice

Although no impacts on socioeconomics or environmental justice would occur from construction activities under the No Action Alternative, potential adverse impacts on socioeconomics or environmental justice would continue to occur due to cross-border violators within the ROI. No adverse direct impacts would occur on socioeconomics or environmental justice issues as a result of the Proposed Action; therefore, no adverse cumulative impacts would occur. However, construction of the proposed road upgrade and canal crossing construction would have temporary cumulative beneficial impacts on the region's economy due to temporary employment and sales taxes generated through the purchase of construction-related items such as fuel and food. When combined with the other currently proposed or ongoing projects within the region, the Proposed Action is considered to have minor beneficial cumulative impacts.

5.0 BEST MANAGEMENT PRACTICES

This chapter describes those measures that will be implemented to reduce or eliminate potential adverse impacts on the human and natural environments. Many of these measures have been incorporated as standard operating procedures by CBP on past projects. BMPs will be presented for each resource category that would be potentially affected. It should be emphasized that these are general BMPs and the development of specific BMPs will be required for certain activities implemented under the action alternatives. The proposed BMPs will be coordinated through the appropriate agencies and land managers/administrators, as required.

It is Federal policy to reduce adverse impacts through the sequence of avoidance, minimization, and, finally, compensation. Compensation varies and includes activities such as restoration of habitat in other areas, acquisition of lands, etc., and is typically coordinated with the USFWS and other appropriate Federal and state resource agencies.

5.1 GENERAL PROJECT PLANNING CONSIDERATIONS

1. If security lights are necessary, only low-sodium bulbs that are both shielded and motion-activated will be used.
2. Avoid contamination of ground and surface waters by storing concrete wash water, and any water that has been contaminated with construction materials, oils, equipment residue, etc., in closed containers on-site until removed for disposal. This wash water is toxic to wildlife. Storage tanks must have proper air space (to avoid rainfall-induced overtopping), be on-ground containers, and be located in upland areas instead of washes.
3. Avoid lighting impacts during the night by conducting construction and maintenance activities during daylight hours only. If night lighting is unavoidable, 1) use special bulbs designed to ensure no increase in ambient light conditions, 2) minimize the number of lights used, 3) place lights on poles pointed down toward the ground, with shields on lights to prevent light from going up into sky, or out laterally into landscape, and 4) selectively place lights so they are directed away from all native vegetative communities.
4. CBP will avoid the spread of non-native plants by not using natural materials (e.g., straw) for on-site erosion control. If natural materials must be used, the natural material would be certified weed and weed-seed free. Herbicides not toxic to listed species that may be in the area can be used for non-native vegetation control. Application of herbicides will follow Federal guidelines and can be used according to in accordance with label directions. A USFWS Pesticide Use Permit will be obtained prior to applying herbicides on USFWS lands.
5. CBP will ensure that all construction will follow DHS *Directive 025-01* for Sustainable Practices for Environmental, Energy, and Transportation Management.
6. CBP will place drip pans under parked equipment and establish containment zones when refueling vehicles or equipment.

5.2 SOILS

1. Clearly demarcate the perimeter of all new areas to be disturbed using flagging or temporary construction fencing. Do not allow any disturbance outside that perimeter.
2. The area of disturbance will be minimized by limiting deliveries of materials and equipment to only those needed for effective project implementation.
3. Within the designated disturbance area, grading or topsoil removal will be limited to areas where this activity is needed to provide the ground conditions necessary for construction or maintenance activities.
4. Road upgrades shall avoid making windrows with the soils once grading activities are completed, and any excess soils will be used on-site to raise and shape the road surface as applicable.
5. Roads will be properly designed and located such that the widening of existing or created roadbed beyond the design parameters due to grading and use will be avoided or minimized.
6. Properly design and locate roads such that the potential for roadbed erosion into Federally listed species habitat will be avoided or minimized.
7. Rehabilitation will include revegetating or the distribution of organic and geological materials (i.e., boulders and rocks) over the disturbed area to reduce erosion while allowing the area to naturally vegetate.
8. Vehicular traffic associated with the construction activities and operational support activities will remain on established roads to the maximum extent practicable.

5.3 BIOLOGICAL RESOURCES

1. Materials used for on-site erosion control will be free of non-native plant seeds and other plant parts to limit potential for infestation.
2. Identify by its source location any fill material, sandbags, hay bales, and mulch brought in from outside the project area. These materials will be free of non-native plant seeds and other plant parts to limit potential for infestation.
3. Native seeds or plants, which are compatible with the enhancement of protected species, will be used to revegetate temporarily disturbed areas and spread of invasive plant species.
4. Pollinator conservation and management will be considered in revegetation efforts, and native plant species used for revegetation of disturbed areas will contain native milkweed (*Asclepias* sp.) and nectar plants and efforts will follow guidance provided on the Monarch Watch website (<https://monarchwatch.org/>).

5. Obtain materials such as gravel, topsoil, or fill from existing developed or previously used sources that are compatible with the project area and are from legally permitted sites. Do not use materials from undisturbed areas adjacent to the project area.
6. The number of vehicles traveling to and from the project site and the number of trips per day will be minimized to reduce the likelihood of disturbing animals in the area or injuring animals on the road.
7. Construction vehicle speed limits will not exceed 35 miles per hour (mph) on major unpaved roads (i.e., graded with ditches on both sides) and 25 mph on all other unpaved roads. During periods of decreased visibility (e.g., night, poor weather, curves), do not exceed speeds of 25 mph.
8. To prevent entrapment of wildlife species, ensure that excavated, steep-walled holes or trenches are either completely covered by plywood or metal caps at the close of each workday or provided with one or more escape ramps (at no greater than 1,000-foot intervals and sloped less than 45 degrees) constructed of earthen fill or wooden planks.
9. Each morning before the start of construction or maintenance activities and before such holes or trenches are filled, ensure that they are thoroughly inspected for trapped animals. Ensure that any animals discovered are allowed to escape voluntarily (by escape ramps or temporary structures), without harassment, and before construction activities resume, or are removed from the trench or hole by a qualified person and allowed to escape unimpeded.
10. The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712, [1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989]) requires that Federal agencies coordinate with the USFWS if a construction activity would result in the take of a migratory bird. If construction or clearing activities are scheduled during nesting season (March 15 through September 15) within potential nesting habitats, surveys will be performed to identify active nests. If active nests are located during surveys, a 150-foot buffer of vegetation will remain around the nest site until young have fledged. If construction activities will result in the take of a migratory bird, then coordination with the USFWS and TPWD will be required and applicable permits would be obtained prior to construction or clearing activities.
11. CBP will not, for any length of time, permit any pets inside the project area or adjacent native habitats. This BMP does not pertain to law enforcement animals.

5.4 PROTECTED SPECIES

1. All contractors, work crews (including military personnel), and CBP personnel in the field performing construction and maintenance activities will receive environmental awareness training. At a minimum, environmental awareness training will provide the following information: maps indicating occurrence of potentially affected and Federally listed species; the general ecology, habitat requirements, and behavior of potentially affected Federally listed species; the BMPs listed here and their intent; reporting requirements; and the penalties for violations of the ESA. It will be the responsibility of the project manager(s) to ensure

that their personnel are familiar with general BMPs, the specific BMPs presented here, and other limitations and constraints. Photographs of potentially affected Federally listed species will be incorporated into the environmental awareness training and posted in the contractor and resident engineer's offices where they will remain through the duration of the project, and copies will be made available that can be carried while conducting proposed activities. In addition, training in identification of non-native invasive plants and animals will be provided for contracted personnel engaged in follow-up monitoring of construction sites.

2. A qualified biologist acting as a biological monitor will survey the areas proposed for disturbance for any Texas or mountain short-horned lizards, Chihuahuan desert lyre snakes, western box turtles and other sensitive reptile species. If sensitive reptiles are found on-site, the biological monitor will relocate them off-site to a nearby area containing similar habitat. If possible sensitive reptiles will be relocated no more than 200 yards from the site of capture. After sensitive reptile removal, the area that will be disturbed during active construction should be fenced off to exclude horned lizards and other reptiles. The exclusion fence will be constructed and maintained as follows:
 - The exclusion fence will be constructed with metal flashing or silt fence material.
 - Rolled erosion control mesh will not be used.
 - The exclusion fence will be maintained for the life of the project and only removed after the construction is completed and the disturbed areas have been revegetated.
 - Any open trenches or excavated areas will be covered overnight and inspected every morning to ensure that no horned lizards, lyre snakes, or other wildlife have been trapped. For open pits and excavations, escape ramps will be installed at an angle of less than 45 degrees (1:1). Excavated areas will be inspected for horned lizards and other wildlife before refilling.
 - Vehicle speeds within the project areas will be limited to 15 miles per hour
3. To the extent practicable, mammal burrows will be left intact and undisturbed in order to avoid take of western burrowing owl eggs, young, and adults, as well as to avoid impacts to black-tailed prairie dog and other native mammal species.
4. Additional precautions will be taken as needed to avoid impacts to Pecos River muskrat, desert pocket gopher, sand prickly pear, and other SGCNs that are encountered within the project areas.

5.5 CULTURAL RESOURCES

1. Vehicular traffic associated with the construction activities and operational support activities will remain on established roads to the maximum extent practicable.
2. In the event that unanticipated archaeological resources are discovered during construction or any other project-related activities, or should known archaeological resources be inadvertently affected in a manner that was not anticipated, the project proponent or contractor shall immediately halt all activities in the immediate area of the discovery and take

steps to stabilize and protect the discovered resource until it can be evaluated by a qualified archaeologist.

3. In the event of an inadvertent discovery of human remains, the BPAM-PMO Environmental Manager, and the appropriate law enforcement authorities per the Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 et seq., 43 CFR 10, as updated) will be contacted. Descendant tribal communities will be notified of the inadvertent discovery, and consultation will be initiated through BPAM-PMO.

5.6 AIR QUALITY

1. BMPs will include the placement of flagging and construction fencing to restrict traffic within the construction limits in order to reduce soil disturbance. Soil watering will be utilized to minimize airborne particulate matter created during construction activities. Bare ground may be covered with hay or straw to lessen wind erosion during the time between road upgrade and canal crossing construction and the revegetation of temporary impact areas (staging areas) with a mixture of native plant seeds or nursery plantings (or both). All construction equipment and vehicles will be kept in good operating condition to minimize exhaust emissions.

5.7 WATER RESOURCES

1. Wastewater is to be stored in closed containers on-site until removed for disposal. Wastewater is water used for project purposes that is contaminated with construction materials or from cleaning equipment and thus carries oils or other toxic materials or other contaminants as defined by Federal or state regulations.
2. Avoid contamination of ground and surface waters by collecting concrete wash water in open containers and disposing of it off-site.
3. Avoid contaminating natural aquatic and wetland systems with runoff by limiting all equipment maintenance, staging, and laydown and dispensing hazardous liquids, such as fuel and oil, to designated upland areas.
4. Cease work during heavy rains and do not resume work until conditions are suitable for the movement of equipment and materials.
5. Erosion control measures and appropriate BMPs, as required and promulgated through a site-specific SWPPP and engineering designs, will be implemented before, during, and after soil-disturbing activities. TPWD recommends the following general construction BMPS:
 - Judicious use of sediment control fence to control erosion and exclude wildlife from the construction area. The sediment control fence should be buried to a depth of at least six inches and should be at least 24 inches high, and should be maintained throughout the life of the construction project.
 - Wildlife escape ramps should be installed in any open pits or excavations.

- Seed and mulch material should be used for soil stabilization and re-vegetation of disturbed areas rather than mesh which can entangle snakes and other wildlife.
 - TPWD recommends that no-till drilling, hydro-mulching, or hydro-seeding be used wherever practicable rather than deploying erosion control blankets or mats due to reduced risks to wildlife.
 - If erosion control blankets must be used, the product should not contain netting, or if it must contain netting, it should be loosely woven natural fiber rather than plastic.
6. Areas with highly erodible soils will be given special consideration when preparing the SWPPP to ensure incorporation of various erosion control techniques, such as straw bales, silt fencing, aggregate materials, wetting compounds, and rehabilitation, where possible, to decrease erosion.
 7. All construction and maintenance contractors and personnel will review the CBP-approved spill protection plan and implement it during construction and maintenance activities.
 8. Wastewater from pressure washing must be collected. A ground pit or sump can be used to collect the wastewater. Wastewater from pressure washing must not be discharged into any surface water.
 9. If soaps or detergents are used, the wastewater and solids must be pumped or cleaned out and disposed of in an approved facility. If no soaps or detergents are used, the wastewater must first be filtered or screened to remove solids before being allowed to flow off-site. Detergents and cleaning solutions must not be sprayed over or discharged into surface waters.
 10. Road maintenance will be designed and implemented so that the hydrology of streams, ponds, and other water course are not altered.
 11. Properly design and locate roads such that the potential for entrapment of surface flows within the roadbed due to grading will be avoided or minimized.

5.8 NOISE

1. All generators will have an attached muffler or use other noise-abatement methods in accordance with industry standards.
2. Avoid noise impacts during the night by conducting construction and maintenance activities during daylight hours only.
3. All OSHA requirements will be followed. To lessen noise impacts on the local wildlife communities, construction will only occur during daylight hours. All motor vehicles will be properly maintained to reduce the potential for vehicle-related noise.

5.9 SOLID AND HAZARDOUS WASTES

1. BMPs will be implemented as standard operating procedures during all construction activities, and will include proper handling, storage, and/or disposal of hazardous and/or regulated materials. To minimize potential impacts from hazardous and regulated materials, all fuels, waste oils, and solvents will be collected and stored in tanks or drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein. The refueling of machinery will be completed in accordance with accepted industry and regulatory guidelines, and all vehicles will have drip pans during storage to contain minor spills and drips. Although it is unlikely that a major spill would occur, any spill of reportable quantities will be contained immediately within an earthen dike, and the application of an absorbent (e.g., granular, pillow, sock) will be used to absorb and contain the spill.
2. CBP will contain non-hazardous waste materials and other discarded materials, such as construction waste, until removed from the construction and maintenance sites. This will assist in keeping the project area and surroundings free of litter and reduce the amount of disturbed area needed for waste storage.
3. CBP will minimize site disturbance and avoid attracting predators by promptly removing waste materials, wrappers, and debris from the site. Any waste that must remain more than 12 hours should be properly stored until disposal.
4. All waste oil and solvents will be recycled. All non-recyclable hazardous and regulated wastes will be collected, characterized, labeled, stored, transported, and disposed of in accordance with all applicable Federal, state, and local regulations, including proper waste manifesting procedures.
5. Solid waste receptacles will be maintained at the construction staging area. Non-hazardous solid waste (trash and waste construction materials) will be collected and deposited in on-site receptacles. Solid waste will be collected and disposed of by a local waste disposal contractor.
6. Disposal of used batteries or other small quantities of hazardous waste will be handled, managed, maintained, stored, and disposed of in accordance with applicable Federal and state rules and regulations for the management, storage, and disposal of hazardous materials, hazardous waste and universal waste. Additionally, to the extent practicable, all batteries will be recycled locally.
7. All rainwater collected in secondary containment will be pumped out, and secondary containment will have netting to minimize exposure to wildlife.
8. A properly licensed and certified hazardous waste disposal contractor will be used for hazardous waste disposal, and manifests will be traced to final destinations to ensure proper disposal is accomplished.

5.10 ROADWAYS AND TRAFFIC

1. Construction vehicles will travel and equipment will be transported on established roads with proper flagging and safety precautions.

6.0 REFERENCES

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7.0 ACRONYMS/ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
ACS	U.S. Census American Community Survey
ANSI	American National Standards Institute
AoA	Analysis of Alternatives
AOR	Area of Responsibility
ARPA	Archaeological Resources Protection Act
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
BGS	Below ground surface
BLM	Bureau of Land Management
BMP	Best management practices
BPA	Border Patrol Agents
BPAM-PMO	Border Patrol Air and Marine Project Management Office
C2	Command and Control
CBP	U.S. Customs and Border Protection
CDP	Census Designated Place
CEQ	Council on Environmental Quality
CFC	chlorofluorocarbons
CFR	Code of Federal Regulations
CH ₄	methane
CO ₂	Carbon dioxide
CWA	Clean Water Act
dba	A-weighted decibel
DHS	Department of Homeland Security
DNL	Day-night average sound level
DOI	U.S. Department of the Interior
EA	Environmental Assessment
EIS	Environmental Impact Statement
EM	Electromagnetic
E.O.	Executive Order
EPE	El Paso Electric Company
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FC	Functional Classification
FHT	Fort Hancock Station
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
GCD	Groundwater Conservation District
GHG	Greenhouse Gases
HFC	hydrochlorofluorocarbons
HTC	Historic Texas Cemeteries
HUD	U.S. Department of Housing and Urban Development
IEEE	Institute of Electrical and Electronics Engineers
IoI	items of interest

MPE	Maximum Permissible Exposure
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAF	Northern Aplomado Falcon
NAGPRA	Native American Graves Protection and Repatriation Act
NCRP	National Council on Radiation Protection and Measurements
NE	not eligible
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOA	Notice of Availability
NRHP	National Register of Historic Places
NTIA	National Telecommunications and Information Administration
OA	Office of Acquisition
OET	Office of Engineering and Technology
OSHA	Occupational Safety and Health Administration
OTHM	Official Texas Historical Markers
POE	Port of Entry
PMO	Program Management Office
RF	radio frequency
RGC	Rio Grande City
RGV	Rio Grande Valley
ROI	region of influence
ROW	right-of-way
RTHL	Recorded Texas Historic Landmarks
SHPO	Texas State Historic Preservation Officer
SPCCP	Spill Prevention, Control and Countermeasure Plan
SWFL	Southwest willow flycatcher
SWPPP	Stormwater Pollution Prevention Plan
TCEQ	Texas Commission on Environmental Quality
TCO	Transnational Criminal Organization
TCP	Traditional Cultural Property
TI	Tactical infrastructure
THC	Texas Historical Commission
TPWD	Texas Parks and Wildlife Department
TWDP	Texas Water Development Board
TxDOT	Texas Department of Transportation
U	Undetermined eligibility
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USIBWC	International Boundary and Water Commission, U.S. Section
YBC	Yellow-billed cuckoo

8.0 LIST OF PREPARERS

The following people were primarily responsible for preparing this EA.

Name	Agency/ Organization	Discipline/ Expertise	Experience	Role in Preparing EA
Joe Zidron	CBP, BPAM- PMO	Environmental Planning	10 years	Project Management
Audra Upchurch	CBP, BPFTI	Environmental Planning	15 years	EA review
Chris Ingram	GSRC	Biology/Ecology	38 years of EA/EIS studies	EA review
Logan McCardle	GSRC	Biology/Environmental Science	8 years of natural resources	EA preparation
John Lindemuth	GSRC	Archaeology	25 years of professional archaeology/cultural resources	EA preparation and survey
Erin Edwards	GSRC	Architectural History	8 years of professional architectural history	EA preparation and survey
Ann Guissinger	GSRC	Economics	36 years of economics	EA preparation
Dr. Sandra Villarreal	GSRC	Biology/Ecology	9 years of natural resources	EA preparation and survey
Rob Nixon	GSRC	Biology/Ecology	23 years of natural resources	EA preparation and survey
Lauren Solomon	GSRC	Biology/Ecology	10 years of natural resources	EA preparation and survey
Christy Guempel	GSRC	GIS/Graphics	11 years of GIS/graphics	GIS/graphics

**APPENDIX A
CORRESPONDENCE**

**THE PROPOSED FORT HANCOCK ROAD UPGRADE AND CANAL CROSSING
PROJECT, FORT HANCOCK, TEXAS,
U.S. CUSTOMS AND BORDER PROTECTION, EL PASO SECTOR**

**Mailing List
Agency Coordination Letters**

Distribution List

Mr. William Nelson
Tribal Historic Preservation Office
Comanche Nation of Oklahoma
P.O. Box 908, Lawton, OK, 73502
584 NW Bingo Road, Elgin, OK, 73538

Mr. Jeff Houser
Tribal Historic Preservation Office
Fort Sill Apache Tribe
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El Paso, TX 79917

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Danny H. Breuninger, Sr., President
Mescalero Apache Tribe
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Mrs. Gwendena Lee-Gatewood
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New Mexico Ecological Services Field Office (NMESFO)
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Keith Hayden
U.S. Environmental Protection Agency
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Kathy Boydson
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Wildlife Diversity Program
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Austin, Texas 78744

Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
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Texas Department of Transportation
El Paso District Headquarters
13301 Gateway West
El Paso, TX 79928-5410

Texas Commission on Environmental Quality
Region 6, El Paso
401 E Franklin Ave
Ste 560
El Paso, TX 79901

US Army Corps of Engineers
Las Cruces Regulatory Office
(Southern NM & West TX)
200 E. Griggs Ave.
Las Cruces, New Mexico 88001

Mr. Mike Doyal
County Judge (Hudspeth and Sierra Blanca Counties)
PO Box 68
Sierra Blanca, Texas 79851

Mr. Russel Martin, President
Tonkawa Tribe of Oklahoma
1 Rush Buffalo Rd.
Tonkawa, OK 74653-449

Mrs. JoAnn Battise, Chairperson
Alabama-Coushatta Tribe of Texas
571 State Park Rd. 56
Livingston, TX 77351

The letter below will be sent to all recipients on the mailing list



**U.S. Customs and
Border Protection**

July 29, 2019

Mr. William Nelson
Tribal Historic Preservation Office
Comanche Nation of Oklahoma
P.O. Box 908, Lawton, OK, 73502
584 NW Bingo Road, Elgin, OK, 73538

Dear Mr. Nelson:

RE: Early Agency Coordination
Fort Hancock Road Upgrade and Canal Crossing Project
Fort Hancock, Texas, El Paso Sector, U.S. Customs and Border Protection
Department of Homeland Security

The U.S. Customs and Border Protection (CBP) plans to upgrade three roads and construct four associated canal crossings in the U.S. Border Patrol Fort Hancock Station (FHT) Area of Responsibility (AOR). Border Patrol Air and Marine Program Management Office (BPAM-PMO) within CBP has prepared the enclosed draft Environmental Assessment (EA). The EA addresses the proposed upgrade of the three aforementioned roads and associated canal crossings. BPAM-PMO is the CBP proponent office for this project.

The purpose of the proposed action is to improve mobility and accessibility for USBP Agents responding to illegal cross-border traffic. The FHT AOR encompasses 2,700 square miles of total area, with over 40 miles along the international border with Mexico paralleling the Rio Grande River. The FHT's main emphasis is line operations along the U.S./Mexico border. The FHT Station currently has mobility and accessibility issues throughout their AOR. Limited ingress/egress points throughout the AOR and poor road conditions are two major factors that affect response times and limit Agent options when responding to traffic. Access points called "Crossovers" allow the only passage across a drainage canal that parallels the entire levee in FHT's AOR. Crossovers are scattered along the levee, which creates extended response times and limited access in the border area.

The road upgrades and canal crossing construction will provide FHT AOR USBP Agents with better access to the Rio Grande levee in order to expedite response time to address illegal cross-border traffic. The improved mobility and accessibility for Agents will increase and sustain the certainty of arrest and help deter illegal cross-border activities by improving enforcement capabilities, thus preventing terrorists and terrorist weapons from entering the U.S., reducing the flow of illegal drugs, and enhancing Agents' response time, while providing a safer work environment for USBP Agents.

The EA analyzes the potential for significant adverse impacts and beneficial effects on the environment from the proposed action and alternatives. The EA will evaluate and assess potential impacts to the natural, physical, social environment to include but not limited to:

- Federal and state listed species
- Water quality
- Air quality
- Archaeological, historic, and tribal cultural resources
- Wetlands/water resources
- Contamination

The proposed new tactical infrastructure (TI) is located within the FHT AOR, El Paso Sector, Hudspeth County, Texas. The FHT AOR is located approximately 50 miles southeast of El Paso. It covers approximately 2,700 square miles and includes approximately 40 miles along the U.S. – Mexico border paralleling the Rio Grande River. The road corridors are located predominantly on Federally owned and private lands.

CBP is gathering data and input from state and local governmental agencies, departments, and bureaus that may be affected by, or that would otherwise have an interest in, this proposed action. Since your agency or organization may have particular knowledge and expertise regarding potential environmental impacts from CBP's proposed action, your input is sought regarding the likely or anticipated environmental effects of this proposed action. Your response should include any state and local restrictions, permitting or other requirements with which CBP would have to comply during project siting, construction, and operation.

Per DHS Directive 023-01, Revision Number 01 (Implementation of the National Environmental Policy Act), we are providing your agency with a copy of the official Draft EA for your review and comment. The Draft EA is enclosed below. It is also available for public review and comment at the Fort Hancock Public Library Branches located at 101 W School St, Fort Hancock, TX 79839 and 460 Knox Ave, Fort Hancock, TX 79839. The Draft FONSI and EA can also be viewed on CBP's website at: <https://www.cbp.gov/about/environmental-cultural-stewardship/documents/docs-review>. Your prompt attention to this request is appreciated. The public review will run from July 31 to August 30, 2019. Submittal of comments must be received no later than August 30, 2019 and can be submitted by e-mail at joseph.zidron@cbp.dhs.gov, or mailed to: Mr. Joseph Zidron, Real Estate and Environmental Branch Chief, BPAM PMO, 24000 Avila Road, Ste. 5020, Laguna Niguel, CA 92677.

If you have any questions, please contact Joseph Zidron at (949) 643-6392 or via email at joseph.zidron@dhs.gov. Thank you in advance for your assistance.

Sincerely,



Paul Enriquez
Acquisition, Real Estate, and Environmental Director
Border Wall Program Management Office
United States Border Patrol

Enclosure

Draft EA

Public Notice

In accordance with Section 152.013, Texas local Government code, Notice is hereby given of any salaries, expenses or allowances that are proposed to be increased for elected county or precincts officers of Hudspeth County for Fiscal Year 2019-2020 and the amounts of the proposed increases. Salaries, expenses and other allowances will be set at a Regular Commissioners Court meeting on August 13th, 2019 at 9:00 a.m., in the Hudspeth County Courthouse, Commissioners Court Room, 109 Millican St. Sierra Blanca, TX 79851.

2019-20	Current Salary 2018-2019	Proposed Salary 2019-2020	Cell Phone Allowance Amount	Total	Increase (Decrease)
County Judge	\$42,616.36	\$43,894.85		\$43,894.85	\$1,278.49
Commissioner Pct.#1	\$26,866.55	\$27,672.55		\$27,672.55	\$806.00
Commissioner Pct.#2	\$26,866.55	\$27,672.55		\$27,672.55	\$806.00
Commissioner Pct.#3	\$26,866.55	\$27,672.55		\$27,672.55	\$806.00
Commissioner Pct.#4	\$26,866.55	\$27,672.55		\$27,672.55	\$806.00
County/District Clerk	\$42,618.68	\$43,897.24		\$43,897.24	\$1,278.56
County Attorney	\$40,480.73	\$41,695.16		\$41,695.16	\$1,214.43
Justice of the Peace #1	\$36,811.38	\$37,915.73		\$37,915.73	\$1,104.35
Justice of the Peace #2	\$25,237.53	\$25,994.66		\$25,994.66	\$757.13
Justice of the Peace #3	\$15,033.47	\$15,484.48		\$15,484.48	\$451.01
Justice of the Peace #4	\$15,032.27	\$15,483.24		\$15,483.24	\$450.97
County Treasurer	\$42,618.68	\$43,897.24		\$43,897.24	\$1,278.56
Tax Assessor/Collector	\$42,618.68	\$43,897.24		\$43,897.24	\$1,278.56
Constable #1	\$9,394.75	\$9,676.60		\$9,676.60	\$281.85
Constable #2	\$8,962.11	\$9,230.98		\$9,230.98	\$268.87
Constable #3	\$9,393.78	\$9,675.60		\$9,675.60	\$281.82
Constable #4	\$9,275.63	\$9,553.90		\$9,553.90	\$278.27
Sheriff	\$50,688.41	\$52,209.07	\$1,000.00	\$53,209.07	\$1,520.66

PUBLIC NOTICE

Notice of Initiation of the Section 106 Process-Public Participation in accordance with the Federal Communications Commission regulations (47 CFR § 1.1307) for Section 106 of the National Historic Preservation Act (NHPA) and for the National Environmental Policy Act (NEPA) and the Program Comment **for Positive Train Control and Infrastructure. Union Pacific Railroad** proposes to construct an approximately 65' monopole communications pole with associated equipment at the following approximate locations near the Town of Fort Hancock, Hudspeth County, Texas within the existing railroad right-of-way within the existing railroad right-of-way

- Coordinates: 31.266385, -105.509936; Mile Post #743.46;
- Coordinates: 31.208966, -105.454782; Mile Post #743.25;
- Coordinates: 31.257083, -105.710808; Mile Post #765.29.

We respectfully request that parties interested in providing comment on the proposed undertaking relative to potential **effects on cultural or historic properties should contact GSS, Inc.**, 3311 109th Street, Urbandale, IA 50322; Ph. (515) 331-2103, within 30 days of the date of this publication (GSS W19184-TX-1/2/3).

NOTICE OF AVAILABILITY Draft Environmental Assessment For the Proposed Fort Hancock Road Upgrade and Canal Crossing Project Fort Hancock, Texas

U.S. Customs and Border Patrol (CBP) has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) which evaluates potential environmental impacts from the proposed upgrade of three roads and associated construction of four canal crossings in Fort Hancock, Hudspeth County, Texas. The proposed action would include the upgrade of three existing roads from narrow dirt track roads to Functional **Classificatio**

- of four new canal crossings within the Fort Hancock Area of Responsibility. The Draft EA is available for public review and comment at the Fort Hancock Public Library Branches located at 101 W School St, Fort Hancock, TX 79839 and 460 Knox Ave, Fort Hancock, TX 79839. The Draft FONSI and EA can also be viewed on CBP's website at: <https://www.cbp.gov/about/environmental-cultural-stewardship/documents/docs-review>

The public is encouraged to review and comment on these documents. Submittal of public comments must be received no later than August 30, 2019 and can be submitted by:

E-mail at joseph.zidron@cbp.dhs.gov
or

Mailed to: Mr. Joseph Zidron, Real Estate and Environmental Branch Chief, BPAM PMO, 24000 Avila Road, Ste. 5020, Laguna Niguel, CA 92677.

**NOTICE OF AVAILABILITY
Draft Environmental
Assessment
For the Proposed
Fort Hancock Road
Upgrade and Canal
Crossing Project
Fort Hancock, Texas**

U.S. Customs and Border Patrol (CBP) has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) which evaluates potential environmental impacts from the proposed upgrade of three roads and associated construction of four canal crossings in Fort Hancock, Hudspeth County, Texas. The proposed action would include the upgrade of three existing roads from narrow dirt track roads to Functional Classification-2, 20 to 30-foot wide roads, and the construction of four new canal crossings within the Fort Hancock Area of Responsibility. The Draft EA is available for public review and comment at the Fort Hancock Public Library Branches located at 101 W School St, Fort Hancock, TX 79839 and 460 Knox Ave, Fort Hancock, TX 79839. The Draft FONSI and EA can also be viewed on CBP's website at <https://www.cbp.gov/about/environmental-cultural-stewardship/documents/docs-review>

The public is encouraged to review and comment on these documents. Submittal of public comments must be received no later than August 30, 2019 and can be submitted by e-mail at joseph.zidron@cbp.dhs.gov, or mailed to: Mr. Joseph Zidron, Real Estate and Environmental Branch Chief, BPAM PMO, 24000 Avila Road, Ste. 5020, Laguna Niguel, CA 92677.



Ysleta del Sur Pueblo

Tribal Council – Javier Loera (War Captain/Tribal Historic and Preservation Officer) E-mail jloera@ydsp-nsn.gov

117 South Old Pueblo Road * P.O. Box 17579 * El Paso, Texas 79917 * (915) 859-8053 * Cell (915) 497-3853

August 6, 2019

Mr. Joseph Zidron
Real Estate and Environmental Branch Chief
BPAM PMO, 24000 Avila Road, Ste. 5020
Laguna Niguel, CA 92677

Dear Mr. Zidron:

This letter is in response to the correspondence received in our office in which you provide the Ysleta del Sur Pueblo the opportunity to comment on **Early Agency Coordination Fort Hancock Road Upgrade and Canal Crossing Project, Fort Hancock, Texas, El Paso Sector, U.S. Customs and Border Protection, Department of Homeland Security.**

While we do not have any comments on the proposed undertaking and believe that this project will not adversely affect traditional, religious or culturally significant sites of our Pueblo and have no opposition to it; we would like to request consultation should any human remains or artifacts unearthed during this project be determined to fall under the Native American Graves and Repatriation Act (NAGPRA) guidelines. Copies of our Pueblo's **Cultural Affiliation Position Paper** and **Consultation Policy** are available upon request.

Thank you for allowing us the opportunity to comment on the proposed project.

Sincerely,

Javier Loera
Tribal Council/Tribal Historic Preservation Office
E-mail: jloera@ydsp-nsn.gov
P.O. Box 17579
Ysleta del Sur Pueblo
El Paso, Texas 79917

Mr. Carlos Hisa
Page 2

- Federal and state listed species
- Water quality
- Air quality
- Archaeological, historic, and tribal cultural resources
- Wetlands/water resources
- Contamination

The proposed new tactical infrastructure (TI) is located within the FHT AOR, El Paso Sector, Hudspeth County, Texas. The FHT AOR is located approximately 50 miles southeast of El Paso. It covers approximately 2,700 square miles and includes approximately 40 miles along the U.S. – Mexico border paralleling the Rio Grande River. The road corridors are located predominantly on Federally owned and private lands.

CBP is gathering data and input from state and local governmental agencies, departments, and bureaus that may be affected by, or that would otherwise have an interest in, this proposed action. Since your agency or organization may have particular knowledge and expertise regarding potential environmental impacts from CBP's proposed action, your input is sought regarding the likely or anticipated environmental effects of this proposed action. Your response should include any state and local restrictions, permitting or other requirements with which CBP would have to comply during project siting, construction, and operation.

Per DHS Directive 023-01, Revision Number 01 (Implementation of the National Environmental Policy Act), we are providing your agency with a copy of the official Draft EA for your review and comment. The Draft EA is enclosed below. It is also available for public review and comment at the Fort Hancock Public Library Branches located at 101 W School St, Fort Hancock, TX 79839 and 460 Knox Ave, Fort Hancock, TX 79839. The Draft FONSI and EA can also be viewed on CBP's website at: <https://www.cbp.gov/about/environmental-cultural-stewardship/documents/docs-review>. Your prompt attention to this request is appreciated. The public review will run from July 31 to August 30, 2019. Submittal of comments must be received no later than August 30, 2019 and can be submitted by e-mail at joseph.zidron@cbp.dhs.gov, or mailed to: Mr. Joseph Zidron, Real Estate and Environmental Branch Chief, BPAM PMO, 24000 Avila Road, Ste. 5020, Laguna Niguel, CA 92677.

If you have any questions, please contact Joseph Zidron at (949) 643-6392 or via email at joseph.zidron@dhs.gov. Thank you in advance for your assistance.

Sincerely,



Paul Enriquez
Acquisition, Real Estate, and Environmental Director
Border Wall Program Management Office
United States Border Patrol

Enclosure

TEXAS HISTORICAL COMMISSION
real places telling real stories

August 30, 2019

Joseph Zidron
Border Patrol & Air Marine Program Management Office
U.S. Customs and Border Protection
24000 Avila Road, Suite 5020
Laguna Niguel, CA 92677

Re: Project Review under Section 106 of the National Historic Preservation Act: *Environmental Assessment for Fort Hancock Road Upgrade and Canal Crossing Project, Fort Hancock, Texas, U.S. Customs and Border Protection, El Paso Sector, U.S. Customs and Border Protection, Department of Homeland Security, Washington, D.C.* (THC Tracking No. 201911507).

Dear Mr. Zidron:

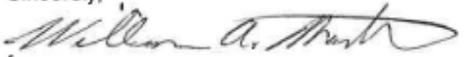
Thank you for allowing us to review the proposed project referenced above. This letter serves as comment from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC).

The THC's archeological review staff, led by Drew Sitters, has completed its review of the environmental assessment document. After examining the documentation, we believe that the proposed road upgrades and the construction of canal crossings at the **Riverside** and **Verduzco Road project areas** will have "**no adverse effect**" on historic properties. This is due largely in part to the numerous disturbances within the project areas associated with the construction of existing canals and agriculture. However, little to no disturbance has occurred within the Rock Bridge Road project area. Moreover, the project area is situated adjacent to natural sources of water (e.g., Rio Grande). Therefore, the potential for significant historic properties within the **Rock Bridge Road project area** is high and an **archeological survey is required** prior to breaking ground.

Regarding above-ground resources, Caitlin Brashear of the History Programs division has determined that **additional information is needed** to complete the review. Per Section 106, resources that are listed or *eligible* for inclusion in the National Register of Historic Places (NRHP) within the proposed Area of Potential Effects need to be identified, and then any historic resources must be assessed for effects by the proposed work. Therefore, more information is needed to determine if the historic-age canals are eligible for NRHP-listing before the THC can assess the impacts of the proposed project on the canals.

Thank you for your cooperation in this federal review process, and for your efforts to preserve the irreplaceable heritage of Texas. If you have any questions concerning our review or if we can be of further assistance, please contact **Drew Sitters** at Drew.Sitters@thc.texas.gov, or (512) 463-6252; or **Caitlin Brashear** at Caitlin.Brashear@thc.texas.gov, or (512) 463-5851.

Sincerely,


for
Mark Wolfe, State Historic Preservation Officer
MW/ds





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270-2102

August 29, 2019

Joseph Zidron
United States Customs and Border Protection
Real Estate and Environmental Branch Chief, BPAM PMO
24000 Avila Road, Ste. 5020
Laguna Niguel, CA 92677

Dear Mr. Zidron:

The United States Environmental Protection Agency (EPA) has reviewed the Draft Environmental Assessment and Finding of No Significant Impact (EA/FNSI) prepared by the United States Customs and Border Protection (CBP) for the proposed Fort Hancock Road Upgrades and Canal Crossing Project, Fort Hancock, Texas. Our review is provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 C.F.R. Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The proposed Draft EA/FNSI was prepared to evaluate potential environmental impacts to the upgrade of three existing roads from narrow dirt track roads to FC-2, 20 to 30-foot wide roads, and the construction of four new canal crossings within the Fort Hancock Border Patrol Station Area of Responsibility to improve mobility and accessibility for border patrol agents responding to illegal cross-border traffic.

EPA has reviewed the EA/FNSI for the Road Upgrades and Canal Crossing Project near Fort Hancock, Texas. The proposed structures reside in or intersect various wetland ecosystems, presenting the possibility of adverse effects to the Waters of the United States (WOTUS). According to the United States Fish and Wildlife Service (USFWS) National Wetland Inventory, the proposed location of Rock Bridge Road and Verduzco's Road intersect both an area of freshwater forested shrub wetland and riverine systems respectively. These items may require a wetland determination and/or delineation following the 1987 United States Army Corps of Engineers (USACE) Wetlands Delineation Manual procedures to assist with determining whether there are any impacts to WOTUS under the jurisdiction of Section 404 of the Clean Water Act. If impacts to WOTUS are identified, CBP should coordinate with USACE Albuquerque District to assess necessary permitting requirements. In addition to the above items, the proposed staging area for the Rock Bridge Road lies within an area deemed as freshwater forested shrub wetland by the USFWS National Wetland Inventory. To ensure impacts are avoided and minimized, an evaluation of proposed staging options that do not reside within delineated wetland areas is recommended.

We appreciate the opportunity to review this document. If you have any questions, please contact Eli Martinez, the lead contact for the project, at (214) 665-2119 or martinez.eli@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Arturo J. Blanco". The signature is fluid and cursive, with the first name being the most prominent.

Arturo J. Blanco
Director
Office of Communities, Tribes and
Environmental Assessment



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Texas Coastal Ecological Services Field Office
3325 Green Jay Road
Alamo, Texas 78516
Main: (956) 784-7560 Fax: (956) 787-8338



In Reply Refer To:
FWS/R2/ES/02ETCC00-2019-I-2381

August 26, 2019

Joseph Zidron
Real Estate and Environmental Branch Chief
Border Patrol & Air and Marine PMO
U.S. Customs and Border Protection
U.S. Department of Homeland Security
Washington, DC 20229

Dear Mr. Zidron:

We received a letter July 15, 2019, regarding effects of the proposed road upgrades and canal crossings on federally listed species in Hudspeth County, Texas. This project was also evaluated with respect to wetlands and other federal trust fish and wildlife resources.

We understand U.S. Customs and Border Protection (CBP) proposes to upgrade three roads and construct four associated crossings in the U.S. Border Patrol Fort Hancock Station (FHT) Area of Responsibility (AOR) located 50 miles southeast of El Paso, El Paso County, Texas. CBP proposes to upgrade 1.8 miles of three existing roads, 1.93 acres of proposed staging area, and construct two canal crossings that will improve mobility and accessibility for CBP.

On February 12, 2019, Gulf South Research Corporation (GSRC) biologists conducted biological surveys for the proposed road upgrade and staging areas. The Project Corridor did not contain suitable habitat, and no federally listed species such as Northern aplomado falcon (*Falco femoralis*), Least tern (*Sterna antillarum*), Mexican spotted owl (*Strix occidentalis lucida*), Southwestern willow flycatcher (*Empidonax traillii extimus*), Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), Rio Grande silvery minnow (*Hybognathus amarus*), or Guadalupe fescue (*Festuca ligulata*) were found in, or adjacent to, the Project Corridor.

To comply with the Migratory Bird Treaty Act and to avoid impacts to listed avian species, CBP, should conduct advance surveys for nesting migratory birds and nests if trees or brush are cleared with mechanical devices, and activities occurred during the nesting season (March 15 through September 15). If project activities must be conducted between March and August, we

Mr. Zidron

recommend surveying for nests prior to commencing work and if a nest is found, and if possible, the Service recommends a buffer of vegetation (≥ 50 ft) remain around the nest until young have fledged or the nest is abandoned.

Based on the project information submitted, your agency made a "may affect, not likely to adversely affect" determination for the Northern aplomado falcon, Southwestern willow flycatcher, Western yellow-billed cuckoo, and Rio Grande silvery minnow. The Service concurs with your determination. A "no effect" determination was made for Least tern, Mexican spotted owl, and Guadalupe fescue. The Service does not provide concurrence for "no effect" determinations, but by making a determination we believe that CBP has complied with Section 7(a)(2) of the Endangered Species Act of 1973, as amended. We appreciate the opportunity to provide pre-planning information. If we can be of further assistance, please contact Ernesto Reyes at (956) 784-7560.

Sincerely,


 Charles Ardizzone
Field Supervisor

cc: Assistant Field Supervisor, U.S. Fish and Wildlife Service, Corpus Christi, Texas



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T. Dan Friedkin
Chairman-Emeritus
Houston

Carter P. Smith
Executive Director

August 27, 2019

Mr. Joseph Zidron
Real Estate and Environmental Branch Chief
BPAM PMO
24000 Avila Road, Ste. 5020
Laguna Niguel, CA 92677

RE: Draft Environmental Assessment: Fort Hancock Road Upgrade and Canal Crossing Project, Fort Hancock, Texas, El Paso Sector, U.S. Customs and Border Protection – Department of Homeland Security

Dear Mr. Enriquez:

Texas Parks and Wildlife Department (TPWD) received the draft Environmental Assessment (EA) for the above-referenced project located in Hudspeth County. TPWD would like to offer the following information, comments, and recommendations to minimize impacts to fish and wildlife resources.

Please be aware that a written response to a TPWD recommendation or informational comment received by a state governmental agency may be required by state law. For further guidance, see the Texas Parks and Wildlife (TPW) Code, Section 12.0011. For tracking purposes, please refer to TPWD project number 42292 in any return correspondence regarding this project.

Project Description

The U.S. Customs and Border Protection (CBP) plans to upgrade three roads (Riverside Road, Verduzco Road, and Rock Bridge Road) and construct four associated canal crossings in the U.S. Border Patrol (USBP) Fort Hancock Station (FHT) Area of Responsibility (AOR). Border Patrol Air and Marine Program Management Office (BPAM PMO) within CBP has prepared the draft EA. The EA addresses the proposed upgrade of the three aforementioned roads and associated canal crossings. BPAM PMO is the CBP proponent office for this project.

The purpose of the proposed action is to improve mobility and accessibility for USBP Agents responding to illegal cross-border traffic. The FHT AOR encompasses 2,700 square miles of total area, with over 40 miles along the international border with Mexico paralleling the Rio Grande River. The FHT's main emphasis is line operations along the U.S./Mexico border. The FHT Station currently has mobility and accessibility issues throughout their AOR. Limited ingress/egress points throughout the AOR and poor road conditions are two major factors that affect response times and limit Agent options when responding to traffic. Access points called "Crossovers" allow the only passage across a drainage canal that parallels the entire levee in FHT's AOR. Crossovers are scattered along the levee, which creates extended response times and limited access in the border area.

The proposed new tactical infrastructure (TI) is located within the FHT AOR, El Paso Sector, Hudspeth County, Texas. The FHT AOR is located approximately 50 miles southeast of El Paso. The road corridors are located predominantly on federally-owned and private lands.

Previous Coordination

TPWD provided information and recommendations regarding this project to Mr. Paul Enriquez with the Border Wall Program Management Office on November 6, 2018. This response was not included in Appendix A of the draft EA nor was this correspondence referenced in the draft EA. Therefore, TPWD is including this letter for your reference.

Recommendation: Please review previous TPWD correspondence and consider the recommendations provided, as they remain applicable to the project as proposed. TPWD also recommends including the previous comment letter as well as this comment letter in Appendix A of the EA.

General Construction Recommendations

Section 5.7 (page 5-5) of the draft EA states "Erosion control measures and appropriate BMPs [Best Management Practices], as required and promulgated through a site-specific SWPPP [Stormwater Pollution Prevention Plan] and engineering designs, will be implemented before, during, and after soil-disturbing Activities." The draft EA not include the specific pre-construction, construction, or post-construction BMPs that would be utilized; therefore, TPWD would like to provide the following general construction recommendations to assist in project planning.

Recommendation: TPWD recommends the judicious use and placement of sediment control fence to exclude wildlife from the construction area. In many cases, sediment control fence placement for the purposes of controlling erosion and protecting water quality can be modified minimally to also provide the benefit of excluding wildlife access to construction areas. The exclusion fence should be buried at least six inches and be at least 24 inches high. The exclusion fence should be maintained for the life of the project and only removed after the construction is completed and the disturbed site has been revegetated. Construction personnel should be encouraged to examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities. TPWD recommends that any open trenches or excavation areas be covered overnight and/or inspected every morning to ensure no wildlife species have been trapped. For open trenches and excavated pits, install escape

ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Also, inspect excavation areas for trapped wildlife prior to refilling.

Recommendation: For soil stabilization and/or revegetation of disturbed areas within the proposed project area, TPWD recommends erosion and seed/mulch stabilization materials that avoid entanglement hazards to snakes and other wildlife species. Because the mesh found in many erosion control blankets or mats pose an entanglement hazard to wildlife, TPWD recommends the use of no-till drilling, hydromulching and/or hydroseeding due to a reduced risk to wildlife. If erosion control blankets or mats will be used, the product should not contain netting, but if it must contain netting it should contain loosely woven, natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. TPWD recommends avoiding the use of plastic mesh matting.

Impacts to Vegetation/Wildlife Habitat

Section 3.4.2 (page 3-7) of the draft EA states “It is estimated that approximately 1.53 acres of locally and regionally common vegetative habitat would be permanently cleared as a result of access road maintenance and repair activities. Further, approximately 0.33 acre of vegetative habitat would be temporarily disturbed as a result of road upgrade and canal crossover construction activities for the establishment of staging areas.” Section 3.4.2 (page 3-8) of the draft EA states “Upon completion of construction, all temporary disturbance areas would be revegetated with a mixture of native plant seeds or nursery plantings or allowed to revegetate naturally. These BMPs, as well as measures protecting vegetation in general, would reduce potential impacts from non-native invasive species to a negligible amount.”

Recommendation: TPWD recommends reducing the amount of vegetation proposed for clearing if possible and minimizing clearing of native vegetation, particularly riparian vegetation and mature native trees and shrubs to the greatest extent practicable. TPWD recommends in-kind on-site replacement/restoration of the native vegetation wherever practicable. Colonization by invasive species, particularly invasive grasses and weeds, should be actively prevented. Vegetation management should include removing invasive species early on while allowing the existing native plants to revegetate the disturbed areas. TPWD recommends referring to the Lady Bird Johnson Wildflower Center Native Plant Database for regionally adapted native species that would be appropriate for landscaping and revegetation.

Landscaping for Monarch Butterflies

Significant declines in the population of migrating monarch butterflies (*Danaus plexippus*) have led to widespread concern about this species and the long-term persistence of the North American monarch migration. As part of an international conservation effort TPWD has developed the *Texas Monarch and Native Pollinator Conservation Plan*, and one of the broad categories of action in this plan is to augment larval feeding and adult nectaring opportunities.

Recommendation: TPWD recommends incorporating pollinator conservation and management into the revegetation and maintenance plan for this project, such as promoting growth of native flowering species throughout the growing season and conducting mowing and herbicide activities to minimize loss to floral resources. TPWD recommends revegetation efforts include planting or seeding native milkweed (*Asclepias* spp.) and nectar plants as funding and seed availability allow. Information about monarch biology, migration, and butterfly gardening can be found on the Monarch Watch website.

Federal Laws

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control, except when specifically authorized by the Department of the Interior. This protection applies to most native bird species, including ground nesting species. The U.S. Fish and Wildlife Service (USFWS) Migratory Bird Office can be contacted at (505) 248-7882 for more information on potential impacts to migratory birds.

Section 5.3 (page 5-3) of the draft EA states "If construction or clearing activities are scheduled during nesting season (March 1 through September 1) within potential nesting habitats, surveys will be performed to identify active nests. If construction activities will result in the take of a migratory bird, then coordination with the USFWS and TPWD will be required and applicable permits would be obtained prior to construction or clearing activities. Other mitigation measure that would be considered is to install visual markers on any guy wires used, schedule all construction activities outside nesting season, negating the requirement for nesting bird surveys."

Recommendation: If migratory bird species are found nesting on or adjacent to the project area, they must be dealt with in a manner consistent with the MBTA. TPWD recommends excluding vegetation clearing activities during the general

bird nesting season, March 15 through September 15, to avoid adverse impacts to breeding birds. If clearing vegetation during the migratory bird nesting season is unavoidable, TPWD recommends surveying the area proposed for disturbance, as close to the date of construction as possible, to ensure that no nests with eggs or young will be disturbed by operations. TPWD recommends that a minimum 150-foot buffer of vegetation remain around any nests that are observed prior to disturbance. Any vegetation (such as trees, shrubs, and grasses) or other open areas where occupied nests are located should not be disturbed until the eggs have hatched and the young have fledged.

Recommendation: TPWD is unsure as to why marking guy wires was mentioned in the above-quoted statement from the draft EA, as there is no mention of guy wires being utilized as any part of the proposed project in any other section of the draft EA. If installing guy wires is proposed as part of this project, then TPWD recommends discussing this in the EA, conversely, if guy wires are not proposed for this project, then TPWD recommends striking this language from the EA.

State Laws

Parks and Wildlife Code – Chapter 64, Birds

TPW Code Section 64.002, regarding protection of nongame birds, provides that no person may catch, kill, injure, pursue, or possess a bird that is not a game bird. TPW Code Section 64.003, regarding destroying nests or eggs, provides that, no person may destroy or take the nests, eggs, or young and any wild game bird, wild bird, or wild fowl. TPW Code Chapter 64 does not allow for incidental take and therefore is more restrictive than the MBTA.

Recommendation: Please review the *Migratory Bird Treaty Act* section above for recommendations as they are also applicable for Chapter 64 of the Parks and Wildlife Code compliance.

Parks and Wildlife Code, Section 68.015

Section 68.015 of the TPW Code regulates state-listed species. Please note that there is no provision for the capture, trap, take, or kill (incidental or otherwise) of state-listed species. The *TPWD Guidelines for Protection of State-Listed Species*, which includes a list of penalties for take of species, can be found on the Wildlife Habitat Assessment Program website. State-listed species may only be handled by persons with authorization obtained through TPWD. For more information on this permit, please contact the Wildlife Permits Office at (512) 389-4647.

Texas horned lizard (*Phrynosoma cornutum*)
Chihuahuan Desert lyre snake (*Trimorphodon vilkinsonii*)

Table 3-9 in the EA lists the Texas horned lizard and the Chihuahuan Desert lyre snake as having the “potential to occur in Hudspeth County”. Section 3.6.2 (page 3-21) of the draft EA states, “Mobile species such as the Texas horned lizard (*Phrynosoma cornutum*), Mountain short-horned lizard (*Phrynosoma hernandesi*), and Chihuahuan lyre snake (*Trimorphodon vilkinsonii*) may be temporarily displaced by road upgrade and canal crossing construction and maintenance activities; however, these mobile species typically utilize large expanses of suitable habitat and the effects of disturbance and alterations to small segments are likely to be minimal to negligible to populations of these species.” Section 3.6.2 (page 3-21) of the draft EA also states, “The direct impacts on sedentary state-listed species would be negligible due to the BMPs to be implemented and because of the limited amount of disturbance to habitat relative to the amount of similar habitats within the ROI.”

Recommendation: TPWD notes that there were no species-specific BMPs outlined in the draft EA for the Texas horned lizard, mountain short-horned lizard, or the Chihuahuan Desert lyre snake. Please review the following species-specific recommendations below and include BMPs for these state-listed reptiles in Section 5 of the EA (Best Management Practices). TPWD notes that the recommendations outlined below for the Texas horned lizard are applicable to the mountain short-horned lizard as well. TPWD is also unsure as to what species the draft EA is referring to with the term “sedentary state-listed species” as mentioned above, as all of the state-listed species mentioned in Table 3-9 appear to be mobile rather than sedentary. Please revise and be more specific.

Suitable habitat for the state-listed threatened Texas horned lizard may be present within the project area. The Texas horned lizard inhabits open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees and soil may vary in texture from sandy to rocky. If present in the project area, the Texas horned lizard could be impacted by ground disturbing activities from construction. A useful indication that the Texas horned lizard may occupy the site is the presence of harvester ant (*Pogonomyrmex barbatus*) nests since harvester ants are the primary food source of Texas horned lizards. Texas horned lizards may hibernate on-site in loose soils a few inches below ground during the cool months from September/October to March/April. Construction in these areas could harm hibernating lizards. Horned lizards are active above ground when temperatures exceed 75 degrees Fahrenheit. If horned lizards (nesting, gravid females, newborn young, lethargic from cool temperatures or hibernation) cannot move away from noise and approaching construction equipment in time, they could be affected by construction activities.

Recommendation: TPWD recommends having a qualified biologist survey the project area for any Texas horned lizards that may be in the area that is proposed for disturbance. As previously mentioned, a useful indication that the Texas horned lizard may occupy the site is the presence of harvester ant nests. The survey should be performed during the warm months of the year when the horned lizards are active. If horned lizards are found on-site, TPWD recommends relocating them off-site to an area that is close-by and contains similar habitat. TPWD recommends that any translocations of reptiles be the minimum distance possible no greater than one mile, preferably within 100 to 200 yards from the initial encounter location. After horned lizard removal, the area that will be disturbed during active construction and project specific locations should be fenced off to exclude horned lizards and other reptiles.

The exclusion fence should be constructed and maintained as follows:

- a. The exclusion fence should be constructed with metal flashing or drift fence material.
- b. Rolled erosion control mesh material should not be used.
- c. The exclusion fence should be buried at least 6 inches deep and be at least 24 inches high.
- d. The exclusion fence should be maintained for the life of the project and only removed after the construction is completed and the disturbed site has been revegetated.
- e. Any open trenches or excavation areas should be covered overnight and/or inspected every morning to ensure no Texas horned lizards or other wildlife have been trapped. For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Also, inspect excavation areas for trapped wildlife prior to refilling.

Recommendation: TPWD recommends a permitted biological monitor be present during clearing and construction activities to relocate any Texas horned lizards that may be encountered during construction. TPWD also recommends providing contractor training for this species. Because the biological monitor cannot oversee all construction activity at the same time, it's important for the contractor to be able to identify protected species and to be on the lookout for them during construction. TPWD also recommends avoiding impacts to harvester ant mounds where feasible. TPWD understands that ant mounds in the direct path of construction would be difficult to avoid, but contractors should be mindful of these areas when deciding where to place project specific locations and other disturbances associated with construction. If the presence of a biological monitor during construction is not feasible, state-listed species observed during construction should be allowed to safely leave the site.

Chihuahuan Desert lyre snake (*Trimorphodon vilkinsonii*)

There may be suitable habitat for the Chihuahuan Desert lyre snake located within the project area. The state-listed Chihuahuan Desert lyre snake is mostly crevice-dwelling in predominantly limestone-surfaced desert northwest of the Rio Grande from Big Bend to the Franklin Mountains, especially in areas with jumbled boulders and rock faults/fissures. This species is secretive and eats mostly lizards.

Recommendation: Snakes are generally perceived as a threat and killed when encountered during clearing or construction. Therefore, TPWD recommends that personnel involved in clearing and construction be informed of the potential for the Chihuahuan Desert lyre snake to occur in the project area. Personnel should be advised to avoid impacts to this snake as it is non-venomous and poses no threat to humans. TPWD recommends a permitted biological monitor be present during construction to try to relocate protected species if found (to an area that is preferably within 100 to 200 yards of the initial encounter location within similar habitat). If the presence of a permitted biological monitor during construction is not feasible, state-listed species observed during construction should be allowed to safely leave the site.

Species of Greatest Conservation Need

In addition to state- and federally-protected species, TPWD tracks Species of Greatest Conservation Need (SGCN) and other special features and natural communities that are not listed as threatened or endangered. TPWD notes that the draft EA did not include a discussion of SGCNs that may be present within the project area or potentially impacted by the proposed project. These species and communities are tracked in the Texas Natural Diversity Database (TXNDD), and TPWD actively promotes their conservation. TPWD considers it important to evaluate and, if necessary, minimize impacts to SGCNs and their habitat to reduce the likelihood of endangerment and preclude the need to list as threatened or endangered in the future.

Sand prickly-pear (*Opuntia arenaria*)

There is one TXNDD record for sand prickly-pear located within the Riverside Road project area. This species is found in deep, loose or semi-stabilized sands in sparsely vegetated dune or sandhill areas or sandy floodplains in arroyos. The sand prickly-pear flowers from May through June.

Recommendation: TPWD recommends surveying for sand prickly-pear where suitable habitat may be present (in areas where ground disturbance may occur). The survey should be performed by a qualified biologist at the time of year when

this species is most likely to be found, usually during the flowering period. If this species is present, plans should be made to avoid adverse impacts to the greatest extent possible. If plants are found in the path of construction, including the placement of staging areas and other project related sites, this office should be contacted for further coordination and possible salvage of plants and/or seeds for seed banking. Plants not in the direct path of construction should be protected by markers or fencing and by instructing construction crews to avoid any harm.

Western burrowing owl (*Athene cunicularia hypugaea*)

Table 3-7 in the draft EA lists the burrowing owl as a species that was observed during biological resource surveys within the Fort Hancock road corridor sites. The western burrowing owl is a ground-dwelling owl that uses the burrows of prairie dogs and other fossorial animals for nesting and roosting. When natural burrows are limited, this species will breed in urban habitats which may lead to problems for the owls or their young. The owls opportunistically live and nest in road and railway right-of-ways, parking lots, baseball fields, school yards, golf courses, and airports. They have also been found nesting on campuses, in storm drains, drainage pipes, and cement culverts, on banks, along irrigation canals, under asphalt or wood debris piles, or openings under concrete pilings or asphalt. The western burrowing owl is protected under the MBTA, and take of these birds, their nests, and eggs is prohibited. Potential impacts to the western burrowing owl could include habitat removal as well as displacement and/or destruction of nests and eggs if ground disturbance occurs during the breeding season.

Recommendation: TPWD recommends avoiding disturbance of mammal burrows or other suitable habitat during the construction of the proposed project. As previously mentioned, TPWD recommends conducting project activities outside the breeding season (March 15 to September 15). Nesting areas and burrows should be protected from intensive disturbance during incubation. Excavation of an active nest burrow may destroy eggs, young owls, or even adults and is violation of the MBTA. If nesting owls are found inhabiting the project area, disturbance should be avoided until the eggs have hatched and the young have fledged.

Black-tailed Prairie dog (*Cynomys ludovicianus*)

There may be suitable habitat for the black-tailed prairie dog within the project area. Black-tailed prairie dogs inhabit dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle. The black-tailed prairie dog is a keystone species that provides food and/or shelter for rare species tracked by TPWD

such as the ferruginous hawk and the western burrowing owl, as well as many other wildlife species.

Recommendation: TPWD recommends avoiding disturbance of prairie dog towns or burrows and species that depend on them. TPWD recommends avoiding these areas during construction and installing exclusion fence to keep prairie dogs from entering the project area. If prairie dog burrows will be disturbed as a result of the proposed project, TPWD recommends non-harmful exclusion methods be used to encourage the animals to vacate the area prior to disturbance and discourage them from returning to the area during construction. If prairie dogs are encountered on the project site, TPWD recommends contacting a prairie dog relocation specialist. If impacting a portion of a larger colony, time relocation efforts and/or humane removal immediately before construction to discourage recolonization of the project area. Prairie dogs can be encouraged to move away from your project area by mowing overgrown adjacent areas. Conversely, prairie dogs can be discouraged from utilizing areas by not mowing and allowing grass or other tall vegetation to grow or by scraping all vegetation off the project site and leaving soil exposed.

Western box turtle (*Terrapene ornata*)

Section 3.5 (page 3-9) of the draft EA lists the ornate or western box turtle as “a reptile species with the potential to occur within the ROI.” The western box turtle occurs throughout Texas, typically in open habitats such as prairie grasslands, pastures, fields, sandhills, and open woodlands. Adults have a home-range size of approximately 6 to 14 acres. The western box turtle is omnivorous although the bulk of the diet consists of insects. This species is active spring through fall with courtship and mating occurring primarily in the spring. For shelter, they burrow into soil (e.g., under plants such as yucca) or enter burrows made by other species. Eggs are laid in nests dug in soft well-drained soil in open areas. western box turtles are threatened by habitat loss and fragmentation, vehicle strikes on roads, and collection for the pet trade and food markets. The project area may provide suitable habitat for this species.

Pecos River muskrat (*Ondatra zibethicus ripensis*)

There may be suitable habitat for the Pecos river muskrat located within the project area. This species is found near creeks, rivers, lakes, drainage ditches, and canals and prefers shallow, fresh water with clumps of marshy vegetation, such as cattails, bulrushes, and sedges. They live in dome-shaped lodges constructed of vegetation and their diet is mainly vegetation.

Desert pocket gopher (*Geomys arenarius*)

There may be suitable habitat for the desert pocket gopher located within the project area. This species is found in the cottonwood-willow vegetation association along the Rio Grande in El Paso and Hudspeth counties. The Desert pocket gopher lives underground, but builds large and conspicuous mounds.

Recommendation: If during construction the project area is found to contain the mammal SGCNs listed above, TPWD recommends that precautions be taken to avoid impacts to them.

Evaluation of Species in the Environmental Assessment

As previously mentioned, the draft EA did not include a discussion of SGCNs that may be present within the project area or potentially impacted by the proposed project. TPWD also notes that although state-listed species with the potential to occur in Hudspeth County were included in Table 3-9, there was no further discussion or evaluation of potential impacts to state-listed species in the draft EA. Additionally, there were no BMPs for specific state-listed species (or SGCNs) included in Section 5 of the draft EA (Best Management Practices), as this section only included BMPs for federally-listed species that may be impacted by the proposed project. The SGCNs mentioned in this letter were discussed because they were mentioned in the draft EA (as a common species that may occur in the project area) or because of TPWD staff's knowledge of the potential for species to inhabit the study area. TPWD notes that it is the responsibility of the project proponent to evaluate all of the species listed on the TPWD county list, not just state- and federally-listed species. It is also the responsibility of the project proponent to determine if those species have habitat within the project area and if they have the potential to be impacted by the construction of the proposed project.

Recommendation: Please review the TPWD county list for Hudspeth County because species in addition to those discussed in this letter could be present within the project area depending upon habitat availability. Please note that the TPWD county list underwent a major update in April 2019. Please review the updated county list for this project and all projects moving forward. TPWD

strongly recommends including a discussion and evaluation of potential impacts to state-listed species and SGCNs (in addition to federally-listed species) in this EA and for all future projects coordinated with this office.

Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, considering all the variable factors contributing to the lack of detectable presence. If encountered during construction, measures should be taken to avoid impacting all wildlife, regardless of listing status.

Texas Natural Diversity Database

The TXNDD is intended to assist users in avoiding harm to rare species or significant ecological features. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Absence of information in the database does not imply that a species is absent from that area. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presence, absence or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and **cannot be used as presence/absence data**. They represent species that could potentially be in your project area. This information cannot be substituted for field surveys. The TXNDD is updated continuously based on new, updated and undigitized records; therefore, TPWD recommends requesting the most recent TXNDD data on a regular basis. For questions regarding a record or to request the most recent data, please contact TexasNatural.DiversityDatabase@tpwd.texas.gov.

Recommendation: To aid in the scientific knowledge of a species' status and current range, TPWD encourages project proponents and their contractors report all encounters of SGCN, state-listed, and federally-listed species to the TXNDD according to the data submittal instructions found on the Texas Natural Diversity Database website.

Mr. Joseph Zidron
Page 13 of 13
August 27, 2019

TPWD appreciates the opportunity to review and comment on this EA. If you have any questions, please contact me at (512) 389-8054 or email at Jessica.Schmerler@tpwd.texas.gov.

Sincerely,



Jessica E. Schmerler
Wildlife Habitat Assessment Program
Wildlife Division

JES:42292

Attachment



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Carter P. Smith
Executive Director

November 6, 2018

Mr. Paul Enriquez
Acquisition, Real Estate, and Environmental Director
Border Wall Program Management Office
United States Border Patrol
1300 Pennsylvania Avenue NW
Washington, DC 20229

RE: Early Agency Coordination: Fort Hancock Road Upgrade and Canal Crossing Project, Fort Hancock, Texas, El Paso Sector, U.S. Customs and Border Protection – Department of Homeland Security

Dear Mr. Enriquez:

Texas Parks and Wildlife Department (TPWD) received the early coordination request for the above-referenced project located in Hudspeth County. TPWD would like to offer the following information, comments, and recommendations to minimize impacts to fish and wildlife resources.

Please be aware that a written response to a TPWD recommendation or informational comment received by a state governmental agency may be required by state law. For further guidance, see the Texas Parks and Wildlife (TPW) Code, Section 12.0011. For tracking purposes, please refer to TPWD project number 40864 in any return correspondence regarding this project.

Project Description

The U.S. Customs and Border Protection (CBP) plans to upgrade three roads (Riverside Road, Verduzco Road, and Rock Bridge Road) and construct four associated canal crossings in the U.S. Border Patrol (USBP) Fort Hancock Station (FHT) Area of Responsibility (AOR). The Border Wall Program Management Office (BWPMO) within CBP is preparing an Environmental Assessment (EA). The EA will address the proposed upgrade of the three aforementioned roads and associated canal crossings. BWPMO is the CBP proponent office for this project.

The purpose of the proposed action is to improve mobility and accessibility for USBP Agents responding to illegal cross-border traffic. The FHT AOR encompasses 2,700 square miles of total area, with over 40 miles along the international border with Mexico paralleling the Rio Grande River. The FHT's main emphasis is line operations along the U.S./Mexico border. The FHT Station currently has mobility and accessibility issues throughout their AOR. Limited ingress/egress points throughout the AOR and poor road conditions are two major factors that affect response times and limit Agent options when responding to traffic. Access points called "Crossovers" allow the only passage across a drainage canal that parallels the

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entire levee in FHT's AOR. Crossovers are scattered along the levee, which creates extended response times and limited access in the border area.

The proposed new tactical infrastructure (TI) is located within the FHT AOR, El Paso Sector, Hudspeth County, Texas. The FHT AOR is located approximately 50 miles southeast of El Paso. The road corridors are located predominantly on federally-owned and private lands.

General Construction Recommendations

The coordination request did not include any information regarding pre-construction, construction, or post-construction best management practices (BMPs); therefore, TPWD would like to provide the following general construction recommendations to assist in project planning.

Recommendation: TPWD recommends the judicious use and placement of sediment control fence to exclude wildlife from the construction area. In many cases, sediment control fence placement for the purposes of controlling erosion and protecting water quality can be modified minimally to also provide the benefit of excluding wildlife access to construction areas. The exclusion fence should be buried at least six inches and be at least 24 inches high. The exclusion fence should be maintained for the life of the project and only removed after the construction is completed and the disturbed site has been revegetated. Construction personnel should be encouraged to examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities. TPWD recommends that any open trenches or excavation areas be covered overnight and/or inspected every morning to ensure no wildlife species have been trapped. For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Also, inspect excavation areas for trapped wildlife prior to refilling.

Recommendation: For soil stabilization and/or revegetation of disturbed areas within the proposed project area, TPWD recommends erosion and seed/mulch stabilization materials that avoid entanglement hazards to snakes and other wildlife species. Because the mesh found in many erosion control blankets or mats pose an entanglement hazard to wildlife, TPWD recommends the use of no-till drilling, hydromulching and/or hydroseeding due to a reduced risk to wildlife. If erosion control blankets or mats will be used, the product should contain no netting or contain loosely woven, natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic mesh matting should be avoided.

Impacts to Vegetation/Wildlife Habitat

The information provided did not include details on existing vegetation, vegetation removal, and plans for revegetation. Therefore, TPWD would like to provide the following recommendations to assist in project planning.

Recommendation: TPWD recommends reducing the amount of vegetation proposed for clearing if at all possible and minimizing clearing of native vegetation, particularly mature native trees, riparian vegetation, and shrubs to the greatest extent practicable. TPWD recommends in-kind on-site replacement/restoration of the native vegetation wherever practicable. Colonization by invasive species, particularly invasive grasses and weeds, should be actively prevented. Vegetation management should include removing invasive species early on while allowing the existing native plants to revegetate the disturbed areas. TPWD recommends referring to the Lady Bird Johnson Wildflower Center Native Plant Database for regionally adapted native species that would be appropriate for landscaping and revegetation.

Federal Laws

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control, except when specifically authorized by the Department of the Interior. This protection applies to most native bird species, including ground nesting species. The U.S. Fish and Wildlife Service (USFWS) Migratory Bird Office can be contacted at (505) 248-7882 for more information on potential impacts to migratory birds.

The information provided did not address potential impacts to migratory birds; therefore, TPWD is providing the following recommendation to assist in project planning.

Recommendation: If migratory bird species are found nesting on or adjacent to the project area, they must be dealt with in a manner consistent with the MBTA. TPWD recommends excluding vegetation clearing activities during the general bird nesting season, March 15 through September 15, to avoid adverse impacts to breeding birds. If clearing vegetation during the migratory bird nesting season is unavoidable, TPWD recommends surveying the area proposed for disturbance to ensure that no nests with eggs or young will be disturbed by operations. TPWD recommends that a 150-foot buffer of vegetation remain around any nests that are observed prior to disturbance. Any vegetation (such as

trees, shrubs, and grasses) or other open areas where occupied nests are located should not be disturbed until the eggs have hatched and the young have fledged.

Endangered Species Act

Federally-listed animal species and their habitats are protected from “take” on any property by the Endangered Species Act (ESA). Take of a federally-listed species can be allowed if it is “incidental” to an otherwise lawful activity and must be permitted in accordance with Section 7 or 10 of the ESA. Federally-listed plants are not protected from take except on lands under federal/state jurisdiction or for which a federal/state nexus (i.e., permits or funding) exists. Any take of a federally-listed species or its habitat without the required take permit (or allowance) from the USFWS is a violation of the ESA.

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) – Federally-listed Threatened

Southwestern willow flycatcher (*Empidonax traillii extimus*) – Federally-listed Endangered

There may be suitable habitat present for the above-listed species within the project area. The western yellow-billed cuckoo breeds in riparian habitat and associated drainages; springs, developed wells, and earthen ponds supporting mesic vegetation; deciduous woodlands with cottonwoods and willows. Dense understory foliage is important for nest site selection. This species nests in willow, mesquite, cottonwood, and hackberry and forages in similar riparian woodlands. The breeding season for the western yellow-billed cuckoo is mid-May through late-September. The southwestern willow flycatcher inhabits thickets of willow, cottonwood, mesquite, and other species along desert streams.

Recommendation: Retaining as much of the existing native vegetation in the project area is of concern to TPWD; therefore, TPWD recommends leaving as much of the native vegetation as possible within the 5-foot buffer from the water’s edge, specifically phragmites, willows, and, if present, cottonwoods. TPWD also recommends having a biologist mark those species prior to the start of construction to ensure those species are left alone. TPWD recommends contacting the USFWS for species occurrence data, guidance, permitting, survey protocols, and mitigation for these federally-listed species, if coordination has not been initiated to date.

State Laws

Parks and Wildlife Code – Chapter 64, Birds

TPW Code Section 64.002, regarding protection of nongame birds, provides that no person may catch, kill, injure, pursue, or possess a bird that is not a game bird. TPW Code Section 64.003, regarding destroying nests or eggs, provides that, no person may destroy or take the nests, eggs, or young and any wild game bird, wild bird, or wild fowl. TPW Code Chapter 64 does not allow for incidental take and therefore is more restrictive than the MBTA.

Recommendation: Please review the *Migratory Bird Treaty Act* section above for recommendations as they are also applicable for Chapter 64 of the Parks and Wildlife Code compliance.

Parks and Wildlife Code, Section 68.015

Section 68.015 of the TPW Code regulates state-listed species. Please note that there is no provision for the capture, trap, take, or kill (incidental or otherwise) of state-listed species. The *TPWD Guidelines for Protection of State-Listed Species*, which includes a list of penalties for take of species, can be found on the Wildlife Habitat Assessment Program website. State-listed species may only be handled by persons with authorization obtained through TPWD. For more information on this permit, please contact the Wildlife Permits Office at (512) 389-4647.

Black Bear (*Ursus americanus*)

There is a Texas Natural Diversity Database (TXNDD) record for the state-listed threatened black bear located approximately 6 miles from Verduzco Road. Black bear activity in West Texas has been steadily increasing in recent years. The increased black bear activity is likely a response to the extensive habitat loss from wildfires in Mexico and Texas, coupled with the extended drought and extreme heat. In West Texas Black bears are often found in desert scrub or woodland habitats within scattered mountain ranges. They have also been increasingly found near human habitation most likely due to food shortages caused by the increasing drought conditions and wildfires, as mentioned above. There may be suitable habitat for this species within the project area.

The TXNDD is intended to assist users in avoiding harm to rare species or significant ecological features. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Absence of information in the database does not imply that a species is absent from that area. Although it is based on the best data available to

TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presence, absence or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and **cannot be used as presence/absence data**. They represent species that could potentially be in your project area. This information cannot be substituted for on-the-ground surveys. The TXNDD is updated continuously based on new, updated and undigitized records; therefore, TPWD recommends requesting the most recent TXNDD data on a regular basis. For questions regarding a record or to request the most recent data, please contact TexasNatural.DiversityDatabase@tpwd.texas.gov.

Recommendation: TPWD recommends avoiding bottomland hardwoods and long tracts of inaccessible forested land when constructing the proposed project. TPWD also recommends avoiding disturbance of food sources for the black bear such as mast producing trees, prickly-pear fruits, and hearts of Spanish dagger, sotol, and yucca. If a Black bear is observed during field reconnaissance, windshield surveys, or construction, TPWD recommends reporting the black bear sighting to TPWD mammalogist Jonah Evans at (830) 249-2131.

Texas horned lizard (*Phrynosoma cornutum*)

Suitable habitat for the state-listed threatened Texas horned lizard may be present within the project area. The Texas horned lizard inhabits open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees and soil may vary in texture from sandy to rocky. If present in the project area, the Texas horned lizard could be impacted by ground disturbing activities from construction. A useful indication that the Texas horned lizard may occupy the site is the presence of harvester ant (*Pogonomyrmex barbatus*) nests since harvester ants are the primary food source of Texas horned lizards. Texas horned lizards may hibernate on-site in loose soils a few inches below ground during the cool months from September/October to March/April. Construction in these areas could harm hibernating lizards. Horned lizards are active above ground when temperatures exceed 75 degrees Fahrenheit. If horned lizards (nesting, gravid females, newborn young, lethargic from cool temperatures or hibernation) cannot move away from noise and approaching construction equipment in time, they could be affected by construction activities.

Recommendation: TPWD recommends having a qualified biologist survey the project area for any Texas horned lizards that may be in the area that is proposed for disturbance. As previously mentioned, a useful indication that the Texas horned lizard may occupy the site is the presence of harvester ant nests. The survey should be performed during the warm months of the year when the horned lizards are active. If horned lizards are found on-site, TPWD

recommends relocating them off-site to an area that is close-by and contains similar habitat. TPWD recommends that any translocations of reptiles be the minimum distance possible no greater than one mile, preferably within 100 to 200 yards from the initial encounter location. After horned lizard removal, the area that will be disturbed during active construction and project specific locations should be fenced off to exclude horned lizards and other reptiles. The exclusion fence should be constructed and maintained as follows:

- a. The exclusion fence should be constructed with metal flashing or drift fence material.
- b. Rolled erosion control mesh material should not be used.
- c. The exclusion fence should be buried at least 6 inches deep and be at least 24 inches high.
- d. The exclusion fence should be maintained for the life of the project and only removed after the construction is completed and the disturbed site has been revegetated.
- e. Any open trenches or excavation areas should be covered overnight and/or inspected every morning to ensure no Texas horned lizards or other wildlife have been trapped. For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Also, inspect excavation areas for trapped wildlife prior to refilling.

Recommendation: If the project area is found to contain unavoidable habitat of the Texas horned lizard, then TPWD recommends a permitted biological monitor be present during clearing and construction activities to relocate Texas horned lizards encountered during construction. TPWD also recommends providing contractor training where feasible. Because the biological monitor cannot oversee all construction activity at the same time, it's important for the contractor to be able to identify protected species and to be on the lookout for them during construction. TPWD also recommends avoiding impacts to harvester ant mounds where feasible. TPWD understands that ant mounds in the direct path of construction would be difficult to avoid, but contractors should be mindful of these areas when deciding where to place project specific locations and other disturbances associated with construction. If the presence of a biological monitor during construction is not feasible, state-listed species observed during construction should be allowed to safely leave the site.

Chihuahuan Desert lyre snake (*Trimorphodon vilkinsonii*)

There may be suitable habitat for the Chihuahuan Desert lyre snake located within the project area. This species is mostly crevice-dwelling in predominantly limestone-surfaced desert northwest of the Rio Grande from Big Bend to the Franklin

Mountains, especially in areas with jumbled boulders and rock faults/fissures. This species is secretive and eats mostly lizards.

Recommendation: Snakes are generally perceived as a threat and killed when encountered during clearing or construction. Therefore, TPWD recommends that personnel involved in clearing and construction be informed of the potential for the Chihuahuan Desert lyre snake to occur in the project area. Personnel should be advised to avoid impacts to this snake as it is non-venomous and poses no threat to humans. TPWD recommends a permitted biological monitor be present during construction to try to relocate protected species if found (to an area that is nearby with similar habitat), preferably within 100 to 200 yards from the initial encounter location. If the presence of a permitted biological monitor during construction is not feasible, state-listed species observed during construction should be allowed to safely leave the site.

Rare Species

In addition to state- and federally-protected species, TPWD tracks special features, natural communities, and rare species that are not listed as threatened or endangered. These species and communities are tracked in the TXNDD, and TPWD actively promotes their conservation. TPWD considers it important to evaluate and, if necessary, minimize impacts to rare species and their habitat to reduce the likelihood of endangerment and preclude the need to list as threatened or endangered in the future.

Sand prickly-pear (*Opuntia arenaria*)

There is one TXNDD record for sand prickly-pear located within the Riverside Road project area. This species is found in deep, loose or semi-stabilized sands in sparsely vegetated dune or sandhill areas or sandy floodplains in arroyos. The sand prickly-pear flowers from May through June.

Recommendation: TPWD recommends surveying for sand prickly-pear where suitable habitat may be present (in areas where ground disturbance may occur). The survey should be performed by a qualified biologist at the time of year when this species is most likely to be found, usually during the flowering period. If this species is present, plans should be made to avoid adverse impacts to the greatest extent possible. If plants are found in the path of construction, including the placement of staging areas and other project related sites, this office should be contacted for further coordination and possible salvage of plants and/or seeds for seed banking. Plants not in the direct path of construction should be protected by markers or fencing and by instructing construction crews to avoid any harm.

Western burrowing owl (*Athene cunicularia hypugaea*)

TPWD notes that there is an eBird (www.ebird.org) observation for the western burrowing owl located approximately 2 miles from Riverside Road, an observation located approximately 0.8 mile from Verduzco Road and several additional observations for this species located within the general project area for all three roads proposed for improvement. The western burrowing owl is a ground-dwelling owl that uses the burrows of prairie dogs and other fossorial animals for nesting and roosting. When natural burrows are limited, this species will breed in urban habitats which may lead to problems for the owls or their young. The owls opportunistically live and nest in road and railway right-of-ways, parking lots, baseball fields, school yards, golf courses, and airports. They have also been found nesting on campuses, in storm drains, drainage pipes, and cement culverts, on banks, along irrigation canals, under asphalt or wood debris piles, or openings under concrete pilings or asphalt. The western burrowing owl is protected under the MBTA, and take of these birds, their nests, and eggs is prohibited. Potential impacts to the western burrowing owl could include habitat removal as well as displacement and/or destruction of nests and eggs if ground disturbance occurs during the breeding season.

Recommendation: TPWD recommends avoiding disturbance of mammal burrows or other suitable habitat during the construction of the proposed project. As previously mentioned, TPWD recommends conducting project activities outside the breeding season (March 15 to September 15). Nesting areas and burrows should be protected from intensive disturbance during incubation. Excavation of an active nest burrow may destroy eggs, young owls, or even adults and is violation of the MBTA. If nesting owls are found inhabiting the project area, disturbance should be avoided until the eggs have hatched and the young have fledged.

Black-tailed Prairie dog (*Cynomys ludovicianus*)

There may be suitable habitat for the black-tailed prairie dog within the project area. Black-tailed prairie dogs inhabit dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle. The black-tailed prairie dog is a keystone species that provides food and/or shelter for rare species tracked by TPWD such as the ferruginous hawk and the western burrowing owl, as well as many other wildlife species.

Recommendation: TPWD recommends avoiding disturbance of prairie dog towns or burrows and species that depend on them. TPWD recommends avoiding these areas during construction and installing exclusion fence to keep prairie dogs from entering the project area. If prairie dog burrows will be disturbed as a result of the proposed project, TPWD recommends non-harmful

exclusion methods be used to encourage the animals to vacate the area prior to disturbance and discourage them from returning to the area during construction. If prairie dogs are encountered on the project site, TPWD recommends contacting a prairie dog relocation specialist. If impacting a portion of a larger colony, time relocation efforts and/or humane removal immediately before construction to discourage recolonization of the project area. Prairie dogs can be encouraged to move away from your project area by mowing overgrown adjacent areas. Conversely, prairie dogs can be discouraged from utilizing areas by not mowing and allowing grass or other tall vegetation to grow or by scraping all vegetation off the project site and leaving soil exposed.

Pecos River muskrat (*Ondatra zibethicus ripensis*)

There may be suitable habitat for the desert pocket gopher located within the project area. This species is found near creeks, rivers, lakes, drainage ditches, and canals and prefers shallow, fresh water with clumps of marshy vegetation, such as cattails, bulrushes, and sedges. They live in dome-shaped lodges constructed of vegetation and their diet is mainly vegetation. This species breeds year round.

Desert pocket gopher (*Geomys arenarius*)

There may be suitable habitat for the desert pocket gopher located within the project area. This species is found in the cottonwood-willow vegetation association along the Rio Grande in El Paso and Hudspeth counties. The Desert pocket gopher lives underground, but builds large and conspicuous mounds.

Recommendation: If during construction the project area is found to contain the rare species listed above, TPWD recommends that precautions be taken to avoid impacts to them.

Recommendation: Please review the TPWD county list for Hudspeth County, as rare and protected species in addition to those discussed in this letter could be present depending upon habitat availability. The USFWS should be contacted for species occurrence data, guidance, permitting, survey protocols, and mitigation for federally-listed species.

Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, taking into account all the variable factors contributing to the lack of detectable presence. If encountered during construction, measures should be taken to avoid impacting all wildlife.

Mr. Paul Enriquez
Page 11 of 11
November 6, 2018

Texas Natural Diversity Database

Recommendation: To aid in the scientific knowledge of a species' status and current range, TPWD encourages reporting all encounters of rare, state-listed, and federally-listed species to the TXNDD according to the data submittal instructions found on the Texas Natural Diversity Database website.

TPWD strives to respond to requests for project review within a 45 day comment period. Responses may be delayed due to workload and lack of staff. Failure to meet the 45 day review timeframe does not constitute a concurrence from TPWD that the proposed project will not adversely impact fish and wildlife resources.

I appreciate the opportunity to provide preliminary input on potential impacts related to this project, and I look forward to reviewing the Draft EA. If you have any questions, please contact me at (512) 389-8054 or email at Jessica.Schmerler@tpwd.texas.gov.

Sincerely,



Jessica E. Schmerler
Wildlife Habitat Assessment Program
Wildlife Division

JES:40864

Dear Sirs After reviewing your Draft Environmental Assessment. We the below listed are in disagreement with a number of issues. Your belittling of the irrigated grounds to be disturbed by the Verducos Road project are deliberately incorrect. The soil is deep & well drained and classified by the U. S. dept. of Agriculture as one of the best soils in existence. Directly quoted from their manual as "Cotton & Alfalfa are the principle crops grown. Also suitable are grain sorghum, corn, small grains, & vegetable crops. Pecan trees, as well as fruit trees suited to the climate, grow well on the soils". You could not ask for a better soil. Also note this area is one of only two in the United States that can produce E.L.S.- Pima Cotton. The Road on the Verducos will run very close to our Livestock Containment Corrals not allowing our livestock to rest, negating any weight gain, milk production & reducing their ability to produce healthy offspring. Your improved road at this critical point will, be utilized continually day & night 365 1/4 days a year. Adversely affecting our livestock. Your proposed route is directly over Three large Kimpel irrigation wells, cross connections, discharge diversions, concrete & improved ditches, not even mentioned in your 97 page report. Why were they omitted? We suggest you use a site to the west of our property going over Ressie Lutage & Wayne Strachan Farms. This is a more direct route, no wells, poorer soils & no livestock. Or even better utilize the existing in place all weather irrigation Aldagron lateral ditch road, add some road base. This option would be the least disruptive, presently used by the Border Patrol & cost less to the few Americans that are still paying TAXES. Thank You Mark Kimpel, Audra Kimpel, Madalyn Kimpel, Harvick Kimpel, Robert Kimpel, Dolores Kimpel, Debra Kimpel, Arthur Kimpel, Mary Kimpel, Bobby Kimpel, Fritz Kimpel, Jordan Kimpel, Bobby Kimpel Jr. Oscar Kimpel, Robert Kimpel III, Clarence Kimpel, Fred Jordan, Elizabeth Jordan, Charles Jordan, Harry Jordan, Walter Jordan, Bill Jordan, Elizabeth Meinders, Charles Minders

Comment Response Matrix
Draft EA – Fort Hancock Road Upgrade and Canal Crossing Project,
Fort Hancock, Texas
U.S. Customs and Border Protection, El Paso Sector
July 2019

#	Page	Line	Section	Comment	Reviewer	Response
0			Surface Water and Waters of the United States	USEPA indicates that according to the USFWS National Wetland Inventory, portions of the Verduzco’s Road and Rock Bridge Road sites are within riverine systems and freshwater shrub wetlands respectively, and that a wetland determination and/or delineation following the 1987 United States Army Corps of Engineers Wetlands Delineation Manual Procedures may be required to avoid impacts to Waters of the United States under Section 404 of the Clean Water Act.	Arturo J. Blanco, U.S. Environmental Protection Agency	Surveys for Waters of the U.S. were conducted on February 12, 2019 at each of the proposed road upgrade sites. None of the road segments proposed for upgrade lie within wetlands and crossing structures will span all Waters of the U.S. and not impact the ordinary high water mark of any Water of the U.S. within the road upgrade segments. No filling of any area is anticipated for this project.
1			4.4.5	To comply with the Migratory Bird Treaty Act and to avoid impacts to listed avian species, CBP should conduct advance surveys for nesting migratory birds and nests if trees or brush are cleared with mechanical devices and activities occur during the nesting season (March 15 through September 15). If project activities must be conducted between March and August, we recommend surveying for nests prior to commencing work, and if a nest is found, and if possible, the Service recommends a buffer of vegetation (≥50ft) remain around the nest until young have fledged or the nest has been abandoned.	Charles Ardizzone, U.S. Fish and Wildlife Service	CBP has incorporated recommendations by both the TPWD and USFWS into the planning efforts for this project.
2			Cultural Resources	While we do not have any comments on the proposed undertaking and believe that this project will not adversely affect traditional, religious, or culturally significant sites of our Pueblo and have no opposition to it; we would like to request consultation should any human remains or artifacts unearthed during this project be determined to fall under the Native American Graves and Repatriation Act (NAGPRA). Copies of our Pueblo’s Cultural Affiliation Position Paper and Consultation Policy are available upon request.	Javier Loera, Tribal Council/Historic Preservation Office of the Ysleta del Sur Pueblo	CBP thanks you for your comment and will consult with your office if artifacts or remains are unearthed during the course of the project that is subject to NAGPRA.

#	Page	Line	Section	Comment	Reviewer	Response
3			Cultural Resources	The THC's archaeological review staff, led by Drew Sitters, has completed its review of the environmental assessment document. After examining the documentation, we believe that the proposed road upgrades and the construction of canal crossings at the Riverside and Verduzco's Road project areas will have "no adverse effect" on historic properties. This is due largely in part to the numerous disturbances within the project areas associated with the construction of existing canals and agriculture. However, little to no disturbance has occurred with the Rock Bridge Road project area. Moreover, the project is situated adjacent to natural sources of water (e.g. Rio Grande). Therefore, the potential for significant historic properties within the Rock Bridge Road project area is high and an archaeological survey is required prior to breaking ground.	Mark Wolfe, State Historic Preservation Officer, Texas Historical Commission	CBP has conducted archaeological investigations at each of the proposed road upgrade sites and the report summarizing the results of these investigations has been submitted to THC
4				Regarding above-ground resources, Caitlin Brashear of the History Programs division has determined that additional information is needed to complete the review. Per Section 106, resources that are listed or <i>eligible</i> for inclusion in the National Register of Historic Places (NRHP) within the proposed Area of Potential Affects need to be identified, and then any historic resources must be assessed for effects by the proposed work. Therefore, more information is needed to determine if the historic-age canals are eligible for NRHP-listing before the THC can assess the impacts of the proposed project on the canals.	Mark Wolfe, State Historic Preservation Officer, Texas Historical Commission	CBP is coordinating with the THC and will consider the entire levee and irrigation system in the project areas as potentially eligible for NRHP-listing.
5			General	TPWD provide information and recommendations regarding this project to Mr. Paul Enriquez with the Border Wall Program Management Office on November 6, 2018. This response was not included in Appendix A of the draft EA nor was this correspondence referenced in the draft EA. Therefore TPWD is including this letter for your reference. Recommendation: Please review previous TPWD correspondence and consider the recommendations provided, as they remain applicable to the project as proposed. TPWD also recommends including the previous comment letter as well as this comment letter in Appendix A of the EA.	Jessica, E. Schmerler, Texas Parks and Wildlife Department	CBP has incorporated recommendations by both the TPWD and USFWS into the planning efforts for this project. This comment letter and the previous comment letter will be included in Appendix A of the Final EA.

#	Page	Line	Section	Comment	Reviewer	Response
6			5.7	<p>Section 5.7 (page 5-5) of the draft EA states “Erosion control measures and appropriate BMPs [Best Management Practices] , as required and promulgated through a site-specific SWPPP [Stormwater Pollution Prevention Plan] and engineering designs, will be implemented before , during, and after soil-disturbing activities.” The draft EA did not include the specific pre-construction, construction, or post-construction BMPs that would be utilized; therefore, TPWD would like to provide the following general construction recommendations to assist in project planning.</p> <p>Recommendation: TPWD recommends to judicious use and placement of sediment control fence to exclude wildlife from the construction area. In many cases, sediment control fence placement for the purposes of controlling erosion and protecting water quality can be modified minimally to also provide the benefit of excluding wildlife access to construction areas. The exclusion fence should be buried at least six inches and be at least 24 inches high. The exclusion fence should be maintained for the life of the project and only removed after construction is completed and the disturbed site has been revegetated. Construction personnel should be encouraged to examine the inside of the wildlife exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities. TPWD recommends that any open trenches or excavation areas be covered overnight and/or inspected every morning to ensure no wildlife species have been trapped. For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Also, inspect excavation areas for trapped wildlife prior to refilling.</p>	Jessica, E. Schmerler, Texas Parks and Wildlife Department	<p>CBP has incorporated recommendations by both the TPWD and USFWS into the planning efforts for this project.</p> <p>Language has been added to section 5.7 of the final EA describing the implementation of TPWD erosion control and wildlife exclusion/protection recommendations.</p>
7			5.7	<p>For soil stabilization and/or revegetation of disturbed areas within the proposed project area, TPWD recommends erosion and seed/mulch stabilization materials that avoid entanglement hazards for snakes and other wildlife species. Because the mesh found in many erosion control blankets or mats pose an entanglement hazard to wildlife, TPWD recommends the use of no-till drilling,</p>	Jessica, E. Schmerler, Texas Parks and Wildlife Department	<p>CBP will avoid the use of erosion blankets and mats in favor of seed/mulch stabilization wherever practicable. Where erosion control blankets must be used,</p>

#	Page	Line	Section	Comment	Reviewer	Response
				hydromulching and/or Hydroseeding due to a reduced risk to wildlife. If erosion control blankets or mats will be used, the product should not contain netting, but if it must contain netting it should contain loosely woven, natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. TPWD recommends avoiding the use of plastic mesh matting.		the material will not contain netting or will contain loosely woven natural fiber netting. Language describing implementation of these recommended BMPs has been added to Section 5.7 of the final EA.
7			5.3	TPWD recommends reducing the amount of vegetation proposed for clearing if possible and minimizing clearing of native vegetation, particularly riparian vegetation and mature native trees and shrubs to the greatest extent practicable. TPWD recommends in-kind on-site replacement/restoration of native vegetation wherever practicable. Colonization by invasive species, particularly invasive grasses and weeds, should be actively prevented. Vegetation management should include removing invasive species early on while allowing the existing native plants to revegetate the disturbed areas. TPWD recommends referring to the Lady Bird Johnson Wildflower Center Native Plant Database for regionally adapted native species that would be appropriate for landscaping and revegetation.	Jessica, E. Schmerler, Texas Parks and Wildlife Department	CBP will minimize vegetation clearing wherever practicable and will monitor colonization of invasive species throughout the life of the project. Revegetation efforts will utilize appropriate native species, and seed mixes will be certified weed free.
8			5.3	TPWD recommends incorporating pollinator conservation and management into the revegetation and maintenance plan for this project, such as promoting growth of native flowering species throughout the growing season and conducting mowing and herbicide activities to minimize loss to floral resources. TPWD recommends revegetation efforts include planting or seeding of native milkweed (<i>Asclepias</i> spp.) and nectar plants as funding and seed availability allow. Information about monarch butterfly biology, migration, and butterfly gardening can be found on the Monarch Watch website.	Jessica, E. Schmerler, Texas Parks and Wildlife Department	CBP will incorporate pollinator conservation and management into the planning efforts for this project.

#	Page	Line	Section	Comment	Reviewer	Response
9			5.3	If migratory bird species are found nesting on or adjacent to the project area, they must be dealt with in a manner consistent with the MBTA. TPWD recommends excluding vegetation clearing activities during the general bird nesting season (March 15 through September 15, to avoid adverse impacts to breeding birds. If clearing vegetation during the migratory bird nesting season is unavoidable, TPWD recommends surveying the proposed for disturbance as close to the date of construction as possible, to ensure that no nests with eggs or young will be disturbed by operations. TPWD recommends that a minimum 150-foot buffer of vegetation remain around any nests that are observed prior to disturbance. Any vegetation (such as trees, shrubs, and grasses) or other open areas where occupied nests are located should not be disturbed until the eggs have hatched and the young have fledged.	Jessica, E. Schmerler, Texas Parks and Wildlife Department	CBP has incorporated recommendations pertaining to MBTA by both the TPWD and USFWS into the planning efforts for this project.
10			5.3	TPWD is unsure as to why marking guy wires was mentioned in the above-quoted statement from the draft EA, as there is no mention of guy wires being utilized as any part of the proposed project in any other section of the draft EA. If installing guy wires is proposed as part of this project, then TPWD recommends discussing this in the EA, conversely, if guy wires are not proposed for this project, then TPWD recommends striking this language from the EA	Jessica, E. Schmerler, Texas Parks and Wildlife Department	Language concerning guy wires has been removed from the final EA.
11			5.3	TPW Code Section 64.002, regarding protection of non-game birds, provides that no person may catch, kill, injure, pursue, or possess a bird that is not a game bird. TPW Code Section 64.003, regarding destroying nests or eggs, provides that no person may destroy or take nests, eggs, or young, and any wild game bird, wild bird, or wild fowl. TPW 64 does not allow for incidental take and is therefore more restrictive than the MBTA. Recommendation: Please review the <i>Migratory Bird Treaty Act</i> section above for recommendations as they are also applicable for Chapter 64 of the Parks and Wildlife Code compliance.	Jessica, E. Schmerler, Texas Parks and Wildlife Department	CBP has incorporated recommendations pertaining to MBTA by both the TPWD and USFWS into the planning efforts for this project.
12			5.4	TPWD notes that there are no species-specific BMPs outlined in the draft EA for the Texas horned lizard, mountain short-horned lizard, or the Chihuahuan desert lyre snake. Please review the following species specific recommendations below and include BMPS for the state-listed reptiles in Section 5 of the EA (Best	Jessica, E. Schmerler, Texas Parks and Wildlife Department	Specific language describing the ecology and habitat for state-listed reptiles has been added to the final EA. CBP has incorporated recommendations

#	Page	Line	Section	Comment	Reviewer	Response
				Management Practices). TPWD notes that the recommendations outlined below for the Texas horned lizard are applicable to the mountain short-horned lizard as well. TPWD is also unsure as to what species the draft EA is referring to with the term “sedentary state-listed species” as mentioned above as all species mention in Table 3-9 appear to be mobile rather than sedentary. Please revise and be more specific.		pertaining to state-listed reptiles into the planning efforts for this project.
13			5.4	TPWD recommends having a qualified biologist survey the project area for any Texas horned lizards that may be in the area that is proposed for disturbance. TPWD has provided BMPs pertaining to Texas horned lizards and mountain short-horned lizards.	Jessica, E. Schmerler, Texas Parks and Wildlife Department	The BMPs for horned lizards are outlined in the final EA and CBP has incorporated recommendations pertaining to horned lizards into the planning efforts for this project.
14			5.4	There may be suitable habitat for the Chihuahuan desert lyre snake within the project area. The state-listed Chihuahuan desert lyre snake is mostly crevice-dwelling in predominantly limestone-surfaced northwest of the Rio Grande from Big Bend to the Franklin Mountains especially in areas with jumbled boulders and rock/fault fissures. This species is secretive and eats mostly lizards. TPWD has provided BMPs for avoiding impacts to the Chihuahuan desert lyre snake.	Jessica, E. Schmerler, Texas Parks and Wildlife Department	The BMPs for Chihuahuan desert lyre snake are outlined in the final EA and CBP has incorporated recommendations for avoiding impacts to Chihuahuan desert lyre snake into the planning efforts for this project.
15			5.4	There is one TXNDD record for sand prickly-pear within the Riverside Road project area. This species is found in deep loose or semi-stabilized sands in sparsely vegetated dune or sandhill areas of sandy floodplains in arroyos. The sand prickly-pear flowers from May through June. TPWD has provided recommendations for avoiding impacts to sand prickly-pear.	Jessica, E. Schmerler, Texas Parks and Wildlife Department	The recommendations for sand prickly-pear are outlined in the final EA and CBP has incorporated recommendations for avoiding impacts to sand prickly-pear into the planning efforts for this project.
16			5.4	TPWD has provided recommendations for avoiding impacts to burrowing owl.	Jessica, E. Schmerler, Texas Parks and Wildlife Department	The recommendations for burrowing owl are outlined in the final EA and CBP has incorporated recommendations for avoiding impacts to sand burrowing owl into the planning efforts for this project.
17			5.4	TPWD has provided recommendations for avoiding impacts to black-tailed prairie dog.	Jessica, E. Schmerler, Texas Parks and	The recommendations for black-tailed prairie dog are outlined in the final EA and

#	Page	Line	Section	Comment	Reviewer	Response
					Wildlife Department	CBP has incorporated recommendations for avoiding impacts to black-tailed prairie dog into the planning efforts for this project.
18			5.4	TPWD has provided recommendations for avoiding impacts to western box turtle.	Jessica, E. Schmerler, Texas Parks and Wildlife Department	The recommendations for western box turtle are outlined in the final EA and CBP has incorporated recommendations for avoiding impacts to western box turtle into the planning efforts for this project.
19			5.4	TPWD has provided recommendations for avoiding impacts to Pecos River muskrat.	Jessica, E. Schmerler, Texas Parks and Wildlife Department	The recommendations for Pecos River muskrat are outlined in the final EA and CBP has incorporated recommendations for avoiding impacts to Pecos River muskrat into the planning efforts for this project.
20			5.4	TPWD has provided recommendations for avoiding impacts to desert pocket gopher.	Jessica, E. Schmerler, Texas Parks and Wildlife Department	The recommendations for desert pocket gopher are outlined in the final EA and CBP has incorporated recommendations for avoiding impacts to desert pocket gopher into the planning efforts for this project.
21			5.4	As previously mentioned, the draft EA did not include a discussion of SGCNs that may be present within the project area or potentially impacted the proposed project. TPWD also notes that although state-listed species with the potential to occur in Hudspeth County were included in Table 3-9, there was no further discussion or evaluation of potential impacts to state-listed species in the draft EA. Additionally there are no BMPs for specific state-listed species (or SGCNs) included in Section 5 of the draft EA (Best Management Practices), as this section only included BMPS for federally-listed species that may be impacted by the proposed project. The SGCNs mentioned in this letter were discussed because they were mentioned in the draft EA (as a common	Jessica, E. Schmerler, Texas Parks and Wildlife Department	CBP has reviewed the updated TPWD county list and has included a discussion and evaluation of potential impacts to state-listed species and SGNCs in the final EA.

#	Page	Line	Section	Comment	Reviewer	Response
				<p>species that may occur in the project area) or because of TPWD staff's knowledge of the potential for species to inhabit the study area. TPWD notes that it is the responsibility of the project proponent to evaluate all of the species listed on the TPWD county list, not just state and federally-listed species. It is also the responsibility of the project proponent to determine if those species have habitat within the project area and if they have the potential to be impacted by the construction of the proposed project.</p> <p>Recommendation: Please review the TPWD county list for Hudspeth County because species in addition to those discussed in this letter could be present within the project area depending on habitat availability. Please note that the TPWD county list underwent a major update in April 2019. Please review the updated county list for this project and for all projects moving forward. TPWD strongly recommends including discussion and evaluation of potential impacts to state-listed species and SGCNs in addition to federally-listed species in this EA and for all future projects coordinated with this office.</p>		
22			5.4	To aid in the scientific knowledge of a species status and current range, TPWD encourages project proponents and their contractors report all encounters of SGCN, state-listed, and federally-listed species to the TXNDD according to the data submittal instructions found on the Texas National Diversity Database website.	Jessica, E. Schmerler, Texas Parks and Wildlife Department	CBP and contractors will report all observations of SGCN, state-listed, and federally-listed species made during the life of the project to the TXNDD according to the data submittal instructions found on the Texas National Diversity Database website.
23				Dear Sirs After reviewing your Draft Environmental Assessment. We the below listed are in disagreement with a number of issues. Your belittling of the irrigated grounds to be disturbed by the Verducos Road project are deliberately incorrect. The soil is deep & well drained and classified by the U. S. dept. of Agriculture as one of the best soils in existence. Directly quoted from their manual as "Cotton & Alfalfa are the principle crops grown. Also suitable are grain sorghum, corn, small grains, & vegetable crops. Pecan trees, as well as fruit trees suited to the climate, grow well	Mark Kimpel, Audra Kimpel, Madalyn Kimpel, Harvick Kimpel, Robert Kimpel, Dolores Kimpel ,Debra Kimpel , Arthur Kimpel, Mary	CBP thanks you for your response. A review of the U.S. Department of Agriculture Natural Resources Conservation Service Soil Access Database for Prime and Other Important Farmlands (https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcse)

#	Page	Line	Section	Comment	Reviewer	Response
				<p>on the soils". You could not ask for a better soil. Also note this area is one of only two in the United States that can produce E.L.S.- Pima Cotton. The Road on the Verducos will run very close to our Livestock Containment Corrals not allowing our livestock to rest, negating any weight gain, milk production & reducing their ability to produce healthy of springs. Your improved road at this critical point will, be utilized continually day & night 365 1/4 days a year. Adversely affecting our livestock. Your proposed route is directly over Three large Kimpel irrigation wells, cross connections, discharge diversions, concrete & improved ditches, not even mentioned in your 97 page report. Why were they omitted? We suggest you use a site to the west of our property going over Ressie Lutage & Wayne Strachan Farms . This is a more direct route, no wells, poorer soils & no livestock. Or even better utilize the existing in place all weather irrigation Aldagron lateral ditch road, add some road base. This option would be the least disruptive, presently used by the Border Patrol & cost less to the few Americans that are still paying TAXES.</p>	<p>Kimpel ,Bobby Kimpel Fritz Kimpel, Jordan Kimpel. Bobby Kimpel Jr. Oscar Kimpel .Robert Kimpel III, Clarence Kimpel, Fred Jordan, Elizabeth Jordan, Charles Jordan, Harry Jordan, Walter Jordan, Bill Jordan , Elizabeth Meinders, Charles Minders</p>	<p>prd1338623.html) indicates that none of the soil formations mapped for the road upgrade site are considered prime farmland soils. The proposed route of all road upgrades are along existing roads and impacts to above ground or below ground irrigation infrastructure are not anticipated. Operational requirements have dictated the location of the road upgrade</p>

APPENDIX B
TEXAS STATE-LISTED SPECIES AND SPECIES OF GREATEST
CONSERVATION NEED FOR HUDSPETH, COUNTY

Last Update: 7/17/2019

HUDSPETH COUNTY

AMPHIBIANS

Woodhouse's toad *Anaxyrus woodhousii*

Extremely catholic up to 5000 feet, does very well (except for traffic) in association with man.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: SU

BIRDS

American peregrine falcon *Falco peregrinus anatum*

Year-round resident and local breeder in west Texas, nests in tall cliff eyries; also, migrant across state from more northern breeding areas in US and Canada, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G4T4 State Rank: S2B

Franklin's gull *Leucophaeus pipixcan*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4G5 State Rank: S2N

mountain plover *Charadrius montanus*

Breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3 State Rank: S2

southwestern willow flycatcher *Empidonax traillii extimus*

Thickets of willow, cottonwood, mesquite, and other species along desert streams

Federal Status: LE State Status: E SGCN: N
Endemic: N Global Rank: G5T2 State Rank: S1B

western burrowing owl *Athene cunicularia hypugaea*

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4T4 State Rank: S2

DISCLAIMER

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HUDSPETH COUNTY

INSECTS

No accepted common name *Ochrotrichia capitata*

Habitat description is not available at this time.

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G1G3

State Rank: S2?

MAMMALS

American badger *Taxidea taxus*

Habitat description is not available at this time.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S5

big brown bat *Eptesicus fuscus*

Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S5

big free-tailed bat *Nyctinomops macrotis*

Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore

Federal Status:

State Status:

SGCN: Y

Endemic:

Global Rank: G5

State Rank: S3

black bear *Ursus americanus*

In Chisos, prefers higher elevations where pinyon-oaks predominate; also occasionally sighted in desert scrub of Trans-Pecos (Black Gap Wildlife Management Area) and Edwards Plateau in juniper-oak habitat. For ssp. *luteolus*, bottomland hardwoods, floodplain forests, upland hardwoods with mixed pine; marsh. Bottomland hardwoods and large tracts of inaccessible forested areas.

Federal Status:

State Status: T

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S3

black-tailed prairie dog *Cynomys ludovicianus*

Dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle; live in large family groups

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G4

State Rank: S3

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HUDSPETH COUNTY

MAMMALS

- cave myotis bat** *Myotis velifer*
Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (*Hirundo pyrrhonota*) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.
Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4G5 State Rank: S4
- Davis Mountains cottontail** *Sylvilagus robustus*
Brushy pastures, brushy edges of cultivated fields, and well-drained streambanks; active mostly at twilight and at night, where they may forage in a variety of habitats, including open pastures, meadows, or even lawns; rest during daytime in thickets or in underground burrows and small culverts; feed on grasses, forbs, twigs and bark; not sociable and seldom seen feeding together
Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G1G2 State Rank: S3
- desert bighorn sheep** *Ovis canadensis mexicana*
Rough, rocky mountainous terrain; bluffs and steep slopes with sparse vegetation
Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4T3T4Q State Rank: S2
- desert pocket gopher** *Geomys arenarius*
Cottonwood-willow association along the Rio Grande in El Paso and Hudspeth counties; does not tolerate clayey or gravelly soils characteristic of the other *Geomys* species; common along irrigation ditches in the sandy river bottom area. Lives underground, but build large and conspicuous mounds; life history not well documented, but presumed to eat mostly vegetation, be active year round, and bear more than one litter per year.
Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3G4 State Rank: S2
- eastern red bat** *Lasiurus borealis*
Found in a variety of habitats in Texas. Usually associated with wooded areas. Found in towns especially during migration.
Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3G4 State Rank: S4
- gray-footed chipmunk** *Tamias canipes*
High elevation (1800-2500 meters) forest-dwelling chipmunk occurring in dense stands of mixed timber and on brushy hillsides with rock crevices or downed logs along forest edges. Occurs in Texas only in the Sierra Diablo and Guadalupe Mountains in the Trans-Pecos; favorite habitat is downed logs near edges of clearings; also occur in dense stands of mixed timber (oaks, pines, firs) and on brushy hillsides, especially with rock crevices.
Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: S2S3

DISCLAIMER

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HUDSPETH COUNTY

MAMMALS

hoary bat

Lasiurus cinereus

Known from montane and riparian woodland in Trans-Pecos, forests and woods in east and central Texas.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3G4

State Rank: S4

kit fox

Vulpes macrotis

Open desert grassland; avoids rugged, rocky terrain and wooded areas.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G4

State Rank: S1S2

long-legged myotis bat

Myotis volans

Found in pine-oak woodland to grassland ecotone, higher elevations of Trans-Pecos High, open woods and mountainous terrain; nursery colonies (which may contain several hundred individuals) form in summer in buildings, crevices, and hollow trees; apparently does not use caves as day roosts, but may use such sites at night; single offspring born June-July.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G4G5

State Rank: S4

long-tailed weasel

Mustela frenata

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S5

Mexican free-tailed bat

Tadarida brasiliensis

Roosts in buildings in east Texas. Largest maternity roosts are in limestone caves on the Edwards Plateau. Found in all habitats, forest to desert.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S5

Mexican long-tongued bat

Choeronycteris mexicana

Only Texas record is from riparian forest; in general--neotropical nectivorous species roosting in caves, mines, and large crevices found in deep canyons along the Rio Grande ; also found in buildings and often associated with big-eared bats (*Plecotus* spp.); single TX record from Santa Ana NWR

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G3G4

State Rank: S1

mountain lion

Puma concolor

Rugged mountains & riparian zones.

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S2S3

Pecos River muskrat

Ondatra zibethicus ripensis

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HUDSPETH COUNTY

MAMMALS

Creeks, rivers, lakes, drainage ditches, and canals; prefer shallow, fresh water with clumps of marshy vegetation, such as cattails, bulrushes, and sedges; live in dome-shaped lodges constructed of vegetation; diet is mainly vegetation; breed year round

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5T3T4 State Rank: S2S3

pronghorn *Antilocapra americana*

Prefers hilly & plateau areas of open grassland, desert-grassland, & desert-scrub, where it frequents south-facing slopes & other sheltered areas.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S5

rock mouse *Peromyscus nasutus*

Rocky areas and talus slopes above 6000 feet. General vegetation associations include madrone, oak, maple, juniper, pinyon and ponderosa pine.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S4

Townsend's big-eared bat *Corynorhinus townsendii*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: S3?

western hog-nosed skunk *Conepatus leuconotus*

Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. *telmalestes*

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: S4

western small-footed myotis bat *Myotis ciliolabrum*

Mountainous regions of the Trans-Pecos, usually in wooded areas, also found in grassland and desert scrub habitats; roosts beneath slabs of rock, behind loose tree bark, and in buildings; maternity colonies often small and located in abandoned houses, barns, and other similar structures; apparently occurs in Texas only during spring and summer months; insectivorous

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

western spotted skunk *Spilogale gracilis*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S5

western yellow bat *Lasiurus xanthinus*

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HUDSPETH COUNTY

MAMMALS

Forages over water both perennial and intermittent sources, found at low elevations (< 6,000 feet), roosts in vegetation (yucca, hackberry, sycamore, cypress, and especially palm); also hibernates in palm; locally common in residential areas landscaped with palms in Tuscon and Phoenix, Arizona; young born in June; insectivore

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S1

MOLLUSKS

Huecos Mountains talus snail *Sonorella huacoensis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1?

No accepted common name *Holospira pityis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G1	State Rank: S1

Northern threeband *Humboldtiana ultima*

Leaf litter in mesic canyons of limestone mountains; in soil, under rocks

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G2	State Rank: S2

REPTILES

Big Bend slider *Trachemys gaigeae*

Almost exclusively aquatic, sliders (*Trachemys* spp.) prefer quiet bodies of fresh water with muddy bottoms and abundant aquatic vegetation, which is their main food source; will bask on logs, rocks or banks of water bodies; breeding March-July

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

Chihuahuan Desert lyre snake *Trimorphodon wilkinsonii*

Rocky areas with plenty of crevices and fissures. Desert flats, succulent and scrub, and mountain canyons to about 6000 feet. Mostly crevice-dwelling in predominantly limestone-surfaced desert northwest of the Rio Grande from Big Bend to the Franklin Mountains, especially in areas with jumbled boulders and rock faults/fissures; secretive; egg-bearing; eats mostly lizards.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

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HUDSPETH COUNTY

REPTILES

mountain short-horned lizard *Phrynosoma hernandesi*

Diurnal, usually in open, shrubby, or openly wooded areas with sparse vegetation at ground level; soil may vary from rocky to sandy; burrows into soil or occupies rodent burrow when inactive; eats ants, spiders, snails, sowbugs, and other invertebrates; inactive during cold weather; breeds March-September

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2

Texas horned lizard *Phrynosoma cornutum*

Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area. Open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive; breeds March-September.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3

western box turtle *Terrapene ornata*

Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species; winter burrow depth was 0.5-1.8 meters in Wisconsin (Doroff and Keith 1990), 7-120 cm (average depth 54 cm) in Nebraska (Converse et al. 2002). Eggs are laid in nests dug in soft well-drained soil in open area (Legler 1960, Converse et al. 2002). Very partial to sandy soil.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

western hognose snake *Heterodon nasicus*

Habitat consists of areas with sandy or gravelly soils, including prairies, sandhills, wide valleys, river floodplains, bajadas, semiagricultural areas (but not intensively cultivated land), and margins of irrigation ditches (Degenhardt et al. 1996, Hammerson 1999, Werler and Dixon 2000, Stebbins 2003). Also thornscrub woodlands and chaparral thickets. Seems to prefer sandy and loamy soils, not necessarily flat. Periods of inactivity are spent burrowed in the soil or in existing burrows. Eggs are laid in nests a few inches below the ground surface (Platt 1969).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

western rattlesnake *Crotalus viridis*

Grassland, both desert and prairie; shrub desert rocky hillsides; edges of arid and semi-arid river breaks.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

PLANTS

Bigelow's desert grass *Blepharidachne bigelovii*

Restricted to xeric limestone or various gypsum-influenced habitats; Perennial; Flowering March-Dec; Fruiting March-Dec

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

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HUDSPETH COUNTY

PLANTS

- Chisos agave** *Agave glomeruliflora*
Gravelly or rocky soils in oak-juniper woodlands and mesquite-creosote bush-invaded grasslands at elevations of about 600-1800 m (1950-5900 ft); Perennial; Flowering mid-spring to early fall
Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G2Q State Rank: S2
- cienea false clappia-bush** *Pseudocappia arenaria*
Mostly in alkali sacaton (*Sporobolus airoides*) grasslands on alkaline, gypseous or saline soils of alluvial flats around cienegas, playa lakes and other desert wetlands; Perennial; Flowering spring-summer
Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3 State Rank: S3
- dense cory cactus** *Escobaria dazyacantha* var. *dazyacantha*
Lechuguilla-sotol or creosote bush shrublands, grasslands, and oak-juniper woodlands on gravelly, rocky, and/or loamy soils over igneous or limestone substrates at moderate elevations 750-1800 m (2450-5900 ft) in the Chihuahuan Desert; flowering March-May (-July), fruiting (May-) June-August
Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3T3 State Rank: S3
- desert night-blooming cereus** *Peniocereus greggii* var. *greggii*
Chihuahuan Desert shrublands or shrub invaded grasslands in alluvial or gravelly soils at lower elevations, 1200-1500 m (3900-4900 ft), on slopes, benches, arroyos, flats, and washes; flowering synchronized over a few nights in early May to late June when almost all mature plants bloom, flowers last only one day and open just after dark, may flower as early as April
Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3G4T2 State Rank: S2
- gray sibara** *Sibara grisea*
Limestone cliff faces, talus slopes and oak-juniper woodlands in mesic canyons of the Guadalupe Mountains; Annual; Flowering/Fruiting July
Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3 State Rank: S1
- great sage** *Salvia summa*
Limestone cliffs and slopes in the Guadalupe and Franklin Mountains; Perennial; Flowering April-June; Fruiting May-Oct
Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G3? State Rank: S2
- Guadalupe Mountains mescal bean** *Sophora gypsophila* var. *guadalupensis*
One-seeded juniper (*Juniperus monosperma*) shrublands on dry slopes above 1,500 m (4,900 ft) elevation in Guadalupe Mountains on slightly gypseous pink sandstone that occurs as lenses within the pervasive limestone of the region; flowering late March-late April or May
Federal Status: State Status: SGCN: Y

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HUDSPETH COUNTY

PLANTS

Endemic: N Global Rank: G1T1 State Rank: S1

Guadalupe needlegrass *Achnatherum curvifolium*

Usually in rocky limestone areas in the Guadalupe, Delaware, and Dead Horse Mountains (Carr 2015).

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G3 State Rank: S2

gyp locoweed *Astragalus gypsodes*

Gypsum or stiff gypseous clay soils on low rolling hills, mostly low elevations in the middle Pecos River valley; many of the known locations are on the Castile Formation (Permian); flowering March-June

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G2 State Rank: S2

gypsum scalebroom *Lepidospartum burgessii*

Gypsum dune system in the salt basin west of the Guadalupe Mountains, east of Dell City; sparsely vegetated areas; some plants on and around shifting, unstabilized dunes; others in stabilized gypseous soils with a well-developed microbiotic crust; flowering late April- early October, peaking late July-early September

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G2 State Rank: S1

Havard plum *Prunus havardii*

Local in limestone canyons, on igneous talus slopes and novaculite outcrops; Perennial; Flowering March-July; Fruiting June-Oct

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G3 State Rank: S3

Havard's standing cypress *Ipomopsis havardii*

Various open habitats at lower elevations in and near the mountains of Brewster, Hudspeth and Presidio counties; Perennial; Flowering Feb-Sept; Fruiting Feb-March

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G3 State Rank: S3

little rock lettuce *Pinaropappus parvus*

Occurs on limestone cliff faces and among boulders on mountain slopes, in oak-pine, juniper and chaparral zones, at altitudes ranging from 1500 to 2200 meters; Perennial; Flowering June-July; Fruiting July

Federal Status: State Status: SGCN: Y

Endemic: N Global Rank: G3 State Rank: S3

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HUDSPETH COUNTY

PLANTS

long-ray pseudocymopterus	<i>Pseudocymopterus longiradiatus</i>	
Various mountain ranges in Brewster, Culberson and Jeff Davis counties; in shady, damp, sandy or rocky places in canyons in the mountains of the Trans Pecos; Perennial		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4?	State Rank: S3
lyreleaf twistflower	<i>Streptanthus carinatus ssp. carinatus</i>	
Occurs on igneous and limestone slopes and alluvial fans (Carr 2015).		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T3T4	State Rank: S3
mat lestdaisy	<i>Chaetopappa hersheyi</i>	
Dry limestone cliffs (often steep or vertical), ledges, boulders, and other exposed Permian limestone surfaces at 1,500-2,400 m (4,900-7,900 ft) in higher mountain canyons of the Guadalupe Mountains; flowering May-August		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2
Mt. Davis brickellbush	<i>Brickellia parvula</i>	
Occurs on rocky slopes and ridges in the mountains of the southwestern U.S. at elevations between 1200 and 2100 m; Perennial; Flowering Aug-Sept; Fruiting Sept-Oct		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S1
one-head encelia	<i>Encelia scaposa</i>	
Occurs on open gravelly clay flats; Perennial; Flowering/Fruiting March-Nov		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2
rock crevice milkwort	<i>Polygala rimulicola var. rimulicola</i>	
Habitat description is not available at this time.		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3T3	State Rank: S2
royal red penstemon	<i>Penstemon cardinalis ssp. regalis</i>	
Pine-oak woodlands in canyons at higher elevations in the Davis and Guadalupe mountains; flowering May-June (-August)		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3T2T3	State Rank: S2

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HUDSPETH COUNTY

PLANTS

sand prickly-pear	<i>Opuntia arenaria</i>	
Deep, loose or semi-stabilized sands in sparsely vegetated dune or sandhill areas, or sandy floodplains in arroyos; flowering May-June		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2
sand sacahuiste	<i>Nolina arenicola</i>	
Mesquite-sand sage shrublands on windblown Quaternary reddish sand in dune areas; flowering time uncertain May-June, June-September		
Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2Q	State Rank: S2
smooth-stem skullcap	<i>Scutellaria laevis</i>	
On mountain slopes and in arroyos along dry streambeds of the Sierra Diablo, Beach Mountains, and Guadalupe Mountains; flowering April-September		
Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1
stalked rhombopod	<i>Cleomella longipes</i>	
Locally common in sparingly vegetated sandy or alkaline soils and along margins of seasonal wetlands in the Trans-Pecos (Carr 2015).		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3
Stebbin's desert dandelion	<i>Malacothrix stebbinsii</i>	
Habitat description is not available at this time.		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3?	State Rank: S1
sticky tansy aster	<i>Machaeranthera viscida</i>	
Occurs on calcareous or sandy soils in Chihuahuan Desert shrublands or mesquite grasslands.		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2
strong bladderpod	<i>Physaria valida</i>	
Open gravelly areas over limestone in pinyon-juniper woodlands at elevations of 900-2,000 m (2,950-6,550 ft); flowering March-May (-August)		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S1

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HUDSPETH COUNTY

PLANTS

swallow spurge	<i>Euphorbia golondrina</i>	
Alluvial or eolian sand along Rio Grande, occasionally on adjacent shale or limestone slopes; flowering June-November		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2
Terlingua brickellbush	<i>Brickellia hinckleyi</i> var. <i>terlinguensis</i>	
Various situations in Chihuahuan Desert; perhaps at lower elevations than var. <i>hinckleyi</i> ; found on slope in the Chisos Mountains and along creek bottom; flowering July-October?		
Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2TH	State Rank: SH
Texas claret-cup cactus	<i>Echinocereus coccineus</i> var. <i>paucispinus</i>	
Habitat description is not available at this time.		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T3	State Rank: S3
Texas wolf-berry	<i>Lycium texanum</i>	
Semi-desert grasslands and thorn shrublands on sandy, gravelly, and/or loamy soils, on very gently sloping terrain as well as in rocky areas of canyons, often over limestone at moderate elevations; flowering March-October		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2
villous muhly	<i>Muhlenbergia villiflora</i> var. <i>villosa</i>	
Alkaline (gypsum soil) desert flats; Perennial		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T3	State Rank: S2
Warnock's water-willow	<i>Justicia warnockii</i>	
Occurs mostly on xeric limestone uplands and rock outcrops; Perennial; Flowering May-Dec; Fruiting June		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3
Waterfall's milkvetch	<i>Astragalus waterfallii</i>	
Rocky limestone slopes; Perennial; Flowering Feb-May; Fruiting April- May		
Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3?	State Rank: S3

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HUDSPETH COUNTY

PLANTS

Watson's false clappia-bush *Pseudocappia watsonii*

Chihuahuan Desert shrublands on dry, rocky, gypseous clay hills and arroyos; flowering May-August

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

Wheeler's spurge *Euphorbia geyeri* var. *wheeleriana*

Sparingly vegetated, loose eolian quartz sand on reddish sand dunes or coppice mounds; flowering and fruiting at least August-September, probably earlier and later, as well

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T2	State Rank: S1

Wright's machaeranthera *Xylorhiza wrightii*

Desert grasslands in the Trans-Pecos (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

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