



ENVIRONMENTAL STEWARDSHIP PLAN FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF VEHICLE FENCE AND RELATED TACTICAL INFRASTRUCTURE U.S. Border Patrol Yuma Sector, Arizona

**U.S. Department of Homeland Security
U.S. Customs and Border Protection
U.S. Border Patrol**



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COVER SHEET

ENVIRONMENTAL STEWARDSHIP PLAN FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF TACTICAL INFRASTRUCTURE U.S. BORDER PATROL YUMA SECTOR, ARIZONA

Responsible Agencies: U.S. Department of Homeland Security (DHS), U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP).

Coordinating Agencies: U.S. Army Corps of Engineers (USACE)-Los Angeles District; U.S. Fish and Wildlife Service (USFWS); and the United States Section, International Boundary and Water Commission (USIBWC).

Affected Location: U.S./Mexico international border in Yuma County, Arizona.

Project Description: The Project includes the construction, operation, and maintenance of tactical infrastructure to include vehicle fence, and associated access construction roads along approximately 1.58 miles of the U.S./Mexico international border within the USBP Yuma Sector, Arizona. The Project will be implemented in a single section.

Report Designation: Environmental Stewardship Plan (ESP).

Abstract: CBP plans to construct, operate, and maintain approximately 1.58 miles of tactical infrastructure, including one section of vehicle fence and access construction roads along the U.S./Mexico international border in the USBP Yuma Sector, Arizona. The section will be approximately 1.58 miles in length. The tactical infrastructure will encroach on public lands managed by the U.S. Bureau of Land Management (BLM) and USFWS.

This ESP analyzes and documents potential environmental consequences associated with the Project.

On April 1, 2008, the Secretary of the U.S. Department of Homeland Security (DHS), pursuant to his authority under Section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) of 1996 as amended, exercised his authority to waive certain environmental and other laws in order to ensure the expeditious construction of tactical infrastructure along the U.S./Mexico international border. The tactical infrastructure described in this ESP is covered by the Secretary's April 1, 2008, waiver (see **Appendix A**). Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the laws that are included in the waiver, the Secretary has committed DHS to continue to protect valuable natural and cultural resources. CBP strongly supports the Secretary's commitment to responsible environmental stewardship. To that end, CBP has prepared this ESP, which analyzes the potential environmental impacts associated with construction of tactical infrastructure in the USBP's Yuma Sector. The ESP also discusses CBP's plans as to how it can mitigate potential environmental impacts. The ESP will guide CBP's efforts going forward.

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JANUARY 2009



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EXECUTIVE SUMMARY

Background

On April 1, 2008, the Secretary of the U.S. Department of Homeland Security (DHS), pursuant to his authority under Section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) of 1996 as amended, exercised his authority to waive certain environmental and other laws in order to ensure the expeditious construction of tactical infrastructure along the U.S./Mexico international border. The tactical infrastructure described in this Environmental Stewardship Plan (ESP) is covered by the Secretary's April 1, 2008, waiver (see **Appendix A**). Although the Secretary's waiver means that U.S. Customs and Border Protection (CBP) no longer has any specific legal obligations under the laws that are included in the waiver, the Secretary has committed DHS to continue to protect valuable natural and cultural resources. CBP strongly supports the Secretary's commitment to responsible environmental stewardship. To that end, CBP has prepared this ESP, which analyzes the potential environmental impacts associated with construction of tactical infrastructure in the USBP's Yuma Sector. The ESP also discusses CBP's plans as to how it can mitigate potential environmental impacts. The ESP will guide CBP's efforts going forward.

As it moves forward with the Project described in this ESP, CBP will continue to work in a collaborative manner with local governments, state and Federal land managers, and the interested public to identify environmentally sensitive resources and develop appropriate best management practices (BMPs) to avoid and/or minimize any adverse impacts on environmentally sensitive resources.

Goals and Objectives of the Project

The Project will provide U.S. Border Patrol (USBP) agents with the tools necessary to strengthen their control of the U.S. border between ports-of-entry (POEs) in the USBP Yuma Sector. The Project will help to deter illegal entries within the USBP Yuma Sector by improving enforcement efficiency, thus preventing terrorists and terrorist weapons, illegal aliens (IA), drugs, and other cross-border violators and contraband from entering the United States, while providing a safer work environment for USBP agents. The USBP Yuma Sector has identified an area along the border that experiences high levels of illegal entry. Illegal entry activity typically occurs in areas that are remote and not easily accessed by USBP agents, near POEs where concentrated populations might live on either side of the border, or in locations that have quick access to U.S. transportation routes.

The Project is being carried out pursuant to Section 102 of IIRIRA, 8 United States Code (U.S.C.) § 1103 note. In Section 102(b) of IIRIRA, Congress called for the installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes certain

priority miles of fencing that were planned for completion by December 2008. Section 102(b) further specifies that these priority miles are to be constructed in areas where they will be practical and effective in deterring smugglers and aliens attempting to gain illegal entry into the United States.

Public Outreach and Agency Coordination

CBP notified relevant Federal, state, local, and Tribal agencies of the Project and requested input on environmental concerns that such parties might have regarding the Project. CBP has coordinated with the U.S. Environmental Protection Agency (USEPA); U.S. Fish and Wildlife Service (USFWS); Bureau of Land Management (BLM); State Historic Preservation Office (SHPO); and other Federal, state, and local agencies.

Although the Secretary issued the waiver, CBP has continued to work in a collaborative manner with agencies and has considered and incorporated agency and public comments into this ESP. A general description of the Project was posted on the Project Web site (www.BorderFencePlanning.com) for 15 days. Comments received during public and agency coordination efforts were considered and have been incorporated into the ESP analysis, as appropriate. Analyses from the previously prepared Environmental Assessment; *Environmental Assessment for the Installation of Permanent Vehicle Barriers on the Cabeza Prieta National Wildlife Refuge Office of Border Patrol Yuma and Tucson Sector, Arizona* and the Environmental Stewardship plan; *Environmental Stewardship Plan for the Construction, Operation and Maintenance of Tactical Infrastructure U.S. Border Patrol Yuma Sector Wellton Station*, have been used to develop this ESP.

Description of the Project

CBP plans to construct, operate, and maintain tactical infrastructure consisting of one section of vehicle fence, and access and construction roads along the U.S./Mexico international border in the USBP Yuma Sector, Arizona. Tactical infrastructure includes the installation of vehicle fence sections in areas of the border that are not currently fenced. Locations are based on the USBP Yuma Sector's assessment of local operational requirements where such infrastructure will assist USBP agents in stopping illegal cross-border activities. Congress appropriated funds for this Project in CBP's Fiscal Year (FY) 2007 and 2008 Border Security Fencing, Infrastructure, and Technology Appropriations (Public Law [P.L.] 109-295; P.L. 110-161).

The vehicle fence will be constructed as one section along the U.S./Mexico international border within the USBP Yuma Sector in Yuma County, Arizona. This section of vehicle fence will be approximately 1.58 miles in length and is designated as Project CV-2a.

The vehicle fence is located within Yuma County, Arizona, and the section is wholly contained within the Roosevelt Easement adjacent to Cabeza Prieta National Wildlife Refuge (CPNWR). Access to the construction area will require the improvement or construction of access roads on CPNWR lands designated as Wilderness. Additional access will be provided from the adjacent Organ Pipe Cactus National Monument. Consistent with Federal mandates, USBP has identified this area of the border as a location where vehicle fence will contribute significantly to its priority homeland security mission.

Environmental Impacts, Mitigation, and Best Management Practices

Table ES-1 provides an overview of potential environmental impacts by specific resource area. **Chapter 3** of this ESP evaluates these impacts.

CBP followed specially developed design criteria to reduce potential adverse environmental impacts and will implement mitigation measures to further reduce or offset adverse environmental impacts without compromising operational requirements. Design criteria to reduce adverse environmental impacts include selecting a location for tactical infrastructure that will avoid or minimize impacts on environmental and cultural resources, consulting with Federal and state agencies and other stakeholders to avoid or minimize adverse environmental impacts and develop appropriate BMPs, and avoiding physical disturbance and construction of solid barriers in wetlands/riparian areas and streambeds, where practicable. BMPs required from the construction contractor will include implementation of a Construction Mitigation and Restoration Plan, Spill Prevention Control and Countermeasure Plan, Storm Water Pollution Prevention Plan, Environmental Protection Plans, Dust Control Plan, Fire Prevention and Suppression Plan, and Unanticipated Discovery Plan. **Appendix F**, the Biological Resources Plan, outlines BMPs.

CBP will enter into a programmatic mitigation agreement with the Department of the Interior (DOI) and fund a mitigation pool for adverse impacts that cannot be avoided.

Table ES-1. Summary of Environmental Impacts, Mitigation, and BMPs

Resource Area	Impacts of the Project	BMPs/Mitigation
Air Quality	Fugitive dust emissions will not exceed the <i>de minimis</i> threshold limits. Air emissions from maintenance activities are not expected to exceed thresholds above <i>de minimis</i> levels for criteria pollutants and will have a negligible contribution to the overall air quality in the Air Quality Control Region.	BMPs to reduce dust and control PM ₁₀ emissions. Construction equipment will be kept in good operating condition to minimize exhaust. Construction speed limits will not exceed 35 miles per hour. Implementation of a Fire Prevention and Suppression Plan will occur.
Noise	Impacts on nesting, feeding, and migration could occur on various species due to construction noise.	Mufflers and properly working construction equipment will be used to reduce noise. Generators will have baffle boxes, mufflers, or other noise-abatement capabilities. Equipment will be operated on an as-needed basis. A majority of the activities will occur away from population centers.
Land Use and Recreation	A reduction in litter and in illegal cross-border vehicular traffic are expected, the latter contributing to an increase in visitor safety. There are no expected impacts on the Organ Pipe Cactus National Monument (OPCNM) from access roads with the exception of impacts related to increased vehicular traffic.	BMPs and mitigation are not expected to be necessary.

Resource Area	Impacts of the Project	BMPs/Mitigation
Aesthetics	Construction of tactical infrastructure will result in the introduction of new temporary and permanent visual elements into existing viewsheds. Clearing and grading of the landscape in the Project corridor during construction will result in changes in some visual elements.	Design techniques and construction practices will be used to reduce the visual impacts of the Project. Such practices as using irregular clearing shapes; bending slopes to match existing landforms; and retaining existing rock formations, vegetation, and drainage whenever possible will be used to the maximum extent practicable.
Geology and Soils	Minor alterations of the existing microtopography are expected. Impacts on geologic resources could occur at locations where bedrock is at the surface and blasting will be necessary. Soil disturbance, compaction, and erosion are expected.	Construction-related vehicles will remain on established roads and areas with highly erodible soils will be avoided when possible. Gravel or topsoil will be obtained from developed or previously used sources. Project design and engineering practices will be implemented to mitigate geologic limitations to site development. Implementation of Dust Control Plan and an SWPPP will occur.
Water Use and Quality (Hydrology and Groundwater)	Increased erosion could lead to increased flood potential. Groundwater drawdown could occur during construction.	Revegetation of temporary staging areas will decrease flood potential. Potential aquifer recharge could occur from watering of surfaces during construction. Erosion-control measures are identified in the SWPPP.
Water Use and Quality (Surface Waters and Waters of the United States)	Development of staging areas and the placement of permanent vehicle fence across wash channels will result in impacts associated with land disturbance and potential erosion and sedimentation.	Construction activities will stop during heavy rains. All fuels, oils, and solvents will be collected and stored. Wash crossings will not be located at bends to protect channel stability. Equipment maintenance, staging, laydown, or fuel dispensing will occur upland to prevent runoff. Fence types will allow conveyance of water, and culverted crossings at washes will be developed. Implementation of an SWPPP, sediment- and an erosion-control plan will occur.

Resource Area	Impacts of the Project	BMPs/Mitigation
Water Use and Quality (Floodplains)	Floodplains for major rivers are distant and not anticipated to be effected.	Crossings of washes within the Project corridor will be designed to ensure proper conveyance of flows during flow events.
Biological Resources (Vegetation Resources)	Blading, scraping, drilling, trenching, berming, and crushing of vegetation will occur. A total of 34 acres of vegetation is expected to be impacted by the Project. Indirect impacts include dust generation, nonnative species introductions, and rutting and compaction which in turn can cause redirection of flow.	Construction equipment will be cleaned to minimize the spread of nonnative species. Removal of brush in federally protected areas will be limited to smallest amount possible. Invasive plants that appear on the Project site will be removed. Temporarily impacted areas, such as staging areas, will be revegetated with native species. See BMP Number 45 under Chapter 1.3.1 in Appendix F . Implementation of SWPPP, SPCC and CM&R plans, and a Dust Control Plan will occur.
Biological Resources (Wildlife and Aquatic Resources)	Potential adverse impacts on wildlife include habitat loss, noise and physical disturbance associated with construction, construction lighting, and subsequent maintenance activities. Potential beneficial impacts on wildlife are anticipated due to reduced cross-border violator traffic. No aquatic resources exist in the Project area.	Ground disturbance during migratory bird nesting season will necessitate a migratory bird nest survey and possible removal and relocation. Vehicle fence design allows for the passage of small animals. To prevent entrapment of wildlife all excavated holes or trenches will either be covered or provided with wildlife escape ramps. All bollards will be covered during storage to prevent entrapment and discourage roosting. Installed bollards will be immediately filled with grout.

Resource Area	Impacts of the Project	BMPs/Mitigation
<p>Biological Resources (Special Status Species)</p>	<p>There are no known occurrences of the lesser long-nosed bat or the Sonoran pronghorn within or immediately adjacent to the Project corridor. Potential impacts on listed species include habitat loss and noise and physical disturbance associated with construction and subsequent maintenance activities, and beneficial impacts due to reduced cross-border violator traffic.</p>	<p>If federally protected species are encountered, the monitor will notify the construction manager of any activities that could harm or harass an individual of a federally listed species and the construction manager will temporarily suspend activities in the vicinity of the federally listed species. A qualified biologist can safely remove the individual or it can move away on its own.</p> <p>Fence types will allow transboundary migration of small animals.</p> <p>See Chapter 3.8.3 and Appendix F for impacts on endangered species.</p>
<p>Cultural Resources</p>	<p>No significant cultural properties or contributing elements of larger NRHP-eligible sites or districts are within the impact corridors.</p>	<p>Cultural Monitor on site to ensure all BMPs are followed.</p>
<p>Socioeconomics and Environmental Justice</p>	<p>Residents of nearby towns will benefit from increased security, a reduction in illegal drug-smuggling activities and the number of violent crimes, less damage to and loss of personal property, and less financial burden for entitlement programs.</p>	<p>Beneficial impacts on socioeconomics and environmental justice are anticipated. BMPs and mitigation are not expected to be necessary.</p>
<p>Hazardous Wastes and Hazardous Materials</p>	<p>Products containing hazardous materials (e.g., fuels, oils, lubricants, pesticides, and herbicides) will be procured and used during construction.</p>	<p>Contractors will be required to develop SPCC and CM&R plans, and keep materials at the construction site to contain any spill or leak. All hazardous materials and wastes will be managed in accordance with applicable Federal, state, and local regulations.</p>

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1. INTRODUCTION

1.1 BACKGROUND

On April 1, 2008, the Secretary of the U.S. Department of Homeland Security (DHS), pursuant to his authority under Section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), exercised his authority to waive certain environmental and other laws in order to ensure the expeditious construction of tactical infrastructure along the U.S./Mexico international border. The tactical infrastructure described in this Environmental Stewardship Plan (ESP) is covered by the Secretary's April 1, 2008, waiver (73 Federal Register [FR] 65, pp. 18293-94, **Appendix A**). Although the Secretary's waiver means that U.S. Customs and Border Protection (CBP) no longer has any specific legal obligations under the laws that are included in the waiver, the Secretary committed DHS to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment. CBP will continue to work in a collaborative manner with Tribes, local government, state and Federal land managers, and the interested public to identify environmentally sensitive resources and develop appropriate Best Management Practices (BMPs) to avoid and/or minimize any adverse impacts on environmentally sensitive resources.

To that end, CBP has prepared this ESP, which analyzes the potential environmental impacts associated with construction of tactical infrastructure in the USBP's Yuma Sector. The ESP also discusses CBP plans to mitigate potential environmental impacts. The ESP further details the BMPs associated with the tactical infrastructure that CBP will implement during and after construction.

1.2 GOALS AND OBJECTIVES OF THE PROJECT

The mission of CBP is to prevent terrorists and terrorist weapons from entering the United States, while also facilitating the flow of legitimate trade and travel. In supporting CBP's mission, the U.S. Border Patrol (USBP) is charged with establishing and maintaining effective control of the border of the United States. USBP's mission strategy consists of five main objectives:

- Establish substantial probability of apprehending terrorists and their weapons as they attempt to enter illegally between the Ports of Entry (POEs)
- Deter illegal entries through improved enforcement
- Detect, apprehend, and deter smugglers of humans, drugs, and other contraband

- Leverage “smart border” technology to multiply the effect of enforcement personnel
- Reduce crime in border communities and consequently improve quality of life and economic vitality of targeted areas.

USBP has nine administrative sectors along the U.S./Mexico international border. Each sector is responsible for implementing an optimal combination of personnel, technology, and infrastructure appropriate to its operational requirements. The USBP Yuma Sector is responsible for the extreme western Arizona counties of Yuma, La Paz, and Mojave. The Yuma Sector also includes the eastern California portion of Imperial, Riverside, and San Bernardino counties, as well as the four southern Nevada counties of Lincoln, Nye, Clark, and White Pine. The area affected by the Project is in the southwestern portion of Yuma County, Arizona. Within the USBP Yuma Sector, areas for tactical infrastructure improvements have been identified that will help the Sector gain more effective control of the border and significantly contribute to USBP’s priority mission of homeland security.

The Project will provide USBP agents with the tools necessary to strengthen their control of the U.S. border between POEs in the USBP Yuma Sector. The Project will help to deter illegal entries within the USBP Yuma Sector by improving enforcement efficiency, thus preventing terrorists and terrorist weapons, illegal aliens, drugs, and other cross-border violators and contraband from entering the United States, while providing a safer work environment for USBP agents. The USBP Yuma Sector has identified this area along the border that experiences high levels of illegal entry. Illegal entry activity typically occurs in areas that are remote and not easily accessed by USBP agents, near POEs where concentrated populations might live on either side of the border, or in locations that have quick access to U.S. transportation routes.

The Project is being carried out pursuant to Section 102 of IIRIRA, 8 United States Code (U.S.C.) § 1103. In Section 102(b) of IIRIRA, Congress called for the installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes certain priority miles of fencing that were planned for completion by December 2008. Section 102(b) further specifies that these priority miles are to be constructed in areas where it will be practical and effective in deterring smugglers and aliens attempting to gain illegal entry into the United States. Congress appropriated funds for this Project in CBP’s fiscal year (FY) 2007 and 2008 Border Security Fencing, Infrastructure, and Technology Appropriations (Public Law [P.L.] 109–295; P.L. 110-161).

1.3 INTRODUCTION TO THE ENVIRONMENTAL STEWARDSHIP PLAN

This ESP is divided in to 6 chapters plus appendices. The **Chapter 1** presents a detailed overview. **Chapter 2** presents a detailed description of the Project.

Subsequent chapters present information on the resources present, and evaluate the direct, indirect, and cumulative effects of the Project. The ESP also describes measures CBP has identified—in consultation with Federal, state, and local agencies—to avoid, minimize, or mitigate impacts on the environment, whenever practical. The following resource areas are presented in this ESP: air quality, noise, land use and recreation, aesthetics, geological resources and soils, water use and quality, biological resources (i.e., vegetation, wildlife and aquatic species, special status species), cultural resources, socioeconomics and environmental justice, and hazardous materials and wastes. Analyses from the previously prepared Environmental Assessment; *Environmental Assessment for the Installation of Permanent Vehicle Barriers on the Cabeza Prieta National Wildlife Refuge Office of Border Patrol Yuma and Tucson Sector, Arizona* and the Environmental Stewardship plan; *Environmental Stewardship Plan for the Construction, Operation and Maintenance of Tactical Infrastructure U.S. Border Patrol Yuma Sector Wellton Station*, have been used to develop this ESP and where practicable, are incorporated by reference. Some environmental resources were not included in this ESP because they were not relevant to the analysis. These potential resource areas include utilities and infrastructure (omitted because the Project will not impact any utilities or similar infrastructure), sustainability (omitted because the Project will use minimal amounts of resources during construction and maintenance), and human health and safety (omitted because construction workers will be subject to Occupational Safety and Health Administration (OSHA) standards and the Project will not introduce new or unusual safety risks).

CBP will follow specially developed design criteria to reduce adverse environmental impacts and will implement mitigation measures to further reduce or offset adverse environmental impacts to the extent practical. Mitigation measures to reduce adverse environmental impacts include avoiding physical disturbance and construction of barriers in wetlands/riparian areas and streambeds, where practicable. In addition, physical disturbance in wetlands/riparian areas and streambeds will be avoided to the extent practicable. Engineers are directed to design vehicle fence to convey pre-development stormwater flows after construction of tactical infrastructure. The same volume and velocity of stormwater flow will be expected. Accumulated debris will be removed during regular maintenance. Consultation with Federal and state agencies and other stakeholders will augment efforts to avoid or minimize adverse environmental impacts. Development of appropriate BMPs to protect natural and cultural resources will be utilized to the extent practical. BMPs will include implementation of a Construction Mitigation and Restoration (CM&R) Plan, Spill Prevention Control and Countermeasures (SPCC) Plan, Dust Control Plan, Fire Prevention Plan, Environmental Protection Plan (EPP), Stormwater Pollution Prevention Plan (SWPPP), and Unanticipated Discovery Plan for Cultural Resources.

1.4 PUBLIC OUTREACH AND AGENCY COORDINATION

CBP notified relevant Federal, state, local, and Tribal agencies of the Project and requested input on potential environmental concerns such parties might have regarding the Project. CBP has coordinated with the U.S. Fish and Wildlife Service (USFWS); State Historic Preservation Office (SHPO); and other Federal, state, and local agencies. Documents concerning public outreach and agency coordination can be found in **Appendix C**.

A Notice of Request for Public Information was advertised in the *Yuma Sun* on Friday 28 November 2008 and again on Sunday 1 December 2008. The Notice announced the availability of a general Project description at www.BorderFencePlanning.com and encouraged the public to comment and provide information on sensitive resources that are located within the project corridor and should be considered during the preparation of this ESP. Instructions for public comment submission were provided at the Web site.

1.5 SUMMARY OF ENVIRONMENTAL IMPACTS, BMPS, AND MITIGATION

CBP applied various design criteria to reduce potential environmental impacts associated with the Project, including selecting fence alignment and access road routes that will avoid or minimize effects on environmental and cultural resources. Nonetheless, CBP has determined that construction, operation, and maintenance of tactical infrastructure in the USBP Yuma Sector will result in positive as well as adverse environmental impacts. The adverse impacts will be greatest during construction. To help minimize these impacts, Environmental Awareness Training will be provided at the Pre-Construction Meeting. Mitigation resources that are available during construction of the Project include the following:

- BMPs will be used to avoid, minimize, or mitigate impacts on biological resources.
- CBP will require construction contractors to develop and implement a Construction Mitigation and Restoration (CM&R) Plan, Spill Prevention Control and Countermeasure (SPCC) Plan, Blasting Specifications, Dust Control Plan, Fire Prevention and Suppression Plan, and Unanticipated Discovery Plan for Cultural Resources to protect natural and cultural resources and residential areas during construction and operation of the Project.
- CBP will coordinate with the USFWS, the Arizona Department of Fish and Game (ADFG), Arizona SHPO, Native American tribes, and others to identify appropriate mitigation measures.
- Environmental monitors will be present during construction to ensure that avoidance, minimization, and mitigation BMPs are properly implemented.

2. DESCRIPTION OF THE PROJECT

CBP will construct and maintain vehicle fence, and construct, maintain, and operate access roads and patrol roads along the U.S./Mexico international border in the USBP Yuma Sector, Wellton Station, Arizona. Congress has appropriated funds for the construction of the tactical infrastructure. Construction of additional tactical infrastructure might be required in the future as mission and operational requirements are continually reassessed.

Vehicle fence will be a post-on-rail style fence for the majority of the fence alignment corridor, with Normandy-style fencing used in areas of washes and steeper grades. Typical fence designs that are used are included in **Appendix B. Figures 2-1 and 2-2** show photographs of post-on-rail and Normandy-style fencing.

The vehicle fence will be constructed in a single section along the U.S./Mexico international border within the USBP Yuma Sector in Yuma County, Arizona. This section of vehicle fence will be approximately 1.58 miles in length and is designated as Project CV-2a in **Figure 2-3**. The section is further described in **Table 2-1**.

Table 2-1. Tactical Infrastructure for USBP Yuma Sector

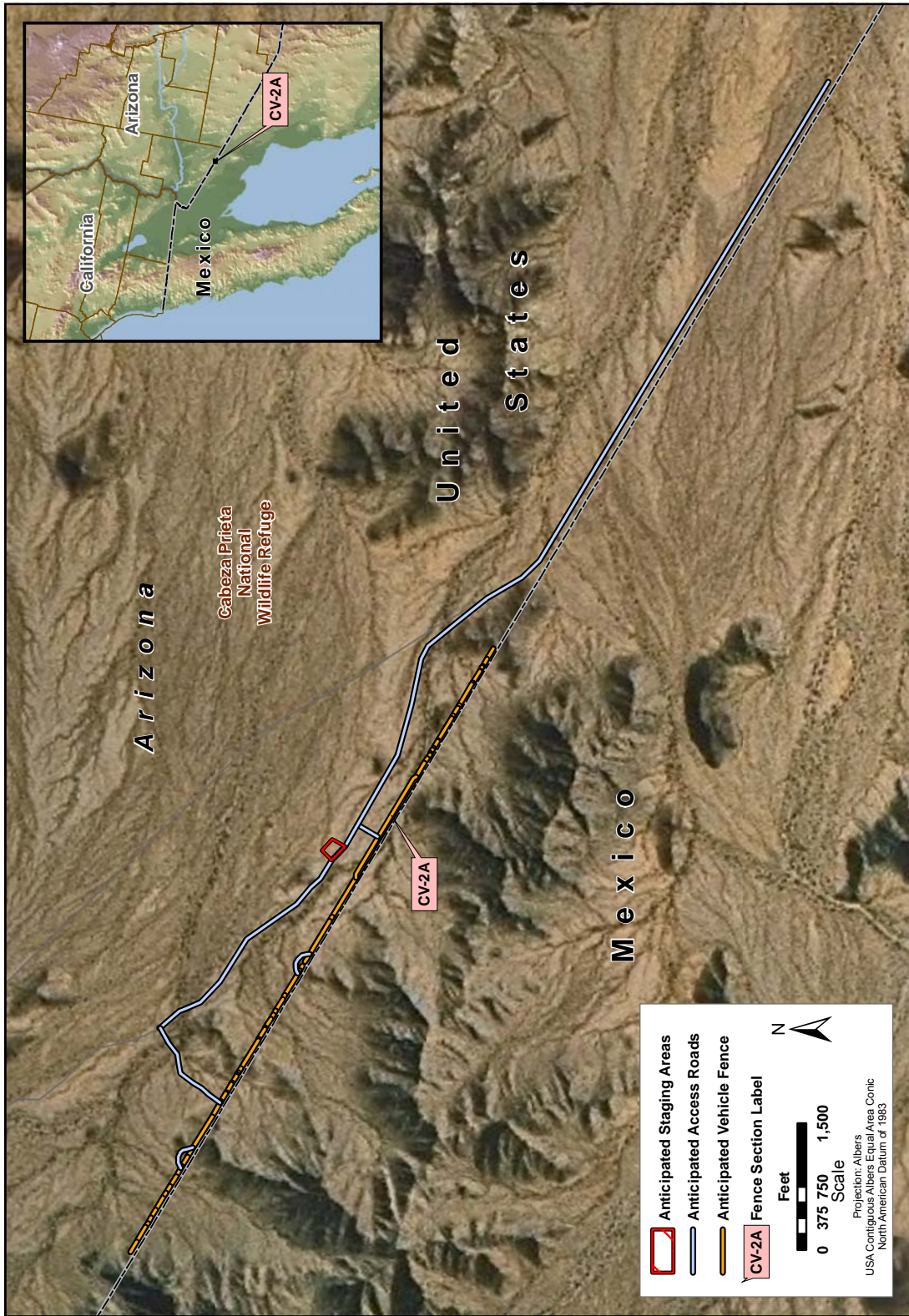
Section Number	Associated USBP Station	General Location	Land Ownership	Type of Tactical Infrastructure	Length of New Fence Section
CV-2a	Wellton	Cabeza Prieta National Wildlife Refuge (CPNWR)	USFWS	Primary vehicle fence, access construction roads	1.58
Total					1.58 miles



Figure 2-1. Photograph of Post-on-Rail Fence



Figure 2-2. Photograph of Normandy-style Fence



Source of Satellite Imagery: ESRI Imagery Service. Accessed 12-05-2008. http://resources.esri.com/marcs/desktop/index.cfm?f=content_layers

Figure 2-3. Location Map for CV-2a

The vehicle fence is within Yuma County, Arizona, and is wholly contained within the Roosevelt Easement¹ adjacent to Cabeza Prieta National Wildlife Refuge (CPNWR). The Roosevelt Easement is discussed in detail in **Chapter 3.4.2**. Access to the construction area will require the improvement and or construction of access roads on CPNWR lands designated as Wilderness. Additional access will be provided from the adjacent Organ Pipe Cactus National Monument (Organ Pipe Cactus National Monument (OPCNM)). Consistent with Federal mandates, USBP has identified this location as an area where vehicle fence will contribute significantly to its priority homeland security mission. **Appendix D** contains detailed maps of the Project area.

The final design will be developed by a design/build contractor overseen by the U.S. Army Corps of Engineers (USACE). However, design criteria that have been established based on CBP operational needs require that, at a minimum, any fencing must be as follows:

- Capable of withstanding a crash of a 10,000-pound (gross weight) vehicle traveling at 40 miles per hour
- Capable of withstanding vandalism, cutting, or various types of penetration
- Designed to survive extreme climate changes
- Designed to reduce or minimize impacts on small animal movements
- Not impede the natural flow of surface water
- Aesthetically pleasing to the extent practicable.

The alignment of the vehicle fence and roads project was identified by the USBP Yuma Sector as meeting its operational requirements and developed through coordination with Federal and state agencies. The alignment continues to meet current operational requirements and will be constructed with the objective of achieving the least environmental impacts to the extent practicable.

The vehicle fence will impact an approximately 60-foot-wide corridor along each fence segment. This corridor will include vehicle fences and portions of access roads for construction. Access roads to the fence construction corridor will be narrow to minimize impacts on designated Wilderness and construction staging areas will be placed in previously disturbed areas to the extent practicable. It is anticipated that approximately 3.07 miles of access road will be used to gain access to the border construction corridor, where an additional 1.58 miles of road will be constructed to support fence installation.

¹ In 1907, President Roosevelt reserved from entry and set apart as a public reservation all public lands within 60 feet of the international boundary between the United States and Mexico within the State of California and the Territories of Arizona and New Mexico. Known as the "Roosevelt Reservation," this land withdrawal was found "necessary for the public welfare ... as a protection against the smuggling of goods." The proclamation excepted from the reservation all lands, which, as of its date, were (1) embraced in any legal entry; (2) covered by any lawful filing, selection, or rights of way duly recorded in the proper U.S. Land Office; (3) validly settled pursuant to law; or (4) within any withdrawal or reservation for any use or purpose inconsistent with its purposes (CRS 2006).

The primary access road will be an existing border road connected to the adjacent CV-3 vehicular fence project. This route runs east to west parallel to the U.S./Mexico international border to a point just east of the CV-2a fence segment where it turns to the northwest along an existing trail that continues beyond the project area ultimately joining the Camino Del Diablo; a historic highway running east-west through the CPNWR. There are no plans to access the Project area from this direction. At both the west and east ends of the general Project area, short ancillary access roads will branch from the existing trail south to the border. In all instances, whether access roads currently exist or not, improvements will be required to support construction equipment. Traffic control measures (such as flagmen and a one way system where practicable) will be instituted to ensure the movement and passage of equipment stays within the designated 60 foot impact corridor. Any additional necessary aggregate or fill material will be clean material obtained by construction contractors from commercially available sources that will not pose an adverse impact on biological or cultural resources.

Due to the remote nature of the area and travel time requirements, a campsite will be developed on CPNWR lands in Coordination with CPNWR personnel. Current plans call for an existing CV-3A site to be used to the east of the Project area. A staging area will be constructed just to the north of the mid-point of the fence, adjacent to the access road (see Figure 2-3). Vegetation will be cleared from the site and grading will occur where needed. The area permanently impacted during construction of tactical infrastructure within the single section will total approximately 36 acres (including the 2-acre staging area). Wherever possible, existing roads will be used for construction access. **Figure 2-4** shows a typical schematic of temporary and permanent impact areas for vehicle fence and roads.

The fences will be made from nonreflective steel. No painting will be required. Fence maintenance will include removing any accumulated debris on the fence after a rain event to avoid potential future flooding. Post-on-rail or Normandy-style vehicle fence is not expected to have a significant effect on stormwater flow. As depicted in **Figures 2-1** and **2-2**, the vehicle fence design will not impede stormwater flow. Fence design provides space sufficient for the passage of stormwater. Regular fence maintenance will remove accumulated debris. Sand that builds up against the fence and brush will also be removed as needed. Brush removal could include mowing, removal of small trees, and application of herbicide, if needed. As part of maintenance activity, CBP personnel will observe the condition of the fence. Any destruction or breaches of the fence will be repaired, as needed.

Construction of other tactical infrastructure might be required in the future as mission and operational requirements are continually reassessed. To the extent that other current and future actions are known, they are discussed in **Chapter 5**, "Related Projects and Potential Effects."

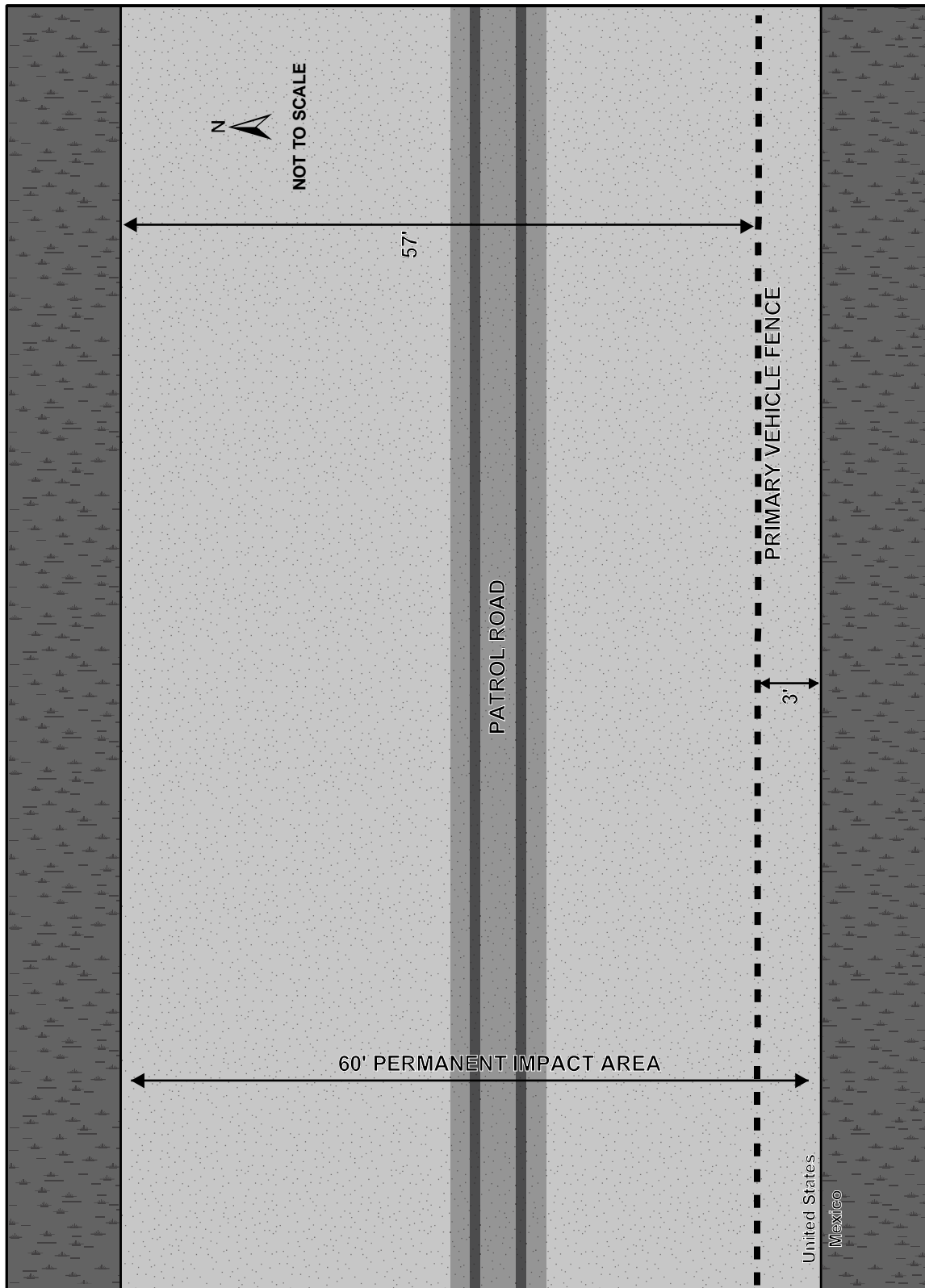


Figure 2-4. Schematic of Project Impact Areas

3. ENVIRONMENTAL BASELINE AND EVALUATION

3.1 INTRODUCTION

CBP has compiled extensive information about the environmental resources that might be affected by the construction, operation, and maintenance of tactical infrastructure along the U.S./Mexico international border. CBP used this information to establish the baseline against which it evaluated the impacts of the construction, maintenance, and operation of the vehicle fence and supporting infrastructure. CBP obtained baseline environmental information from many sources, including site visits, field work, personal communications, and data from reputable sources such as Federal and state agencies.

The following resource areas are presented in this ESP: air quality, noise, land use and recreation, aesthetics, geology and soils, water use and quality, biological resources (i.e., vegetation resources, wildlife and aquatic species, special status species), cultural resources, socioeconomics and environmental justice, and hazardous materials and wastes. Some environmental resources were not included in this ESP because they were not relevant to the analysis. These potential resource areas include utilities and infrastructure (omitted because the Project will not impact any utilities or similar infrastructure), roadways and traffic (omitted because the Project will not be accessible from heavily traveled public roadways), sustainability (omitted because the Project will use minimal amounts of resources during construction and maintenance), and human health and safety (omitted because construction workers will be subject to OSHA standards and the Project will not introduce new or unusual safety risks).

3.2 AIR QUALITY

3.2.1 Definition of the Resource

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the Clean Air Act (CAA) for the tactical infrastructure segments addressed in this ESP, the Secretary committed CBP to continue to protect valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the CAA as the basis for evaluating potential environmental impacts and appropriate mitigations.

The air quality in a given region or area is measured by the concentration of various pollutants in the atmosphere. The measurements of these "criteria pollutants" in ambient air are expressed in units of parts per million (ppm), micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), or milligrams per cubic meter (mg/m^3).

The CAA directed USEPA to develop National Ambient Air Quality Standards (NAAQS) for pollutants that have been determined to affect human health and the environment. NAAQS are currently established for six criteria air pollutants:

ozone (O₃) (measured as either volatile organic compounds [VOCs] or nitrogen oxides [NO_x]), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), respirable particulate matter (including particulates equal to or less than 10 microns in diameter [PM₁₀] and particulates equal to or less than 2.5 microns in diameter [PM_{2.5}]), and lead (Pb). The primary NAAQS are ambient air quality standards to protect the public health; secondary NAAQS specify levels of air quality and are to protect the public welfare, such as effects on vegetation, crops, wildlife, economic values, and visibility.

States designate any area that does not meet the national primary or secondary ambient air quality standard for a criteria pollutant as a nonattainment area. For O₃, each designated nonattainment area is classified as marginal, moderate, serious, severe, or extreme, based on ambient O₃ concentrations. The Arizona Department of Environmental Quality (ADEQ) is responsible for implementing the Federal CAA.

The State of Arizona adopted the NAAQS for criteria pollutants. No additional State Ambient Air Quality Standards have been promulgated by the State of Arizona. **Table 3-1** presents the primary and secondary USEPA NAAQS.

These programs are detailed in State Implementation Plans (SIPs), which are required to be developed by each state or local regulatory agency and approved by USEPA. A SIP is a compilation of regulations, strategies, schedules, and enforcement actions designed to move the state into compliance with all NAAQS. Any changes to the compliance schedule or plan (e.g., new regulations, emissions budgets, controls) must be incorporated into the SIP and approved by USEPA. USEPA has delegated the authority for ensuring compliance with the NAAQS to ADEQ.

USEPA classifies the air quality in an air quality control region (AQCR), or in subareas of an AQCR, according to whether the concentrations of criteria pollutants in ambient air exceed the NAAQS. All areas within each AQCR are therefore designated as either “attainment,” “nonattainment,” “maintenance,” or “unclassified” for each of the six criteria pollutants. Attainment means that the air quality within an AQCR is better than the NAAQS, nonattainment indicates that criteria pollutant levels exceed NAAQS, maintenance indicates that an area was previously designated nonattainment but is now attainment, and unclassified means that there is not enough information to appropriately classify an AQCR, so the area is considered attainment.

Many chemical compounds found in the Earth’s atmosphere act as “greenhouse gases.” These gases allow sunlight to enter the atmosphere freely. When sunlight strikes the Earth’s surface, some of it is reflected back towards space as infrared radiation (heat). Greenhouse gases absorb this infrared radiation and trap the heat in the atmosphere. Over time, barring other influences, the trapped heat results in the phenomenon of global warming. In April 2007, the

Table 3-1. National Ambient Air Quality Standards

Pollutant	Averaging Time	National Standard	
		Primary	Secondary
O ₃	1 Hour ^c	0.12 ppm	Same as Primary Standard
	8 Hours ^b	0.08 ppm (157 µg/m ³)	
	8 Hours	0.075 ppm ^g	
PM ₁₀	24 Hours ^a	150 µg/m ³	Same as Primary Standard
PM _{2.5}	24 Hours ^f	35 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean ^e	15 µg/m ³	
CO	8 Hours ^a	9.0 ppm (10 mg/m ³)	None
	1 Hour ^a	35 ppm (40 mg/m ³)	
NO ₂	Annual Arithmetic Mean	0.053 ppm (100 µg/m ³)	Same as Primary Standard
SO ₂	Annual Arithmetic Mean	0.030 ppm (80 µg/m ³)	----
	24 Hours ^a	0.14 ppm (365 µg/m ³)	----
	3 Hours ^a	----	0.5 ppm (1,300 µg/m ³)
Pb	Quarterly Average	1.5 µg/m ³	Same as Primary Standard

Sources: USEPA 2008

Notes: Parenthetical values are approximate equivalent concentrations.

^a Not to be exceeded more than once per year.

^b 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.

^c (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1. (b) As of June 15, 2005, USEPA revoked the 1-hour ozone standard in all areas except the 14 8-hour ozone nonattainment Early Action Compact Areas.

^d To attain this standard, the expected annual arithmetic mean PM₁₀ concentration at each monitor within an area must not exceed 50 µg/m³.

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

^f 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.

^g 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 May 27, 2008)

U.S. Supreme Court declared that carbon dioxide (CO₂) and other greenhouse gases are air pollutants under the CAA. The Court declared that the USEPA has the authority to regulate emissions from new cars and trucks under the CAA.

Many gases exhibit these “greenhouse” properties. The sources of the majority of greenhouse gases come mostly from natural sources but are also contributed to by human activity.

3.2.2 Environmental Setting

The Project is within Yuma County, Arizona. Yuma County is within the Mohave-Yuma Intrastate Air Quality Control Region (MYAQCR). The MYAQCR encompasses Yuma and Mohave counties, Arizona. Yuma County has been designated as a Federal moderate nonattainment area for PM₁₀, and attainment/unclassified for all other criteria pollutants. Air quality in this region is monitored by the ADEQ.

3.2.3 Effects of the Project

The Federal *de minimis* threshold emissions rates were established by USEPA in the General Conformity Rule to focus analysis requirements on those Federal actions with the potential to substantially affect air quality. **Table 3-2** presents these thresholds, by regulated pollutant. As shown in **Table 3-2**, *de minimis* thresholds vary depending on the severity of the nonattainment area classification.

According to 40 CFR 93.153, a conformity determination is required for each pollutant where the total of direct and indirect emissions in a nonattainment or maintenance area caused by a Federal action would equal or exceed any of the limits shown in **Table 3-2**. Since Yuma County has been designated as a Federal moderate nonattainment area for PM₁₀, direct or indirect PM₁₀ emissions above 100 tpy would require a conformity determination.

The USEPA has not promulgated an ambient standard or *de minimis* level for CO₂ emissions for Federal actions, so there is no standard value to compare an action against in terms of meeting or violating the standard.

Construction Activities

The construction activities, anticipated to occur for 60 days, will generate total suspended particulate and PM₁₀ emissions as fugitive dust from ground-disturbing activities (e.g., minor grading and trenching, removal of spoils and berm) and from combustion of fuels in construction equipment. Fugitive dust emissions will be greatest during the initial site-preparation activities and will vary from day to day depending on the construction phase, level of activity, and prevailing weather conditions. The quantity of uncontrolled fugitive dust

Table 3-2. Conformity *de minimis* Emissions Thresholds

Pollutant	Status	Classification	<i>de minimis</i> Limit (tpy)
O ₃ (measured as NO _x or VOCs)	Nonattainment	Extreme Severe Serious Moderate/marginal (inside ozone transport region) All others	10 25 50 50 (VOCs)/100 (NO _x) 100
	Maintenance	Inside ozone transport region Outside ozone transport region	50 (VOCs)/100 (NO _x) 100
CO	Nonattainment/ maintenance	All	100
PM ₁₀	Nonattainment/ maintenance	Serious Moderate Not Applicable	70 100 100
PM _{2.5} (measured directly, as SO ₂ , or as NO _x)	Nonattainment/ maintenance	All	100
SO ₂	Nonattainment/ maintenance	All	100
NO _x	Nonattainment/ maintenance	All	100

Source: 40 Code of Federal Regulations (CFR) 93.153

emissions from a construction site is proportional to the area of land being worked and the level of construction activity. Estimated ground disturbance associated with the Project will total approximately 36 acres and will occur in stages as sections are constructed. CBP will develop a Dust Control Plan and implement best available control measures for PM₁₀ during construction and earthmoving activities.

Regulated pollutant emissions associated with the Project will not contribute to or affect local or regional attainment status with the NAAQS. The Project will generate minor air pollutant emissions from the construction activities, the operation of an emergency generator, and a slight increase in maintenance activities.

Construction operations will also result in emissions of criteria pollutants as combustion products from construction equipment. These emissions will be of a temporary nature. For purposes of this analysis, the Project duration and affected Project site area that will be disturbed was used to estimate fugitive dust

and all other criteria pollutant emissions. The construction emissions presented in **Table 3-3** include the estimated annual construction PM₁₀ emissions associated with the Project. **Appendix G** contains the detailed spreadsheets for calculation of air emissions. These emissions will produce elevated short-term PM₁₀ ambient air concentrations. However, the effects will be temporary, and will fall off rapidly with distance from the construction sites. Uncontrolled fugitive dust emissions (PM₁₀ and PM_{2.5}) from the Project should not exceed *de minimis* threshold levels (100 tpy) for Yuma County. However, CBP will develop a Dust Control Plan and implement best available control measures for PM₁₀ and PM_{2.5} during construction and earthmoving activities such as frequent watering and covering exposed dust piles to reduce fugitive dust emissions by 50 percent. With the implementation of the Dust Control Plan and best available control measures, construction fugitive dust emissions will not exceed the *de minimis* threshold limits and will not exceed 10 percent of the regional air emissions values.

Table 3-3. Total Construction Emissions Estimates

Description	NO _x (tpy)	VOC (tpy)	CO (tpy)	SO ₂ (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)
Construction Combustion Emissions	0.50	0.03	0.19	0.01	0.03	0.03
Construction Fugitive Dust Emissions	--	--	--	--	10.04	1.00
Construction Generator Emissions	6.03	0.49	1.30	0.40	0.42	0.40
Maintenance Emissions	0.31	0.04	0.29	0.0003	0.01	0.01
Total Project Emissions	6.84	0.56	1.77	0.41	10.50	1.44
Federal <i>de minimis</i> Threshold	NA	NA	NA	NA	100	NA
MYAQCR Regional Emissions	22,973	21,200	143,134	1,214	20,173	5,876
Percent of MYAQCR Regional Emissions	0.030%	0.003%	0.001%	0.033%	0.052%	0.025%

Source: USEPA 2007

Note: Total PM_{10/2.5} fugitive dust emissions assume a 50 percent control efficiency (USEPA 2006).

Specific information describing the types of construction equipment required for a specific task, the hours the equipment is operated, and the operating conditions vary widely from project to project. For purposes of analysis, these parameters were estimated using established methodologies for construction and experience with similar types of construction activities. Combustion by-product emissions from construction equipment exhausts were estimated using USEPA's NONROAD Model emissions factors for construction equipment. As with fugitive dust emissions, combustion emissions will produce slightly elevated air pollutant concentrations. Early phases of construction projects involve heavier diesel

equipment and earthmoving, resulting in higher NO_x and PM₁₀ emissions. However, the effects will be temporary, fall off rapidly with distance from the construction site, and will not result in any long-term effects.

The Project is projected to require six diesel-powered generators to power construction equipment. These generators are estimated to be approximately 75 horsepower each and operated approximately 8 hours per day for 60 working days. In addition, approximately 30 portable light units are projected to be required for construction activities. The construction lighting is powered by 8 horsepower diesel generators and operates approximately 12 hours per day for 60 working days. Operational emissions of construction generators associated with the Project are shown in **Table 3-3**. The emissions factors and estimates were generated based on guidance provided in USEPA AP-42, Volume I, *Stationary Internal Combustion Sources*.

Operations and Maintenance Activities. Minor long-term adverse impacts on air quality will be expected from operations and maintenance activities. The Project will generate air pollutant emissions from the continuation of operations and increased maintenance activities along the Project corridor. Minor, long-term adverse effects will be expected from increased maintenance. The estimated annual air emissions from long-term vehicle operations and maintenance activities are shown in **Table 3-4**.

Table 3-4. Total Operations and Maintenance Vehicle Emissions Estimates

NO _x (tpy)	VOC (tpy)	CO (tpy)	SO ₂ (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)	CO ₂ (tpy)
0.31	0.039	0.29	0.0003	0.011	0.010	35.35

The Project is expected to result in an overall decrease in ground disturbance north of the project area. The Project is expected to reduce cross-border violators as well as the need for official off-road operations in response to the cross-border violators; therefore, operations will be expected to have a negligible contribution to criteria pollutant emissions from border-patrol operations.

The construction of new tactical infrastructure will increase infrastructure maintenance activities within the USBP Yuma Sector. It is anticipated that future maintenance of tactical infrastructure will primarily consist of welding and fence section replacements, as needed. Air emissions from maintenance activities are not expected to exceed thresholds above *de minimis* levels for criteria pollutants and will have a negligible contribution to the overall air quality in the MYAQCR, as shown in **Table 3-3** (USEPA 2007).

Greenhouse Gases. The Project will result in short-term CO₂ emissions from the operation of construction vehicles and generators. Operation of construction vehicles will result in an estimated 59 tons of CO₂, and operation of generators will result in an estimated 224 tons of CO₂. Therefore, short-term greenhouse gas emissions associated with construction activities will total approximately 283 tons of CO₂.

USBP Yuma Sector currently patrols along the border. The vehicles used for surveillance and patrol of the existing border areas are currently generating CO₂; therefore, no net increase of CO₂ emissions will be expected. Maintenance of tactical infrastructure will increase under the Project, which could result in CO₂ emissions of approximately 35 tons per year (tpy).

The USEPA has estimated that the total greenhouse emissions for Arizona were 89 million metric tons of carbon equivalent (MMTCE) in 1990 (Eredux.com 2008). The short-term CO₂ emissions associated with construction (283 tons) represent less than 0.001 percent of the estimated Arizona CO₂ inventory. Long-term increases in CO₂ emissions will result from maintenance activities (35 tpy) representing negligible fractions of the estimated Arizona CO₂ inventory. The Project will be expected to have a negligible contribution to CO₂ and greenhouse gases.

Summary. As shown in **Tables 3-3** and **3-4**, emissions from the Project will not exceed the *de minimis* thresholds for the MYAQCR and will be less than 10 percent of the emissions inventory for MYAQCR (USEPA 2008). Minor adverse impacts on local air quality will be anticipated from implementation of the Project.

A conformity determination in accordance with 40 CFR 93-153(1) is not required, as the total of direct and indirect emissions from the Project will not be regionally significant (e.g., the emissions are not greater than 10 percent of the MYAQCR emissions inventory). Emissions factors, calculations, and estimates of emissions for the Project are shown in detail in **Appendix G**.

3.3 NOISE

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the laws included in the waiver, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines for evaluating environmental impacts and mitigations with respect to noise. Please refer to the *Final Environmental Stewardship Plan for the Construction, Operation, and Maintenance of Tactical Infrastructure U.S. Border Patrol Yuma Sector, Wellton Station, Arizona* (Section CV-2) for further information (resource definition, environmental setting, and environmental impacts) regarding noise for Section CV-2a.

3.4 LAND USE AND RECREATION

3.4.1 Definition of the Resource

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the laws included in the waiver, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines for evaluating environmental impacts and mitigations associated with land use.

The term "land use" refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. In many cases, land use descriptions are codified in local zoning laws. There is, however, no nationally recognized convention or uniform terminology for describing land use categories. As a result, the meanings of various land use descriptions, "labels," and definitions vary among jurisdictions. The Yuma County, Arizona Zoning Ordinance serves as the jurisdictional source of zoning for the Project corridor (Yuma County Department of Development Services 2006).

Two main objectives of land use planning are to ensure orderly growth and compatible uses among adjacent property parcels or areas. Tools supporting land use planning include master plans/management plans and zoning regulations.

3.4.2 Environmental Setting

All four sections of vehicle fence will be wholly contained within the Roosevelt Reservation and CPNWR. Access to the construction area will require the improvement or construction of access roads on CPNWR land designated as Wilderness. Staging areas will be placed within the CPNWR property. **Figure 2-3** shows the location of the CPNWR in relation to the Project area. The following is a description of the specific land uses that occur in the vicinity of the Project:

Cabeza Prieta National Wildlife Refuge

According to the Yuma County, Arizona Zoning Ordinance, the CPNWR is zoned as an Open Space, Recreation and Resources Zoning District (OS/RR). The OS/RR provides for recreational opportunities and space for public and private recreational parks, resorts, and similar facilities apart from significant urban development densities. This district also provides, preserves, and protects open space or natural areas from incompatible development (Yuma County Department of Development Services 2006).

National Wildlife Refuges (NWRs) are a designation for certain protected areas of the United States managed by the USFWS. The NWR system is a national network of lands and waters managed for the conservation, management, and restoration of wildlife and plant resources and their habitats within the United

States. The system consists of more than 500 refuges across the nation. The CPNWR plays a critical role in the recovery and protection of rare and sensitive species such as the federally endangered Sonoran pronghorn and the desert bighorn sheep, as well as the conservation of a diversity of desert wildlife representative of the Sonoran Desert. CPNWR is relatively accessible to visitors due to the non-wilderness road corridors along Camino del Diablo and Christmas Pass Road, and a network of administrative trails throughout (USFWS 2006).

Title III of the Arizona Desert Wilderness Act of 1990 designated approximately 93 percent (803,418 acres) of the CPNWR as a Wilderness in accordance with the Wilderness Act of 1964. This designation requires additional restrictions such as the prohibition of permanent or temporary roads, use of motorized vehicles or equipment, landing of aircraft, and structures and installations, except as minimally required to manage the area as wilderness. The Arizona Desert Wilderness Act of 1990 specifically states that designation of wilderness lands within the CPNWR will not preclude or otherwise affect continued low-level overflights by military aircraft over the NWR or the maintenance of existing associated ground instrumentation; nor will it preclude or otherwise affect continued border operations by DHS and its bureaus or the Drug Enforcement Administration (USFWS 2006).

The goals of the CPNWR are as follows:

1. *Wildlife and Habitat Management:* protect, maintain, enhance, or restore the diversity and abundance of wildlife species and ecological communities of the Sonoran Desert represented at CPNWR
2. *Wilderness Stewardship:* protect and conserve refuge wilderness employing strategies of wildlife and plant conservation that will conserve, maintain, and, where possible, restore the wilderness character of CPNWR
3. *Visitor Services Management:* provide visitors with compatible, high-quality wildlife-dependent recreational and educational experiences designed to foster better appreciation, understanding, and protection of the plant, animal, and wilderness resources
4. *Cultural Resources Management:* protect, maintain, and interpret cultural and historic resources on CPNWR, in cooperation with Tribal governments and the State of Arizona to benefit present and future generations (USFWS 2006).

Roosevelt Reservation

Roosevelt Reservation refers to an area of land President Theodore Roosevelt reserved from entry in 1907 and set apart as a public reservation all public lands within 60 feet of the boundary between the United States and Mexico within the State of California and the Territories of Arizona and New Mexico. Known as the "Roosevelt Reservation," this land withdrawal was found "necessary for the public welfare ... as a protection against the smuggling of goods." The

proclamation excepted from the reservation all lands, which, as of its date, were (1) embraced in any legal entry; (2) covered by any lawful filing, selection, or rights-of-way duly recorded in the proper U.S. Land Office; (3) validly settled pursuant to law; or (4) within any withdrawal or reservation for any use or purpose inconsistent with its purposes (CRS 2006).

3.4.3 Effects of the Project

The installation of the vehicle fence, staging areas, and access roads will result in short-term and long-term minor to moderate adverse and beneficial impacts on land use. The severity of the impact will vary depending on the amount of changed land use, degree of incompatibility of the tactical infrastructure with existing land use, or the degree to which access to various land use types is restricted or limited by the Project. The expected effects of the Project for each land use are discussed below.

Cabeza Prieta National Wildlife Refuge

1. *Wildlife and Habitat Management:* Short-term minor adverse impacts on wildlife are expected due to disturbance from construction activities. Vegetation removal and grading activities will occur where necessary, thereby removing or altering wildlife habitat. This will result in minor adverse short-term impacts due to a temporary loss of habitat and long-term adverse impacts due to loss of vegetation species that take years to mature (e.g., saguaro cactus); however, impacts from construction activities are expected to be localized. Short-term and long-term minor adverse impacts on wildlife and habitat are expected from the construction and utilization of access roads and staging areas. Access roads to the fence construction corridor will be narrow to minimize impacts on designated Wilderness areas. Wherever possible, existing roads will be used as access roads. Construction staging areas will be placed in previously disturbed areas to the maximum extent practicable.

Long-term moderate beneficial impacts on wildlife species and habitat are expected due to a reduction of disturbance to the CPNWR from cross-border violator vehicular traffic. Construction and operation of tactical infrastructure will increase border security in the UBSP Yuma Sector and could result in a change to illegal traffic patterns. However, changes to illegal alien traffic patterns result from a myriad of factors; and therefore, are considered unpredictable and beyond the scope of this ESP.

2. *Wilderness Stewardship:* Construction activities are expected to have a moderate short-term adverse impact on the wilderness character of the CPNWR due to a presence and use of heavy construction equipment and noise during the construction process. Impacts are not considered to be major due to the localized nature of the activity and relatively small affected land area in comparison to the entire refuge. Short-term minor adverse impacts are also expected due to the use of motorized vehicles and equipment on access roads, staging areas, and along the fence

construction sites, which is normally prohibited within wilderness areas. A long-term moderate beneficial impact is expected due to a reduction in illegal cross-border vehicular traffic, which has created a vast system of illegal vehicle roads within the CPNWR, a reduction of litter left by IAs within the CPNWR; a reduction in habitat degradation from illegal activity; and a reduction in new invasive plant introductions (USFWS 2006).

3. *Visitor Services Management:* Minor short-term adverse impacts on visitor services will be expected due to construction activities. A relatively minimal amount of area within CPNWR will be off limits due to construction activities. The wilderness experience for visitors will be adversely affected from construction activity and related noise. Long-term indirect beneficial impacts are expected to occur as a result of decreased numbers of cross-border violators coming into the CPNWR and resultant increase in visitor safety. Additionally, long-term beneficial impacts will be expected due to a reduction in roads created by illegal vehicular traffic, vandalism, and litter.
4. *Cultural Resources Management:* Cultural resources surveys will be conducted within the Project corridor; therefore, impacts on cultural resources are expected to be minor.

Roosevelt Reservation

Long-term beneficial impacts are expected for the land use purposes of the Roosevelt Reservation. Since the Reservation was created to prevent the smuggling of goods, the presence of the vehicle fence is consistent with and will assist in this land use purpose.

3.5 AESTHETICS

3.5.1 Definition of the Resource

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the laws included in the waiver, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines for evaluating environmental impacts and mitigations associated with visual resources.

Visual resources include both natural and man-made features that influence the visual appeal of an area for residents and visitors. Visual resources can be defined as the visible physical features on a landscape (e.g., land, water, vegetation, animals, structures, and other features).

Various Federal agencies have developed Visual Management programs to assist in the analysis and mitigation of impacts on visual resources resulting from their various activities. Within the Department of the Interior which has overarching responsibility for several Land Management Agencies, including the

Bureau of Land Management (BLM), National Park Service, and the USFWS, CBP has determined that the most appropriate Visual Management system to analyze impacts from the Project has been developed by BLM,

In order to meet its responsibility to maintain the scenic values of public lands, BLM has developed a Visual Resources Management (VRM) system based on human perceptions and expectations in the context of the existing landscape. Different levels of scenic values require different levels of management. Determining how an area should be managed first requires an assessment of the area's scenic values. For management purposes, BLM has developed Visual Resource Classes.

1. *Class I Objective.* The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes but also allows very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
2. *Class II Objective.* The objective of this class is to preserve the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities are allowed, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. New projects can be approved if they blend in with the existing surroundings and don't attract attention.
3. *Class III Objective.* The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities might attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. New projects can be approved that are not large-scale, dominating features.
4. *Class IV Objective.* The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities can dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements of predominant natural features (BLM 2003a).

3.5.2 Environmental Setting

As discussed in **Chapter 3.4**, the majority of the Project will be adjacent to Federal lands managed by the USFWS and the Department of Defense (DOD). The area surrounding Section CV-2 falls into two classes. The CPNWR is

classified as a Class I Visual Resource and the DOD-managed lands to the west of CPNWR and the Roosevelt Reservation to the south are designated as a Class III Visual Resource.

The Project region and site are characterized by deep, northwest-trending, alluvium-filled basins separated by linear mountain ranges (Sonoran Region of the Basin and Range Province of North America). The Sonoran Desert is young having developed over the past 8,000–9,000 years; therefore it lacks a distinctive faunal species component evolved to the extant conditions (USFWS 2006). Relatively recent volcanic activity is evident with some slopes covered by gravel and cobble of volcanic origin. The Project area physiography includes the footslopes of the Cabeza Prieta and Tule mountains on its eastern terminus. The Lechuguilla Desert, a relatively flat alluvial plain dissected by many desert washes, occurs between these rugged desert mountain ranges

3.5.3 Effects of the Project

To properly assess the contrasts between the existing conditions and the Project, it is necessary to break each down into the basic features (i.e., landform/water, vegetation, and structures) and basic elements (i.e., form, line, color, and texture) so that the specific features and elements that cause contrast can be accurately identified.

General criteria and factors used when rating the degree of contrast are as follows:

- *None.* The element contrast is not visible or perceived.
- *Weak.* The element contrast can be seen but does not attract attention.
- *Moderate.* The element contrast begins to attract attention and dominate the characteristic landscape.
- *Strong.* The element contrast demands attention, cannot be overlooked, and is dominant in the landscape.

When applying the contrast criteria, the following factors are considered:

1. *Distance.* The contrast created by a Project usually is less as viewing distance increases.
2. *Angle of Observation.* The apparent size of a Project is directly related to the angle between the viewer's line-of-sight and the slope upon which the Project is to take place. As this angle nears 90 degrees (vertical and horizontal), the maximum area is viewable.
3. *Length of Time the Project Is In View.* If the viewer can only view the Project for a short period of time, the contrast might not be of great concern. If the Project can be viewed for a long period of time, the contrast could be very significant.

4. *Relative Size or Scale.* The contrast created by the Project is directly related to its size and scale as compared to the immediate surroundings.
5. *Season of Use.* Contrast ratings should consider the physical conditions that exist during the heaviest or most critical visitor-use season, such as snow cover and tree defoliation during the winter, leaf color in the fall, and lush vegetation and flowering in the spring.
6. *Light Conditions.* The amount of contrast could be substantially affected by the light conditions. The direction and angle of light can affect color intensity, reflection, shadow, form, texture, and many other visual aspects of the landscape. Light conditions during heavy periods must be a consideration in contrast ratings.
7. *Recovery Time.* The amount of time required for successful revegetation should be considered. Few projects meet the VRM management objectives during construction activities. Recovery usually takes several years and goes through several phases (e.g., bare ground to grasses, to shrubs, to trees).
8. *Spatial Relationships.* The spatial relationship within a landscape is a major factor in determining the degree of contrast.
9. *Atmospheric Conditions.* The visibility of a Project due to atmospheric conditions such as air pollution or natural haze should be considered.
10. *Motion.* Movements such as waterfalls, vehicles, or plumes draw attention to a Project (BLM 2003b).

The Project will adversely impact visual resources both directly and indirectly. Construction of tactical infrastructure will result in the introduction of new temporary (e.g., heavy equipment, supplies) and permanent (e.g., fencing and patrol roads) visual elements into existing viewsheds. Clearing and grading of the landscape in the Project corridor during construction will result in changes in some visual elements.

The construction activity associated with the Project will result in both temporary and permanent moderate contrasts to Classes I and III Visual Resources.

Impacts on aesthetic and visual resources will include short-term impacts associated with the construction phase of the Project and use of staging areas, recurring impacts associated with monitoring and maintenance, and long-term impacts associated with the completed Project. Impacts can range from weak, such as the impacts on visual resources adjacent to the Project corridor when seen from a distance or when views of fences are obstructed by the terrain, to strong, such as the intrusion of fence sections into high-quality views of the CPNWR. **Figures 3-1, 3-2, and 3-3** display the degree to which the tactical infrastructure is visible from various distances in areas of uninterrupted vistas.

The construction of access roads and vehicle fences in and adjacent to a Class I Visual Resource area is a strong contrast to the CPNWR and also represents a

moderate to strong contrast in areas of lesser class designation. The following paragraphs discuss factors that might offset the strong contrasts.

In some areas of the Project, the fence will be screened from view by elevation and undulating terrain. Public viewing is also limited in this area of CPNWR because of low visitation frequency, due to the general lack of access and hostile conditions.

Beneficial impacts are also possible through viewers positively associating the fence with a feeling of greater security. This increased security also lends itself to a potential reduction in visual impacts elsewhere in the CPNWR through the limitation of unwanted off-road activity and the accompanying reduction on scarring and contrast to the natural landscape. Additionally, limiting human activity to those that have an appreciation for wilderness areas will likely result in less unsightly litter and trash.

Over time, the changes to the landscape caused by construction and maintenance of access roads will dissipate substantially, therefore reducing the contrast of viewable sections of all fence segments.

There are numerous design techniques and construction practices that can be used to reduce the visual impacts from surface-disturbing projects. These methods will be used to the extent practicable, in conjunction with BLM's visual resource contrast rating process wherein both the existing landscape and the Project are analyzed for their basic elements of form, line, color, and texture. Some design techniques and construction practices that might be applicable to CPNWR include the following:

- Using irregular clearing shapes
- Hauling in or hauling out excessive earth cut or fill in sensitive viewing areas
- Rounding or warping slopes (shaping cuts and fills to appear as natural forms)
- Bending slopes to match existing landforms
- Retaining existing rock formations, vegetation, and drainage whenever possible
- Avoiding soil types that will generate strong contrasts with the surrounding landscape when they are disturbed
- Striping, saving, and replacing topsoil (6-inch surface layer) on disturbed earth surfaces
- Choosing native plant species
- Replacing soil, brush, rocks, and other construction-generated natural debris over disturbed earth surfaces when appropriate, thus allowing for natural regeneration rather than introducing an unnatural-looking cover.

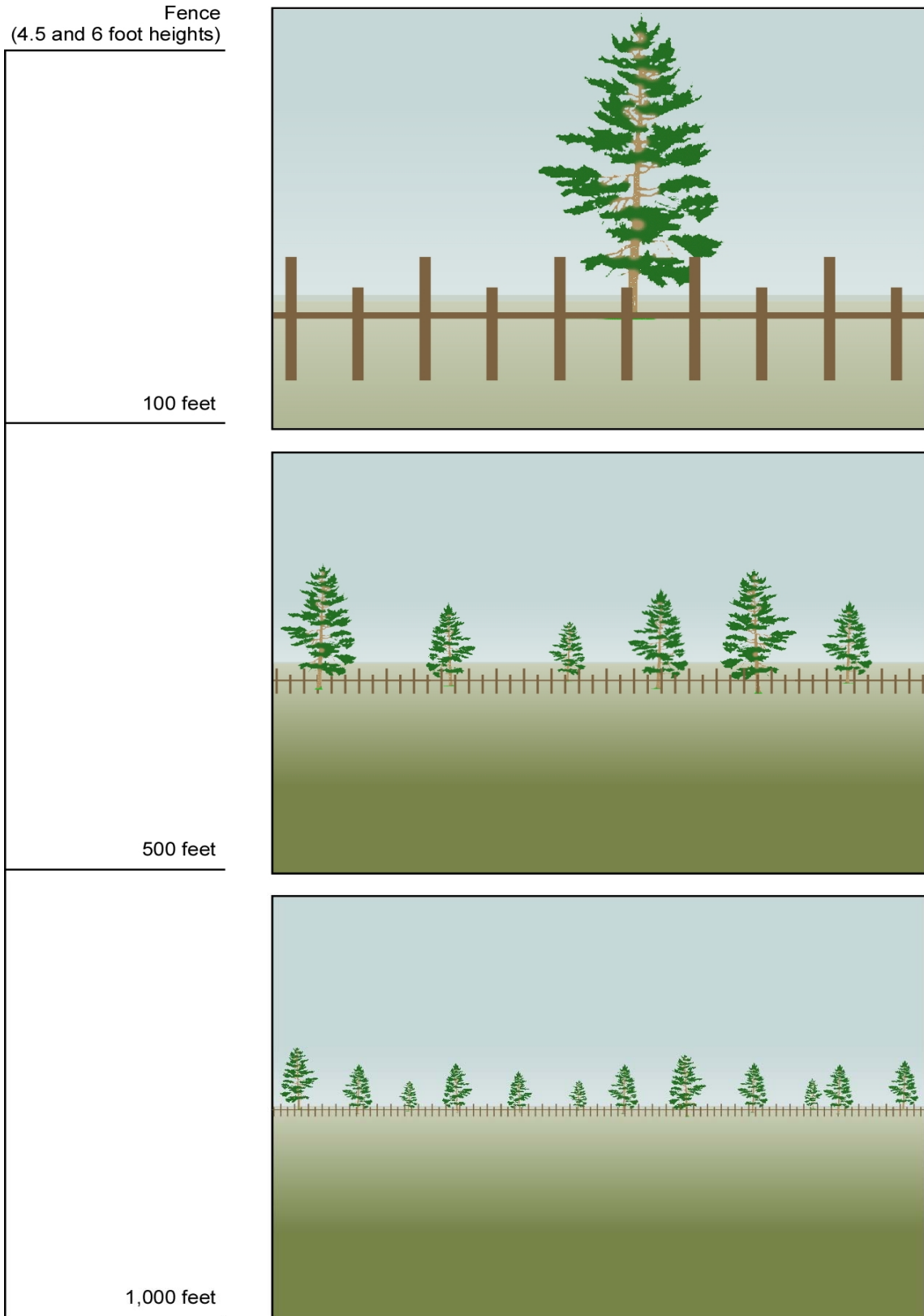


Figure 3-1. Schematic Showing Visibility of Fencing at Various Distances



Figure 3-2. Photograph of Landscape Showing Fencing



Figure 3-3. Photograph of Landscape Showing Fencing

3.6 GEOLOGY AND SOILS

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the laws included in the waiver, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines for evaluating environmental impacts and mitigations associated with geology and soils resources. Please refer to the *Environmental Stewardship Plan for the Construction, Operation, and Maintenance of Tactical Infrastructure U.S. Border Patrol Yuma Sector, Wellton Station, Arizona* (Section CV-2) for further information (resource definition, environmental setting, and environmental impacts) regarding geology and soils for Section CV-2a.

3.7 WATER USE AND QUALITY

3.7.1 Hydrology and Groundwater

Although the Secretary's waiver means that CBP no longer has any specific obligation under the Clean Water Act (CWA), the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the CWA as the basis for evaluating potential environmental impacts and developing appropriate mitigations for hydrology and groundwater. Please refer to the *Environmental Stewardship Plan for the Construction, Operation, and Maintenance of Tactical Infrastructure U.S. Border Patrol Yuma Sector, Wellton Station, Arizona* (Section CV-2) for further information (resource definition, environmental setting, and environmental impacts) regarding hydrology and groundwater for Section CV-2a.

3.7.2 Surface Waters and Waters of the United States

3.7.2.1 Definition of the Resource

Although the Secretary's waiver means that CBP no longer has any specific obligation under the CWA, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the CWA as the basis for evaluating potential environmental impacts and developing appropriate mitigations for surface waters and waters of the United States.

Surface water resources generally consist of wetlands, lakes, rivers, and streams. Surface water is important for its contributions to the economic, ecological, recreational, and human health of a community or locale.

Waters of the United States are defined within the CWA, as amended, and jurisdiction is addressed by the USEPA and the USACE. These agencies assert

jurisdiction over (1) traditional navigable waters, (2) wetlands adjacent to navigable waters, (3) nonnavigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-around or have continuous flow at least seasonally (e.g., typically 3 months), and (4) wetlands that directly abut such tributaries (USDOJ 2007).

Wetlands and riparian habitats represent some of the most ecologically important and rare vegetation communities on desert landscapes. They provide keystone habitat for a wide array of plant and animal species including resident and migrating birds, amphibian and fish species, mammals, and insects. Vegetation production and diversity are usually very high in and around these mesic to aquatic sites, with many plant species adapted only to these unique environments. In addition, wetlands and riparian zones provide a variety of hydrologic functions vital to ecosystem integrity. These include water filtration of sediment, groundwater recharge, and nutrient/chemical capture (USFS 1995). Development and conversion of wetlands and riparian zones affects wildlife diversity, carrying capacity, and hydrologic regime. Changes to and removal of wetlands can cause effects that are proportionally greater than elsewhere in an ecosystem (Graber 1996).

Wetlands have been defined by agencies responsible for their management. The term “wetland” used herein, is defined using USACE conventions. The USACE has jurisdiction to protect wetlands under Section 404 of the CWA using the following definition:

... areas that are inundated or saturated by surface or ground water 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 (33 CFR 328.3[b]). Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands have three diagnostic characteristics that include: (1) over 50 percent of the dominant species present must be classified as obligate, facultative wetland, or facultative, (2) the soils must be classified as hydric, and (3) the area is either permanently or seasonally inundated, or saturated to the surface at some time during the growing season of the prevalent vegetation (USACE 1987).

Wetlands are protected as a subset of the waters of the United States under Section 404 of the CWA. The term “waters of the United States” has a broad meaning under the CWA and incorporates deepwater aquatic habitats and special aquatic habitats (including wetlands).

3.7.2.2 Environmental Setting

Surface Water. The entire CV-2a Project survey area is located in an unnamed watershed, which encompasses much of the southern portions of the CPNWR.

The ephemeral drainages from the project entirely drain eastern escarpments of the Tule Mountains. These ephemeral drainages run across the lower desert areas to the east where they sink into area called the Pinta Sands, just north of the Pinacate Lava Flow. The entire watershed is within the NWR (USGS 1985).

Jurisdictional Wetlands and Other Waters of the United States. Field surveys were conducted for the Project corridor on September 29 through December 10, 2008, to delineate jurisdictional wetlands and other waters of the United States within the Project areas. Delineations were also conducted along access roads and staging areas associated with the fence alignments. Formal delineations were conducted within a 150-foot corridor associated with the fence alignments, 30 feet to either side of the center line of access roads, and within staging areas.

Determination of the occurrence and extent of jurisdictional wetlands and other waters of the United States was based on the application of procedures established in the USACE *Wetlands Delineation Manual*, Technical Report Y-87-1 (USACE 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*, Technical Report ERDC/EL TR-06-16 (USACE 2006). Determination of the occurrence of jurisdictional wetlands was based on the presence or absence of hydrophytic (wetland) vegetation, hydric (wetland) soils, and wetland hydrology. The presence of all three of the criteria is necessary for an area to be designated as a jurisdictional wetland under normal conditions.

Determination of the extent of jurisdictional washes and other waters of the United States in the Project area was based on characterization of the landward extent of the ordinary high water mark (OHM). Indicators used to determine the occurrence and extent of jurisdictional washes included the presence of developed channels, typically 2 feet or greater in width; the occurrence of an OHM; the absence of fine sediments along flow paths; distinct changes in the vegetative assemblage or larger or more dense vegetation than surrounding areas; the presence of cut banks; the presence of litter, debris, or wrack lines; occurrence of desiccation cracks or other indicators of hydrology; and other indicators of the occurrence of intermittent water flow regimes.

All washes and other waters of the United States within the Project areas were delineated. Based on field surveys, there were no vegetated wetlands identified within the 150-foot corridor associated with the fence alignments, 30 feet to either side of the center line of access roads, or within proposed staging areas. A total of 27 waters of the United States, all ephemeral wash channels (1.16 acres), were delineated in the Project corridor and designated as W1 through W27.

Waters of the United States types and locations (Universal Transverse Mercator (UTM) coordinates, (NAD83, zone 12N); general channel characteristics and general vegetation on the banks of each wash; delineated acreages within a 150-foot corridor associated with the fence alignments, 30 feet to either side of the

center line of access roads, or within proposed staging areas; and potential impact acreages in Section CV-2a are described in **Section 4.4** of the Biological Survey Report, attached in **Appendix E**. A 60-foot impact corridor to the north of the fence alignment or a 60-foot-wide access road impact corridor is considered the maximum width of potential impact associated with implementing the Project. There are no waters of the United States within the proposed staging areas. Maps showing the locations and boundaries of delineated waters of the United States in the Project assessment areas are provided in **Appendix D**.

3.7.2.3 Effects of the Project

Surface Waters, Wetlands, and Other Waters of the United States. Minor short- and long-term impacts on washes in the impact corridor will be expected. The tactical infrastructure will consist of a primary vehicle fence, access roads, and staging areas. Development of access road, staging areas, and the placement of permanent primary vehicle fence across wash channels will result in short-term adverse impacts associated with land disturbance and potential erosion and sedimentation. CBP will require the construction contractor to prepare an SWPPP, sediment- and erosion-control plans, and other environmental protection plans for the Project which will minimize potential for adverse effects on washes. Minor, long-term, beneficial effects on washes will be expected as a result of a reduction in cross-border traffic in washes. Development of culverted crossing at washes will be expected to reduce damage to wash channels and their banks associated with traffic along access roads. Implementation of the Project will be expected to have minor short-term, adverse effects on surface water quality as a result of potential erosion and associated transport of sediments into adjacent surface waters. Implementation of BMPs, as discussed above will reduce potential for these adverse effects.

Adverse effects on jurisdictional wetlands, washes, and other waters of the United States will be avoided or minimized to the maximum extent practicable. Based on the delineations of washes and other waters of the United States within the areas surveyed conducted on September 29 through December 10, 2008, there are 1.16 total delineated acres of waters of the United States, including 0.78 acres within the potential impact areas. CBP will work with DOI and USACE to develop appropriate mitigation for unavoidable impacts on washes within the Project areas.

3.7.3 Floodplains

Although the Secretary's waiver means that CBP no longer has any specific obligation under Executive Order (EO) 11988 *Floodplain Management*, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with EO 11988 as the basis for evaluating potential environmental impacts and developing appropriate mitigations for floodplains. Please refer to the *Environmental*

Stewardship Plan for the Construction, Operation, and Maintenance of Tactical Infrastructure U.S. Border Patrol Yuma Sector, Wellton Station, Arizona (Section CV-2) for further information (resource definition, environmental setting, and environmental impacts) regarding floodplains for Section CV-2a.

3.8 BIOLOGICAL RESOURCES

3.8.1 Vegetation Resources

3.8.1.1 Definition of the Resource

Although the Secretary's waiver means CBP no longer has any specific legal obligations for the tactical infrastructure segments addressed in this ESP, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines for evaluating environmental impacts and mitigation associated with vegetation resources.

Vegetation distribution and character within the Project area is strongly defined by the environmental drivers including physiography, climate, geology, soils, and topography. This section of the ESP identifies and briefly describes the important environmental drivers; the floristic classification and vegetation types that occur throughout the Project area; the effects related to use/widening of existing access roads and staging areas; and the construction of new access roads, staging areas, and the vehicle barrier. More detailed biological information and characteristic ground photographs are presented in the Biological Survey Report (see **Appendix E**).

3.8.1.2 Environmental Setting

Physiography: The Project region and site are characterized by deep, northwest-trending, alluvium-filled basins separated by linear mountain ranges (Sonoran Region of the Basin and Range Province of North America). The Sonoran Desert is young, having developed over the past 8,000 to 9,000 years. Therefore it lacks a distinctive faunal species component evolved to the extant conditions (USFWS 2006). Relatively recent volcanic activity is evident with some slopes covered by gravel and cobble of volcanic origin. The Project area physiography includes the footslopes of the Tinajas Altas Mountains on the Barry M. Goldwater Range (BMGR) on its western end and the footslopes of the Cabeza Prieta and Tule mountains on its eastern terminus. The Lechuguilla Desert, a relatively flat alluvial plain dissected by many desert washes, occurs between these rugged desert mountain ranges.

Climate: The Project area climate is typical of the Sonoran Desert (e.g., semiarid within the Xeric Climatic Region as described in Robinson et al. 2006). Low rainfall and high temperatures are characteristic of the basin and range lowlands (e.g., summers are long and hot and winters are short, dry, and cold

and might include brief periods when temperatures are below freezing) (Robinson et al. 2006, Bailey 1995). The precipitation pattern is generally biseasonal, much of the precipitation occurs from July to September in the form of intense thunderstorms driven by moisture from the Gulf of California (monsoons), however gentle rains from Pacific Ocean moisture occur from December through February (USFWS 2006). The desert washes of the Project area are intermittent or ephemeral (i.e., years with more than 250 days of no flow) but can have high flow in response to intense thunderstorms.

The general climatic summary records for Yuma, Arizona (Station 029660) have been prepared from 1948 to 2007 data (WRCC 2008). Average minimum temperatures in Yuma range from a low of 44 degrees Fahrenheit (°F) in December and January to 80 °F in July, and average high temperatures range from 69 °F in December and January to 107 °F in July (WRCC 2008). The lowest temperature recorded was 5 °F on February 18, 1995, and the highest temperature recorded was 124 °F on July 28, 1995. The average annual precipitation is 3.0 inches, which is relatively evenly distributed throughout the year. The range of precipitation is 0.3 inches (1956) to 6.8 inches (1989). A long growing season is experienced for the Project region (there are approximately 320 frost-free days annually), the prevailing wind varies from 6.5 to 9.1 miles per hour in a southerly direction, and the pan evaporation rate is high at 99 inches annually (WRCC 2008).

Plant Community Classification and Description

General Vegetation Classification: The vegetation of the basin and range lowlands of southwestern Arizona has generally been classified under the Dry Domain (Map Unit 300), Tropical/Subtropical Desert Division (Map Unit 320) of Bailey (1995). The Project area is more finely classified by Bailey (1995) as the American Semidesert and Desert Province (Map Unit 322), Sonoran Desert Section (Map Unit 322b).

Wellton Station Site Vegetation Classification: The USGS Arizona Gap Project (Bennett et al. 2004) provided discussion and described plant geography of the Project area to vegetation series using topographic features, climate, vegetation types, and terrestrial vertebrates. This system recognized two Nearctic Upland vegetation mapping units in the Tinajas Altas, Cabeza Prieta, and Tule mountains vicinity using a combination of plant species dominance, wildlife use, topography, hydrology, and geology. The vegetation series that are associated with the Project area include (1) Tropical-Subtropical Desertland, Sonoran Desertscrub, Creosotebush-Bursage Series; and (2) Tropical-Subtropical Desertland, Tropical-Subtropical Sonoran Desert Scrub, Paloverde-Mixed Cacti Series. The entire corridor was predominantly characterized by the USFWS (2006) as the Sonoran Desertscrub vegetation series of the Lower Colorado Valley subdivision of the Sonoran Desert.

NatureServe (2008) has defined ecological systems to represent recurring groups of biological communities that are found in similar physical environments and are influenced by similar dynamic ecological processes such as drought, fire, or flooding. Ecological systems represent classification units that are readily identifiable by conservation and resource managers in the field. The ensuing plant community/vegetation description for the Project area was prepared in the framework of ecological systems that include (1) Sonoran Desert Outcrop Desert Scrub (CES302.760); (2) Sonoran Paloverde-Mixed Cacti Desert Scrub (CES302.761); (3) North American Warm Desert Bedrock Cliff and Outcrop (CES302.745); and (4) Sonora-Mojave Creosotebush-White Bursage Desert Scrub (CES 302.756) (NatureServe 2008).

Field Methods: Classification and description of existing vegetation within this corridor was achieved by conducting walking surveys of the Project corridor, access roads, and staging areas as planned, sampling observation points, and relating them to the NatureServe (2008) classification database directly or as provisional types. At the coarsest level, the four above-named ecological systems were determined and local vegetation types described using the national system. A finer level of classification equaling or approximating the vegetation alliance level of the National Vegetation Classification System (NatureServe 2008) was used to prepare the plant community discussions under each ecological system.

Vegetation Overview, Site-Specific Description, and Project Impacts: Dominant vegetative species at the eastern end of CV-2a include yellow paloverde (*Cercidium microphyllum*), creosote (*Larrea tridentata*), and elephant tree (*Bursera microphylla*). According to the International Vegetation Classification System (IVCS) utilized by NatureServe, the eastern and western ends of the CV-2a survey corridor represent yellow paloverde–creosote bush shrublands, composing 5.2 acres on the eastern end and 17.4 acres on the western end. Analysis of aerial photography revealed that these areas are composed of 20 percent yellow palo verde, 40 percent elephant tree, and 10 percent creosote, with an increase in ocotillo (*Fouquieria splendens*) on the western end. Interrupting the yellow paloverde–creosote bush shrubland is a band of ocotillo shrublands association composing approximately 7.6 acres. Additional vegetative cover in these areas are composed of triangle-leaf bursage (*Ambrosia deltoidea*), saguaro (*Carnegiea gigantea*), brittlebush (*Encelia farinosa*), limberbush (*Jatropha* sp.), ocotillo, teddy-bear cholla (*Opuntia bigelovii*), diamond cholla (*Opuntia ramosissima*), silver cholla (*Opuntia echinocarpa*), cane cholla (*Opuntia spinosior*), devil cholla (*Opuntia emoryi*), and white ratany (*Krameria grayi*).

The access roads occurred at a lower elevation and were composed primarily of creosote-burrobush shrubland. A total of 20.5 acres was dominated by creosote, burrobush, and teddy-bear cholla. Additional species that occurred here are saguaros, desert mistletoe (*Phoradendron californicum*), elephant tree, brittlebush, ironwood (*Olneya tesota*), ocotillo (*Fouquieria splendens*), pincushion

cactus (*Mammillaria* sp.), pencil cholla (*Cylindropuntia ramosissima*), rattlesnake weed (*Chamaesyce* sp.), and hedgehog cactus (*Echinocactus* sp.).

A brief description of each plant community observed within fence section (CV-2a) is provided herein; they are distinguished using the NatureServe Vegetation Alliance level of classification or an approximation. Each of these communities is illustrated and supported by representative ground photographs within the attached Biological Survey Report. Following each description is a statement of the measured impact of Project construction to the individual vegetation type.

**Sonoran Granite Outcrop Desert Scrub Ecological System (CES302.760)/
Sonoran Paloverde-Mixed Cacti Desert Scrub Ecological System
(CES302.761)**

Yellow Paloverde–Creosotebush Shrubland.

This habitat comprises approximately 5.2 acres on the eastern end and 17.4 acres on the western end of the surveyed areas. Analysis of aerial photography revealed that these areas are composed of 20 percent yellow paloverde, 40 percent elephant tree, and 10 percent creosote, with an increase in ocotillo on the western end. Interrupting the yellow paloverde–creosote bush shrubland is a band of ocotillo shrublands association composing approximately 7.6 acres. Additional vegetative cover in these areas composed of triangle-leaf bursage, saguaro, brittlebush (*Encelia farinosa*), limberbush (*Jatropha* sp.), ocotillo, teddy-bear cholla (*Opuntia bigelovii*), diamond cholla (*Opuntia ramosissima*), silver cholla (*Opuntia echinocarpa*), cane cholla (*Opuntia spinosior*), devil cholla (*Opuntia emoryi*), and white ratany (*Krameria grayi*).

**North American Warm Desert Bedrock Cliff and Outcrop Ecological System
(CES302.745)**

Ocotillo Shrublands. This vegetation type is typically found on gentle slopes of ridges foothills and mountain canyons in southern Arizona. It can be found growing on any aspect, but it prefers the warmer southern to western aspects and well-drained sandy loam. Soil surface in these areas are rocky with up to 50 percent surface rock. Vegetation is open and dominated by tall shrubs covering 30 percent of the area, with ocotillo covering at least 10 percent of that. Additional low shrubs associated with this vegetation type include mesquite (*Prosopis* sp) at low cover, fairy duster (*Calliandra eriophylla*), Mexican crinklemat (*Tiquilia mexicana*), fishhook barrel (*Ferocactus wislizeni*), and catclaw mimosa (*Mimosa aculeaticarpa* var. *biuncifera*). The herbaceous layer is sparse and dominated by perennial grasses.

**Sonora-Mojave Creosotebush-White Bursage Desert Scrub Ecological
System (CES 302.756)**

Creosotebush–Burrobush Shrubland. This vegetation alliance can be found spread across the Mojave, Sonoran, and Colorado deserts, reaching into the southeastern Great Basin (see **Figure 3-4**). It is found growing on well-drained sandy sites of colluvium or alluvium on alluvial fans, bajadas, upland slopes, and minor washes. Sites are generally mildly sloping, frequently with calcareous soil, caliche hardpan, or desert pavement surface. Vegetation is dominated by open,



Figure 3-4. Characteristic Vegetative Cover of Creosotebush–Burrobush Shrubland

drought-tolerant shrubs, codominated by creosotebush (*Larrea tridentate*) and burrobush (*Ambrosia dumosa*). Other shrubs in this type include cheesebush (*Hymenoclea salsola*), white ratany (*Krameria grayi*), boxthorn (*Lycium andersonii*), pencil cholla (*Opuntia ramosissima*), and low coverage of brittlebush (*Encelia farinose*) and others. Ocotillo (*Fouquireia splendens*) are occasionally emergent.

During field surveys a datum for all saguaro cacti growing within the survey corridor was recorded, these data include the individual plant coordinates acquired with a survey-grade global positioning system (GPS) receiver, an estimate of height, a photograph of each saguaro cactus, and pertinent notes of individual plant health (see **Appendix E**). Approximately 105 saguaros were

encountered during the field surveys, with approximately 16 saguaros occurring within the impact corridor. Of these, approximately 10 saguaros were 2 meters tall or less.

Nonative Plant Species: The Project corridor does not support Federal- or state-listed (USDA 2006) noxious weeds.

3.8.1.3 Effects of the Project

Vegetation impacts related to vehicle barrier fence construction will be direct and indirect and are summarized in **Table 3-5**. Direct impacts include blading, scraping, drilling, trenching, berming, and crushing vegetation and are calculated from the vegetation map created for this Project versus the designed corridors of construction. Indirect impacts include dust generation, nonnative species introductions, and diversion of flows and incidental or random vehicle and equipment turning and parking that destroys cryptobiotic crusts, causes rutting, and compacts soils, but might not kill the vascular flora. The range of impact types summarized in **Table 3-5** are listed below:

Table 3-5. Project Impacts on Vegetation by Plant Community

Plant Community Impacted	Direct Impact Type and Acreage	Indirect Impact Type	Location and Comments
Yellow Paloverde– Creosotebush Shrubland	Permanent: 9.27 acres A-1, A-2, B-1, B-2	a, b, c, d, e, f, g, h	Located on eastern (1.97 acres) and western (7.30 acres) ends of the CV-2a project corridor
Ocotillo Shrubland	Permanent: 3.03 acres A-1, B-1	a, b, c, d, e, f, g, h	A band of this plant community interrupts the yellow paloverde-creosote shrubland in the east-center portion of the CV-2a project corridor
Creosote–Burrobush Shrubland	Permanent: 20.53 acres Temporary: 0.79 acres A-1, A-2, A-3, B-2, B-3	a, b, c, d, e, f, g, h	Located along the access roads, which are a lower elevation than the CV-2a project corridor. This includes temporary impacts from the staging area
Total Permanent Vegetation Impact/Total Temporary Vegetation Impact (likely will have long-term implications in terms of restoration)	32.83 acres/ 0.79 acres	a, b, c, d, e, f, g, h	Project corridor, staging area, and access roads

Direct Impact Types

- A. Vegetation removal by blading, scraping, dozing, drilling, trenching, crushing
 - A-1. Vehicle Barrier Fence, Construction Road, Maintenance Road, Patrol Road
 - A-2. Construction Access Road
 - A-3. Staging Area
- B. Vegetation covering by fill material during site leveling and berming procedures
 - B-1. Vehicle Barrier Fence, Construction Road, Maintenance Road, Patrol Road
 - B-2. Construction Access Road
 - B-3. Staging Area

Indirect Impact Types

- a. Dust generation covering leaves and flowers of downwind plants
- b. Vegetation damaged from vehicle/equipment passage
- c. Hydrocarbon/other liquid spill potential
- d. Soil compaction to rooting zone
- e. Siltation during runoff events
- f. Erosion resulting from rutting and destruction of soil profile
- g. Random vehicle/equipment tracks outside construction and access corridors and staging area boundaries
- h. Potential introduction of nonnative plant species or spread of nonnatives already introduced elsewhere in the Project area.

Portions of the Project area subject to construction and future maintenance and enforcement activities will result in permanent impacts on vegetation; this area totals 32.83 acres. Temporary staging areas will result in direct temporary impacts due to destruction of cryptobiotic crust, vegetation crushing, nonnative species invasion, and increased erosion potential; this area totals 0.79 acres. Some areas will receive indirect temporary impacts that range from short-term to long-term in duration. For example, dust deposition during construction will be considered short-term and will largely be removed from vegetation during an adequate rainfall event. Temporarily impacted areas, such as staging areas and construction vehicle or equipment tracks outside the construction and access roads, will be revegetated with native species (see Number 45 in Section 1.3.1 in **Appendix F**). Recovery of these sites could require several decades in this arid environment. Effects on sparse Sonoran Desert vegetation communities due to

reduction of illegal vehicle access and possibly some human foot traffic following construction of the vehicle barrier as planned will be beneficial and will allow restoration of the landscape to proceed in the short and long term.

Mitigation used to lessen the impacts of the Project include avoiding all columnar cacti and agave and when it's not possible, replacing the impacted plants as appropriate. The revegetation of temporary impacted areas with native species will also mitigate some of the impacts.

Locations and photographs of potentially transplantable saguaros have been recorded in the table and database attached to the Biological Survey Report (see **Appendix E**). Examples of saguaros observed during field surveys are provided in **Figure 3-5**. Implementation of an SWPPP, SPCC and CM&R plans, and Dust Control Plan will occur to reduce siltation, pollutant runoff, and dust covering of plants, respectively.

3.8.2 Wildlife and Aquatic Resources

3.8.2.1 Definition of the Resource

Although the Secretary's waiver means CBP no longer has any specific legal obligations for the tactical infrastructure segments addressed in this ESP, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines for evaluating environmental impacts and mitigations associated with wildlife and aquatic resources.

Wildlife and aquatic resources include native or naturalized animals and the habitats in which they exist. Identification of the species potentially occurring in the Project area was accomplished through literature reviews, coordination with appropriate Federal and state resource managers, other knowledgeable experts, and field surveys in September, November, and December, 2008. Available habitats included desert mountain ridges and slopes, rock outcrops, volcanic cobble-covered ridges and slopes, alluvial fans, desert washes, and desert plains that were barren or supported annual herbaceous vegetation, short shrublands, and tall shrublands.

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703–712), as amended, implements various treaties for the protection of migratory birds. Under the Act, taking, killing, or possessing migratory birds is unlawful without a valid permit. Under EO 13186, [Responsibilities of Federal Agencies to Protect Migratory Birds], the USFWS administers, oversees, and enforces the conservation provisions of the MBTA, including population management (e.g., monitoring), habitat protection (e.g., acquisition, enhancement, and modification), international coordination, and regulations development and enforcement. The MBTA defines a migratory bird as any avian species listed in 50 CFR 10.13, which includes most native birds occurring in North America.



Figure 3-5. Representative Saguaro Cactus Documented In and Adjacent to the Project Corridor

The MBTA and EO 13186 require Federal agencies to minimize or avoid impacts on migratory birds listed in 50 CFR 10.13. If design and implementation of a Federal action cannot avoid measurable negative impact on migratory birds, EO 13186 requires the responsible agency to consult with the USFWS and obtain a Migratory Bird Depredation permit.

The Secretary's waiver (2008) states that CBP no longer has any specific legal obligations under the MBTA, for the CV-2a sections addressed in this ESP, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the MBTA as the basis for evaluating potential environmental impacts and appropriate mitigation.

3.8.2.2 Environmental Setting

Wildlife. This section of the vehicle fence is within Yuma County, Arizona, within the Roosevelt Reservation. However access roads leading to the construction area require improvements or construction on refuge lands designated as Wilderness on the CPNWR. Surveys were conducted in the Project corridor in September, November, and December (general biotic and wetlands/waters of the United States) of 2008, detailed results are provided in the Biological Survey Report (see **Appendix E**). The vegetation/wildlife habitat of the Project corridor

is composed of predominately sparse Sonoran Desert communities characterized by creosotebush, white bursage, brittlebush, and pencil cholla flats; honey mesquite; paloverde; ironwood; smoketree; catclaw acacia; limberbush; and saguaro. The washes are characterized by volcanic cobble and alluvium supporting ocotillo, teddy bear cholla, saguaro, creosotebush, and brittlebush.

The CPNWR and associated Project areas are ideally suited for reptiles including species of lizards, tortoise, and snakes. The hot and dry climate of the region results in air temperatures that exceed 100 °F from June to October (USFWS 2002b, USFWS 2006). Rainfall typically occurs during July, August, and September and can vary in areas anywhere between 7.5 centimeters (cm) annually to 20 cm annually on the far eastern portion of the CPNWR (USFWS 2002b). During the Project-specific wildlife surveys, only side-blotched lizards (*Uta stansburiana*) were observed. Other reptile species that might occur in the Project area include Sonoran desert tortoises (*Gopherus agassizii*), Gila monster (*Heloderma suspectum*), long-nosed leopard lizard (*Gambelia wislizenii*), desert banded gecko (*Coleonyx variegatus*), desert iguana (*Dipsosaurus dorsalis*), and the desert spiny lizard (*Sceloporus magister*) (USFWS 2002b, USFWS 2006).

CPNWR also provides habitat for five toad and at least one frog species which occur in the Sonoran Desert (USFWS 2002b, USFWS 2006). Most amphibians occur in or near artificial water catchments or natural basins that fill with water during summer storms or are artificially filled to support other wildlife species including desert bighorn sheep. Other individuals respond to summer thunderstorms and are active throughout the CPNWR in appropriate wash, flat, and tinaja habitats. No amphibians were observed during the diurnal wildlife surveys conducted in September, November, and December 2008; however, species documented in the region include Couch's spadefoot toad (*Scaphiopus couchi*), Great Plains toad (*Bufo cognatus*), Sonoran green toad (*Bufo retiformis*), Colorado River toad (*Bufo alvarius*), red-spotted toad (*Bufo punctatus*), and canyon tree frog (*Hyla arenicolor*) (USFWS 2002b, USFWS 2006).

There are more than 40 species of mammals that reside within the Project corridor; among them are the federally endangered Sonoran pronghorn (*Antilocapra americana sornoriensis*) and lesser long-nosed bat (*Leptonycteris curasoae yuerbabuena*), and the desert bighorn sheep (*Ovis canadensis nelsoni*) a species of special concern (USFWS 2002b, USFWS 2006). During wildlife surveys conducted in September, November, and December 2008, Project biologists observed individuals or evidence of coyote (*Canis latrans*), black-tail jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), and round-tailed ground squirrel (*Spermophilus tereticaudus*). Other mammal species common to, or rarely occurring within the Project corridor, include the kit fox (*Vulpes macrotis*); desert kangaroo rat (*Dipodomys deserti arizonae*); Merriam's kangaroo rat (*Dipodomys merriami merriami*); cactus mouse (*Peromyscus eremicus eremicus*); California myotis (*Myotis californicus stephensi*); Arizona, Bailey, and desert pocket mice (*Perognathus amplus taylori*,

P. baileyi baileyi, and *P. penicillatus pricei*, respectively); round-tailed ground squirrel (*Spermophilus tereticaudus neglectus*); American badger (*Taxidea taxus berlandieri*); mountain lion (*Puma concolor*); gray fox (*Urocyon cinereoargenteus*); mule deer (*Odocoileus hemionus crooki*); and the western spotted skunk (*Spilogale gracilis leucoparia*).

Most of the avian species occurring in CPNWR are migratory, passing through in spring and fall (USFWS 2002b, USFWS 2006). More than 200 avian species have been reported in and around the CPNWR, however the number of species using the available habitats is highly variable due to extreme dry spells that reduce food sources and limit suitable habitat values (USGS 2006). During wildlife surveys conducted in September, November, and December 2008, of the Project area, the Gila woodpecker (*Melanerpes uropygialis*), verdin (*Auriparus flaviceps*), blue-grey gnatcatcher (*Polioptila caerulea*), and rock wren (*Salpinctes obsoletus*) were observed. Abundant and common avian species (USFWS 2006) include red-tailed (*Buteo jamaicensis*), Cooper's (*Accipiter cooperii*), and Harris hawk (*Parabuteo unicinctus*); elf owl (*Micrathene whitneyi*); turkey vulture (*Cathartes aura*); raven (*Corvus corax*); mourning (*Zenaida macroura*) and white-winged (*Zenaida asiatica*) doves; Gambel's quail (*Callipepla gambelii*); greater roadrunner (*Geococcyx californianus*); lesser nighthawk (*Chordeiles acutipennis*); cactus wren (*Campylorhynchus brunneicapillus*); phainopepla (*Phainopepla nitens*); Costa's hummingbird (*Calypte costae*); black-tailed gnatcatcher (*Polioptila melanura*); loggerhead shrike (*Lanius ludovicianus*); verdin (*Auriparus flaviceps*); LeConte's thrasher (*Toxostoma lecontei*); western wood peewee (*Contopus sordidulus*); Nashville (*Vermivora ruficapilla*), MacGillivray's (*Oporornis tolmiei*), yellow (*Dendroica petechia*), and Wilson's (*Wilsonia pusilla*) warblers; ruby-crowned kinglet (*Regulus calendula*); black-throated (*Amphispiza bilineata*), Brewer's (*Spizella breweri*), vesper (*Pooecetes gramineus*), white-crowned (*Zonotrichia leucophrys*), and sage (*Amphispiza belli*) sparrows; black-headed grosbeak (*Pheucticus melanocephalus*); gilded flicker (*Colaptes chrysoides*); and Gila woodpecker (*Melanerpes uropygialis*).

Aquatic Resources. There are no aquatic resources in the Project area.

3.8.2.3 Effects of the Project

The Project will potentially have permanent impacts on wildlife on approximately 32.83 acres of vegetation. The vehicle barrier fence will be constructed in a 1.6-mile section along the U.S./Mexico international border and is designed for construction within the Roosevelt Reservation. In addition there will be construction and improvements to 2.9 miles of access roads. It is anticipated that the post-on-rail vehicle fence will be constructed for the majority of the segment, with Normandy-style barrier used for desert wash crossings and steeper grades. As part of the design criteria, the fence was designed to reduce or minimize impacts on small animal movements and not to impede the natural flow of surface water. However, it is anticipated the wildlife resources could be impacted.

Wildlife. Permanent adverse impacts on wildlife from habitat loss will occur from the installation of the vehicle fence, construction of new access roads, and improvement of existing access roads. Temporary indirect adverse impacts on wildlife could result from increased human activity, noise, security lighting, and physical disturbances associated with construction and maintenance.

Small animal burrows that also support reptiles, amphibians, and ground-dwelling insects are common within the Project area and these species and habitat will be eliminated in the long term in the immediate vicinity of new construction access roads due to grading, compaction, and surfacing. Impacts on migratory birds include direct loss of habitat (e.g., escape cover, foraging, roosting, and nesting) and are also dependent upon timing of fence construction. For example, any nesting birds found within the Project footprint will be avoided or relocated by a qualified biologist. There could also be a benefit to migratory birds by the reduction of vehicular traffic through the habitats. More mobile wildlife species will generally avoid the Project area during construction however predators and scavengers could be attracted to the area to consume displaced or dead wildlife.

Lighting along the border fence will behaviorally impact nocturnal wildlife both by attracting them or displacing them around the illuminated zones. The Project proposes minimizing impacts by only using security lighting around the staging areas. If construction or maintenance activities require working into the night in areas occupied by listed animal species, all lights will be shielded to direct light only onto the work site and the area necessary to ensure the safety of the workers. The minimum foot-candles necessary will be used and the number of lights will be minimized.

Aquatic Resources. There are no aquatic resources in the Project area.

3.8.3 Special Status Species

3.8.3.1 Definition of the Resource

Although the Secretary's waiver means CBP no longer has any specific legal obligations under the Endangered Species Act (ESA) for the tactical infrastructure segments addressed in this ESP, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the ESA as the basis for evaluating potential environmental impacts and appropriate mitigation associated with special status species.

Two groups of special status species are addressed in this ESP: Federal threatened and endangered species and state threatened and endangered species. Each group has its own definitions, and legislative and regulatory drivers for consideration; these are briefly described below.

The ESA, as amended (16 U.S.C. 1531–1544 et seq.) provides broad protection for species of fish, wildlife, and plants that are listed as threatened or endangered in the United States or elsewhere. Provisions are made for listing species, as well as for recovery plans and the designation of critical habitat for listed species. Under the ESA, a Federal endangered species is defined as any species that is in danger of extinction throughout all or a significant portion of its range. The ESA defines a Federal threatened species as any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

The Arizona Game and Fish Department (AGFD) Natural Heritage Program maintains a list of Wildlife of Special Concern (WSC) in Arizona. This list includes fauna whose occurrence in Arizona is or might be in jeopardy, or with known or perceived threats or population declines (AGFD 2008). These species are not necessarily the same as those protected by the Federal government under the ESA.

The Arizona Department of Agriculture (ADA) maintains a list of protected plant species within Arizona. The 1999 Arizona Native Plant Law defined five categories of protection within the state. These include Highly Safeguarded (HS), no collection allowed; Salvage Restricted (SR), collection only with permit; Export Restricted, transport out of state prohibited; Salvage Assessed, permit required to remove live trees; and Harvest Restricted, permit required to remove plant by-products (ADA 2007).

3.8.3.2 Environmental Setting

All federally and state-listed species in Yuma County, Arizona, are presented in **Table 3-6**.

Within the Section CV-2a Project corridor the broad habitat types available to resident and migrating wildlife species include sparse herbaceous vegetation, shrubland, and wooded shrubland. Most of the available wildlife habitat consists of arid desert shrubland communities that have become established on ridges, slopes, alluvial fans, and plains, and along arroyos, gullies, and desert washes (e²M 2008).

Federal Species

Two federally listed species, lesser long-nosed bat (*Leptonycteris curasoae*) and Sonora pronghorn (*Antilocapra americana sonoriensis*), and one species protected due to similarity of appearance, Sonoran Desert tortoise (*Gopherus agassizii*), have the potential to occur in or near Section CV-2a in Yuma County, Arizona (see **Table 3-6**) (USFWS 2008).

Table 3-6. State- and Federally Listed Species with the Potential to Occur in or near the Project Corridor

Common Name	Scientific Name	Potential to Occur	Federal Status	State Status
FISH				
Razorback sucker	<i>Xyrauchen texanus</i>	N	E	WSC
REPTILES				
Desert rosy boa	<i>Charina trivirgata gracia</i>	Y	SC	—
Sonoran Desert tortoise	<i>Gopherus agassizii</i> (Sonoran Population)	Y	SOA	WSC
Banded gila monster	<i>Heloderma suspectum cinctum</i>	N	SC	—
Flat-tailed horned lizard	<i>Phrynosoma mcallii</i>	N	CA	WSC
Arizona chuckwalla	<i>Sauromalus ater</i> (Arizona Population)	N	SC	—
Yuman Desert fringe-toed lizard	<i>Uma rufopunctata</i>	N	SC	WSC
BIRDS				
Great egret	<i>Ardea alba</i>	N	—	WSC
Western burrowing owl	<i>Athene cunicularia hypugaea</i>	N	SC	—
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	N	C	WSC
Snowy egret	<i>Egretta thula</i>	N	—	WSC
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	N	E	WSC
Cactus ferruginous pygmy-owl	<i>Glaucidium brasilianum cactorum</i>	Y	SC	WSC
Bald eagle (wintering population)	<i>Haliaeetus leucocephalus</i>	N	T, PDL	WSC
Least bittern	<i>Ixobrychus exilis</i>	N	—	WSC
Loggerhead shrike	<i>Lanius ludovicianus</i>	N	SC	—
California black rail	<i>Laterallus jamaicensis coturniculus</i>	N	SC	WSC

Common Name	Scientific Name	Potential to Occur	Federal Status	State Status
BIRDS (continued)				
Yuma clapper rail	<i>Rallus longirostris yumanensis</i>	N	E	WSC
MAMMALS				
Sonoran pronghorn	<i>Antilocapra americana sonoriensis</i>	Y	E	WSC
Pale Townsend's big-eared bat	<i>Corynorhinus townsendii pallescens</i>	N	SC	—
Spotted bat	<i>Euderma maculatum</i>	N	SC	WSC
Greater western bonneted bat	<i>Eumops perotis californicus</i>	N	SC	—
Western yellow bat	<i>Lasiurus xanthinus</i>	N	—	WSC
Lesser long-nosed bat	<i>Leptonycteris curasoae</i>	Y	E	WSC
California leaf-nosed bat	<i>Macrotus californicus</i>	N	SC	WSC
Yuma myotis	<i>Myotis yumanensis</i>	N	SC	—
Pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>	N	—	—
Yuma hispid cotton rat	<i>Sigmodon hispidus eremicus</i>	N	SC	—
PLANTS				
Parish onion	<i>Allium parishii</i>	N	S	SR
Kofa barberry	<i>Berberis harrisoniana</i>	N	S	—
Gander's cryptantha	<i>Cryptantha gander</i>	N	S	—
Clustered barrel cactus	<i>Echinocactus polycephalus</i> var. <i>polycephalus</i>	N	—	SR
Dune spurge	<i>Euphorbia platysperma</i>	N	SC	—
California barrel cactus	<i>Ferocactus cylindraceus</i> var. <i>cylindraceus</i>	N	PR	SR
Dune sunflower	<i>Helianthus niveus</i> ssp. <i>tephrodes</i>	N	SC	—
Senita	<i>Lophocereus schottii</i>	N	—	SR

Common Name	Scientific Name	Potential to Occur	Federal Status	State Status
Straw-top cholla	<i>Opuntia echinocarpa</i>	Y	—	SR
Sand food	<i>Pholisma sonorae</i>	N	SC	HS
Kearney sumac	<i>Rhus kearneyi</i>	N	S	SR
Schott wire lettuce	<i>Stephanomeria schottii</i>	N	S	—
Blue sand lily	<i>Triteleopsis palmeri</i>	N	S	SR
California fan palm	<i>Washingtonia filifera</i>	N	—	SR

Source: Arizona Game and Fish Department (AGFD) 2008; USFWS 2008

Notes: E = Listed Endangered; T = Listed Threatened; C = Candidate; CA = Conservation Agreement; SOA = Protected due to Similarity of Appearance to a LE or LT species; PDL = Proposed for Delisting; PR = Protected; S= Sensitive; SC = Species of Concern; WSC = Wildlife of Special Concern in Arizona; HS = Highly Safeguarded Protected Native Plants (no collection allowed); SR = Salvage Restricted Protected Native Plants

The following federally listed, candidate, and conservation agreement species are not anticipated to be impacted by the construction, maintenance, and operation of the tactical infrastructure in Section CV-2a:

- Razorback sucker (*Xyrauchen texanus*)
- Flat-tailed horned lizard (*Phrynosoma mcallii*)
- Western yellow-billed cuckoo (*Coccyzus americanus*)
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
- Bald eagle (*Haliaeetus leucocephalus*)
- Yuma clapper rail (*Rallus longirostris yumanensis*).

While the historic ranges of the species include this region of Arizona, available data indicate no known records of these species within or proximal to the impact corridor. Additionally, neither these species nor their habitat were observed during the September through December 2008 surveys (e²M 2008). Therefore, these species will not be discussed in this section.

No Federal threatened or endangered species were observed during the September through December 2008 surveys (see the Biological Survey Report in **Appendix E**). The following sections provide brief descriptions of habitat preferences of the federally listed species considered further in this ESP. Additional details on the known distribution and threats to these species are provided in the Biological Resources Plan in **Appendix F**.

Sonoran pronghorn. The Sonoran pronghorn inhabits broad intermountain alluvial valleys with creosote-bursage and paloverde-mixed cacti associations (USFWS 2008). Sonoran pronghorns most frequently use the valleys and hills of Pinta Sands, Mohawk Valley, San Cristobal Valley, and Growler Valley east of the Project area. Sonoran pronghorns are known to occur within CPNWR, with

the CPNWR being central to its distributional range (USFWS 2006). Although Section CV-2a will occupy part of the historical range for Sonoran pronghorn, the Project is outside the current range of the species. Additionally, because of the lack of water resources in the Project area, it is considered marginal, seasonal habitat for Sonoran pronghorn (e²M 2008). Threats to Sonoran pronghorn include barriers to movement caused by roads, canals, train tracks, and fences (USFWS 2002a). However, research indicates that Sonoran pronghorn can cross under fences with a clearance of 22 inches, with a low aversion rate. The clearance under a post-on-rail fence is 36 inches and the clearance under a Normandy style fence is 32.5 inches (e²M 2008).

Lesser long-nosed bat. The lesser long-nosed bat inhabits desert scrub habitat with agave and columnar cacti present as food plants (USFWS 2008). After breeding in the desert, lesser long-nosed bats move east into the mountains and valleys of southeastern Arizona, which are a combination of forested lands, grasslands, and desert scrub. Lesser long-nosed bats use roost sites within CPNWR, including one of three maternity roosts in the United States (USFWS 2006). Forage habitat for the species is also present within the Project corridor (e²M 2008).

State Species

Straw-top cholla (*Opuntia echinocarpa*) was observed within the Section CV-2a Project corridor during the September through December 2008 surveys. Suitable habitat for the following state-listed plant species is uncommon to absent in the Project corridor: Parish onion, clustered barrel cactus, California barrel cactus, dune sunflower, sand food, Kearney sumac, blue sand lily, and California fan palm. Although suitable habitat for senita might exist in the area, according to NatureServe (2008) data, there were no known occurrences of this species in or adjacent to the Project corridor. There were no highly safeguarded protected native plants observed within Section CV-2a. Saguaro cacti occur within the Project corridor.

Three state-listed animal species, in addition to lesser long-nosed bat and Sonora pronghorn, are likely to occur in or near the Project corridor (see **Table 3-6**). The state-listed species with potential habitat within the Project corridor include the desert rosy boa (*Charina trivirgata gracia*), Sonoran desert tortoise (*Gopherus agassizii*), and the cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*).

The following paragraphs provide brief descriptions of the regional distribution and habitat of state-listed species for which individuals or suitable habitat were observed during the June 2008 surveys (see **Appendix E**) (e²M 2008).

Senita. Senita inhabits desert soils that are heavy or sandy and form valleys and plains. Potentially suitable habitat for senita exists within the Project area, but this species was not observed during inventories of the corridor (e²M 2008).

Senita is primarily a Mexican species occurring in southernmost Arizona only in OPCNM at nine sites very close to the international boundary (FNA 2004).

Straw-top cholla. Straw-top cholla inhabits desert mountain and desert floor habitats. Potential habitat within the corridor for this species includes the bajadas and alluvial valley soils. This species was observed during the field surveys (e²M 2008).

Cactus ferruginous pygmy-owl. The cactus ferruginous pygmy-owl inhabits Sonoran desert scrub habitat in the northwestern portion of CPNWR. The cactus ferruginous pygmy-owl was delisted as federally endangered in 2006 but remains a species of conservation concern. Two occurrences within CPNWR have been documented; one in the Cabeza Prieta Mountains and one further east in the Agua Dulce Mountains (e²M 2008). Neither of these is recorded within the Project area.

Sonoran Desert tortoise. Potential habitat for the Sonoran Desert tortoise within the corridor includes paloverde-mixed cacti associations where boulders, outcrops, and natural cavities with deep enough soil to support excavations as shelters (e²M 2008).

3.8.3.3 Effects of the Project

Federal Species

There are no known occurrences of federally listed threatened or endangered species in the immediate area; however, the area contains nesting and foraging habitat, which can be used by species living outside the area. Approximately 34 acres of vegetation that serve as potential habitat for threatened and endangered species will be permanently impacted along the Project corridor. Additional loss of habitat resulting from clearing of laydown areas for construction materials and maintenance and storage areas for heavy equipment will be minimal (approximately 2 acres) as previously disturbed areas will be selected for these functions to the extent practicable. Potential impacts on listed species include habitat loss, noise, and physical disturbance associated with construction and subsequent maintenance activities, and beneficial impacts due to reduced cross-border violator traffic.

Lesser long-nosed bat. Short-term and long-term, negligible effects on the lesser long-nosed bat will occur in Section CV-2a. However, there are no known occurrences of this species within or immediately adjacent to the Project corridor (NatureServe 2008). Effects will occur through the direct loss of forage habitat. Based on the known forage distances of up to 40 miles for lesser long-nosed bats, it is likely that this species forages throughout portions of the CPNWR, where flowers and fruit of saguaro, organ pipe, prickly pear, and agave are available (USFWS 2006, USFWS 2007a).

Lesser long-nosed bat forage habitat will be permanently impacted by construction of tactical infrastructure in Section CV-2a. The impact corridor supports small numbers of saguaro cactus, which serve as a forage plant for lesser long-nosed bat. Approximately 16 saguaros occur within or near the Project corridor. This potential loss of lesser long-nosed bat habitat is small compared to the suitable forage habitat available to the lesser long-nosed bat throughout the action area. Additionally, CBP will perform appropriate mitigation to lessen the impacts of the Project by avoiding sensitive or protected plant species when possible. Therefore, the planned action is not likely to adversely affect the lesser long-nosed bat.

A beneficial effect anticipated from the Project is the reduction of foot traffic on habitat for this species. This area currently receives heavy vehicular and foot traffic and these activities result in adverse effects due to reduction of habitat quantity and quality, and to the lesser long-nosed bat (USFWS 2007b). The potential cessation of these illegal activities in this area could result in short- and long-term, minor to major, beneficial effects on this species.

Sonoran pronghorn. Short-term and long-term, negligible, direct adverse effects on the Sonoran pronghorn potential habitat will occur throughout the impact areas in Section CV-2a. There are no known occurrences of this species within or immediately adjacent to the Project corridor; however the entire corridor lies within a designated “fauna special species area” for Sonoran pronghorn (NatureServe 2008). Although Section CV-2a will occupy part of the historical range for Sonoran pronghorn, the Project is outside the current range of the species. Additionally, because of the lack of water sources, the Project area is considered only marginal seasonal habitat (e²M 2008). Therefore, no direct effect on Sonoran pronghorn or currently occupied habitat will occur.

Improvements to existing access roads could increase vehicle and recreational use in Sonoran pronghorn habitat. However, these increases are likely to be negligible. Existing access roads are currently open to permitted four-wheel-drive traffic and this will not change as a result of the Project. Increased human disturbance of Sonoran pronghorn in adjacent habitat, associated with construction could occur. Increased human disturbance could result in physiological effects, such as elevated heart rate or the additional energy expended in moving away from perceived danger. Studies of captive pronghorn, other than the Sonoran subspecies, have shown that they are sensitive to disturbance such as human presence and vehicular noise. Human and vehicular traffic caused an increased heart-rate response in American pronghorn in half-acre holding pens. During times of drought, disturbances that cause pronghorns to startle and run energetically will have a more significant effect. Such expenditures of energy, particularly during times of stress, could lead to lower reproductive output or reduced survival for individual animals (USFWS 2006). However, impacts are expected to be negligible since construction will be focused outside the current range of the species.

A beneficial effect anticipated from the Project is the reduction of illegal traffic and other illegal human activities on habitat for this species. There are hundreds of miles of single vehicle tracks laid down across the otherwise undisturbed desert by cross-border violators. These activities undoubtedly result in adverse effects due to the reduction of habitat quantity and quality available to Sonoran pronghorns (USFWS 2006) and through direct disturbance of individuals. The potential cessation of these illegal activities in this area could result in short- and long-term, minor to major, beneficial effects on this species through improvement of the habitat north of the Project such that pronghorn might once again inhabit in the future.

State Species

Habitat loss or conversion for state-listed species in Section CV-2a will affect a small area and will be of little consequence to statewide viability of these species. BMPs to avoid and minimize impacts, such as pre-construction clearance surveys, are anticipated to reduce potential impacts. Noise created during construction will be anticipated to result in short-term, minor, adverse impacts on these state-listed species.

Long-term, minor to moderate, adverse impacts on state-listed species could result from construction and maintenance of tactical infrastructure. Potential impacts include habitat fragmentation and vehicular traffic. A beneficial effect anticipated from the Project is the reduction of illegal vehicular traffic on habitat for state-listed species.

Straw-top cholla. The Project has the potential to cause short-term, direct, negligible adverse effects on straw-top cholla throughout the impact areas in Section CV-2a. According to NatureServe (2008) data, there were no known occurrences of this species in or adjacent to the Project corridor; however, potential habitat for these species is present in Section CV-2a, and surveys identified plants of these species within the fence corridor.

Desert tortoise. The Project has the potential to cause short-term, direct, minor adverse effects on the desert tortoise in Section CV-2a due to unknown occurrences. According to NatureServe (2008) data, there are no occurrences of this species within the Project area. Although none were observed during the surveys, potential habitat for the species is present and desert tortoises could occur in the Project corridor.

Cactus ferruginous pygmy-owl. The Project has the potential to cause short-term, direct, minor adverse effects on the cactus ferruginous pygmy-owl throughout the impact areas in Section CV-2a. According to NatureServe (2008) data, there are no occurrences of the cactus ferruginous pygmy-owl within the Project area. Potential habitat for this species occurs in areas of Sonoran desert scrub. Objectives in cactus ferruginous pygmy-owl management include

maintaining and increasing the current population in suitable habitat and protecting known breeding locations from disturbance.

Overall, short-term, minor adverse impacts from construction will be expected, while long-term minor adverse impacts from maintenance and operation will be expected. The fencing is expected to provide protection for state species in the areas north of the tactical infrastructure from foot traffic impacts by cross-border violators. Construction and operation of tactical infrastructure will increase border security in the USBP Yuma Sector and can result in a change to illegal traffic patterns. However, changes to cross-border violator traffic patterns result from a myriad of factors and therefore are considered unpredictable and beyond the scope of this ESP.

3.9 CULTURAL RESOURCES

3.9.1 Definition of the Resource

Although the Secretary's waiver means CBP no longer has any specific legal obligations under the National Historic Preservation Act (NHPA) for the tactical infrastructure segments addressed in this ESP, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the NHPA as the basis for evaluating potential environmental impacts and appropriate mitigations for cultural resources.

The NHPA of 1966 (as amended) defines cultural resources as prehistoric and historic sites, structures, districts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Depending on the condition and historic use, such resources can provide insight into living conditions in previous civilizations and can retain cultural and religious significance to modern groups.

Cultural resources are subdivided into archaeological resources (prehistoric or historic sites where human activity has left physical evidence of activities but no standing structures remain) or architectural resources (buildings or other structures or groups of structures that retain historic or aesthetic significance). Archaeological resources comprise areas where human activity has measurably altered the earth or deposits of physical remains, such as arrowheads or bottles, are found. Under NHPA and the Archeological and Historic Preservation Act, any area of human activities at least 50 years old qualifies as an archaeological site.

Architectural resources include standing buildings, bridges, dams, and other structures of historic or aesthetic significance. Generally, architectural resources must be at least 50 years old to qualify for nomination to the NRHP. More recent structures, such as Cold War-era resources, might warrant protection if they have

the potential to gain significance in the future or if they meet exceptional significance criteria.

Traditional cultural properties or sacred sites are a special category of cultural resources. These site types encompass archaeological resources, structures, neighborhoods, prominent topographic features, habitat, plants, animals, and minerals that Native Americans or other groups consider essential for the preservation of traditional culture.

The evaluation and consultation processes promulgated in Section 106 of the NHPA require assessment of an undertaking's potential impact on historic properties within the Project's Area of Potential Effect (APE). The APE is defined as the geographic area(s) "within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist." In accordance with EO 12372, Intergovernmental Review of Federal Programs, determinations of an undertaking's potential effect on historic properties are presented to SHPO.

3.9.2 Environmental Setting

A search of existing archaeological and historical site records within one mile of the project APE was conducted through Arizona State Museum (ASM) AZSites online database, DOI, BLM, and USFWS. No previously recorded sites were found within the file search corridor. Pedestrian inventory of the APE occurred on September 29, 2008, and November 24 to 25, 2008. No cultural resources were recorded within the project's APE.

3.9.3 Effects of the Project

Analysis of potential impacts on cultural resources considers various agents. Adverse impacts can include physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or alter its setting; or neglecting the resource to the extent that it deteriorates or is destroyed. The sale, transfer, or lease of a historic property out of agency ownership (or control) without adequate legally enforceable restrictions or conditions to ensure preservation of the property's historic significance is also considered an adverse impact.

The current Project includes excavation, geophysical boring, grading, road improvement, fence construction, equipment storage, and increased vehicle traffic and human presence during the construction phase. Since no cultural properties occur within the planned impact corridors, these actions will have no effect on historic or prehistoric sites. However, archaeological monitoring is recommended during any ground-disturbing activities in the unlikely event of an inadvertent archaeological discovery.

3.10 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

Although the Secretary's waiver means CBP no longer has any specific legal obligations under the laws included in the waiver, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines for evaluating environmental impacts associated with socioeconomic resources. Please refer to the *Environmental Stewardship Plan for the Construction, Operation, and Maintenance of Tactical Infrastructure U.S. Border Patrol Yuma Sector, Wellton Station, Arizona* (Section CV-2) for further information (resource definition, environmental setting, and environmental impacts) regarding socioeconomics and environmental justice for Section CV-2a.

3.11 HAZARDOUS MATERIALS AND WASTE

Although the Secretary's waiver means that CBP no longer has any specific obligation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), the Toxic Substances Control Act (TSCA), and the Superfund Amendments and Reauthorization Act (SARA) Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with CERCLA, RCRA, TSCA, and SARA as the basis for evaluating potential environmental impacts and developing appropriate mitigations for hazardous materials and wastes. Please refer to the *Environmental Stewardship Plan for the Construction, Operation, and Maintenance of Tactical Infrastructure U.S. Border Patrol Yuma Sector, Wellton Station, Arizona* (Section CV-2) for further information (resource definition, environmental setting, and environmental impacts) regarding hazardous materials and waste for Section CV-2a.

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4. BEST MANAGEMENT PRACTICES AND MITIGATION MEASURES

CBP will continue to work in a collaborative manner with Tribes, local government, state and Federal land managers, and the interested public to identify environmentally sensitive resources and develop appropriate BMPs to avoid and/or minimize any adverse impacts on environmentally sensitive resources.

Design criteria to reduce adverse environmental impacts include selecting a route that will minimize impacts, consulting with Federal and state agencies and other stakeholders to avoid or minimize adverse environmental impacts, and developing appropriate BMPs to protect natural and cultural resources (see **Table 4-1**). Potential effects, including physical disturbance and construction of solid barriers on wetlands, riparian areas, streambeds, and floodplains, will be avoided or mitigated whenever possible. BMPs will include implementation of an SWPPP, CM&R Plan, SPCC Plan, Dust Control Plan, Fire Prevention and Suppression Plan, and Unanticipated Discovery Plan to protect natural and cultural resources. For a complete list of BMP's, see the *Biological Resources Plan for Construction, Operation, and Maintenance of Tactical Infrastructure CV-2a* located in **Appendix F**.

Table 4-1. BMPs and Mitigation Measures

Resource Area	BMPs/Mitigation
Air Quality	BMPs to reduce dust and control PM ₁₀ emissions. Construction equipment will be kept in good operating condition to minimize exhaust. Construction speed limits will not exceed 35 miles per hour. Fire Prevention and Suppression Plan.
Noise	Equipment will be operated on an as-needed basis. A majority of the activities will occur away from population centers.
Land Use and Recreation	BMPs and mitigation not expected to be necessary.
Aesthetics	Design techniques and construction practices will be used to reduce the visual impacts of the Project. Such practices as using irregular clearing shapes, bending slopes to match existing landforms and retaining existing rock formations, vegetation, and drainage whenever possible will be used to the maximum extent practicable.
Geology and Soils	Dust Control Plan and SWPPP.
Hydrology and Groundwater	Revegetation of temporary staging areas, SWPPP, any applicable conservation methods as outlined by ADWR.
Surface Waters and Waters of the United States	SWPPP, sediment- and erosion-control plans, wetlands mitigation, and restoration plan.
Floodplains	Special fence design for stream crossings, planning guidance developed by the USACE.
Vegetation	Biological monitor on site to ensure all BMPs and mitigation plans are followed.
Wildlife and Aquatic Species	Construction start-date to consider migratory birds. Survey of nesting migratory birds.
Special Status Species	Biological monitor on site to ensure all BMPs and mitigation plans are followed.
Cultural Resources	Cultural Monitor on site to ensure all BMPs are followed. A 2-meter buffer will be used to protect border monuments during construction.
Socioeconomic and Environmental Justice	BMPs and mitigation not expected to be necessary.
Hazardous Materials and Waste	SPCC and CM&R plans.

5. RELATED PROJECTS AND POTENTIAL EFFECTS

The following analysis summarizes expected environmental effects from the Project when added to other past, current, and reasonably foreseeable future actions. The geographic scope of the analysis varies by resource area. For example, the geographic scope of cumulative impacts on resources such as noise, visual resources, soils, and vegetation is very narrow and focused on the location of the resource. The geographic scope of air quality, wildlife and sensitive species, and socioeconomic resources is much broader and considers more county- or region-wide activities. Projects that were considered for this analysis were identified by reviewing USBP documents, news releases, and published media reports, and through consultation with planning and engineering departments of local governments, and state and Federal agencies. Projects that do not occur in close proximity (i.e., within several miles) of the fence will not contribute to a cumulative impact and are generally not evaluated further.

5.1 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

Cumulative Fencing, Southern Border. As of January 2009, there are 62 miles of landing mat fence at various locations along the U.S./Mexico international border (CRS 2006); 14 miles of single, double, and triple fence in San Diego, California; 70 miles of new primary pedestrian fence approved and currently under construction at various locations along the U.S./Mexico international border; and fences at POE facilities throughout the southern border. In addition, 225 miles of pedestrian fence and 300 miles of vehicular fence (including the 1.58 miles addressed in this ESP), will be constructed in Texas, New Mexico, Arizona, and California.

Past Actions. Past actions are those within the cumulative effects analysis areas that have occurred prior to the development of this ESP. The effects of these past actions are generally described under each resource area. For example, extensive military training in both the BMGR and CPNWR has contributed to the existing environmental conditions of the area.

Present Actions. Present actions include current or funded construction projects, USBP or other agency operations in close proximity to the fence locations, and current resource management programs and land use activities within the cumulative effects analysis areas. Ongoing actions considered in the cumulative effects analysis include the following:

- **New Fence.** In August 2007, USBP approved the installation of 37 miles of pedestrian and vehicle fence in Yuma Sector on lands mostly under the control of BMGR. Referred to as Project 37, the first two of three phases focus on deployment of tactical infrastructure and the third will focus on technology systems (GAO 2007). This activity ends just to the west of the

Project. To the east of the Project, vehicle fence Project CV-3 calls for the installation of 22.5 miles of post-on-rail and Normandy-style fence on CPNWR.

Reasonably Foreseeable Future Actions. Reasonably foreseeable future actions consist of activities that have been approved and can be evaluated with respect to their effects. The following activities are reasonably foreseeable future actions:

- SBI/SBInet. The Secure Border Initiative (SBI) is a comprehensive multi-year plan established by the DHS to secure America's borders and reduce illegal immigration. SBInet is responsible for the development, installation, and integration of technology solutions, and SBI tactical infrastructure develops and installs physical components designed to secure the border consisting of the following major components: pedestrian fence, vehicle fence, roads, lights, and vegetation control. SBInet will improve deterrence, detection, and apprehension of illegal aliens into the United States. When fully implemented, SBInet and SBI tactical infrastructure will improve ability of CBP personnel to rapidly and effectively respond to illegal cross-border activity and help DHS and CBP to manage, control, and secure the Nation's borders.
- Construction of Vehicle Fence. The FY 2007 DHS Appropriations Act provided \$1.2 billion for the installation of fencing, infrastructure, and technology along the border (CRS 2006). CBP will construct 300 miles of vehicle fence in the El Paso, Texas and New Mexico; Tucson and Yuma, Arizona; and El Centro, California, Sectors.
- USFWS Comprehensive Conservation Plan for CPNWR. USFWS has prepared a Comprehensive Management Plan and Environmental Impact Statement which will provide future management guidance for use and protection of the resources on approximately 803,400 acres of wilderness managed by USFWS's Ajo Field Office in the western portion of Pima County, Arizona (GAO 2007).

Table 5-1 presents the cumulative effects that might occur from implementation of the Project.

5.2 AIR QUALITY

Minor short-term adverse cumulative effects on air quality are expected from the construction of tactical infrastructure in combination with other reasonably foreseeable future actions. Emissions from construction, operation, and maintenance activities will not be expected to affect local or regional air quality.

Table 5-1. Summary of Related Projects/Foreseeable Actions, and Their Potential Cumulative Effects

Resource	Past Actions	Current Background Activities	Project	Known Future Actions	Cumulative Effects
Air Quality	County nonattainment for PM ₁₀ and PM _{2.5} .	Existing emissions sources continue to adversely affect regional air quality.	Construction activities will temporarily contribute to PM emissions.	Existing emissions sources continue to adversely affect regional air quality. No new major sources identified in Yuma County.	Construction activities will temporarily contribute to PM emissions.
Noise	Military activity dominates ambient noise in ROI.	Military activity dominates ambient noise in ROI.	Short-term noise impacts from construction.	Continued military activity and USBP operations and maintenance activity.	Current military activities will be the dominant noise source. Negligible cumulative impacts from Project.
Land Use and Recreation	Military use of all Federal land withheld.	USBP and military use of land designated as Wilderness.	Most of Project will occur on Roosevelt Reservation. Access roads will be constructed in lands designated as Wilderness.	Continued activity in Wilderness lands by USBP.	Major adverse impacts on lands designated as Wilderness, Impacts offset by recognized USBP activity to protect CPNWR resources.

Resource	Past Actions	Current Background Activities	Project	Known Future Actions	Cumulative Effects
Aesthetics	Scarring of landscape by cross-border violator activity.	USBP and military use of area. Also, off-road activity by cross-border violators and the necessary response by USBP to that activity.	Minor long-term permanent impact on resource. Impact is lessened by limited access to area.	None.	Negative visual impacts of tactical infrastructure will be offset by the cumulative reduction in the aesthetic impacts of cross border activity.
Geology and Soils	Off-road activity by cross-border violators has modified soils.	Continued cross-border violators activities adversely affect soils.	Minor grading and recontouring will disturb soils.	None.	Minor long-term impact from construction of additional infrastructure.
Water Use and Quality (Hydrology and Groundwater)	None.	Groundwater currently not used.	Short-term minor adverse effects from groundwater use for dust suppression during construction.	None.	Minor short-term impact from groundwater use during construction.

Resource	Past Actions	Current Background Activities	Project	Known Future Actions	Cumulative Effects
<p>Water Use and Quality (Surface Waters and Waters of the United States)</p>	<p>Off-road activity by cross-border violators has modified waters of the United States.</p>	<p>Continued activities by cross-border violators adversely affect waters of the United States.</p>	<p>Soil disturbance, erosion during construction, impacts on waters of the United States.</p>	<p>None.</p>	<p>Minor long-term effects of erosion and sediment runoff will be minimized by appropriate conveyance structures over and through Waters of the United States and overall effects will be further reduced by minimizing cross-border activity.</p>
<p>Biological Resources (Vegetation Resources)</p>	<p>Degraded habitat of sensitive and common vegetative species by illegal cross-border activity.</p>	<p>USBP and military use of area. Also, off-road activity by cross-border violators and the necessary response by USBP to that activity.</p>	<p>Minor to moderate loss of native species and habitat.</p>	<p>None.</p>	<p>Moderate adverse impacts on native habitats and vegetation offset by reductions in cross-border activity.</p>

Resource	Past Actions	Current Background Activities	Project	Known Future Actions	Cumulative Effects
Biological Resources (Wildlife and Aquatic Resources)	Loss of native habitat due to illegal cross-border and military activity.	USBP and military use of area. Also, off-road activity by cross-border violators and the necessary response by USBP to that activity.	Minor loss of habitat for wildlife.	Continued disturbance to wildlife through military activity.	Minor to moderate loss of habitat. No impacts on aquatic resources.
Biological Resources (Special Status Species)	Degraded habitat impacted sensitive species.	USBP and military use of area. Also, off-road activity by cross-border violators and the necessary response by USBP to that activity.	Minor loss of habitat and short-term disturbance to sensitive species.	Continued disturbance to sensitive species.	Minor to moderate loss of habitat offset by reduction in species disturbance through improved border control.
Cultural Resources	Historic use of parts of Project corridor adversely affected cultural resources.	None.	None.	None.	None.

Resource	Past Actions	Current Background Activities	Project	Known Future Actions	Cumulative Effects
Socioeconomics and Environmental Justice	None.	None.	Minor, temporary contribution to local construction industry.	None.	Minor stimulation of local economies from construction activities. No adverse effects on environmental justice issues, children, or human health and safety.
Hazardous Materials and Wastes	Use of hazardous substances in vehicles. Possible illegal dumping.	Use of hazardous substances in vehicles. Possible illegal dumping.	Minor use of hazardous materials during construction.	None.	None.

5.3 NOISE

Negligible cumulative effects on ambient noise will be expected as a result of construction, operation, and maintenance activities associated with the Project. Continued low flight military activities in the vicinity of the Project are expected to contribute noticeably to the overall noise environment.

5.4 LAND USE AND RECREATION

Construction of tactical infrastructure will result in moderate changes to land use. Continued USBP activities and construction of other USBP tactical infrastructure will impact upon the wilderness designation of CPNWR. Moderate cumulative impacts on land use are expected from the additive effects of the past, present, and reasonably foreseeable future actions.

5.5 AESTHETICS

Minor to moderate impacts on aesthetics are expected from the additive effects of past, present, and reasonably foreseeable future actions. The presence of construction equipment under the Project will produce a short-term adverse impact on visual resources. Once installed, the tactical infrastructure will create a permanent and fixed visual interruption at fixed points. Adverse cumulative effects could include temporary construction impacts and recreational activities such as viewing of uninterrupted vistas within a wilderness setting.

5.6 GEOLOGY AND SOILS

Additive effects include a minor increase in erosion. Construction of the tactical infrastructure will have a minor cumulative effect on soils due to continued use and maintenance.

5.7 WATER USE AND QUALITY

5.7.1 Hydrology and Groundwater

Minor adverse cumulative effects will occur on groundwater resources if groundwater were to be used for dust suppression during Project construction. Due to the short-term nature of Project construction and the lack of other foreseeable actions, potential adverse cumulative effects will be minor.

5.7.2 Surface Water and Waters of the United States

Minor impacts on surface water and waters of the United States will occur from the Project and reasonably foreseeable future actions. As discussed in **Chapter 3.7.2**, wetland delineations of washes and other waters of the United States within the project area were conducted on September 29 through December 10,

2008. There are 0.78 acres of waters of the United States within the potential impact areas. Long-term adverse cumulative impacts on waters of the United States will occur following completion of Project due to the number of washes to be crossed by tactical infrastructure, the need for long-term access, and the need for continuous maintenance of associated conveyance structures. The cumulative impacts on wetlands will be long-term adverse and minor.

5.7.3 Floodplains

No adverse cumulative impacts on floodplain resources will occur as a result of the Project.

5.8 BIOLOGICAL RESOURCES

5.8.1 Vegetation Resources

Vegetation in the Project corridor will be significantly impacted by Project construction activities. Impacts on native species vegetation and habitat are expected from the additive effects of past, present, and reasonably foreseeable future actions through unavoidable dust production and soil disturbance. Cumulative impacts will be lessened to vegetation by a reduction in illegal cross-border traffic.

5.8.2 Wildlife and Aquatic Resources

Minor impacts on wildlife and species are expected from the additive effects of past, present, and reasonably foreseeable future actions. Cumulative impacts will mainly result from loss of habitat, habitat disturbance and degradation, and construction traffic. Displaced wildlife will move to adjacent habitat if sufficient habitat exists. Wildlife will also be adversely impacted by noise during construction which, when combined with the continued noise of past present and future military option, will have an adverse effect on wildlife. No impacts on aquatic species are anticipated.

5.8.3 Special Status Species

CBP is in continuing coordination with the USFWS regarding potential impacts on listed species or designated critical habitat. Special status species are commonly protected because their historic range and habitat has been reduced and will only support a small number of individuals. Negligible adverse impacts are possible on the Sonoran pronghorn and lesser long-nosed bat due to construction activity and possible loss of habitat. Construction, operation, and maintenance of tactical infrastructure, when combined with past, present, and future military activity, have the potential to result in minor to major adverse cumulative impacts on these species. The construction of the Project, however, will serve to lessen cumulative impacts by reducing IA activity

5.9 CULTURAL RESOURCES

The current Project includes excavation, geophysical boring, grading, road improvement, fence construction, equipment storage, and increased vehicle traffic and human presence during the construction phase. Since no cultural properties occur within the planned impact corridors, these actions will have no effect on historic or prehistoric sites.

5.10 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

Minor, short-term beneficial impacts on local and regional socioeconomic resources are expected from the additive effects of past, present, and reasonably foreseeable future actions. Economic benefits will be realized by construction companies, their employers and suppliers, and by Yuma County through a minor increase in tax receipts for the purchase of goods and services. Construction of tactical infrastructure has the potential for minor beneficial effects from temporary increases in construction jobs and the purchase of goods and services. Since the construction jobs will be temporary, negligible cumulative effects on population growth, income, or other services will be expected.

The cumulative impacts of USBP activities to control the border of the United States and the concomitant effects upon the Nation's health and economy, reduction in the number of violent and drug-related crimes, community cohesion, property values, and traditional family values will be long-term and beneficial, both nationally and locally. Residents of nearby towns will benefit from increased security, a reduction in illegal drug-smuggling activities and the number of violent crimes, less damage to and loss of personal property, and less financial burden for entitlement programs. This will be accompanied by the concomitant benefits of reduced enforcement and insurance costs. Operation and maintenance of the tactical infrastructure has little potential for cumulative impacts on socioeconomics.

5.11 HAZARDOUS WASTES AND HAZARDOUS MATERIALS

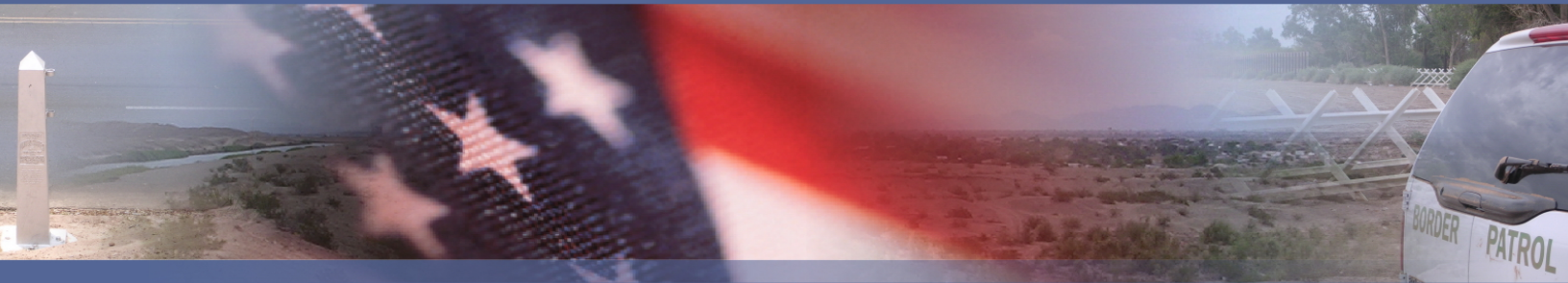
Construction, operation, and maintenance of tactical infrastructure will require minimal quantities of hazardous materials and generate small quantities of hazardous wastes. In light of no other foreseeable past, present, or future activity likely to generate such wastes or materials, minimal cumulative impacts on hazardous materials and wastes will occur as a result of the Project.

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APPENDIX A

Secretary of Homeland Security
Determination Pursuant to Section 102
of the Illegal Immigration Reform
and Immigrant Responsibility Act (IIRIRA)
of 1996, as Amended



DEPARTMENT OF HOMELAND SECURITY
Office of the Secretary
Determination Pursuant to Section 102 of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as Amended

AGENCY: Office of the Secretary, Department of Homeland Security.

ACTION: Notice of determination.

SUMMARY: The Secretary of Homeland Security has determined, pursuant to law, that it is necessary to waive certain laws, regulations and other legal requirements in order to ensure the expeditious construction of barriers and roads in the vicinity of the international land border of the United States.

DATES: This Notice is effective on April 3, 2008.

Determination and Waiver: I have a mandate to achieve and maintain operational control of the borders of the United States. Public Law 109-367, § 2, 120 Stat. 2638, 8 U.S.C. 1701 note. Congress has provided me with a number of authorities necessary to accomplish this mandate. One of these authorities is found at section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 ("IIRIRA"). Public Law 104-208, Div. C, 110 Stat. 3009-546, 3009-554 (Sept. 30, 1996) (8 U.S.C. 1103 note), as amended by the REAL ID Act of 2005, Public Law 109-13, Div. B, 119 Stat. 231, 302, 306 (May 11, 2005) (8 U.S.C. 1103 note), as amended by the Secure Fence Act of 2006, Public Law 109-367, § 3, 120 Stat. 2638 (Oct. 26, 2006) (8 U.S.C. 1103 note), as amended by the Department of Homeland Security Appropriations Act, 2008, Public Law 110-161, Div. E, Title V, Section 564, 121 Stat. 2090 (Dec. 26, 2007). In Section 102(a) of IIRIRA, Congress provided that the Secretary of Homeland Security shall take such actions as may be necessary to install additional physical barriers and roads (including the removal of obstacles to detection of illegal entrants) in the vicinity of the United States border to deter illegal crossings in areas of high

illegal entry into the United States. In Section 102(b) of IIRIRA, Congress has called for the installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwest border, including priority miles of fencing that must be completed by December 2008. Finally, in section 102(c) of the IIRIRA, Congress granted to me the authority to waive all legal requirements that I, in my sole discretion, determine necessary to ensure the expeditious construction of barriers and roads authorized by section 102 of IIRIRA.

I determine that the areas in the vicinity of the United States border described on the attached document, which is incorporated and made a part hereof, are areas of high illegal entry (collectively "Project Areas"). These Project Areas are located in the States of California, Arizona, New Mexico, and Texas. In order to deter illegal crossings in the Project Areas, there is presently a need to construct fixed and mobile barriers (such as fencing, vehicle barriers, towers, sensors, cameras, and other surveillance, communication, and detection equipment) and roads in the vicinity of the border of the United States. In order to ensure the expeditious construction of the barriers and roads that Congress prescribed in the IIRIRA in the Project Areas, which are areas of high illegal entry into the United States, I have determined that it is necessary that I exercise the authority that is vested in me by section 102(c) of the IIRIRA as amended.

Accordingly, I hereby waive in their entirety, with respect to the construction of roads and fixed and mobile barriers (including, but not limited to, accessing the project area, creating and using staging areas, the conduct of earthwork, excavation, fill, and site preparation, and installation and upkeep of fences, roads, supporting elements, drainage, erosion controls, safety features, surveillance, communication, and detection equipment of all types, radar and radio towers, and lighting) in the Project Areas, all federal, state, or other laws, regulations and legal requirements of, deriving from, or related to the subject of, the following laws, as amended: The National Environmental Policy Act (Pub. L. 91-190, 83 Stat. 852 (Jan. 1, 1970) (42 U.S.C. 4321 *et seq.*)), the Endangered Species Act (Pub. L. 93-205, 87 Stat. 884 (Dec. 28, 1973) (16 U.S.C. 1531 *et seq.*)), the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act) (33 U.S.C. 1251 *et seq.*)), the National Historic Preservation Act (Pub. L. 89-665, 80 Stat. 915 (Oct. 15, 1966) (16

U.S.C. 470 *et seq.*)), the Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*)), the Clean Air Act (42 U.S.C. 7401 *et seq.*)), the Archeological Resources Protection Act (Pub. L. 96-95, 16 U.S.C. 470aa *et seq.*)), the Safe Drinking Water Act (42 U.S.C. 300f *et seq.*)), the Noise Control Act (42 U.S.C. 4901 *et seq.*)), the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*)), the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 *et seq.*)), the Archaeological and Historic Preservation Act (Pub. L. 86-523, 16 U.S.C. 469 *et seq.*)), the Antiquities Act (16 U.S.C. 431 *et seq.*)), the Historic Sites, Buildings, and Antiquities Act (16 U.S.C. 461 *et seq.*)), the Wild and Scenic Rivers Act (Pub. L. 90-542, 16 U.S.C. 1281 *et seq.*)), the Farmland Protection Policy Act (7 U.S.C. 4201 *et seq.*)), the Coastal Zone Management Act (Pub. L. 92-583, 16 U.S.C. 1451 *et seq.*)), the Wilderness Act (Pub. L. 88-577, 16 U.S.C. 1131 *et seq.*)), the Federal Land Policy and Management Act (Pub. L. 94-579, 43 U.S.C. 1701 *et seq.*)), the National Wildlife Refuge System Administration Act (Pub. L. 89-669, 16 U.S.C. 668dd-668ee)), the Fish and Wildlife Act of 1956 (Pub. L. 84-1024, 16 U.S.C. 742a, *et seq.*)), the Fish and Wildlife Coordination Act (Pub. L. 73-121, 16 U.S.C. 661 *et seq.*)), the Administrative Procedure Act (5 U.S.C. 551 *et seq.*)), the Otay Mountain Wilderness Act of 1999 (Pub. L. 106-145), Sections 102(29) and 103 of Title I of the California Desert Protection Act (Pub. L. 103-433), 50 Stat. 1827, the National Park Service Organic Act (Pub. L. 64-235, 16 U.S.C. 1, 2-4), the National Park Service General Authorities Act (Pub. L. 91-383, 16 U.S.C. 1a-1 *et seq.*)), Sections 401(7), 403, and 404 of the National Parks and Recreation Act of 1978 (Pub. L. 95-625), Sections 301(a)-(f) of the Arizona Desert Wilderness Act (Pub. L. 101-628), the Rivers and Harbors Act of 1899 (33 U.S.C. 403), the Eagle Protection Act (16 U.S.C. 668 *et seq.*)), the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 *et seq.*)), the American Indian Religious Freedom Act (42 U.S.C. 1996), the Religious Freedom Restoration Act (42 U.S.C. 2000bb), the National Forest Management Act of 1976 (16 U.S.C. 1600 *et seq.*)), and the Multiple Use and Sustained Yield Act of 1960 (16 U.S.C. 528-531).

This waiver does not supersede, supplement, or in any way modify the previous waivers published in the **Federal Register** on September 22, 2005 (70 FR 55622), January 19, 2007 (72 FR

2535), and October 26, 2007 (72 FR 60870).

I reserve the authority to make further waivers from time to time as I may determine to be necessary to accomplish the provisions of section 102 of the IIRIRA, as amended.

Dated: April 1, 2008.

Michael Chertoff,

Secretary.

[FR Doc. 08-1095 Filed 4-1-08; 2:03 pm]

BILLING CODE 4410-10-P

DEPARTMENT OF HOMELAND SECURITY

Office of the Secretary

Determination Pursuant to Section 102 of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as Amended

AGENCY: Office of the Secretary, Department of Homeland Security.

ACTION: Notice of determination.

SUMMARY: The Secretary of Homeland Security has determined, pursuant to law, that it is necessary to waive certain laws, regulations and other legal requirements in order to ensure the expeditious construction of barriers and roads in the vicinity of the international land border of the United States.

DATES: This Notice is effective on April 3, 2008.

Determination and Waiver: The Department of Homeland Security has a mandate to achieve and maintain operational control of the borders of the United States. Public Law 109-367, Section 2, 120 Stat. 2638, 8 U.S.C. 1701 note. Congress has provided the Secretary of Homeland Security with a number of authorities necessary to accomplish this mandate. One of these authorities is found at section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 ("IIRIRA"). Public Law 104-208, Div. C, 110 Stat. 3009-546, 3009-554 (Sept. 30, 1996) (8 U.S.C. 1103 note), as amended by the REAL ID Act of 2005, Public Law 109-13, Div. B, 119 Stat. 231, 302, 306 (May 11, 2005) (8 U.S.C. 1103 note), as amended by the Secure Fence Act of 2006, Public Law 109-367, Section 3, 120 Stat. 2638 (Oct. 26, 2006) (8 U.S.C. 1103 note), as amended by the Department of Homeland Security Appropriations Act, 2008, Public Law 110-161, Div. E, Title V, Section 564, 121 Stat. 2090 (Dec. 26, 2007). In Section 102(a) of the IIRIRA, Congress provided that the Secretary of Homeland Security shall take such actions as may be necessary to install

additional physical barriers and roads (including the removal of obstacles to detection of illegal entrants) in the vicinity of the United States border to deter illegal crossings in areas of high illegal entry into the United States. In Section 102(b) of the IIRIRA, Congress has called for the installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwest border, including priority miles of fencing that must be completed by December of 2008. Finally, in section 102(c) of the IIRIRA, Congress granted to me the authority to waive all legal requirements that I, in my sole discretion, determine necessary to ensure the expeditious construction of barriers and roads authorized by section 102 of the IIRIRA.

I determine that the area in the vicinity of the United States border as described in the attached document, hereinafter the Project Area, which is incorporated and made a part hereof, is an area of high illegal entry. In order to deter illegal crossings in the Project Area, there is presently a need to construct fixed and mobile barriers and roads in conjunction with improvements to an existing levee system in the vicinity of the border of the United States as a joint effort with Hidalgo County, Texas. In order to ensure the expeditious construction of the barriers and roads that Congress prescribed in the IIRIRA in the Project Area, which is an area of high illegal entry into the United States, I have determined that it is necessary that I exercise the authority that is vested in me by section 102(c) of the IIRIRA as amended. Accordingly, I hereby waive in their entirety, with respect to the construction of roads and fixed and mobile barriers (including, but not limited to, accessing the project area, creating and using staging areas, the conduct of earthwork, excavation, fill, and site preparation, and installation and upkeep of fences, roads, supporting elements, drainage, erosion controls, safety features, surveillance, communication, and detection equipment of all types, radar and radio towers, and lighting) in the Project Area, all federal, state, or other laws, regulations and legal requirements of, deriving from, or related to the subject of, the following laws, as amended: The National Environmental Policy Act (Pub. L. 91-190, 83 Stat. 852 (Jan. 1, 1970) (42 U.S.C. 4321 *et seq.*)), the Endangered Species Act (Pub. L. 93-205, 87 Stat. 884) (Dec. 28, 1973) (16 U.S.C. 1531 *et seq.*)), the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act) (33

U.S.C. 1251 *et seq.*), the National Historic Preservation Act (Pub. L. 89-665, 80 Stat. 915 (Oct. 15, 1966) (16 U.S.C. 470 *et seq.*)), the Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*), the Clean Air Act (42 U.S.C. 7401 *et seq.*), the Archeological Resources Protection Act (Pub. L. 96-95, 16 U.S.C. 470aa *et seq.*), the Safe Drinking Water Act (42 U.S.C. 300f *et seq.*), the Noise Control Act (42 U.S.C. 4901 *et seq.*), the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*), the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 *et seq.*), the Archeological and Historic Preservation Act (Pub. L. 86-523, 16 U.S.C. 469 *et seq.*), the Antiquities Act (16 U.S.C. 431 *et seq.*), the Historic Sites, Buildings, and Antiquities Act (16 U.S.C. 461 *et seq.*), the Farmland Protection Policy Act (7 U.S.C. 4201 *et seq.*), the Coastal Zone Management Act (Pub. L. 92-583, 16 U.S.C. 1451 *et seq.*), the Federal Land Policy and Management Act (Pub. L. 94-579, 43 U.S.C. 1701 *et seq.*), the National Wildlife Refuge System Administration Act (Pub. L. 89-669, 16 U.S.C. 668dd-668ee), the Fish and Wildlife Act of 1956 (Pub. L. 84-1024, 16 U.S.C. 742a, *et seq.*), the Fish and Wildlife Coordination Act (Pub. L. 73-121, 16 U.S.C. 661 *et seq.*), the Administrative Procedure Act (5 U.S.C. 551 *et seq.*), the Rivers and Harbors Act of 1899 (33 U.S.C. 403), the Eagle Protection Act (16 U.S.C. 668 *et seq.*), the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 *et seq.*), the American Indian Religious Freedom Act (42 U.S.C. 1996), the Religious Freedom Restoration Act (42 U.S.C. 2000bb), and the Federal Grant and Cooperative Agreement Act of 1977 (31 U.S.C. 6303-05).

I reserve the authority to make further waivers from time to time as I may determine to be necessary to accomplish the provisions of section 102 of the IIRIRA, as amended.

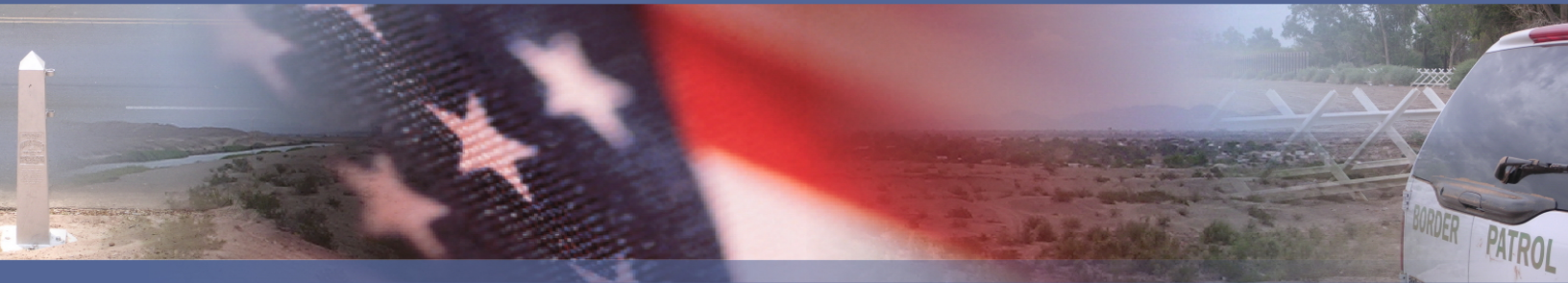
Dated: April 1, 2008.

Michael Chertoff,

Secretary.

[FR Doc. 08-1096 Filed 4-1-08; 2:03 pm]

BILLING CODE 4410-10-P



APPENDIX B

Standard Design for Tactical Infrastructure



APPENDIX B

STANDARD DESIGN FOR TACTICAL INFRASTRUCTURE

A properly designed tactical infrastructure system is an indispensable tool in deterring those attempting to illegally cross the U.S. border. Tactical infrastructure is also integral to maintaining USBP's flexibility in deploying agents and enforcement operations. A formidable infrastructure acts as a force multiplier by slowing down illegal entrants and increasing the window of time that agents have to respond. Strategically developed tactical infrastructure should enable USBP managers to better utilize existing manpower when addressing the dynamic nature of terrorists, illegal aliens, and narcotics trafficking (INS 2002).

USBP apprehension statistics remain the most reliable way to codify trends in illegal migration along the border. Based on apprehension statistics, in a 2006 report on border security, the Congressional Research Service concluded that "the installation of border fencing, in combination with an increase in agent manpower and technological assets, has had a significant effect on the apprehensions made in the San Diego sector" (CRS 2006).

Since effective border enforcement requires adequate scope, depth, and variety in enforcement activity, any single border enforcement function that significantly depletes USBP's ability to satisfactorily address any other enforcement action creates exploitable opportunities for criminal elements. For example, the intense deployment of personnel resources necessary to monitor urban border areas without tactical infrastructure adversely affects the number of agents available for boat patrol, transportation check points, patrolling remote border areas, and other tasks. Tactical infrastructure reduces this effect by reinforcing critical areas, allowing the agents to be assigned to other equally important border enforcement roles (INS 2002).

Fencing

Vehicle fences that are built on the border present a formidable physical barrier which impede cross-border violators and increases the window of time USBP agents have to respond (INS 2002).

Figure B-1 shows representative post-and-rail fencing.



Figure B-1. Post-and-Rail Vehicle Fence (VF-1)



Figure B-2. Normandy-Style Vehicle (Fence Type VF-2)

References

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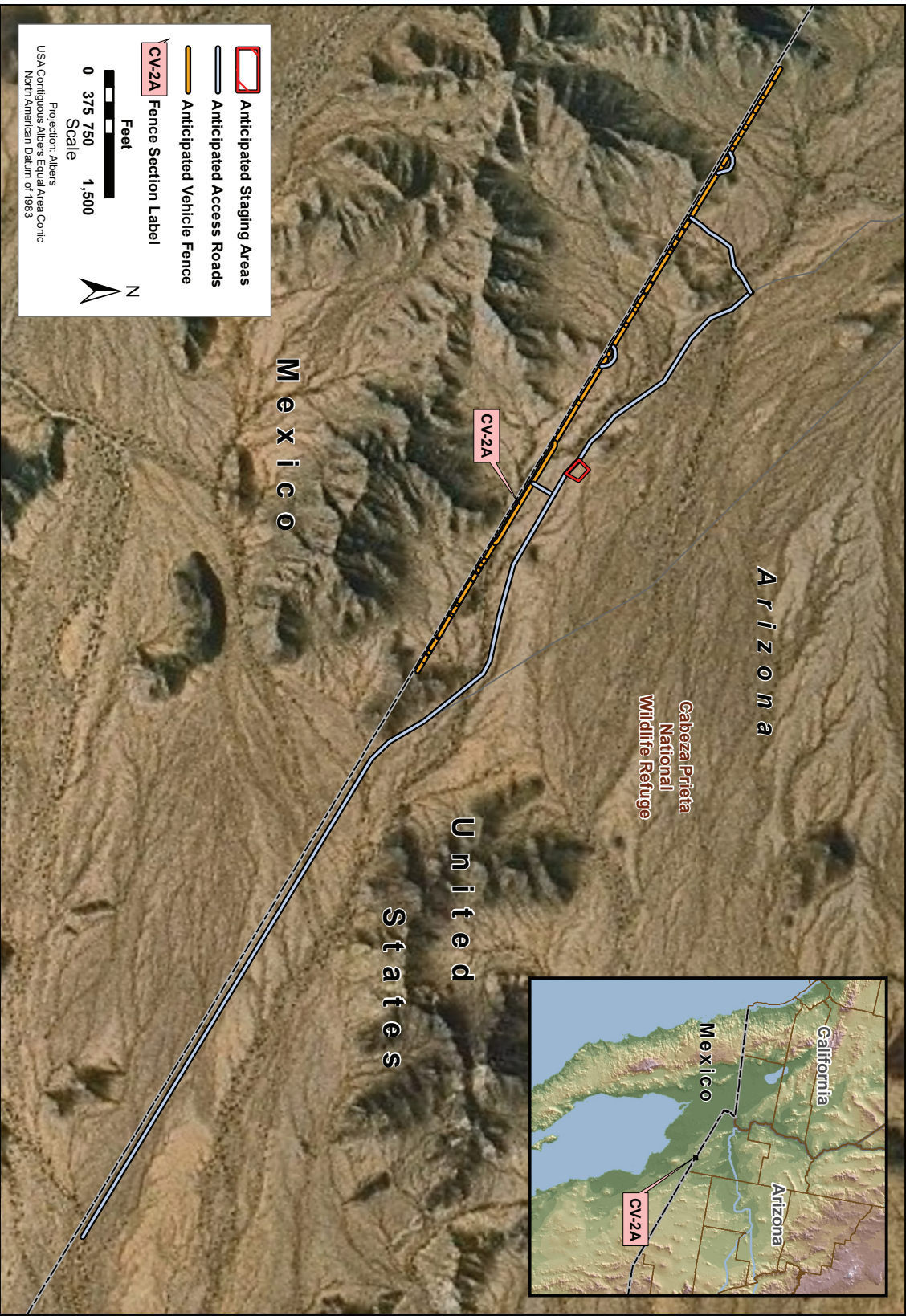
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APPENDIX C

Coordination Activity





Source of Satellite Imagery: ESRI Imagery Service, Accessed 12-05-2008, http://resources.esri.com/arcgisdesktop/index.cfm?fa=content_layers

General Location Map of Tactical Infrastructure for CV-2a



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

NOV 28 2008

Ms. Sherry Barrett
U.S. Fish and Wildlife Service
201 North Bonita Avenue
Suite 141
Tucson, Arizona 85745

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Ms. Barrett:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

On April 1, 2008, the Secretary of the DHS, pursuant to his authority under Section 102(c) of IIRIRA, exercised his authority to waive certain laws that were an impediment to the expeditious construction of tactical infrastructure along the southwestern border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations under these laws, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment and to building tactical infrastructure in an environmentally responsible manner. In support of this commitment, CBP is continuing to work in a collaborative manner with local government, state and federal land managers, and the interested public to identify and, to the extent practicable, minimize impacts on the environment, culture, commerce, and quality of life for communities and residents located near sites where border infrastructure will be constructed.

To assist in gaining and maintaining operational control of the border, CBP will construct, operate, and maintain vehicle fence and associated access and patrol roads, and other Tactical Infrastructure in the following project areas.

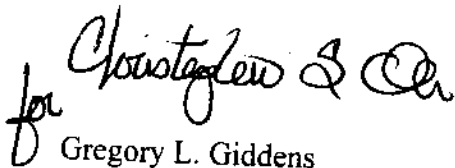
- Three discrete section of vehicle fence, comprising approximately 1.6 miles, in length, on public owned land in the Wellton Station Area of Operation (Project CV-2a). Two access roads (one existing and one new) will be utilized for construction and maintenance. The total access road system will be approximately 2 miles in length.

CBP is continuing with an environmental review of the fencing projects and will include the results of this analysis related to this project in a Yuma Sector Environmental Stewardship Plan (ESP). The ESP will include mitigation and Best Management Practices (BMPs) developed to minimize adverse effects to the environment. The finalized Yuma Sector ESP will be available at www.BorderFencePlanning.com.

CBP is requesting relevant information and input regarding potential impacts to the environment, culture, commerce and quality of life, which should be considered by CBP while planning this project. CBP appreciates your contribution, as it will ensure the CBP has considered all the potential impacts. Maps showing the general location of the fence segments are also included for your use in identifying areas of sensitive environmental concern. Please provide any information you feel is relevant to this project by December 12, 2008.

We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. Nova Blazej
Regional Environmental Review Coordinator
U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, California 94105

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Blazej:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

On April 1, 2008, the Secretary of the DHS, pursuant to his authority under Section 102(c) of IIRIRA, exercised his authority to waive certain laws that were an impediment to the expeditious construction of tactical infrastructure along the southwestern border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations under these laws, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment and to building tactical infrastructure in an environmentally responsible manner. In support of this commitment, CBP is continuing to work in a collaborative manner with local government, state and federal land managers, and the interested public to identify and, to the extent practicable, minimize impacts on the environment,

culture, commerce, and quality of life for communities and residents located near sites where border infrastructure will be constructed.

To assist in gaining and maintaining operational control of the border, CBP will construct, operate, and maintain vehicle fence and associated access and patrol roads, and other Tactical Infrastructure in the following project areas.

- Three discrete section of vehicle fence, comprising approximately 1.6 miles, in length, on public owned land in the Wellton Station Area of Operation (Project CV-2a). Two access roads (one existing and one new) will be utilized for construction and maintenance. The total access road system will be approximately 2 miles in length.

CBP is continuing with an environmental review of the fencing projects and will include the results of this analysis related to this project in a Yuma Sector Environmental Stewardship Plan (ESP). The ESP will include mitigation and Best Management Practices (BMPs) developed to minimize adverse effects to the environment. The finalized Yuma Sector ESP will be available at www.BorderFencePlanning.com.

CBP is requesting relevant information and input regarding potential impacts to the environment, culture, commerce and quality of life, which should be considered by CBP while planning this project. CBP appreciates your contribution, as it will ensure the CBP has considered all the potential impacts. Maps showing the general location of the fence segments are also included for your use in identifying areas of sensitive environmental concern. Please provide any information you feel is relevant to this project by December 12, 2008.

We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,

for 

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

Mr. Bob Broscheid
Project Evaluation Program Supervisor
Arizona Game and Fish
Habitat Branch-Project Evaluation Program
2221 West Greenway Road
Phoenix, Arizona 85023

NOV 28 2008

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Broscheid:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

On April 1, 2008, the Secretary of the DHS, pursuant to his authority under Section 102(c) of IIRIRA, exercised his authority to waive certain laws that were an impediment to the expeditious construction of tactical infrastructure along the southwestern border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations under these laws, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment and to building tactical infrastructure in an environmentally responsible manner. In support of this commitment, CBP is continuing to work in a collaborative manner with local government, state and federal land managers, and the interested public to identify and, to the extent practicable, minimize impacts on the environment,

culture, commerce, and quality of life for communities and residents located near sites where border infrastructure will be constructed.

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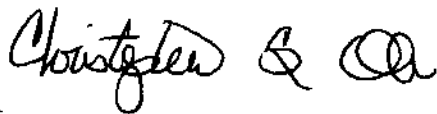
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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,



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Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable Delia Carlisle
Chairperson
Ak-Chin Indian Community Council
Attn: Ms. Caroline Anton, Cultural Resource Manager
Ak-Chin Him Dak Eco Museum & Archives
47685 North Eco Museum Road
Maricopa, Arizona 85239

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S.
Department of Homeland Security, U.S. Customs and Border Protection, U.S.
Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Chairperson Carlisle:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. James P. Chessum
Administrator
Greater Yuma Port Authority
502 South Orange Avenue
Yuma, Arizona 85364

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Chessum:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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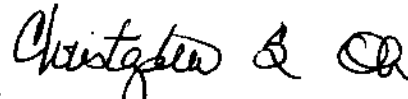
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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,


for Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



U.S. Customs and
Border Protection

NOV 28 2008

The Honorable Sherry Cordova
Chairperson
Cocopah Tribal Council
County 15th and Avenue G
Somerton, Arizona 85350

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Chairperson Cordova:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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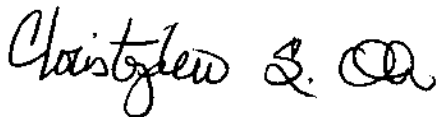
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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,



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Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. Dave Daniels
Planning and Environmental Coordinator
Bureau of Land Management, U.S. Department of Interior
Yuma Field Office
2555 East Gila Ridge Road
Yuma, Arizona 85365

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S.
Department of Homeland Security, U.S. Customs and Border Protection, U.S.
Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Daniels:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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Sincerely,

Gregory L. Giddens

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable Daniel Eddy, Jr.
Chairman
Colorado River Indian Tribes
Attn: Mr. Michael Tsosie, Director
Colorado River Indian Tribes Museum
26600 Mohave Road
Parker, Arizona 85344

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Chairman Eddy:

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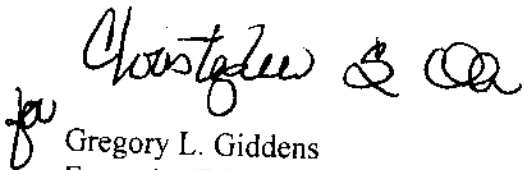
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Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable Diane Enos
President
Salt River Pima-Maricopa Indian Community
Attn: Mr. Dan Daggett, Cultural Programs Supervisor
10005 East Osborn Road
Scottsdale, Arizona 85256

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear President Enos:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable Carlos Escamilla
Mayor
City of San Luis
PO Box 1170
1090 East Union St
San Luis, Arizona 85349

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mayor Escamilla:

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Sincerely,



for
Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

Ms. Susan Evans
Director
Yuma Public Library
185 South Main Street
Yuma, Arizona 85364

NOV 28 2008

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Ms. Evans:

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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,



for Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable Raul Grijalva
Representative (Arizona - 7th)
United States House of Representatives
1440 Longworth House Office Building
Washington, DC 20510-0307

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Representative Grijalva:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

On April 1, 2008, the Secretary of the DHS, pursuant to his authority under Section 102(c) of IIRIRA, exercised his authority to waive certain laws that were an impediment to the expeditious construction of tactical infrastructure along the southwestern border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations under these laws, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment and to building tactical infrastructure in an environmentally responsible manner. In support of this commitment, CBP is continuing to work in a collaborative manner with local government, state and federal land managers, and the interested public to identify and, to the extent practicable, minimize impacts on the environment, culture, commerce, and quality of life for communities and residents located near sites where border infrastructure will be constructed.

To assist in gaining and maintaining operational control of the border, CBP will construct, operate, and maintain vehicle fence and associated access and patrol roads, and other Tactical Infrastructure in the following project areas.

- Three discrete section of vehicle fence, comprising approximately 1.6 miles, in length, on public owned land in the Wellton Station Area of Operation (Project CV-2a). Two access roads (one existing and one new) will be utilized for construction and maintenance. The total access road system will be approximately 2 miles in length.

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Sincerely,

fa Christopher S. Oh

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Ms. Lisa Hanf
U.S. Environmental Protection Agency
Region 9
Federal Activities Office (CMD-2)
75 Hawthorne Street
San Francisco, California 94105

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Ms. Hanf:

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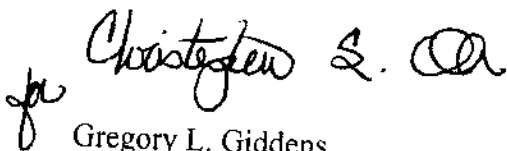
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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Ms. Becky Heick
District Manager
Bureau of Land Management, U.S. Department of Interior
Colorado River District
2610 Sweetwater Avenue
Lake Havasu City, Arizona 86406-9071

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Ms. Heick:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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Sincerely,

for 

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. Michael Horton
National Section 7 Coordinator
U.S. Fish and Wildlife Service
4401 North Fairfax Drive
Suite 420
Arlington, Virginia 22203

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Horton:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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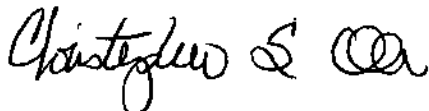
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Sincerely,

for 

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable Mike Jackson, Jr.
President
Quechan Indian Tribe
350 Picacho Road
Winterhaven, California 92283

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear President Jackson:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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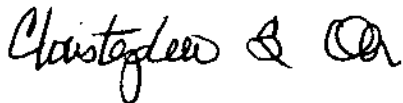
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Sincerely,



for

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable Jon Kyl
Senator (Arizona)
United States Senate
730 Hart Senate Office Building
Washington, DC 20510-0304

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Senator Kyl:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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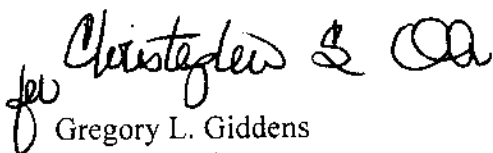
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Sincerely,

A handwritten signature in black ink, appearing to read "Gregory L. Giddens". The signature is written in a cursive style and is positioned above the printed name.

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Ms. Cindy Lester
Chief
U.S. Army Corps of Engineers
Los Angeles District, Arizona Regulatory Branch
3636 North Central Avenue
Suite 900
Phoenix, Arizona 85012-1939

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Ms. Lester:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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Sincerely,

fa *Christy Lew* & *QA*

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable Ronnie Lupe
Chairman
White Mountain Apache Tribe
Attn: Mr. Mark Altaha, THPO
White Mountain Apache Tribe Historic Preservation Office
202 East Walnut Street
Whiteriver, Arizona 85941

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Chairman Lupe:

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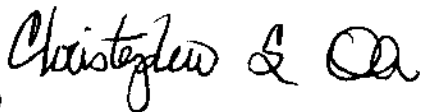
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Sincerely,

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Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Colonel Thomas H. Magness, IV
U.S. Army Corps of Engineers
Los Angeles District
915 Wilshire Boulevard
Suite 980
Los Angeles, California 90017

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Colonel Magness:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

On April 1, 2008, the Secretary of the DHS, pursuant to his authority under Section 102(c) of IIRIRA, exercised his authority to waive certain laws that were an impediment to the expeditious construction of tactical infrastructure along the southwestern border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations under these laws, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment and to building tactical infrastructure in an environmentally responsible manner. In support of this commitment, CBP is continuing to work in a collaborative manner with local government, state and federal land managers, and the interested public to identify and, to the extent practicable, minimize impacts on the environment,

culture, commerce, and quality of life for communities and residents located near sites where border infrastructure will be constructed.

To assist in gaining and maintaining operational control of the border, CBP will construct, operate, and maintain vehicle fence and associated access and patrol roads, and other Tactical Infrastructure in the following project areas.


- Three discrete section of vehicle fence, comprising approximately 1.6 miles, in length, on public owned land in the Wellton Station Area of Operation (Project CV-2a). Two access roads (one existing and one new) will be utilized for construction and maintenance. The total access road system will be approximately 2 miles in length.

CBP is continuing with an environmental review of the fencing projects and will include the results of this analysis related to this project in a Yuma Sector Environmental Stewardship Plan (ESP). The ESP will include mitigation and Best Management Practices (BMPs) developed to minimize adverse effects to the environment. The finalized Yuma Sector ESP will be available at www.BorderFencePlanning.com.

CBP is requesting relevant information and input regarding potential impacts to the environment, culture, commerce and quality of life, which should be considered by CBP while planning this project. CBP appreciates your contribution, as it will ensure the CBP has considered all the potential impacts. Maps showing the general location of the fence segments are also included for your use in identifying areas of sensitive environmental concern. Please provide any information you feel is relevant to this project by December 12, 2008.

We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,

for 

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable John McCain
Senator (Arizona)
United States Senate
241 Russell Senate Building
Washington, DC 20510-0303

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Senator McCain:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. Curt McCasland
Refuge Manager
U.S. Fish and Wildlife Service
Cabeza Prieta National Wildlife Refuge
1611 North Second Avenue
Ajo, Arizona 85321

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S.
Department of Homeland Security, U.S. Customs and Border Protection, U.S.
Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. McCasland:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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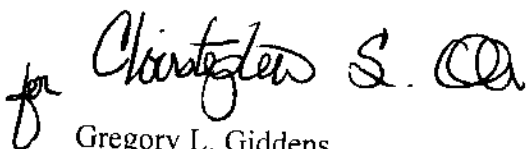
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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



U.S. Customs and
Border Protection

NOV 28 2008

Ms. Jennifer McCloskey
Acting Area Manager
Bureau of Reclamation, U.S. Department of Interior - Yuma Area Office
Yuma Area Office
7301 Calle Agua Salada
Yuma, Arizona 85364

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S.
Department of Homeland Security, U.S. Customs and Border Protection, U.S.
Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Ms. McCloskey:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



U.S. Customs and
Border Protection

NOV 28 2008

Ms. Jill McCormick
Cultural Resources Specialist
Cocopah Tribe
County 15th and Avenue G
Somerton, Arizona 85350

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S.
Department of Homeland Security, U.S. Customs and Border Protection, U.S.
Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Ms McCormick:

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Sincerely,

for Christopher S. Giddens

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Ms. JoAnne Medley
Arizona State Parks
State Historic Preservation Office
1300 West Washington Street
Phoenix, Arizona 85007

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Ms. Medley:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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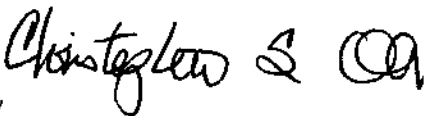
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Sincerely,


for

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Ms. Leesa Morrison
Homeland Security Advisor Arizona
Arizona Department of Homeland Security
1700 West Washington
Phoenix, Arizona 85007

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Ms. Morrison:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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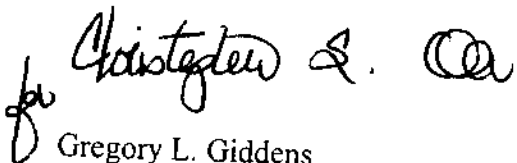
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Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



U.S. Customs and
Border Protection

NOV 28 2008

Ms. Bridget Nash-Chrabascz
Historic Preservation Officer
Quechan Indian Tribe
Attn: Ms. Bridget Nash-Chrabascz
350 Picacho Road
PO Box 1899, Yuma, AZ 85366-1899
Winterhaven, California 92283

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S.
Department of Homeland Security, U.S. Customs and Border Protection, U.S.
Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Ms Nash-Chrabascz:

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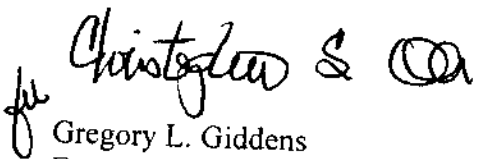
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Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. Wayne Nastri
Regional Administrator
U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, California 94105

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Nastri:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

On April 1, 2008, the Secretary of the DHS, pursuant to his authority under Section 102(c) of IIRIRA, exercised his authority to waive certain laws that were an impediment to the expeditious construction of tactical infrastructure along the southwestern border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations under these laws, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment and to building tactical infrastructure in an environmentally responsible manner. In support of this commitment, CBP is continuing to work in a collaborative manner with local government, state and federal land managers, and the interested public to identify and, to the extent practicable, minimize impacts on the environment,

culture, commerce, and quality of life for communities and residents located near sites where border infrastructure will be constructed.

To assist in gaining and maintaining operational control of the border, CBP will construct, operate, and maintain vehicle fence and associated access and patrol roads, and other Tactical Infrastructure in the following project areas.


- Three discrete section of vehicle fence, comprising approximately 1.6 miles, in length, on public owned land in the Wellton Station Area of Operation (Project CV-2a). Two access roads (one existing and one new) will be utilized for construction and maintenance. The total access road system will be approximately 2 miles in length.

CBP is continuing with an environmental review of the fencing projects and will include the results of this analysis related to this project in a Yuma Sector Environmental Stewardship Plan (ESP). The ESP will include mitigation and Best Management Practices (BMPs) developed to minimize adverse effects to the environment. The finalized Yuma Sector ESP will be available at www.BorderFencePlanning.com.

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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,

for 

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable Larry Nelson
Mayor
City of Yuma
One City Plaza
Post Office Box 13014
Yuma, Arizona 85366

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mayor Nelson:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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- Three discrete section of vehicle fence, comprising approximately 1.6 miles, in length, on public owned land in the Wellton Station Area of Operation (Project CV-2a). Two access roads (one existing and one new) will be utilized for construction and maintenance. The total access road system will be approximately 2 miles in length.

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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,

for 

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable Ned Norris, Jr.
Chairman
Tohono O'odham Nation
Main Tribal Building Business Loop
Sells, Arizona 85634

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S.
Department of Homeland Security, U.S. Customs and Border Protection, U.S.
Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Chairman Norris:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable Wendsler Nosie, Sr.
Chairperson
San Carlos Apache Tribe
Attn: Ms. Vernelda Grant, THPO
Historic Preservation & Archaeology Department
San Carlos Avenue
San Carlos, Arizona 85550

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Chairperson Nosie:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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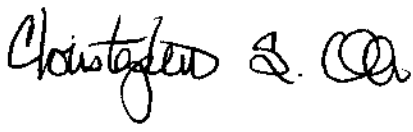
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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,

for 

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable Benjamin H. Nuvamsa
Chairman
Hopi Tribal Council
Attn: Marvin Lalo, Acting Director
Hopi Cultural Preservation Office
1 Main Street
Kykotsmovi, Arizona 86039

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Chairman Nuvamsa:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,

for Christopher S. Oa

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. Richard Oxford
Director
Arizona State Land Department
Operations Division
1616 West Adams Street
Phoenix, Arizona 85007

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Oxford:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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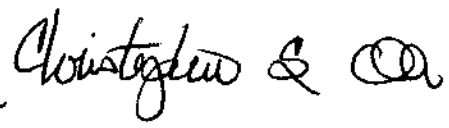
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Sincerely,

for 

Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. Richard Peace
Division Engineer
International Boundary and Water Commission
U.S. Section, Operations and Maintenance Division
4171 North Mesa
Building C, Suite 310
El Paso, Texas 79902

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Peace:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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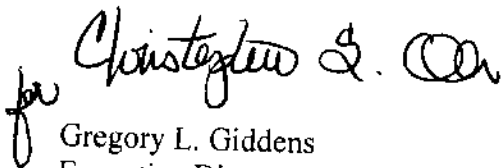
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Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. Robert Pickles
County Administrator
Yuma County
198 South Main Street
Yuma, Arizona 85364

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Pickles:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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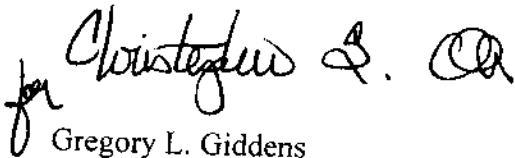
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Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

The Honorable William Rhodes
Governor
Gila River Indian Community
Attn: Mr. Barnaby Lewis, Cultural Resource Specialist
315 West Casa Blanco Road
Sacaton, Arizona 85247

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S.
Department of Homeland Security, U.S. Customs and Border Protection, U.S.
Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Governor Rhodes:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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- Three discrete section of vehicle fence, comprising approximately 1.6 miles, in length, on public owned land in the Wellton Station Area of Operation (Project CV-2a). Two access roads (one existing and one new) will be utilized for construction and maintenance. The total access road system will be approximately 2 miles in length.

CBP is continuing with an environmental review of the fencing projects and will include the results of this analysis related to this project in a Yuma Sector Environmental Stewardship Plan (ESP). The ESP will include mitigation and Best Management Practices (BMPs) developed to minimize adverse effects to the environment. The finalized Yuma Sector ESP will be available at www.BorderFencePlanning.com.

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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Commissioner Bill Ruth
International Boundary and Water Commission
U.S. Section
4171 North Mesa
Suite C-100
El Paso, Texas 79902-1441

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Commissioner Ruth:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

On April 1, 2008, the Secretary of the DHS, pursuant to his authority under Section 102(c) of IIRIRA, exercised his authority to waive certain laws that were an impediment to the expeditious construction of tactical infrastructure along the southwestern border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations under these laws, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment and to building tactical infrastructure in an environmentally responsible manner. In support of this commitment, CBP is continuing to work in a collaborative manner with local government, state and federal land managers, and the interested public to identify and, to the extent practicable, minimize impacts on the environment,

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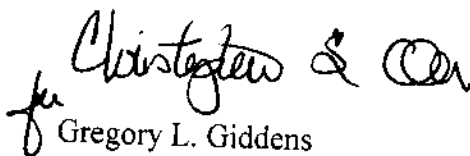
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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,


for Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. James T. Shoaff
Field Manager
Bureau of Land Management, U.S. Department of Interior
Yuma Field Office
2555 East Gila Ridge Road
Yuma, Arizona 85365

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Shoaff:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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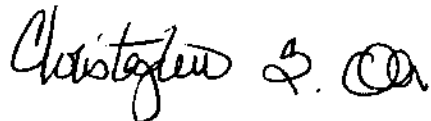
- Three discrete section of vehicle fence, comprising approximately 1.6 miles, in length, on public owned land in the Wellton Station Area of Operation (Project CV-2a). Two access roads (one existing and one new) will be utilized for construction and maintenance. The total access road system will be approximately 2 miles in length.

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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,

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Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. Steve Spangle
U.S. Fish and Wildlife Service
2321 West Royal Palm Road
Suite 103
Phoenix, Arizona 85021-4951

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Spangle:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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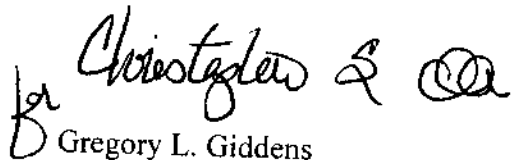
- Three discrete section of vehicle fence, comprising approximately 1.6 miles, in length, on public owned land in the Wellton Station Area of Operation (Project CV-2a). Two access roads (one existing and one new) will be utilized for construction and maintenance. The total access road system will be approximately 2 miles in length.

CBP is continuing with an environmental review of the fencing projects and will include the results of this analysis related to this project in a Yuma Sector Environmental Stewardship Plan (ESP). The ESP will include mitigation and Best Management Practices (BMPs) developed to minimize adverse effects to the environment. The finalized Yuma Sector ESP will be available at www.BorderFencePlanning.com.

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We value your technical expertise, advice, and recommendations and look forward to your continued participation in project review. If you have any questions regarding this matter, please do not hesitate to contact Mr. Chris Oh, Director Environmental Division at (202) 344-2448.

Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. Monty Stansbury
Yuma County
Planning and Zoning Department
2703 South Avenue B
Yuma, Arizona 85364

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Stansbury:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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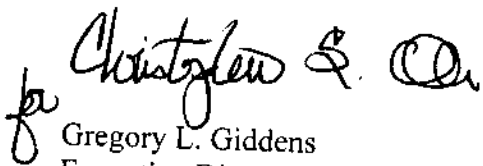
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Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. Peter Steere
Cultural Affairs Program Manager
Tohono O'odham Nation
Main Tribal Building Business Loop
Sells, Arizona 85634

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S.
Department of Homeland Security, U.S. Customs and Border Protection, U.S.
Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Steere:

Over the past year, in accordance with applicable federal environmental laws and policies, the U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), pursued a comprehensive effort to address potential environmental impacts associated with constructing, maintaining, and operating tactical infrastructure along the southwestern border. Congress called upon the DHS to construct—in the most expeditious manner possible—the infrastructure necessary to deter and prevent illegal entry on our southwestern border, including pedestrian and vehicle fencing, roads, and virtual detection technology. Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) requires installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes 300 miles of vehicle fencing to be completed in 2008, in areas of the border that are not currently fenced and in areas most practical and effective in deterring smugglers and undocumented aliens attempting to gain illegal entry into the United States.

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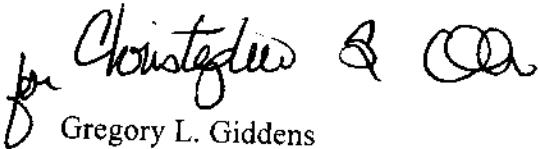
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Sincerely,



Gregory L. Giddens
Executive Director
Facilities Management and Engineering

Enclosure(s)



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

NOV 28 2008

Mr. Sean Torpey
Manager

Bureau of Reclamation, U.S. Department of Interior - Yuma Area Office
Resource Management Office, Environmental Planning and Compliance Group
7301 Calle Agua Salada
Yuma, Arizona 85364

Subject: Construction, Operation, and Maintenance of Tactical Infrastructure, U.S.
Department of Homeland Security, U.S. Customs and Border Protection, U.S.
Border Patrol, Yuma Sector, Wellton Station, Arizona.

Dear Mr. Torpey:

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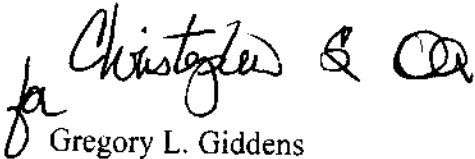
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Sincerely,

 Gregory L. Giddens

Executive Director
Facilities Management and Engineering

Enclosure(s)

Notice of Request for Public Information

Construction of Tactical Infrastructure along the U.S./Mexico international border U.S. Border Patrol (USBP) Yuma Sector, Arizona

U.S. Department of Homeland Security, Customs and Border Protection (CBP) plans to construct, operate, and maintain tactical infrastructure along the U.S./Mexico international border in the United States Border Patrol (USBP) Yuma Sector, Arizona. The tactical infrastructure will consist of vehicle fence, access and construction roads. The project, referred to as segment CV-2a, includes construction, operation, and maintenance of approximately 1.6 miles of vehicle fence and 2.0 miles of construction and access roads, southeast of the Tule Mountains on the Cabeza Prieta National Wildlife Refuge.

Earlier this year, CBP sought information from the public regarding plans to construct tactical infrastructure along several areas of the border. CBP now plans to construct another segment of fencing along the border and seeks any additional information and input from the public and interested stakeholders regarding potential impacts to the environment, including any sensitive environmental resources in the project area, that CBP should consider in the course of planning this project. CBP is also seeking information and input from the public regarding potential impacts to culture, commerce, and quality of life.

CBP is committed to building tactical infrastructure in an environmentally responsible manner. To this end, CBP is conducting environmental resource surveys and project evaluations to ensure that adverse environmental effects are minimized during the construction of tactical infrastructure. CBP is also consulting with federal resource agencies within the Department of Interior and the Department of Agriculture, State and local governments, Indian tribes, and property owners in an effort to minimize the impact on the environment, culture, commerce, and quality of life for communities and residents located near sites where such fencing will be constructed.

CBP posted the general project description on the BorderFencePlanning.com website prior to 28 November for 15 days, during which the public is encouraged to provide any relevant information regarding environment, culture, commerce and quality of life that should be considered by CBP while planning this project. Instructions for providing such information can be found at www.BorderFencePlanning.com.

Additional information regarding the project may be obtained by emailing: information@BorderFencePlanning.com or by writing to Mr. Loren Flossman, Program Manager, SBI Tactical Infrastructure, 1300 Pennsylvania Ave, NW, Washington, DC 20229, Tel: (877) 752-0420, Fax: (703) 752-7754.

Public Notices

ARTICLES OF ORGANIZATION HAVE BEEN FILED IN THE OFFICE OF THE ARIZONA CORPORATION COMMISSION FOR FILE NO. L-1488902-0

I. Name: FLORES CABINETTS, LLC
II. The address of the known place of business is: 440 Patricia St., Somerton, Arizona 85350
III. The name and street address of the Statutory Agent is: Jorge D. Flores, 440 Patricia St., Somerton, Arizona 85350

B. Management of the limited liability company is reserved to the members. The names and addresses of each person who is a member are: Jorge D. Flores, P.O. Box 2788, Somerton, AZ 85350 440 Patricia St., Somerton, Arizona 85350, member Daily November 26, 27, 28, 2008 #L38978

THE SUN PUBLIC NOTICE ADVERTISING DEADLINES
Edition Deadline
Monday Wed. 5PM
Tuesday Wed. 5PM
Wednesday Thurs. 5PM
Thursday Friday 5PM
Friday Monday 5PM
Saturday Monday 5PM
Sunday Tuesday 5PM
E-mail your public notice ads: legals@yumasun.com

Announcements

Lost Items

If you have lost or found a pet, in addition to looking in the classifieds please contact Humane Society of Yuma
285 N. Figueroa Ave.
Tue-Sat
11am-4:30pm

LARGE GREEN DUFFEL BAG with clothes and coats, black bag with photo album with cars, lost in town (Yuma), possibly near Brownies Cafe. 928-503-9202

LOST PURSE, black, with valuables, in the vicinity of Fry's/Al's RV in the Foothills 503-440-1624 REWARD!

LOST PURSE. Black and white and looks like a cat. Very important to me, vital to my life. Please call 928-446-1893 if found. REWARD TO THE GENTLEMAN WHO CALLED PLEASE CALL BACK WE GOT DISCONNECTED AND I HAVE BEEN AWAITING YOUR CALL. THANK YOU!

Resume Employment Customer Support/Client Care

TRITUM CARD SERVICES (Merwin's Plaza) 928-344-5812
Seeking full time, eves/wknds, self motivated reps w/ strong customer service skills; bilingual a plus!
PERKS & BENEFITS
-Monthly Bonus
-401K
-Paid Training

Food Services & Hospitality

We Match
INTERVIEW NOW!
Monster Match assigns a professional to hand-match each job seeker with each employer.
This is a FREE Service!
Monster Match is your free, one-stop job-search resource. With our extensive contacts, we can show your job seeker profile to hundreds of top local employers in 300 job categories. Let us find you a job that matches your skills, experience and preferences.

INTERVIEW NOW for the following positions:
Cooks, Chefs & Bakers
Food Prep
Waitstaff
Cashier
Management
Bus Person & Bar Back
Dishwasher
Host/Hostess
Maitre d'
Bartender

Go to www.JobsInYuma.com or call us at 866-374-1552 and use Job Code 37 to complete your job seeker profile

inYuma monster jobsinyuma.com/monster A service of The Sun

Buy, Sell, and Find almost anything. Local classified listings, updated daily. CLASSIFIEDS inYuma.com

Food Services & Hospitality

YPIC opening doors between job seekers and employers
New Restaurant Hiring Native New Yorker Needs great people to fill SHIFTS MANAGER COOKS BARTENDERS SERVERS/HOSTESS DISHWASHERS & BUSSER POSITIONS EOE applications at YPIC 3826 W 16th St North New Yorker 1530 S Castle Dome Ave

Medical/Health

We Match
INTERVIEW NOW!
Monster Match assigns a professional to hand-match each job seeker with each employer.
This is a FREE Service!
Monster Match is your free, one-stop job-search resource. With our extensive contacts, we can show your job seeker profile to hundreds of top local employers in 300 job categories. Let us find you a job that matches your skills, experience and preferences.

INTERVIEW NOW for the following positions:
Social Workers & Counseling
Go to www.JobsInYuma.com or call us at 866-374-1552 and use Job Code 17 to complete your job seeker profile

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Other

RE Yuma's weekly real estate guide

- Rentals
Open Houses
Homes for Sale
and More
All your real estate classified ads now in a pull-out magazine.
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Notice of Request for Public Information Construction of Tactical Infrastructure along the U.S./Mexico international border U.S. Border Patrol (USBP) Yuma Sector, Arizona

U.S. Department of Homeland Security, Customs and Border Protection (CBP) plans to construct, operate, and maintain tactical infrastructure along the U.S./Mexico international border in the United States Border Patrol (USBP) Yuma Sector, Arizona. The tactical infrastructure will consist of vehicle fence, access and construction roads. The project, referred to as segment CV-2a, includes construction, operation, and maintenance of approximately 1.6 miles of vehicle fence and 2.0 miles of construction and access roads, southeast of the Tule Mountains on the Cabeza Prieta National Wildlife Refuge.

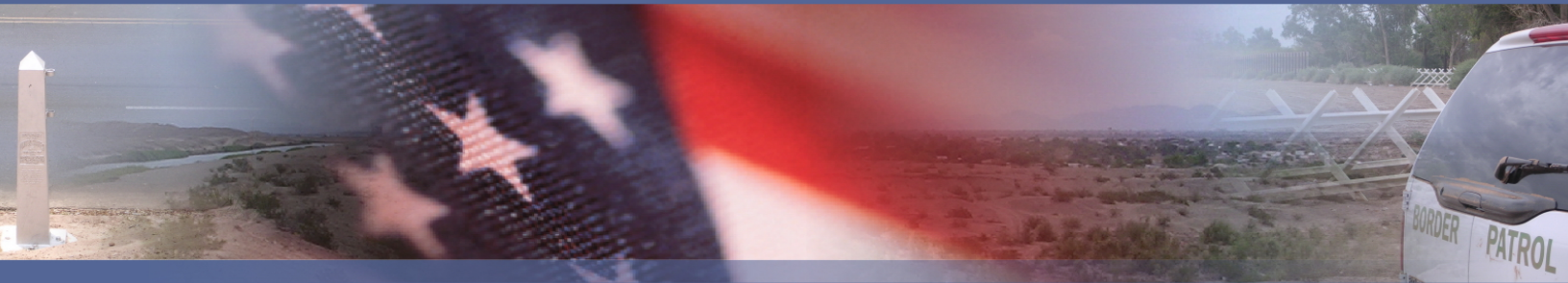
Earlier this year, CBP sought information from the public regarding plans to construct tactical infrastructure along several areas of the border. CBP now plans to construct another segment of fencing along the border and seeks any additional information and input from the public and interested stakeholders regarding potential impacts to the environment, including any sensitive environmental resources in the project area, that CBP should consider in the course of planning this project. CBP is also seeking information and input from the public regarding potential impacts to culture, commerce, and quality of life.

CBP is committed to building tactical infrastructure in an environmentally responsible manner. To this end, CBP is conducting environmental resource surveys and project evaluations to ensure that adverse environmental effects are minimized during the construction of tactical infrastructure. CBP is also consulting with federal resource agencies within the Department of Interior and the Department of Agriculture, State and local governments, Indian tribes, and property owners in an effort to minimize the impact on the environment, culture, commerce, and quality of life for communities and residents located near sites where such fencing will be constructed.

CBP posted the general project description on the BorderFencePlanning.com website prior to 28 November for 15 days, during which the public is encouraged to provide any relevant information regarding environment, culture, commerce and quality of life that should be considered by CBP while planning this project. Instructions for providing such information can be found at www.BorderFencePlanning.com.

Additional information regarding the project may be obtained by emailing: information@BorderFencePlanning.com or by writing to Mr. Loren Flossman, Program Manager, SBI Tactical Infrastructure, 1300 Pennsylvania Ave, NW, Washington, DC 20229, Tel: (877) 752-0420, Fax: (703) 752-7754.

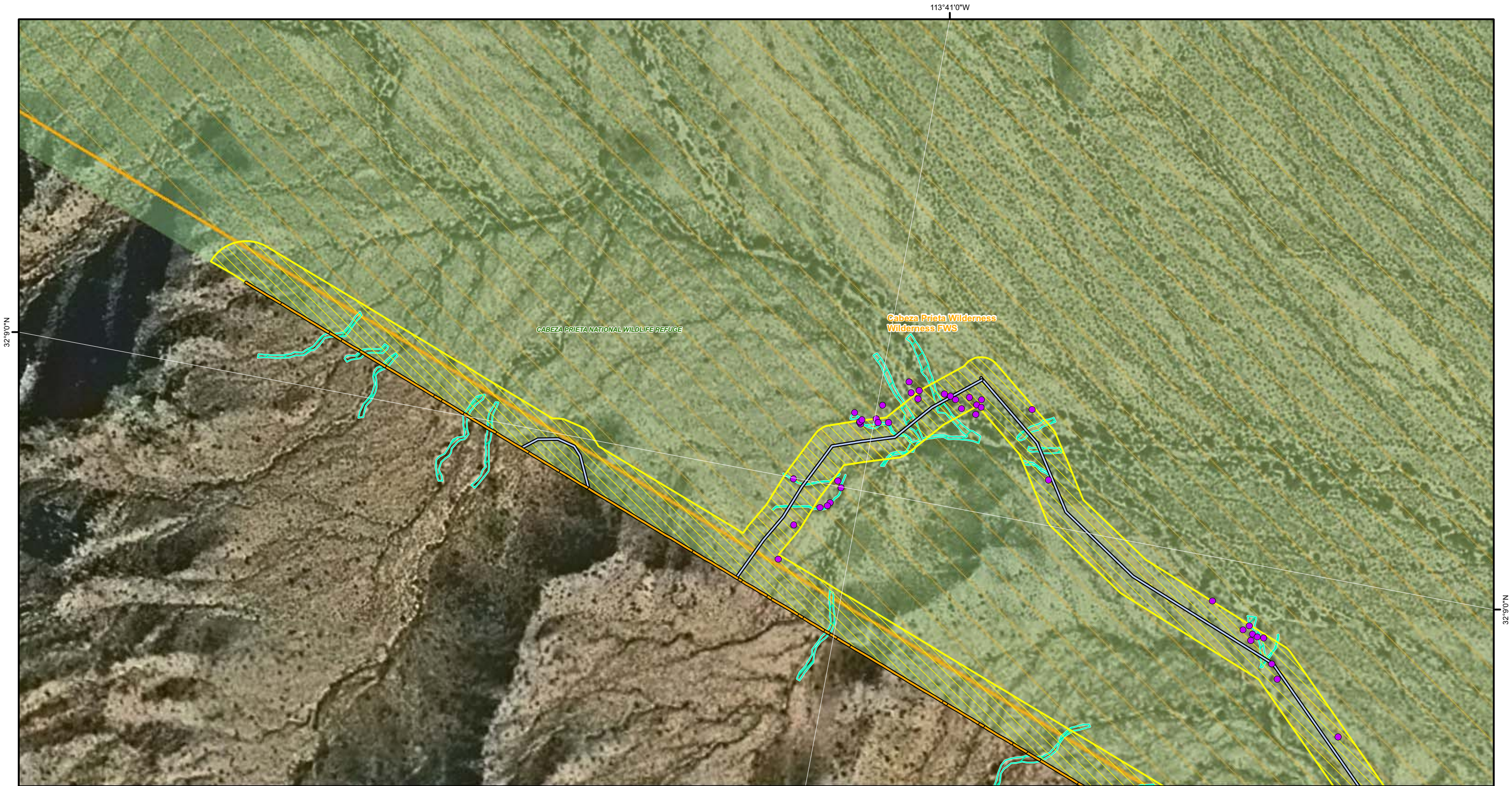
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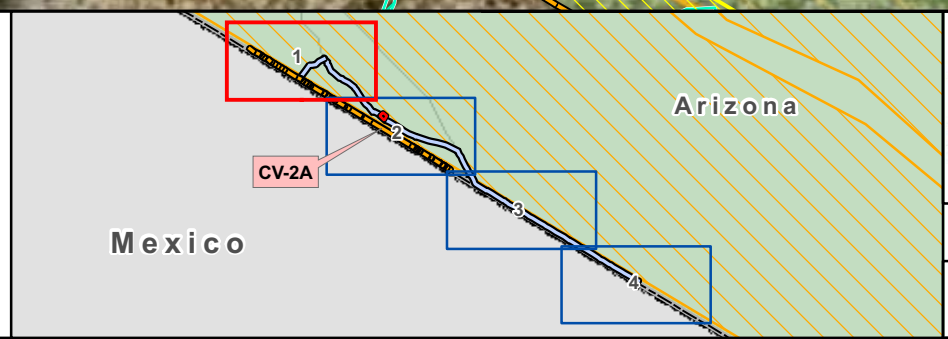
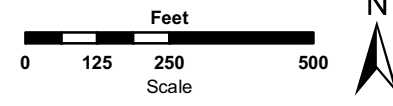
APPENDIX D

Detailed Project Maps





- Vehicle Fence
- Access Roads
- Staging Areas
- Wetlands/WOUS
- Saguaro Locations
- Surveyed Area
- Federal Lands
- Parks



ESP
 US Customs and Border Patrol
 VF300
 Border Fence
 Field Maps

Projection: Albers
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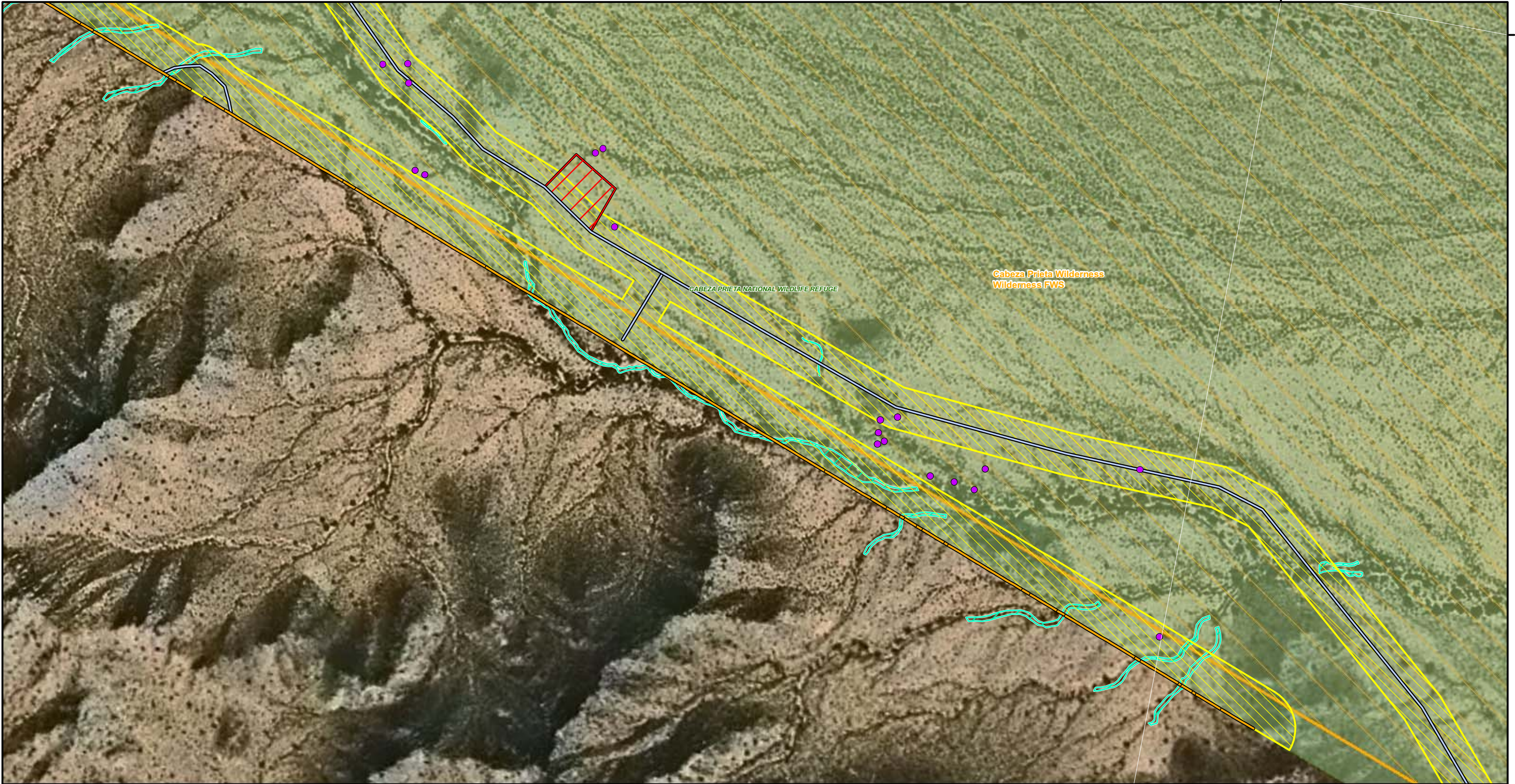
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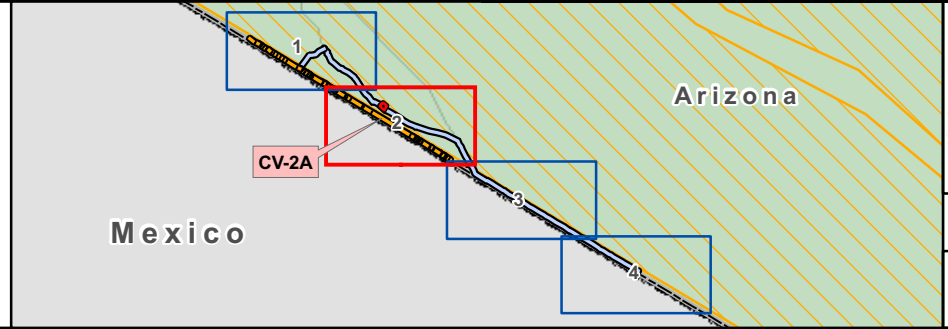
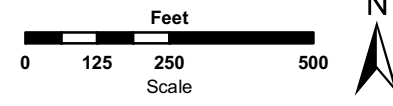
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113°40'0"W

32°50'0"N



-  Vehicle Fence
-  Access Roads
-  Staging Areas
-  Wetlands/WOUS
-  Saguaro Locations
-  Surveyed Area
-  Federal Lands
-  Parks



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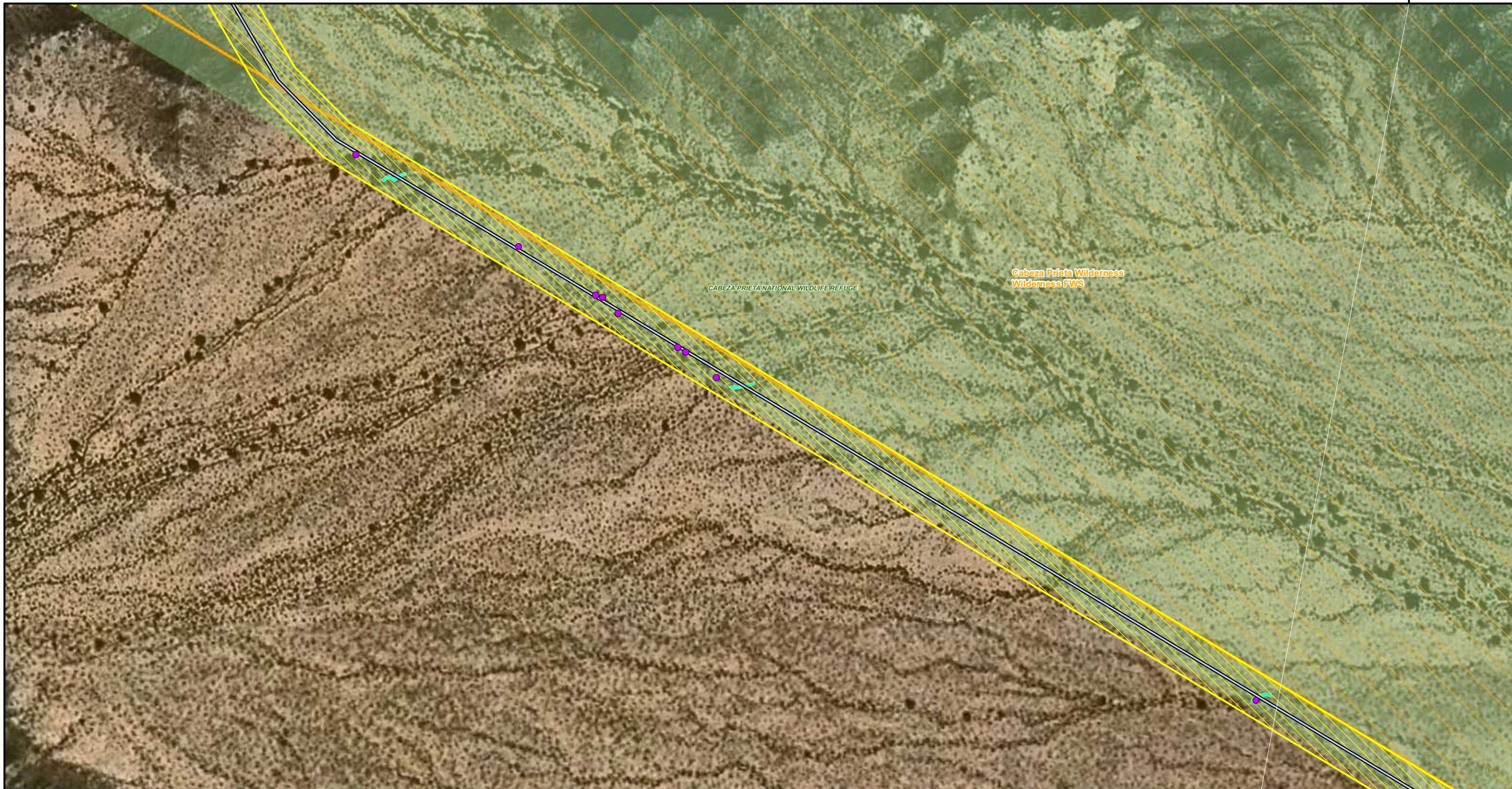
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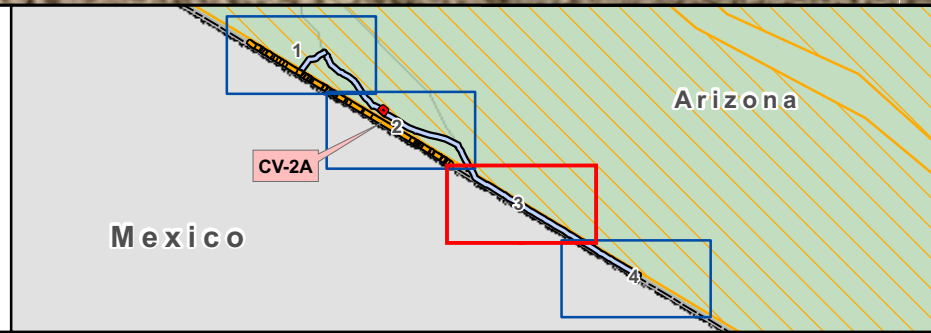
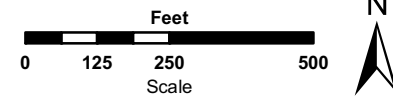
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-  Vehicle Fence
-  Access Roads
-  Staging Areas
-  Wetlands/WOUS
-  Saguaro Locations
-  Surveyed Area
-  Federal Lands
-  Parks



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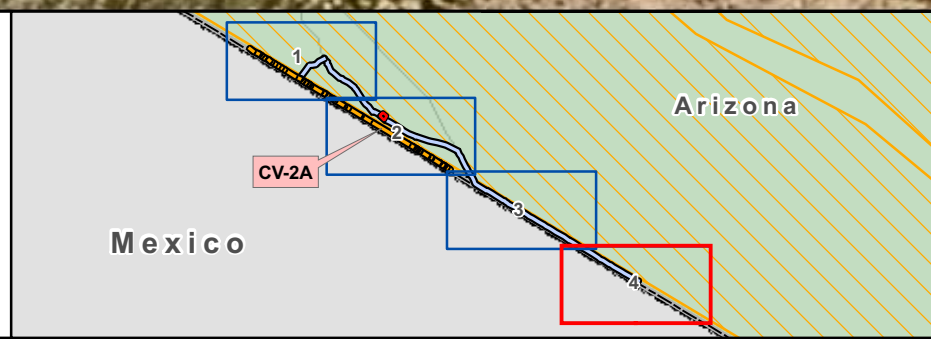
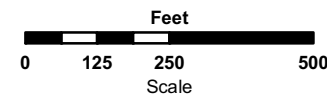
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32°8'0"N



-  Vehicle Fence
-  Access Roads
-  Staging Areas
-  Wetlands/WOUS
-  Saguaro Locations
-  Surveyed Area
-  Federal Lands
-  Parks



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US Customs and Border Patrol
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APPENDIX E

Biological Survey Report



BIOLOGICAL SURVEY REPORT
FOR
CONSTRUCTION, OPERATION, AND MAINTENANCE OF
TACTICAL INFRASTRUCTURE
CV-2A



U.S. DEPARTMENT OF HOMELAND SECURITY
U.S. CUSTOMS AND BORDER PROTECTION
U.S. BORDER PATROL
YUMA SECTOR, ARIZONA

Prepared by



engineering-environmental Management, Inc. (e²M)
9563 S. Kingston Court, Suite 200
Englewood, CO 80112

e²M Project No.: 4100-984

JANUARY 2009

ABBREVIATIONS AND ACRONYMS

°F	Degrees Fahrenheit
APE	Area of Potential Effect
AZDA	Arizona Department of Agriculture
AGFD	Arizona Game and Fish Department
BMP	Best Management Practice
BSR	Biological Survey Report
CBP	U.S. Customs and Border Protection
CFR	Code of Federal Regulations
CPNWR	Cabeza Prieta National Wildlife Refuge
CWA	Clean Water Act of 1977
e ² M	engineering-environmental Management, Inc.
ESP	Environmental Stewardship Plan
GIS	Geographic Information System
ISDA	International Sonoran Desert Alliance
IVCS	International Vegetation Classification System
OHM	Ordinary High Watermark
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator

**BIOLOGICAL SURVEY REPORT
FOR
CONSTRUCTION, OPERATION AND MAINTENANCE
OF TACTICAL INFRASTRUCTURE CV-2A**

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1. Introduction

1

2 This Biological Survey Report (BSR) synthesizes information collected from a
3 variety of literature sources and field surveys to describe the biological resources
4 within the Project corridor, provides supporting information from the Project
5 region, allows evaluation of the potential impacts of the Project on biological
6 resources, and provides the basis of recommendations for avoidance or
7 reduction of those impacts using mitigation, including best management practices
8 (BMPs). To complete this BSR, information was gathered from publicly available
9 literature, data provided by relevant land management agencies, reviews of
10 aerial photography and U.S. Geological Survey (USGS) topographic maps, data
11 from the State of Arizona, data from NatureServe, and field surveys of the Project
12 corridor conducted from September to December, 2008.

13 The BSR analyzes the potential impacts on biological resources resulting from
14 the construction, operation, and maintenance of the Project. The BSR was
15 prepared as an independent document that is an attachment to the
16 Environmental Stewardship Plan (ESP) developed for this Project.

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2. Project Description

2 U.S. Customs and Border Protection (CBP) will construct, maintain, and operate
3 tactical infrastructure consisting of approximately 1.6 miles of vehicle fence and
4 2.9 miles of associated access roads along the U.S./Mexico international border
5 in the U.S. Border Patrol (USBP), Yuma Sector, Arizona. The Area of Potential
6 Effect (APE) for the fence construction extends along the U.S./Mexico
7 international border in Arizona, within the Cabeza Prieta National Wildlife Refuge
8 (CPNWR), and within the 60-foot Roosevelt Reservation. The APE for the
9 access road is the area along existing dirt tracks near the fence construction and
10 the construction of two new sections of road that connect the existing dirt track to
11 the fence alignment. Some access roads will cross designated wilderness lands
12 within the CPNWR. An existing access road that crosses the Organ Pipe Cactus
13 National Park will also be utilized. The tactical infrastructure will be constructed
14 in areas of the border that are not currently fenced and will assist U.S. Border
15 Patrol agents in reducing illegal cross-border activities. Vehicle fencing will be
16 Normandy-style and Post-on-Rail style, as terrain and operational need dictates.
17 Fencing will be engineered to not impede water flow, designed to survive
18 extreme climate changes, and reduce or minimize impediments to small animal
19 migration, and minimize scour at wash crossings. Fencing will be able to
20 withstand vandalism and be aesthetically pleasing to the extent possible.
21 Construction access roads will generally run parallel to the fence sections and
22 the total footprint will be approximately 60 feet wide, expanding as necessary for
23 access roads and staging areas. New access roads will generally run 28 feet
24 wide and will run from existing access roads to the new construction road along
25 the border.

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3. Survey Methods and Limitations

To provide flexibility in placement of tactical infrastructure within the Project corridor and to ensure consideration of impacts due to construction, patrol, and maintenance, surveys were conducted on an approximately 30-acre area within a 150-foot corridor associated with the fence alignment. An additional approximately 22-acre area was surveyed for the access roads. The combined areas are hereafter defined as the “survey corridor.” Field surveys of Section CV-2a were conducted on September 29, November 24, and December 10, 2008, to determine plant communities, wetlands, and other waters of the United States and potential for presence of cultural and archaeological sites.

Surveys were conducted by biologists of engineering-environmental Management, Inc. (e²M): Ed Kulinski (staff biologist) and Shannon Cauley (senior biologist) to look at the survey corridor along the fence alignment. e²M senior biologist, Rod Dossey surveyed the corridor along the access roads. Biologists walked the Project corridor to conduct this survey. Observation data (Universal Transverse Mercator [UTM] coordinates, photographs, field notes, environmental information, vegetation structure, and plant community composition) were recorded at regular intervals along the corridor where vegetation occurred as homogenous stands, and also where plant communities presented substantial shifts in species composition. These data were used to generate a vegetation classification and map to facilitate delineation of habitat types, analyses of potential sensitive species occurrences, and analyses of potential project impacts on biological resources. Although no protocol surveys were conducted, botanists and wildlife biologists specifically examined habitats to determine the potential for presence of state and federally listed species (see **Table 1**).

Table 1. Federal and State Threatened and Endangered Species in Yuma County, Arizona

Common Name	Scientific Name	Federal Status	State Status
Fish			
Razorback sucker	<i>Xyrauchem texanus</i>	LE	WSC
Amphibians			
None			
Reptiles			
Sonoran desert tortoise	<i>Gopherus agassizii</i>	SA	WSC
Flat-tailed horned lizard	<i>Phrynosoma mcallii</i>	SC	WSC
Yuman desert fringe-toed lizard	<i>Uma rufopunctata</i>	SC	WSC

Common Name	Scientific Name	Federal Status	State Status
Birds			
Great egret	<i>Ardea alba</i>		WSC
Cactus ferruginous pygmy-owl	<i>Claucidium brasilianum cactorum</i>	SC	WSC
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	C	WSC
Snowy egret	<i>Egretta thula</i>		WSC
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	LE	WSC
Bald eagle	<i>Haliaeetus leucocephalus</i>	SC	WSC
Least bittern	<i>Ixobrychus exilis</i>		WSC
California black rail	<i>Laterallus jamaicensis coturniculus</i>	SC	WSC
Yuma clapper rail	<i>Ralus longirostris yumanensis</i>	LE	WSC
Mammals			
Sonoran pronghorn	<i>Antilocapra americana sornoriensis</i>	LE	WSC
Spotted bat	<i>Euderma maculatum</i>	SC	WSC
Western yellow bat	<i>Lasiurus xanthinus</i>		WSC
Lesser long-nosed bat	<i>Leptonycteris curasoae yuerbabuenae</i>	LE	WSC
Plants			
Parish onion	<i>Allium parishii</i>		SR
Clustered barrel cactus	<i>Echinocactus polycephalus</i>		SR
California barrel cactus	<i>Ferocactus cylindraceus</i>		SR
Senita	<i>Loophocereus schottii</i>		SR
Straw-top cholla	<i>Opuntia echinocarpa</i>		SR
Sand food	<i>Pholisma sonorae</i>	SC	HS
Kearney sumac	<i>Rhus kearneyi</i>		SR
Blue sand lily	<i>Triteleopsis palmeri</i>		SR
California fan palm	<i>Washingtonia filifera</i>		SR

1 Sources: AGFD 2008, USFWS 2008

2 Notes:

3 LE = Federal Endangered; SC = Federal Species of Concern; SOA Protected due to Similarity of
4 Appearance to a Federal listed species

5 WSC = Wildlife of Special Concern in Arizona

6 HS = State Highly Safeguarded Species

7 SR = State Salvage Restricted Species (can only collect with a permit)

8 SA = State Salvage Assessed Species (permit is required to remove a live tree)

1

4. Environmental Setting

2 The Project area is part of the Sonoran Desert. The 100,000-square-mile
3 Sonoran Desert is surrounded by mountains, and therefore, the region has a
4 continental climate type with variability of both diurnal and seasonal
5 temperatures. Average temperatures in the Sonoran Desert range from below
6 freezing in the winter up to 134 degrees Fahrenheit (°F). The average annual
7 precipitation of the Sonoran Desert ranges from 3 to 15 inches (Arizona-Sonora
8 Desert Museum 2008).

9 The CPNWR is the third largest refuge in the contiguous United States, it is
10 approximately 1,500 square miles, and shares a 56-mile border with Sonora,
11 Mexico. The wildlife refuge was established in 1990 and is within the Sonoran
12 Desert Ecosystem. The name Cabeza Prieta is Spanish for “dark head,”
13 referring to the remote, granite peaks in the western portion of the refuge.
14 Similar to the Sonoran Desert, the refuge is characterized by long, dry, hot
15 summers, mild winters, and sparse precipitation (CPNWR 2008).

16 The CPNWR is home to as many as 391 plant species and more than 300
17 wildlife species including creosote (*Larrea tridentata*), triangle-leaf bursage
18 (*Ambrosia deltoidea*), mesquite (*Prosopis glandulosa*), palo verde (*Parkinsonia*
19 spp.), ironwood (*Olneya tesota*), ocotillo (*Fouquieria splendens*), cholla (*Opuntia*
20 spp.), and saguaro (*Carnegiea gigantea*). Wildlife species include the
21 endangered Sonoran pronghorn (*Antilocapra americana sonoriensis*) and lesser
22 long-nosed bat (*Leptonycteris curasoae yuerbabuenae*). Other species include
23 desert bighorns (*Ovis canadensis nelsoni*), elf owls (*Micrathene whitneyi*), gila
24 woodpeckers (*Melanerpes uropygialis*), desert tortoise (*Gopherus agassizii*),
25 several lizards, and rattlesnakes (CPNWR 2008).

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5. Biological Resources

5.1 Vegetation Classification for CV-2a

NatureServe (2008) has defined ecological systems to represent recurring groups of biological communities that are found in similar physical environments and are influenced by similar dynamic ecological processes such as fire or flooding. Ecological systems represent classification units that are readily identifiable by conservation and resource managers in the field. The ensuing vegetation description for the Project area was prepared in the framework of ecological systems that include (1) Sonoran Desert Outcrop Desert Scrub (CES302.760), (2) Sonoran Paloverde-Mixed Cacti Desert Scrub (CES302.761), and (3) North American Warm Desert Bedrock Cliff and Outcrop (CES302.745) (NatureServe 2008).

Classification of existing vegetation within this corridor was achieved by accessing the Project corridor and staging areas as proposed, sampling observation points, and relating them to the NatureServe Explorer classification database (2008). At the coarsest level, the ecological system was determined and local vegetation type described using the international system. A finer level of classification equaling or approximating the vegetation association level of the National Vegetation Classification System (NatureServe 2008) was used to prepare the plant community discussion.

Dominant vegetative species at the eastern end of CV-2a include yellow palo verde (*Cercidium microphyllum*), creosote (species name in italics), and elephant tree (*Bursera microphylla*). According to the International Vegetation Classification System (IVCS) used by NatureServe, the eastern and western ends of the CV-2a survey corridor represent yellow palo verde-creosote bush shrublands, composing 5.2 acres on the eastern end and 17.4 acres on the western end. Analysis of aerial photography revealed that these areas are comprised of 20 percent yellow palo verde, 40 percent elephant tree, and 10 percent creosote, with an increase in ocotillo (species name in italics) on the western end. Interrupting the yellow palo verde-creosote bush shrubland is a band of ocotillo shrublands association composing approximately 7.6 acres. Additional vegetative cover in these areas included triangle-leaf bursage (species name in italics), saguaro (species name in italics), brittlebush (*Encelia farinosa*), limberbush (*Jatropha* sp.), ocotillo, teddy-bear cholla (*Opuntia bigelovii*), diamond cholla (*Opuntia ramosissima*), silver cholla (*Opuntia echinocarpa*), cane cholla (*Opuntia spinosior*), devil cholla (*Opuntia emoryi* Engelm), and white ratany (*Krameria grayi*).

The access roads occurred at a lower elevation and were composed primarily of creosote-burrobush (*Ambrosia dumosa*) shrubland. A total of 20.5 acres was dominated by creosote, burrobush, and teddy bear cholla. Additional species that occurred here are saguaros, desert mistletoe, elephant trees, brittlebush,

1 ironwood, ocotillo, pincushion cactus, pencile cholla, rattlesnake weed, and
2 hedgehog cactus (See **Figure 1** and **Table 2**).

3 **Table 2. Potential Vegetation Impacts on CV-2a**

Plant Community	Total Acreage
Yellow palo verde-creosote bush shrublands	22.6 acres (5.2 on eastern end of site and 17.4 on western end of site)
Ocotillo shrublands	7.6 acres along central portion of fence alignment
Creosote burrobush shrubland	20.5 acres along the access roads

4

5 A list of plant species observed during the field survey and wetlands indicator
6 status is provided in **Table 3** and representative communities and community
7 transitions are included in **Photographs 1** through **8**. Thirty-three plant taxa
8 were identified during the survey.

9 **5.2 Noxious Weeds and Invasive Nonnative Plant Species**

10 Noxious weeds have been addressed nationally under Noxious Weed Control
11 and Eradication Act of 2004 (7 United States Code [U.S.C.] 7781 et seq.)
12 “Subtitle E – Noxious Weed Control and Eradication.” The Arizona legislature
13 addressed noxious weeds under Title 3 – Agriculture; Chapter 2 – Regulatory
14 Provisions; Article 1 – Dangerous Plant Pests and Diseases; Section 3-205.01 –
15 Summary abatement of noxious weeds, crop pests, or diseases under
16 preapproved programs (State of Arizona 2008). The Project corridor does not
17 support Federal- or state-listed noxious weeds (USDA 2006).

18 **5.3 Protected Native Plants**

19 The Arizona Department of Agriculture (AZDA) oversees rules to use and harvest
20 native plants, including protected native plant species. Four categories of
21 protected native plants have been established by the AZDA (2008):

22 **Highly Safeguarded** – prospects for survival in Arizona are in jeopardy or are in
23 danger of extinction.

24 **Salvage Restricted** – subject to damage by theft or vandalism.

25 **Salvage Assessed** – have sufficient value if salvaged to support the cost of
26 salvage.

27 **Harvest Restricted** – subject to excessive harvesting or overcutting because of
28 their intrinsic value.

29

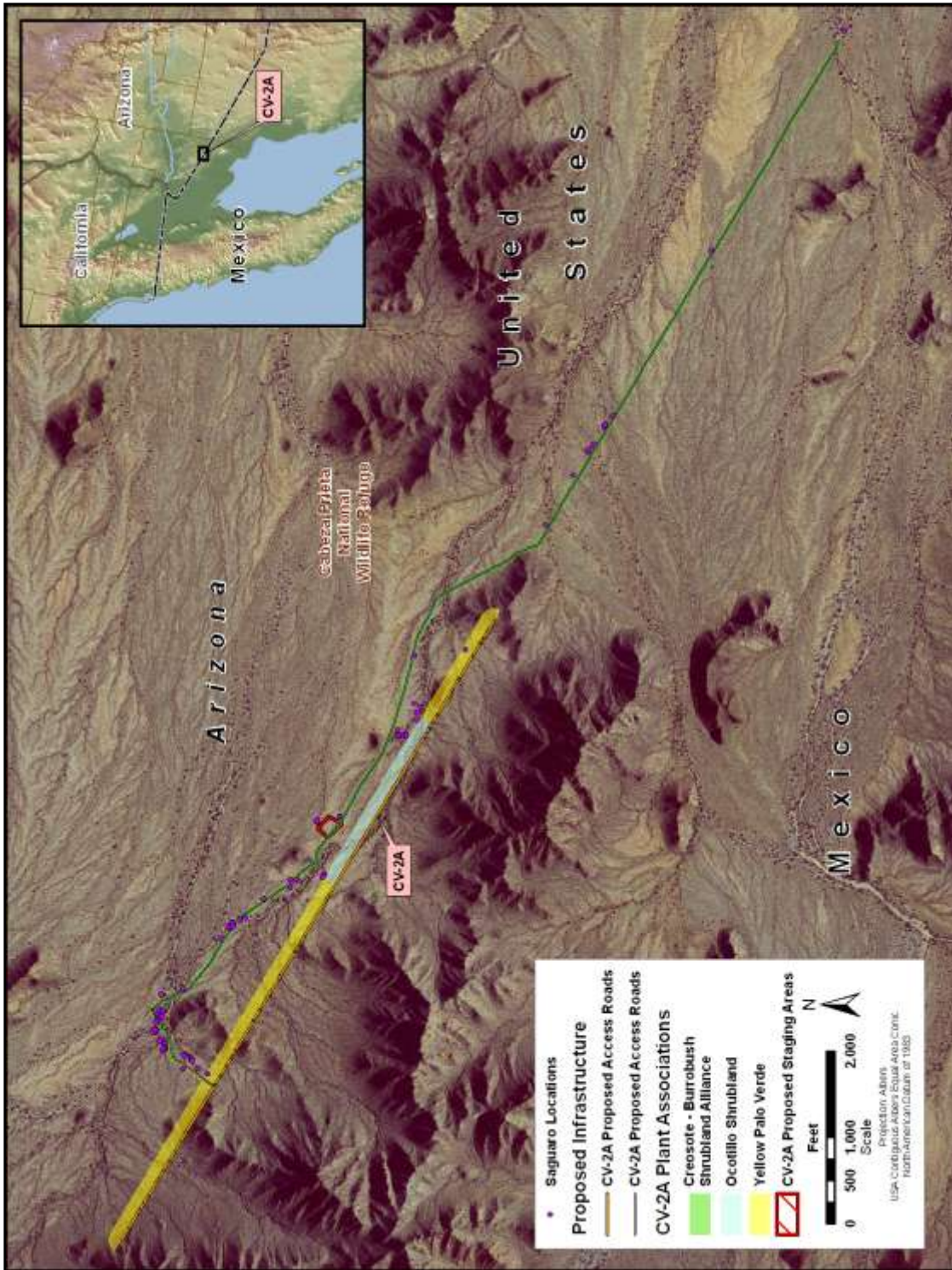


Figure 1. Vegetation Present in CV-2a

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2

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Table 3. List of Plant Species Identified During Section Surveys

Common Name (Scientific Name)	Wetland Indicator Status
Catclaw acacia (<i>Acacia greggii</i>)	Upland
Triangle-leaf bursage (<i>Ambrosia deltoidea</i>)	Upland
Burro-bush (<i>Ambrosia dumosa</i>)	Upland
4-Wing saltbush (<i>Atriplex canescens</i>)	Upland
Rush sweetbush (<i>Bebbia juncea</i>)	Upland
Elephant tree (<i>Bursera microphylla</i>)	Upland
Saguaro (<i>Carnegiea gigantea</i>)	Upland
Yellow palo verde (<i>Cercidium microphyllum</i>)	Upland
<i>Chamaesyce</i> sp.	Upland
Finger leaved gourd (<i>Cucurbita digitata</i>)	Upland
Diamond cholla (<i>Cylindropuntia ramosissima</i>)	Upland
Datura (<i>Datura</i> sp.)	Upland
Hedge hog cactus (<i>Echinocactus</i> sp.)	Upland
Brittlebush (<i>Encelia farinosa</i>)	Upland
Rayless encelia (<i>Encelia frutescens</i>)	Upland
Ocotillo (<i>Fouquieria splendens</i>)	Upland
Cheese bush (<i>Hymenoclea salsola</i>)	Upland
Desert lavender (<i>Hyptis emoryi</i>)	Upland
Bindweed (<i>Ipomoea</i> sp.)	Upland
Limberbush (<i>Jatropha cardiophylla</i>)	Upland
White ratany (<i>Krameria grayi</i>)	Upland
Creosote (<i>Larrea tridentata</i>)	Upland
Box-thorn (<i>Lycium andersonii</i>)	Upland
Globe mallow (<i>Sphaeralcea</i> sp.)	Upland
Pincushion cactus (<i>Mammillaria</i> sp.)	Upland
Ironwood (<i>Olneya tesota</i>)	Upland
Teddy-bear cholla (<i>Opuntia bigelovii</i>)	Upland
Silver cholla (<i>Opuntia echinocarpa</i>)	Upland
Devil cholla (<i>Opuntia emoryi</i> Engelm)	Upland
Plantain (<i>Plantago</i> sp.)	Upland
Galleta grass (<i>Pleuraphis rigida</i>)	Upland
Mesquite (<i>Prosopis glandulosa</i>)	Upland
Total # of FACW- to OBL Species	0

2



Photograph 1. View of survey corridor from the south

1



Photograph 2. View to the east along survey corridor from western end of

survey corridor (arrow indicates location of Boundary Marker 183)



Photograph 3. Vegetation zone transition from yellow palo verde-creosote shrubland to an ocotillo shrubland

1



Photograph 4. Vegetation zone transition from ocotillo shrubland to yellow palo verde-creosote shrubland



Photograph 5. Example of creosote-burrobush shrubland

1



Photograph 6. Example of creosote-burrobush shrubland, with partial herbivory on the saguaro in the foreground



Photograph 7. View of western end of the survey corridor



Photograph 8. Two saguaros without frost damage

1 During the survey ocotillo and saguaro were the only protected native plant
2 species found and both are listed as salvage restricted. While saguaro can be
3 commonly found within much of the Project area, it is an important habitat for the
4 federally endangered lesser long-nosed bat and thus of special concern.

5 In general, landowners have the right to destroy or remove plants growing on
6 their land, but 20 to 60 days prior to the destruction of any protected native plants
7 landowners are required to notify the AZDA (AZDA 2008). The landowner also
8 has the right to sell or give away any plant growing on the land; however,
9 protected native plants may not be legally possessed, taken, or transported from
10 the growing site without a permit from the AZDA. Prior to temporary use of the
11 parcel and prior to full-scale development of the parcel, the U.S. government
12 would notify the AZDA relative to the destruction of protected plants under
13 Arizona Revised Statutes (Department Statutes) 3-901 through 3-916 and under
14 Arizona Administrative Code (Department Rules) Article 11: Arizona Native
15 Plants; Sections R3-3-1101 through R3-3-1111 (AZDA 2008) (accessible online
16 at <http://www.azda.gov>).

17 **Table 4** contains the UTM coordinates, number of individuals and the height
18 class for saguaro individuals, identified in the survey corridors. There were only
19 2 saguaros found in the survey corridor fence alignment and 14 mapped in the
20 survey corridor for the access road alignment.

1 5.4 Wildlife and Wildlife Habitat

2 The CV-2a corridor is within the Sonoran Desert ecosystem. Wildlife flourishes
 3 in a wide array of species and large numbers of individuals due to the extant
 4 habitat diversity resulting in part from a warm climate year-round and low
 5 precipitation. Due to increasing development in Arizona, national wildlife refuges,
 6 state parks and wildlife areas, properties purchased for conservation by nonprofit
 7 organizations, and some private holdings are important links in the efforts to
 8 protect the tremendous biodiversity of the region. **Table 5** illustrates the wildlife
 9 encountered by biologists during the field survey.

10 Within the CV-2a Project corridor the available wildlife habitat consists of arid
 11 desert shrubland communities that have become established on ridges; slopes;
 12 alluvial fans and plains; and along arroyos, gullies, and desert washes.

13 The survey corridor transitioned from a yellow palo verde-creosote shrubland to
 14 an ocotillo shrubland, and back again (see **Figure 1** and **Photographs 3** and **4**).
 15 The shrubs characteristic to these shrublands are typically sparse to low in terms
 16 of cover; range from 1.6 feet to 13.1 feet tall; and include creosote-bush,
 17 limberbush, white bursage (*Ambrosia dumosa*), brittlebush, pencil cholla
 18 (*Opuntia arbuscula*), triangle-leaf bursage, teddy-bear cholla, and rush bebbia
 19 (*Bebbia juncea*). Characteristic shrubs of desert washes include cat claw acacia
 20 (*Acacia greggii*), brittlebush, wolfberry (*Lycium macrodon*), four-wing saltbush
 21 (*Atriplex canescens*), and mesquite. Shrublands provide sparse to low cover and
 22 are common on the alluvial fans and desert plains of the Sonoran Desert.

23 **Table 4. UTM Coordinates, Total Number of Individuals, and Height Class**
 24 **of Saguaro Along Survey Corridor**

UTM Coordinates (NAD83 12S)		Total Number of Individuals	Height Class for Each Individual		Condition
E	N		< 6 feet	> 6 feet	
248471	3559473	2		2*	Minimal frost damage
246839	3560128	1	1		Minimal damage at base
247005	3560332	1	1		No damage
246999	3560335	1	1		Damage at base
246992	3560336	1	1		No damage
250008	3558844	1		1	Minimal damage, uncertain of cause
249377	3559092	1		1	No damage
248420	3559646	1	1		No damage
247569	3559931	1	1		No damage
247398	3560101	1		1	No damage

UTM Coordinates (NAD83 12S)		Total Number of Individuals	Height Class for Each Individual		Condition
E	N		< 6 feet	> 6 feet	
247371	3560123	1	1		No damage
247377	3560128	1	1		No damage
247372	3560130	1	1		Damage at base
247360	3560133	1	1		Damage at base
247121	3560261	1		1	No damage

1 Note: * Indicates the two saguaros that occurred within the 150-foot (but not the 60-foot) corridor.

2 **5.5 Species Groups and Habitat Affinity**

3 **5.5.1 Mammals**

4 Forty-eight species of mammals have been recorded in the CPNWR. The largest
 5 species groups include bats (13) and rats and mice, including pocket mice (13).
 6 Most of the mammals are nocturnal (night-active) or crepuscular (dusk- and
 7 dawn-active), and with the exception of the bat species are year-round residents.
 8 Relatively common species of mammals within the survey corridor include desert
 9 cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*),
 10 coyote (*Canis latrans*), kit fox (*Vulpes macrotis*), desert kangaroo rat (*Dipodomys*
 11 *deserti*), round-tailed ground squirrel (*Spermophilus tereticaudus*), Arizona
 12 pocket mouse (*Perognathus amplus*), cactus mouse (*Peromyscus eremicus*),
 13 southern grasshopper mouse (*Onychomys leucogaster*), and pocket gopher
 14 (*Geomys* spp.). Two federally endangered mammal species and one mammal
 15 species of conservation concern have the potential to occur within the survey
 16 corridor—the Sonoran pronghorn, lesser long-nosed bat, and spotted bat
 17 (*Euderma maculatum*).

18 **Table 5. Wildlife Observed During Natural Resources Surveys**
 19 **Conducted September 29, 2008**

Common Name / Scientific Name	Federal and State Status
Mammals	
Desert cottontail (<i>Sylvilagus audubonii</i>)	None
Round-tailed ground squirrel (<i>Spermophilus tereticaudus</i>),	None
Black-tailed jackrabbit (<i>Lepus californicus</i>),	None
Raccoon (<i>Procyon lotor</i>)	None
Coyote (<i>Canis latrans</i>)	None
Reptiles	
Side-blotched lizard (<i>Uta stansburiana</i>)	None
Birds	

Common Name / Scientific Name	Federal and State Status
Gila woodpecker (<i>Melanerpes uropygialis</i>)	None
Verdin (<i>Auriparus flaviceps</i>)	None
Blue-grey gnatcatcher (<i>Polioptila caerulea</i>)	None
Rock wren (<i>Salpinctes obsoletus</i>)	None

Sources: AGFD 2008, USFWS 2008

1 Sonoran pronghorns occur within the CPNWR with the refuge being central to its
2 distributional range (USFWS 2006). In 2004, the population estimate was 58
3 individuals and the trend has generally been downward since 1992. In 2002,
4 extreme drought resulted in the loss of 85 percent of the U.S. Sonoran pronghorn
5 herd. Sonoran pronghorns inhabit sites with good visibility and escape
6 opportunities (e.g., the alluvial fans and plains) but will use higher elevation
7 alluvial fans and hills with less visibility where vegetation is more abundant.
8 Their preferred forage is annual forbs, then they use the shrubs and trees of
9 desert washes and hills as the forbs dry (132 plant species are known to
10 compose the Sonoran pronghorn diet). Desert washes provide important thermal
11 cover. Sonoran pronghorns use free-standing water when it is available and also
12 rely on moisture from vegetation in addition to metabolic water.

13 The Sonoran pronghorn population was reduced drastically during the 1800s and
14 1900s due to hunting; livestock grazing; exposure to livestock diseases;
15 predation by coyote, mountain lion, and bobcat; drought; dewatering of river
16 systems; construction of highways, railroads, and canals; military training;
17 exposure to recreationists; illegal drug smuggling activities; undocumented alien
18 crossings of habitat; and long-term climate change to a hotter and drier
19 environment. The recovery objectives focus on maintaining genetic diversity
20 (i.e., a minimum of 500 animals); a population of at least 300 adult Sonoran
21 pronghorn was necessary to ensure long-term survival (with some loss of genetic
22 diversity).

23 The lesser long-nosed bat is a federally endangered mammal that roosts in
24 caves and abandoned tunnels in southern Arizona and New Mexico and the
25 adjacent Mexican states of Sonora and Chihuahua. It forages at night primarily
26 on nectar, pollen, and fruit of columnar cactus and agave and has been observed
27 foraging at hummingbird feeders. Lesser long-nosed bats occur in southwestern
28 Arizona from April to September and use a maternity roost within CPNWR, one
29 of three maternity roosts in the United States. The lesser long-nosed bat also
30 uses smaller roost sites within the refuge, and surveys of potential roost sites are
31 ongoing. Two migration routes are apparently used (e.g., an early spring route
32 connects maternity colonies in coastal Sonora and southwestern Arizona and
33 Jalisco via the west coast of Mexico). Late season routes connect transitory
34 roosts in southeastern Arizona with winter range in Mexico, including the foothills
35 of the Sierra Madre.

1 As many as 60,000 individual lesser long-nosed bats might forage and roost in
2 southern Arizona and New Mexico (USFWS 2006). They roost in caves and
3 mine shafts near populations of columnar cacti (two species) and agave (three
4 species). The reasons for listing this species were (1) long-term decline in
5 populations, (2) recent reports of its absence from previously occupied sites,
6 (3) decline in the pollination of certain agave species, and (4) concern about
7 death of an ecosystem if these bats are absent. The *Lesser Long-nosed Bat*
8 *Recovery Plan* (USFWS 1994) included six objectives: (1) continue protecting
9 roost sites and evaluate the need for and implement protection for food plants;
10 (2) monitor all major roosts in Arizona, New Mexico, and Mexico once per year;
11 (3) continue surveying for additional roosts in the United States and Mexico;
12 (4) develop and conduct a public education and information campaign in Arizona,
13 New Mexico, and Mexico on the beneficial aspects of bats in general and the
14 lesser long-nosed bat specifically; and (5) conduct critical research on population
15 census techniques, physical requirements for roosts, foraging ranges of roosts,
16 reproduction and mating systems, and other life history and habitat questions.

17 The spotted bat is a species of conservation concern whose north-central range
18 includes the survey corridor (Organization for Bat Conservation 2008). Little is
19 known about this species life history or reproductive cycle. Studies have shown
20 that the spotted bat feeds entirely on moths. Spotted bats and bats in general
21 are sensitive to disturbances and sites used in CPNWR have an absence of
22 visitation, development, and ongoing mining activities.

23 **5.5.2 Birds**

24 CPNWR supports at least 41 bird species (USFWS 2006). Raptors that
25 commonly use area habitats include red-tailed hawk (*Buteo jamaicensis*),
26 Cooper's hawk (*Accipiter cooperii*), Harris hawk (*Parabuteo unicinctus*), elf owl
27 (*Micrathene whitneyi*), turkey vulture (*Cathartes aura*), and raven (*Corvus corax*)
28 (USFWS 2006). Passerine bird species and groups of birds common to the
29 Project corridor include mourning (*Zenaida macroura*) and white-winged
30 (*Zenaida asiatica*) doves; Gambel's quail (*Callipepla gambelii*); greater
31 roadrunner (*Geococcyx californianus*); lesser nighthawk (*Chordeiles*
32 *acutipennis*); cactus wren (*Campylorhynchus brunneicapillus*); phainopepla
33 (*Phainopepla nitens*); Costa's hummingbird (*Calypte costae*); black-tailed
34 gnatcatcher (*Polioptila melanura*); loggerhead shrike (*Lanius ludovicianus*);
35 verdin (*Auriparus flaviceps*); LeConte's thrasher (*Toxostoma lecontei*); western
36 wood peewee (*Contopus sordidulus*); Nashville (*Vermivora ruficapilla*),
37 MacGillivray's (*Oporornis tolmiei*), yellow (*Dendroica petechia*), and Wilson's
38 (*Wilsonia pusilla*) warblers; ruby-crowned kinglet (*Regulus calendula*); black-
39 throated (*Amphispiza byline*), Brewer's (*Spizella breweri*), vesper (*Pooecetes*
40 *gramineus*), white-crowned (*Zonotrichia leucophrys*), and sage (*Amphispiza belli*)
41 sparrows; black-headed grosbeak (*Pheucticus melanocephalus*); gilded flicker
42 (*Colaptes chrysoides*); and Gila woodpecker (*Melanerpes uropygialis*).

1 In general, the refuge serves as an important refugium for cavity-nesting,
2 insectivorous, ground-nesting, and low-shrub foraging species of birds (USFWS
3 2006).

4 More than 800 species of birds spend all or part of their lives in the United States
5 as they migrate from summer breeding grounds in the north to winter in warmer
6 climates of the south, including Latin America. Because migratory birds depend
7 on habitats across many political boundaries, a coordinated conservation effort
8 has been established internationally, with the USFWS being the principal Federal
9 authority in the United States (Migratory Bird Treaty Act 1918 [16 U.S.C. 703–
10 712]).

11 The establishment of the CPNWR in addition to other Federal lands is important
12 to migratory bird management. The primary function of lands managed under
13 the National Wildlife Refuge System is to provide habitat for waterfowl and
14 shorebirds in addition to other wildlife-related benefits. Federal agencies in
15 general are responsible to protect migratory birds under Executive Order 13186
16 (2001). This executive order states that migratory birds are of great ecological
17 and economical value to the United States and other countries. They contribute
18 to biological diversity and bring tremendous enjoyment to those who study,
19 watch, feed, or hunt them and the critical importance of this shared resource has
20 been recognized through ratification of international, bilateral conventions for
21 migratory bird conservation.

22 **5.5.3 Reptile and Amphibians**

23 A species list of 51 herpetiles was compiled for CPNWR habitats: 20 lizard
24 species, 14 colubrid snakes, 6 rattlesnakes, the Gila monster, desert tortoise,
25 and 9 amphibians (USFWS 2006).

26 Three reptile species of conservation concern have been addressed by CPNWR
27 (USFWS 2006). These species are the Arizona chuckwalla (*Sauromalus ater*),
28 desert tortoise, and flat-tailed horned lizard (*Phrynosoma mcallii*). The flat-tailed
29 horned lizard is adapted to active sand dunes and flats and has not been
30 documented in the CPNWR (USFWS 2006). Arizona chuckwallas are adapted to
31 rocky sites including lava flows, outcrops, hillsides, and slopes; they are active in
32 temperatures exceeding 102 °F. The Arizona chuckwalla forages primarily on
33 annual vegetation, a few perennial plants, and sometimes insects (USFWS
34 2006). Desert tortoises of the Project region are of the Sonoran population that
35 is not considered federally threatened (the Mojave population is federally listed).
36 The Sonoran population has limited protection due to its status of listed as
37 similarity of appearance, but not in the areas where this project occurs. They
38 occur in paloverde-mixed cacti associations where boulders, outcrops, and
39 natural cavities with deep enough soil to support excavations as shelters are
40 important habitat components. Potential tortoise burrows were observed near the
41 northern end of the alignment. Desert tortoises forage on annual vegetation
42 (they prefer native species over nonnatives), perennial plants, vegetation litter,
43 cactus fruits, arthropods, bones, soil, and vertebrate feces. Populations appear

1 to be stable or increasing based on 10-year-old studies (USFWS 2006).
2 Principal threats to populations and individual desert tortoise include (1) habitat
3 fragmentation, (2) habitat loss and degradation due to development, (3) wildfires
4 fueled by invasive and nonnative forbs and grasses, (4) illegal collection, and
5 (5) genetic contamination by escaped or released captive tortoises from the pet
6 trade.

7 **5.5.4 Invertebrates**

8 Invertebrates are important in the Sonoran Desert, for example, there is a
9 species of termite that consumes woody material and provides soil nutrients from
10 both dead and living plant tissues (USFWS 2006). Invertebrates are important
11 pollinators of desert flowers and provide a source of food for birds, mammals,
12 and herpetiles. A list of the Sonoran Desert arthropods has been prepared by
13 the Cabeza Prieta Natural History Association (CPNHA 2008). The list presently
14 includes 99 butterfly, skipper, and moth species; 13 spiders; 6 bees, wasps, and
15 flies; 5 scorpions, 3 centipede and millipede species; and 3 bug and beetle
16 species.

17 A single painted lady butterfly was observed during the October survey. There
18 are no sensitive invertebrate species at Cabeza Prieta. Nocturnal invertebrates
19 also serve as a primary food source for many of the bat species.

20 **5.6 Habitat Conservation, Restoration and Monitoring**

21 The USFWS adopted an ecosystem approach to wildlife conservation within the
22 CPNWR in order to recognize the interdependence of all elements of the system,
23 increase cooperation among USFWS programs, and increase partnerships to
24 achieve conservation goals (USFWS 2006). CPNWR occurs in the southwestern
25 corner of the Gila/Salt/Verde Ecosystem, one of nine ecosystem units within the
26 USFWS Southwest Region. Wildlife conservation objectives related to the desert
27 system of the survey corridor are listed as action items under the strategy
28 statement "Protect, maintain, and restore ecosystem function for terrestrial
29 habitats including federally listed, candidate, and state-listed species."
30 Applicable action items include (1) gather information on habitat use (and role of
31 free water) and disturbances to Sonoran pronghorn through telemetry,
32 behavioral, and habitat studies; (2) complete range-wide Sonoran pronghorn
33 surveys over a 6-year period to establish a trend for recovery purposes;
34 (3) upgrade Geographic Information System (GIS) hardware and complete
35 electronic database for Sonoran pronghorn range; (4) initiate and design a
36 comprehensive strategic regional plan for the area represented by the
37 International Sonoran Desert Alliance (ISDA), which integrates individual
38 management plans; (5) determine presence and genetics of obligate rock-
39 dwelling reptiles to investigate effects of isolated desert mountain ranges; and
40 (6) initiate a pilot study of desert bighorn sheep to determine genetics of isolated
41 bands to further determine degree of isolation for disease and transplant
42 implications (USFWS 2006).

1 The ISDA is a nonprofit corporation founded in 1993 and is governed by a board
2 of directors representing the indigenous and nonindigenous populations of the
3 United States and Mexico (ISDA 2008). The corporation (1) promotes the
4 concept and practice of conservation throughout the Sonoran bioregion,
5 (2) provides education in ways of protecting and respecting valuable biological
6 and cultural resources and traditions, (3) develops creative and sustainable
7 solutions to critical local issues such as housing and economic development, and
8 (4) provides practical opportunities for individual and community action. ISDA
9 also hosts public meetings that provide opportunities for broad community
10 participation and seeks input from a wide cross-section of organizations,
11 individuals, and cultures.

12 Habitat restoration projects are performed by the ISDA using modern vertical
13 mulching techniques (e.g., “disappearing roads” project seeks to revegetate and
14 hide unnecessary or illegal vehicle tracks in the desert). The following tenets are
15 foremost in the restoration program:

- 16 • Publicity and participation in these projects help educate the public about
17 the reasons to avoid off-road driving.
- 18 • If the desert can be protected from off-road abuse, it will eventually
19 regenerate and heal itself.
- 20 • For the same reasons, ISDA sponsors regular trash and litter removal
21 projects that collect man-made refuse near desert water sources.

22 A Sonoran pronghorn project is being conducted by ISDA and includes the
23 following steps:

- 24 • ISDA volunteers have removed miles of barbed-wire fencing at Cameron
25 Tank and Bandeja Well in Arizona that were impediments to both Sonoran
26 pronghorn migration and access to water.
- 27 • ISDA has helped obtain funds to purchase equipment needed by the
28 Pinacate Biosphere Reserve (Mexico) to monitor its Sonoran pronghorn
29 herd.

30 **5.7 Wetlands and Waters of the United States**

31 Wetlands and other waters of the United States are regulated under Section 404
32 of the Clean Water Act (CWA) (33 U.S.C. 1344). The U.S. Army Corps of
33 Engineers (USACE) has been delegated the authority to regulate dredge and fill
34 activities in jurisdictional wetlands and other waters of the United States.

35 Wetlands and other waters of the United States are defined under 33 U.S.C.
36 1344, as follows:

- 37 a. The term “waters of the United States” means:

- 1 1. All waters which are currently used, or were used in the past, or
2 may be susceptible to use in interstate or foreign commerce,
3 including all waters which are subject to the ebb and flow of the
4 tide;
- 5 2. All interstate waters including interstate wetlands;
- 6 3. All other waters such as intrastate lakes, rivers, streams (including
7 intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie
8 potholes, wet meadows, playa lakes, or natural ponds, the use,
9 degradation or destruction of which could affect interstate or foreign
10 commerce including any such waters:
 - 11 i. Which are or could be used by interstate or foreign travelers
12 for recreational or other purposes; or
 - 13 ii. From which fish or shellfish are or could be taken and sold in
14 interstate or foreign commerce; or
 - 15 iii. Which are used or could be used for industrial purpose by
16 industries in interstate commerce;
- 17 4. All impoundments of waters otherwise defined as waters of the
18 United States under the definition;
- 19 5. Tributaries of waters identified in paragraphs (a)(1)-(4);
- 20 6. The territorial seas;
- 21 7. Wetlands adjacent to waters (other than waters that are themselves
22 wetlands) identified in paragraphs (a)(1)-(6);
- 23 8. Waters of the United States do not include prior converted
24 cropland. Notwithstanding the determination of an area's status as
25 prior converted cropland by any other federal agency, for the
26 purposes of the CWA, the final authority regarding CWA jurisdiction
27 remains with the EPA.
- 28 9. Waste treatment systems, including treatment ponds or lagoons
29 designed to meet the requirements of the Clean Water Act (CWA)
30 (other than cooling ponds as defined in 40 Code of Federal
31 Regulations(CFR) 123.11(m) which also meet the criteria of this
32 definition) are not waters of the United States.
- 33 b. The term "wetlands" means those areas that are inundated or saturated
34 by surface or groundwater at a frequency and duration sufficient to
35 support, and that under normal circumstances do support, a prevalence of
36 vegetation typically adapted for life in saturated soil conditions. Wetlands
37 generally include swamps, marshes, bogs, and similar areas.
- 38 c. The term "adjacent" means bordering, contiguous, or neighboring.
39 Wetlands separated from other waters of the United States by man-made
40 dikes or barriers, natural river berms, beach dunes and the like are
41 "adjacent wetlands."

- 1 d. The term "high tide line" means the line of intersection of the land with the
2 water's surface at the maximum height reached by a rising tide. The high
3 tide line can be determined, in the absence of actual data, by a line of oil
4 or scum along shore objects, a more or less continuous deposit of fine
5 shell or debris on the foreshore or berm, other physical markings or
6 characteristics, vegetation lines, tidal gages, or other suitable means that
7 delineate the general height reached by a rising tide. The line
8 encompasses spring high tides and other high tides that occur with
9 periodic frequency but does not include storm surges in which there is a
10 departure from the normal or predicted reach of the tide due to the piling
11 up of water against a coast by strong winds such as those accompanying
12 a hurricane or other intense storm.
- 13 e. The term "ordinary high water mark" means that line on the shore
14 established by the fluctuations of water and indicated by physical
15 characteristics such as clear, natural line impressed on the bank, shelving,
16 changes in the character of soil, destruction of terrestrial vegetation, the
17 presence of litter and debris, or other appropriate means that consider the
18 characteristics of the surrounding areas.

19 **5.7.1 Field Evaluation Summary**

20 Field surveys were conducted in Section CV-2a on September 29, November 21,
21 and December 10, 2008, to delineate jurisdictional wetlands and other waters of
22 the United States within the survey corridor. Formal delineations were conducted
23 within a 150-foot corridor associated with the fence alignment and along a 60-
24 foot-wide alignment along the access roads.

25 Determination of the occurrence and extent of jurisdictional wetlands and other
26 waters of the United States was based on the application of procedures
27 established in the USACE *Wetlands Delineation Manual*, Technical Report
28 Y-87-1 (USACE 1987) and the *Interim Regional Supplement to the Corps of*
29 *Engineers Wetland Delineation Manual: Arid West Region*, Technical Report
30 ERDC/EL TR-06-16 (USACE 2006). Determination of the occurrence of
31 jurisdictional wetlands was based on the presence or absence of hydrophytic
32 (wetland) vegetation, hydric (wetland) soils, and wetland hydrology. The
33 presence of all three of the criteria is necessary for an area to be designated as a
34 jurisdictional wetland under normal conditions.

35 Determination of the extent of jurisdictional washes and other waters of the
36 United States in the survey corridor was based on characterization of the
37 landward extent of the ordinary high water mark (OHM). Indicators used to
38 determine the occurrence and extent of jurisdictional washes included the
39 presence of developed channels, typically 2 feet or greater in width; the
40 occurrence of an OHM; the absence of fine sediments along flow paths; distinct
41 changes in the vegetative assemblage or larger or more dense vegetation than
42 surrounding areas; the presence of cut banks; the presence of litter, debris, or

1 wrack lines; occurrence of desiccation cracks or other indicators of hydrology;
2 and other indicators of the occurrence of intermittent water flow regimes.

3 All wetlands and other waters of the United States within the survey corridor were
4 delineated.

5 **Table 6** provides Waters of the United States types and locations (UTM
6 coordinates, NAD83, zone 12N), general channel characteristics and general
7 vegetation on the banks of each wash, delineated acreages within and adjacent
8 to the 150-foot corridor associated with the fence alignment and the 60-foot
9 corridor associated with the road, and potential impact acreages in Section CV-
10 2a. A 60-foot fence corridor to the north of the fence alignment and 0.76 acres of
11 associated access roads are considered the maximum potential impact area
12 associated with implementing the Project.

13 Based on the field surveys, 14 ephemeral wash channels occur within the
14 150-foot corridor associated with the fence alignment. An additional 13
15 jurisdictional ephemeral wash channels were identified along the access roads
16 A total of 3.03 acres of jurisdictional wash channels were delineated within the
17 survey corridor; 0.76 acres of wash channels occur within the impact corridor.
18 There were no vegetated wetlands identified within the survey corridor. Waters
19 of the United States delineated in Section CV-2a were designated as W1 through
20 W27.

21 **5.7.2 Wetlands Vegetation Summary**

22 Based on NatureServe designations, vegetation communities in the Project area
23 are characterized predominantly by yellow palo verde-creosote shrubland with
24 some ocotillo shrubland occurring in the central section of the alignment. The
25 access road alignment is dominated by creosote-burrobush. Vegetation species
26 characterizing the banks of each of the delineated washes within the 150-foot
27 assessment corridor are listed in **Table 6**.

28

Table 6. General Characteristics, Delineated Acreages, and Potential Impact Acreages of Delineated Waters of the United States in CV-2a

WOUS ID	WOUS Type	Location and UTM Coordinates	Flow	Approx. Channel Width at Base (feet)	Approx. Bank Height (feet)	Approx. Bank Slope (%)	General Substrate Comp. (%)	General Vegetation on Banks	WOUS Area Mapped (acres)	Potential Impact Area (acres)
W1	Wash	Approx. 475 feet NW of Monument 183 UTM: 248502.57 E 3559425.02 N	S	4	2	45	30 G 70 S	Trees and Tall Shrubs: <i>Olivea tesota</i> <i>Cercidium microphyllum</i> Short Shrubs and Forbs: <i>Ambrosia deltoidea</i> <i>Larrea tridentata</i> <i>Ambrosia dumosa</i>	0.13	0.02
W2	Wash	Approx. 170 feet NW of W1 UTM: 248453.97 E 3559444.60 N	S	6	4	60	10 C 30 G 60 S	Short Shrubs and Forbs: <i>Ambrosia deltoidea</i> <i>Larrea tridentata</i>	0.13	0.02
W3	Wash	Approx. 320 feet NW of W2 UTM: 248363.87 E 3559480.03 N	S	6	2	70	10 C 30 G 60 S	Short Shrubs and Forbs: <i>Ambrosia deltoidea</i> <i>Larrea tridentata</i>	0.17	0.03
W4	Wash	Approx. 665 feet NW of W3 UTM: 248173.86 E 3559555.29 N	S	15	3	45	10 G 90 S	Short Shrubs and Forbs: <i>Lycium andersonii</i> <i>Ambrosia deltoidea</i> <i>Larrea tridentata</i>	0.08	0.02
W5	Wash	Approx. 530 feet NW of W4 UTM: 248021.32 E 3559616.04 N	E	10	3	70	10 G 90 S	Trees and Tall Shrubs: <i>Cercidium microphyllum</i> Short Shrubs and Forbs: <i>Lycium andersonii</i> <i>Ambrosia deltoidea</i>	0.52	0.17

WOUS ID	WOUS Type	Location and UTM Coordinates	Flow	Approx. Channel Width at Base (feet)	Approx. Bank Height (feet)	Approx. Bank Slope (%)	General Substrate Comp. (%)	General Vegetation on Banks	WOUS Area Mapped (acres)	Potential Impact Area (acres)
W6	Wash	Approx. 1,505 feet NW of W5 UTM: 247308.21 E 3559898.52 N	SW	15	10	75	30 B 30 G 40 S	Trees and Tall Shrubs: <i>Carnegiea gigantea</i> <i>Cercidium microphyllum</i> <i>Fouquieria splendens</i> Short Shrubs and Forbs: <i>Larrea tridentata</i> <i>Encelia farinosa</i>	0.02	0.19
W7	Wash	Approx. 300 feet NW of W6 UTM: 247223.16 E 3559932.27 N	NE	4	3	45	50 C 25 G 25 S	Trees and Tall Shrubs: <i>Olneya tesota</i> <i>Cercidium microphyllum</i> <i>Carnegiea gigantea</i> Short Shrubs and Forbs: <i>Ambrosia deltoidea</i>	0.10	0.03
W8	Wash	Approx. 225 feet NW of W7 UTM: 247158.37 E 3559957.58 N	NE	8	2	45	30 C 40 G 30 S	Trees and Tall Shrubs: <i>Cercidium microphyllum</i> Short Shrubs and Forbs: <i>Ambrosia deltoidea</i>	0.15	0.02
W9	Wash	Approx. 890 feet NW of W8 UTM: 246906.60 E 3560057.81 N	N	3	2	45	50 C 30 G 20 S	Trees and Tall Shrubs: <i>Cercidium microphyllum</i> <i>Fouquieria splendens</i> Short Shrubs and Forbs: <i>Ambrosia deltoidea</i>	0.11	0.02
W10	Wash	Approx. 1,430 feet NW of W9 UTM: 246500.27 E 3560218.79 N	N	8	3	45	60 C 20 G 20 S	Trees and Tall Shrubs: <i>Prosopis glandulosa</i> <i>Cercidium microphyllum</i> <i>Opuntia ramosissima</i> Short Shrubs and Forbs: <i>Ambrosia deltoidea</i>	0.10	0.02

WOUS ID	WOUS Type	Location and UTM Coordinates	Flow	Approx. Channel Width at Base (feet)	Approx. Bank Height (feet)	Approx. Bank Slope (%)	General Substrate Comp. (%)	General Vegetation on Banks	WOUS Area Mapped (acres)	Potential Impact Area (acres)
W11	Wash	Approx. 100 feet NW of W10 UTM: 246472.59 E 3560229.25 N	N	10	5	60	40 C 20 G 40 S	Trees and Tall Shrubs: <i>Olneya tesota</i> <i>Cercidium microphyllum</i> <i>Opuntia ramosissima</i> Short Shrubs and Forbs: <i>Ambrosia deltoidea</i>	0.13	0.02
W12	Wash	Approx. 345 feet NW of W11 UTM: 246375.40 E 3560268.07 N	N	10	3	80	60 C 20 G 20 S	Trees and Tall Shrubs: <i>Cercidium microphyllum</i> <i>Fouquieria splendens</i> <i>Jatropha cardiophylla</i> Short Shrubs and Forbs: <i>Ambrosia deltoidea</i>	0.08	0.02
W13	Wash	Approx. 95 feet NW of W12 UTM: 246348.06 E 3560278.53 N	N	3	4	45	70 C 20 G 10 S	Trees and Tall Shrubs: <i>Cercidium microphyllum</i> <i>Fouquieria splendens</i> Short Shrubs and Forbs: <i>Larrea tridentata</i> <i>Atriplex canescens</i>	0.06	0.03
W14	Wash	Approx. 120 feet NW of W13 UTM: 246312.62 E 3560292.70 N	N	2	6	65	30 C 30 G 40 S	Trees and Tall Shrubs: <i>Cercidium microphyllum</i> <i>Fouquieria splendens</i> Short Shrubs and Forbs: <i>Lycium andersonii</i> <i>Ambrosia deltoidea</i>	0.12	0.02

WOUS ID	WOUS Type	Location and UTM Coordinates	Flow	Approx. Channel Width at Base (feet)	Approx. Bank Height (feet)	Approx. Bank Slope (%)	General Substrate Comp. (%)	General Vegetation on Banks	WOUS Area Mapped (acres)	Potential Impact Area (acres)
W15	Wash	UTM 247105.61 E 3560295.23 N	E	three channels 20' 12' 10'	three channels 2' 3" 3'	three channels 45 45 45	40C 60S	Trees and Tall Shrubs <i>Cercidium microphyllum</i> <i>Acacia greggii</i> <i>Olneya tesota</i> Short Shrubs and Forbs: <i>Chamaesyce</i> sp. <i>Hymenoclea salsola</i> <i>Larrea tridentate</i> <i>Encelia farinosa</i> <i>Bebbia juncea</i> <i>Opuntia bigelovii</i>	0.07 0.05 0.02	0.03 0.03 0.01
W16	Wash	UTM 247390.54 E 3560106.56 N	E	6'	4'	80	100S	Trees and Tall Shrubs <i>Carnegiea gigantean</i> <i>Cercidium microphyllum</i> <i>Olneya tesota</i> Short Shrubs and Forbs: <i>Hymenoclea salsola</i> <i>Larrea tridentata</i> <i>Malacothamnus</i> sp. <i>Encelia frutescens.</i> <i>Encelia farinosa</i> <i>Ambrosia dumosa</i>	0.07	0.01

WOUS ID	WOUS Type	Location and UTM Coordinates	Flow	Approx. Channel Width at Base (feet)	Approx. Bank Height (feet)	Approx. Bank Slope (%)	General Substrate Comp. (%)	General Vegetation on Banks	WOUS Area Mapped (acres)	Potential Impact Area (acres)
W17	Wash	UTM 247604.72 E 3559887.78 N	E	4'	5'	30	100S	Trees and Tall Shrubs <i>Acacia greggii</i> <i>Cercidium microphyllum</i> Short Shrubs and Forbs: <i>Larrea tridentate</i> <i>Encelia frutescens.</i> <i>Lycium andersonii</i> <i>Bebbia juncea</i>	0.02	< 0.01
W18	Wash	UTM 248057.92 E 3559703.08 N	E	2'	2'	45	100S	Trees and Tall Shrubs <i>Cercidium microphyllum</i> <i>Fouquieria splendens</i> Short Shrubs and Forbs: <i>Larrea tridentata</i> <i>Encelia frutescens.</i> <i>Krameria grayi</i> <i>Cylindropuntia ramosissima</i>	0.01	< 0.01
W19	Wash	UTM 248631.30 E 3559568.07 N	E	18' 10'	3' 2'	45 45	100S	Trees and Tall Shrubs <i>Cercidium microphyllum</i> <i>Acacia greggii</i> Short Shrubs and Forbs: <i>Datura</i> sp. <i>Lycium andersonii</i>	0.07	< 0.01
W20	Wash	UTM 249001.94 E 3559249.37 N	N	4'	1'	40	100s	Short Shrubs and Forbs: <i>Larrea tridentata</i> <i>Hymenoclea salsola</i> <i>Encelia frutescens</i> <i>Calystegia</i> sp.	0.01	< 0.01

WOUS ID	WOUS Type	Location and UTM Coordinates	Flow	Approx. Channel Width at Base (feet)	Approx. Bank Height (feet)	Approx. Bank Slope (%)	General Substrate Comp. (%)	General Vegetation on Banks	WOUS Area Mapped (acres)	Potential Impact Area (acres)
W21	Wash	UTM 249409.91 E 3559088.57 N	N	6'	2'	75	100S	Short Shrubs and Forbs: Trees and Tall Shrubs <i>Larrea tridentata</i> <i>Encelia farinosa</i> <i>Bebbia juncea</i> <i>Encelia frutescens</i> <i>Ambrosia</i> sp <i>Pleuraphis rigida</i>	0.01	< 0.01
W22	Wash	UTM 250006.86 E 3558848.30 N	N	4'	2'	40	100S	Trees and Tall Shrubs <i>Carnegiea gigantean</i> <i>Cercidium microphyllum</i> <i>Olneya tesota</i> Short Shrubs and Forbs: <i>Larrea tridentata</i> <i>Encelia farinosa</i> <i>Bebbia juncea</i> <i>Encelia frutescens</i> <i>Ambrosia</i> sp <i>Pleuraphis rigida</i> <i>Cylindropuntia ramosissima</i>	0.01	< 0.01
W23	Wash	UTM 250806.49 E 3558531.80 N	N	10'	3'	45	100S	Trees and Tall Shrubs <i>Olneya tesota</i> <i>Cercidium microphyllum</i> Short Shrubs and Forbs: <i>Larrea tridentata</i> <i>Hymenoclea salsola</i> <i>Datura</i> sp. <i>Lycium andersonii</i>	0.1	0.06

WOUS ID	WOUS Type	Location and UTM Coordinates	Flow	Approx. Channel Width at Base (feet)	Approx. Bank Height (feet)	Approx. Bank Slope (%)	General Substrate Comp. (%)	General Vegetation on Banks	WOUS Area Mapped (acres)	Potential Impact Area (acres)
W24	Wash	UTM	E	12'	3'	30	80S 20Silt	Trees and Tall Shrubs <i>Oleaya tesota</i> Short Shrubs and Forbs: <i>Hymenoclea salsola</i> <i>Acacia greggii</i> <i>Hyptis emoryii</i>	0.45	0.08
W25	Wash	UTM	S	3'	3'	70	60S 40C	Trees and Tall Shrubs <i>Oleaya tesota</i> Short Shrubs and Forbs: <i>Larrea tridentata</i> <i>Encelia frutescens</i>	0.02	0.01
W26	Wash	UTM	S	3'	3'	70	60S 40C	Trees and Tall Shrubs <i>Oleaya tesota</i> Short Shrubs and Forbs: <i>Larrea tridentata</i> <i>Encelia frutescens</i>	0.01	< 0.01
W27	Wash	UTM	S	3'	3'	70	60S 40C	Trees and Tall Shrubs <i>Oleaya tesota</i> Short Shrubs and Forbs: <i>Larrea tridentata</i> <i>Encelia frutescens</i>	0.05	0.01
Total Acreage									3.03	0.76

Notes:

B = Boulder N = North NW = Northwest
 C = Cobble S = South SW = Southwest
 G = Gravel E = East NE = Northeast
 S = Sand

1 **5.7.3 Wetlands Soil Summary**

2 No vegetated wetlands were identified within the Project corridor. The general
3 sediment composition in each of the washes identified in the survey corridor was
4 characterized and is described in **Table 6** as “General Substrate
5 Composition (%)”

6 **5.8 Prehistoric Humans, Spanish Settlement, and Current Land** 7 **Conservation**

8 This section briefly summarizes human use of the survey corridor. Generally the
9 survey corridor was used by prehistoric humans, historically for grazing livestock,
10 and more recently for military training and wilderness. The Tinajas Altas
11 Mountains, CPNWR, Tule Mountains, and Lechuguilla Desert have attracted
12 humans, both prehistorically and historically, resulting in the basis for much of the
13 discussion herein.

14 This area has likely supported humans since prehistoric times, probably dating
15 more than 10,000 years ago to the Clovis culture. Prehistoric sites can be
16 categorized as surface remains and suggest ephemeral use or occupation of
17 locations by widely dispersed and small groups of hunter-gatherers (USFWS
18 2006). Sites include low-density artifact scatters of lithic material and ceramics,
19 fire-burned rock and hearths, trails, bedrock mortars, rock alignments, stone piles
20 or cairns, stone windbreaks, sleeping circles, shallow rock shelters, and
21 petroglyphs. Prehistoric sites recorded to present do not exhibit depth,
22 subsurface features, or middens. Two sites contained deposits of shell debris
23 that support the prehistoric shell trade route postulated for the more eastern
24 Growler Valley.

25 The survey corridor was a portion of the Hia C-ed O’odham or Sand Papago
26 ethnic group homeland, probably for more than 1,000 years (USFWS 2006).
27 They were Piman-speaking people who conducted a hunting-gathering lifestyle
28 through historic times. They were encountered by the Spaniards and Jesuits and
29 by users of the trade route known as the Camino del Diablo.

30 The Coronado-led Spanish expedition passed near the survey corridor in search
31 of the Seven Cities of Cibola during 1540 (USFWS 2008). European presence in
32 the Project corridor dates to around 1694 when Jesuit Padre Eusabio Francisco
33 Kino (an Italian priest) and Captain Juan Mateo Manje traveled through the areas
34 of southern Arizona and northern Sonora. Padre Kino established good relations
35 with the indigenous Piman groups and assisted them in resisting the Apache
36 tribes. He was also credited with introducing agriculture and animal husbandry
37 including wheat and domestic livestock, particularly cattle and sheep. East of the
38 survey corridor near Tucson, Jesuit priests established a mission during the
39 1700s and a Spanish Presidio was established there in 1774 (USFWS 2006).

1 The historic sites include early 20th century mining camps and prospecting strikes
2 (USFWS 2006). Between approximately 1540 and the late 1800s, the Camino
3 del Diablo, a famous historic trade corridor, traversed the survey corridor. This
4 route was a braided corridor of travel rather than a distinct road and is not
5 represented accurately by the modern CPNWR road. During the gold rush of
6 1849, the Camino del Diablo was used by prospectors and miners to reach the
7 west coast. A second group of prospectors and miners used the route in the
8 1860s when gold was unearthed in the Colorado River valley. Miner's graves
9 represent landmarks along the route.

10 Livestock grazing, primarily cattle and goats, was conducted regionally beginning
11 in 1919, mostly east of the survey corridor. It was curtailed throughout the
12 CPNWR in 1981 (USFWS 2006). East of the survey corridor, trespass livestock
13 grazing occurred in the 1940s and continues currently. Trespass livestock
14 include cattle, horses, and burros; the latter two selectively browse woody
15 vegetation in riparian or desert wash corridors, often girdling paloverde and other
16 trees, which represent important habitat structure and species diversity for
17 wildlife use. Goats are a host animal for the larval stage of the parasitic bot fly,
18 which also parasitizes desert bighorn sheep. In desert bighorn sheep, the larvae
19 cause chronic sinusitis, which is debilitating and often fatal to the wild animals,
20 resulting in population decline.

21 CPNWR was established as a game range in 1939 to assist in the recovery of
22 desert bighorn sheep assisted by public demand from a number of groups and
23 agencies (USFWS 2006). From 1941 to 1943 Congress withdrew game
24 rangelands for military flight training during World War II. The game range
25 officially became CPNWR in 1975. Under the Arizona Desert Wilderness Act of
26 1990, approximately 93 percent of the CPNWR was designated wilderness. In
27 1966, public recreation including hunting was opened on CPNWR and desert
28 bighorn sheep were a featured game. Permits to hunt them have ranged from
29 one to seven annually based on population levels, which have generally been
30 increasing.

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6. Rare Species Data

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2 To ensure the most recent data were acquired for rare species analyses, e²M
3 requested Element Occurrence Data from NatureServe Central Databases in
4 Arlington, Virginia, through a referral from the USFWS (NatureServe and e²M
5 2007). The data fields requested and geographic scope of this request were as
6 follows:

7 Location and habitat data for endangered, threatened, and candidate species
8 were provided in list form by the USFWS and supplemented with online
9 information from the AGFD and information from the NatureServe database.

10 The USFWS requested that all rare species occurring within 25 miles of the
11 international border with Mexico be considered in this data search. Data were
12 therefore requested for the southern Arizona counties of Cochise, Santa Cruz,
13 Pima, and Yuma.

14 Data were requested to be delivered electronically in the form of GIS layers
15 depicting population polygons or point locations and Excel tables for species
16 lists/tabular data and narratives of habitat and natural history information.

17 To protect sensitive data, a license agreement between NatureServe and e²M
18 was signed in 2007. Data covered under the license agreement reside in a Multi-
19 Jurisdictional Dataset, which includes all precise species location data for
20 species that are federally listed (listed endangered, listed threatened, or
21 candidate) or are listed under the State of Arizona endangered/protected species
22 legislation. Additionally, the license agreement describes a 25-mile occurrence
23 corridor north of the international border between the United States and Mexico
24 as the licensed data set for this Project. Data and text fields delivered by
25 NatureServe under the license agreement included life history, threats, trends
26 and management recommendations, classification status, confidence extent,
27 county name, element information, U.S. Federal Information Processing
28 Standard Code, first observation date, global information, habitat types for
29 animals, observation dates, location information, subnational information, survey
30 information, and species status information.

31 The license agreement provides guidelines that stipulate external use of the data:

32 *“Named” Locations:* species names linked with locations cannot be displayed at a
33 scale of less than 1:100,000 or the precise species location must be randomized
34 within a USGS topographic quadrangle.

35 *“Blind” Locations:* when species names are not linked with locations, specific
36 locations can be displayed, except when the species records are flagged
37 “sensitive” or if they can be identified easily by geographic attributes at a
38 particular location.

- 1 Exceptions: the only allowable exception to the guidelines occurs when data are
- 2 obtained from a source independent from NatureServe and the member
- 3 programs.

7. List of Preparers

1

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APPENDIX F

Biological Resources Plan



BIOLOGICAL RESOURCES PLAN
FOR
VEHICLE FENCE AND SUPPORTING INFRASTRUCTURE
FOR
YUMA SECTOR, ARIZONA

YUMA AND WELLTON STATIONS



U.S. DEPARTMENT OF HOMELAND SECURITY
U.S. CUSTOMS AND BORDER PROTECTION
U.S. BORDER PATROL YUMA SECTOR

Prepared by



APRIL 2009

ABBREVIATIONS AND ACRONYMS

AOR	Area of Responsibility
BMGR	Barry M. Goldwater Range
BMP	Best Management Practice
BRP	Biological Resources Plan
CBP	U.S. Customs and Border Protection
CFR	Code of Federal Regulations
cm	centimeter
CPNWR	Cabeza Prieta National Wildlife Refuge
dBA	Decibel (A-weighted)
DHS	U.S. Department of Homeland Security
GIS	Geographic Information System
GPS	Global Positioning System
IIRIRA	Illegal Immigration Reform and Immigrant Responsibility Act
km	kilometers
LWC	low water crossing
mph	miles per hour
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol
USFWS	U.S. Fish and Wildlife Service

EXECUTIVE SUMMARY

The U.S. Department of Homeland Security (DHS), Customs and Border Protection (CBP), U.S. Border Patrol (USBP) plans to construct, operate, and maintain approximately 5 miles of tactical infrastructure on federally owned lands in Section CV-1A and approximately 9 miles of tactical infrastructure in four discrete sections within Section CV-2, and approximately 1.6 miles of tactical infrastructure in one discrete section in Section CV-2a in the USBP Yuma Sector. Tactical infrastructure consists of primary vehicle fence, and access roads along the U.S./Mexico international border in Yuma County, Arizona. Nine federally listed species are known to occur, or could occur, within or adjacent to the Project area (see **Table ES-1**).

On April 1, 2008, the Secretary of the DHS, pursuant to his authority under Section 102(c) of Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), exercised his authority to waive certain environmental and other laws in order to ensure the expeditious construction of tactical infrastructure along the U.S./Mexico border. The tactical infrastructure described in Biological Resources Plan (BRP) is covered by the Secretary's April 1, 2008, waiver (*73 Federal Register* 65, pp. 18293-24). Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the laws that are included in the waiver, the Secretary committed DHS to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment. CBP will continue to work in a collaborative manner with local governments, state, and Federal land managers, and the interested public to identify environmentally sensitive resources and develop appropriate Best Management Practices (BMPs) to avoid or minimize adverse impacts resulting from the installation of tactical infrastructure.

Table ES-1. Federally Listed Species and Designated Critical Habitats Known to Occur or with Potential to Occur Within Proposed Project Area in Yuma County, Arizona, and the Determination of Effects

Species	Fence Section	Listing Status, Critical Habitat	Effect Determination
Fish			
Razorback sucker, <i>Xyrauchen texanus</i>	CV-1A	Endangered	No effect
Razorback sucker Critical Habitat	CV-1A	Critical Habitat upstream of the Project area	No effect
Reptiles			
Flat-tailed horned lizard, <i>Phrynosoma mcallii</i>	CV-2	Conservation Agreement Species*	No effect
Birds			
Bald eagle (wintering population), <i>Haliaeetus leucocephalus</i>	CV-1A	Threatened**	No effect
California brown pelican, <i>Pelecanus occidentalis californicus</i>	CV-1A	Threatened, Proposed delisted	No effect
Southwestern willow flycatcher, <i>Empidonax traillii extimus</i>	CV-1A	Endangered	Not likely to adversely affect
Yellow-billed cuckoo, <i>Coccyzus americanus</i>	CV-1A	Candidate	Not likely to adversely affect
Yuma clapper rail, <i>Rallus longirostris yumanensis</i>	CV-1A	Endangered	No effect
Mammals			
Lesser long-nosed bat, <i>Leptonycteris curasoae</i>	CV-2, CV-2a	Endangered	Not likely to adversely affect
Sonoran pronghorn, <i>Antilocapra americana sonoriensis</i>	CV-2, CV-2a	Endangered	Not likely to adversely affect

Source: USFWS 2008

Notes:

* This species is not federally-listed; however, the USFWS participates in the Flat-tailed Horned Lizard Rangelwide Management Strategy which has been prepared to provide guidance for the conservation and management of sufficient habitat to maintain extant populations of flat-tailed horned lizards.

**Once endangered, this species was downlisted to threatened on August 11, 1995, and delisted August 8, 2007. Threatened status was reinstated for desert nesting bald eagles.

**BIOLOGICAL RESOURCES PLAN
YUMA SECTOR
YUMA AND WELLTON STATIONS**

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1. PROJECT DESCRIPTION

The U.S. Department of Homeland Security (DHS), Customs and Border Protection (CBP), U.S. Border Patrol (USBP) will construct, operate, and maintain 300 miles of vehicle fence (i.e., the VF 300 Project) along the U.S./Mexico international border, with construction expected to be completed by December 31, 2008.

On April 1, 2008, the Secretary of the DHS, pursuant to his authority under Section 102(c) of Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), exercised his authority to waive certain environmental and other laws in order to ensure the expeditious construction of tactical infrastructure along the U.S./Mexico border. The tactical infrastructure described in Biological Resources Plan (BRP) is covered by the Secretary's April 1, 2008, waiver (73 *Federal Register* 65, pp. 18293-24). Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the laws that are included in the waiver, the Secretary committed DHS to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment. CBP will continue to work in a collaborative manner with local governments, state, and Federal land managers, and the interested public to identify environmentally sensitive resources and develop appropriate Best Management Practices (BMPs) to avoid or minimize adverse impacts resulting from the installation of tactical infrastructure.

1.1 LOCATION

CBP will construct and maintain vehicle fence, and construct, maintain, and operate access roads and patrol roads along the U.S./Mexico border in the USBP Yuma Sector, Arizona. Section CV-1A includes 5 miles of tactical infrastructure on federally owned lands in the USBP Yuma Station Area of Responsibility (AOR). Sections CV-2 and CV-2a include approximately 10.6 miles of tactical infrastructure in a total of five discrete sections within the USBP Wellton Station AOR. See **Figure 1-1** for the general Project location of all three sections. Tactical infrastructure consists of vehicle fence and access roads along the U.S./Mexico international border in Yuma County, Arizona. Vehicle fence includes post-on-rail-style fence (Fence Type VF-1) and Normandy-style fence (Fence Type VF-2) (see **Figures 1-2** and **1-3**).

Section CV-1A. The Section CV-1A vehicle fence will be constructed in one section approximately 5 miles in length along the U.S./Mexico international border within USBP's Yuma Sector in Yuma County, Arizona. Section CV-1A, which roughly parallels the Colorado River, is presented in **Figure 1-4**. Section CV-1A will extend approximately 50 feet east from Morelos Dam. At this point, Section CV-1A will extend approximately 5 miles south to West County 13th Street, approximately 0.4 miles east of the U.S./Mexico border in southern Yuma County, Arizona.

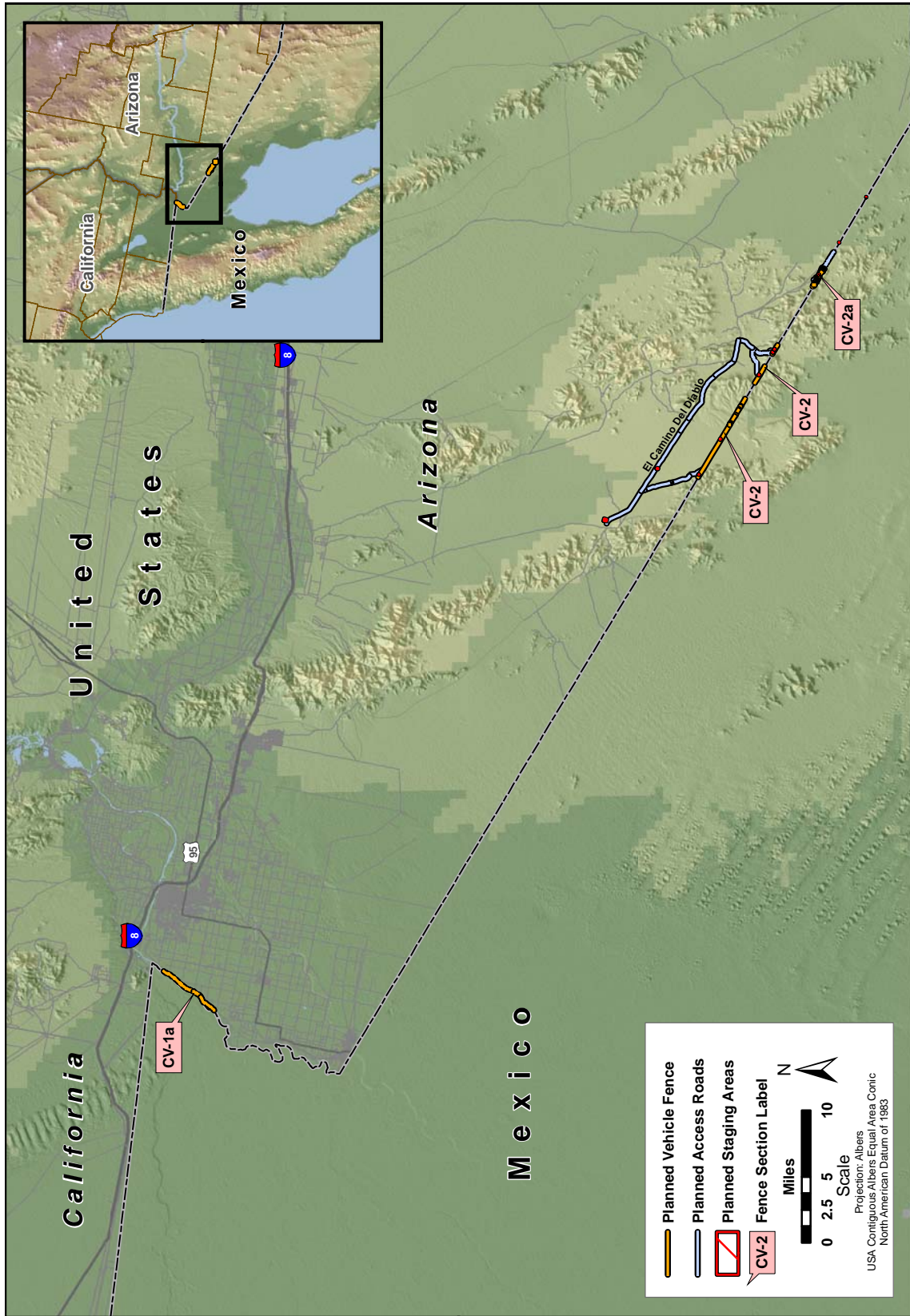


Figure 1-1. General Location of the Project in Yuma County, Arizona



Figure 1-2. Post-on-Rail-Style Vehicle Fence (Fence Type VF-1)



Figure 1-3. Normandy-Style Vehicle Fence (Fence Type VF-2)

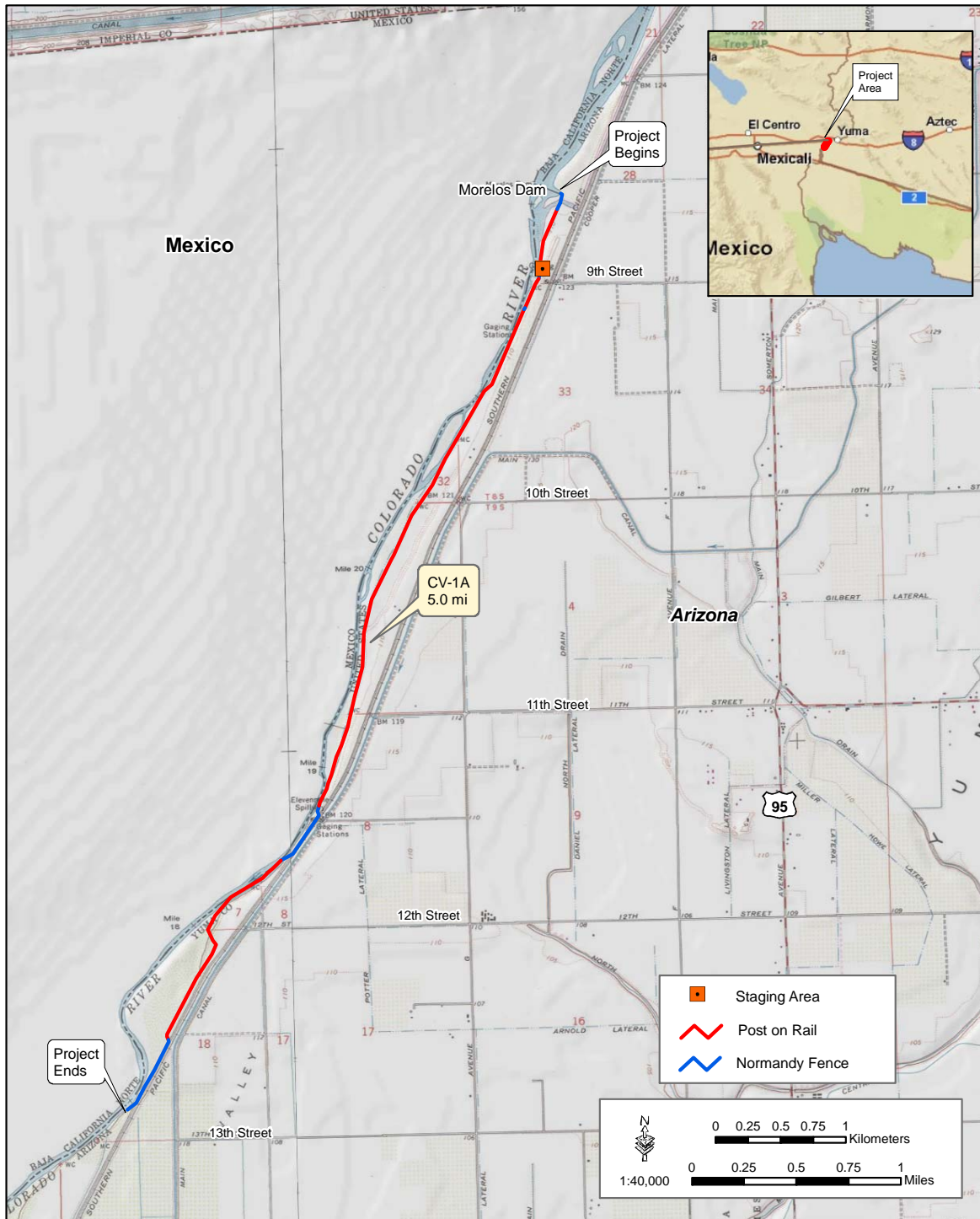


Figure 1-4. Map of the Section CV-1A Project Area, Yuma County, Arizona

Section CV-2. The Section CV-2 vehicle fence will be constructed in four distinct sections that total approximately 9 miles along the U.S./Mexico international border within USBP Yuma Sector in Yuma County, Arizona. These four sections of vehicle fence range from approximately 0.17 miles to 6.92 miles in length and are collectively designated as Section CV-2 in **Figure 1-5**.

All four sections of the Section CV-2 vehicle fence are wholly contained within the Roosevelt Reservation and Cabeza Prieta National Wildlife Refuge (CPNWR). The Roosevelt Reservation is an area of land President Theodore Roosevelt reserved from entry in 1907 and set apart as a public reservation all public lands within 60 feet of the international boundary between the United States and Mexico within the State of California and the Territories of Arizona and New Mexico. This land withdrawal was found “necessary for the public welfare...as a protection against the smuggling of goods.” The proclamation excepted from the reservation all lands, which, as of its date, were (1) embraced in any legal entry; (2) covered by any lawful filing, selection, or rights-of-way duly recorded in the proper U.S. Land Office; (3) validly settled pursuant to law; or (4) within any withdrawal or reservation for any use or purpose inconsistent with its purposes (CRS 2006).

Access to the construction area will require the improvement or construction of access roads on refuge lands designated as Wilderness. Additional access will also be provided from the western north-south access road on the adjacent Barry M. Goldwater Range (BMGR) property to the west. Staging areas will be placed within the BMGR and CPNWR properties. Additional detail on the Roosevelt Reservation, CPNWR, and BMGR is provided in **Section 3.4.2 of the ESP**. Consistent with Federal mandates, USBP has identified these areas of the border as locations where vehicle fence will contribute significantly to its priority homeland security mission.

Section CV-2a. The Section CV-2a vehicle fence will be constructed in one section, approximately 1.6 miles along the U.S./Mexico international border within USBP Yuma Sector in Yuma County, Arizona. The vehicle fence is within Yuma County, Arizona, and is wholly contained within the Roosevelt Reservation adjacent to Cabeza Prieta National Wildlife Refuge (CPNWR). Access to the construction area will require the improvement or construction of access roads on CPNWR lands designated as “Wilderness.” Additional access will be provided from the adjacent Organ Pipe Cactus National Monument (Organ Pipe Cactus National Monument (OPCNM)). **Appendix D** of the ESP contains detailed maps of the Project area.

1.2 CONSTRUCTION, OPERATION, AND MAINTENANCE

The Project will consist of the following components: (1) installing, operating, and maintaining a vehicle fence; (2) improving existing roads to improve access for construction; (3) developing temporary construction staging areas; and (4) constructing new access roads. Construction of the tactical infrastructure will begin in October 2008 and continue through March 2009.

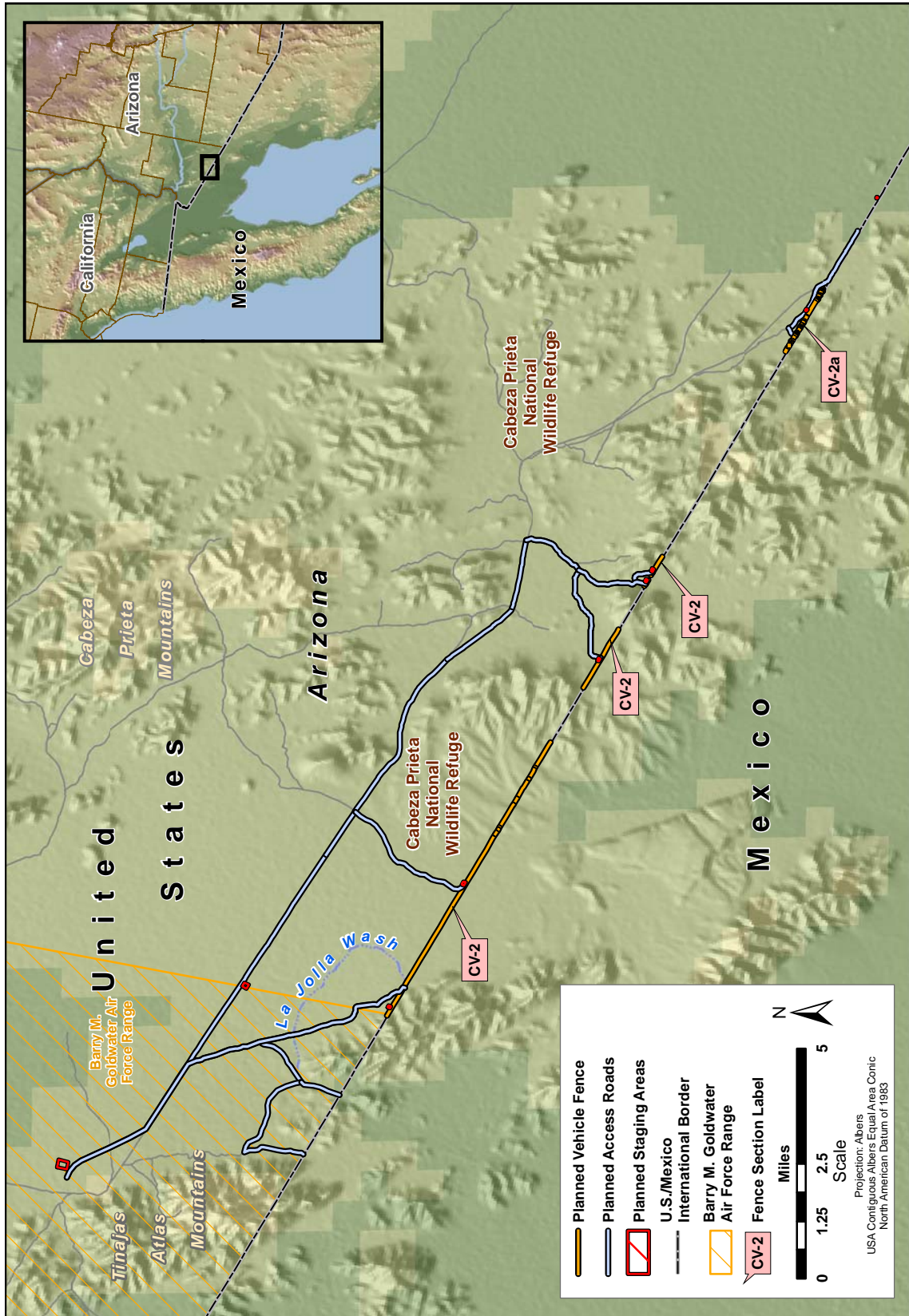


Figure 1-5. Map of the Sections CV-2 and CV-2a Project Area, Yuma County, Arizona

The Project corridors will include vehicle fences and construction access roads. Access roads to the fence construction corridor will be narrow to minimize impacts on designated wilderness, and construction staging areas will be placed in previously disturbed areas to the extent possible.

The alignment of the vehicle fences and roads for the Project was identified by the USBP Yuma Sector as meeting its operational requirements and was developed through coordination with Federal and state agencies, and tribes. The alignment continues to meet current operational requirements and will be constructed with the objective of having the least environmental impacts that are practicable.

Section CV-1A. In Section CV-1A the fence will be installed on the western edge of the existing levee/access road, where practicable; the corridor will vary as there is no Roosevelt Reservation in that area. **Figure 1-6** shows a typical schematic of temporary and permanent impact areas for vehicle fence and roads in Section CV-1A. A large portion of the Project will be built on the existing river trail. Riparian vegetation will be affected along the portion of the Project constructed along the river trail. Temporary barriers are proposed in some of the floodplain areas. The area permanently impacted during construction will be approximately 36 acres.

Section CV-2. **Figure 1-7** shows a typical schematic of the Project corridor for vehicle fence and roads in Section CV-2. The area permanently impacted during construction within the four sections will total approximately 275 acres. Due to the remote nature of the area and the travel time required to access the site, a campsite will be developed on CPNWR lands in coordination with CPNWR personnel. Vegetation will be cleared and grading would occur if needed. Permanent and temporary vegetative impacts associated with Section CV-2 are presented in **Table 1-1**. Wherever possible, existing roads will be used for construction access.

Table 1-1. Permanent and Temporary Vegetative Impacts Associated with Section CV-2

Vegetation Type	Permanent Impacts (acres)	Temporary Impacts (acres)
Grassland	30	1
Tall Shrubland	2	0
Short Shrubland	195	37
Wooded Shrubland	36	3
Unvegetated Desert Washes	2	1
Total	265	42

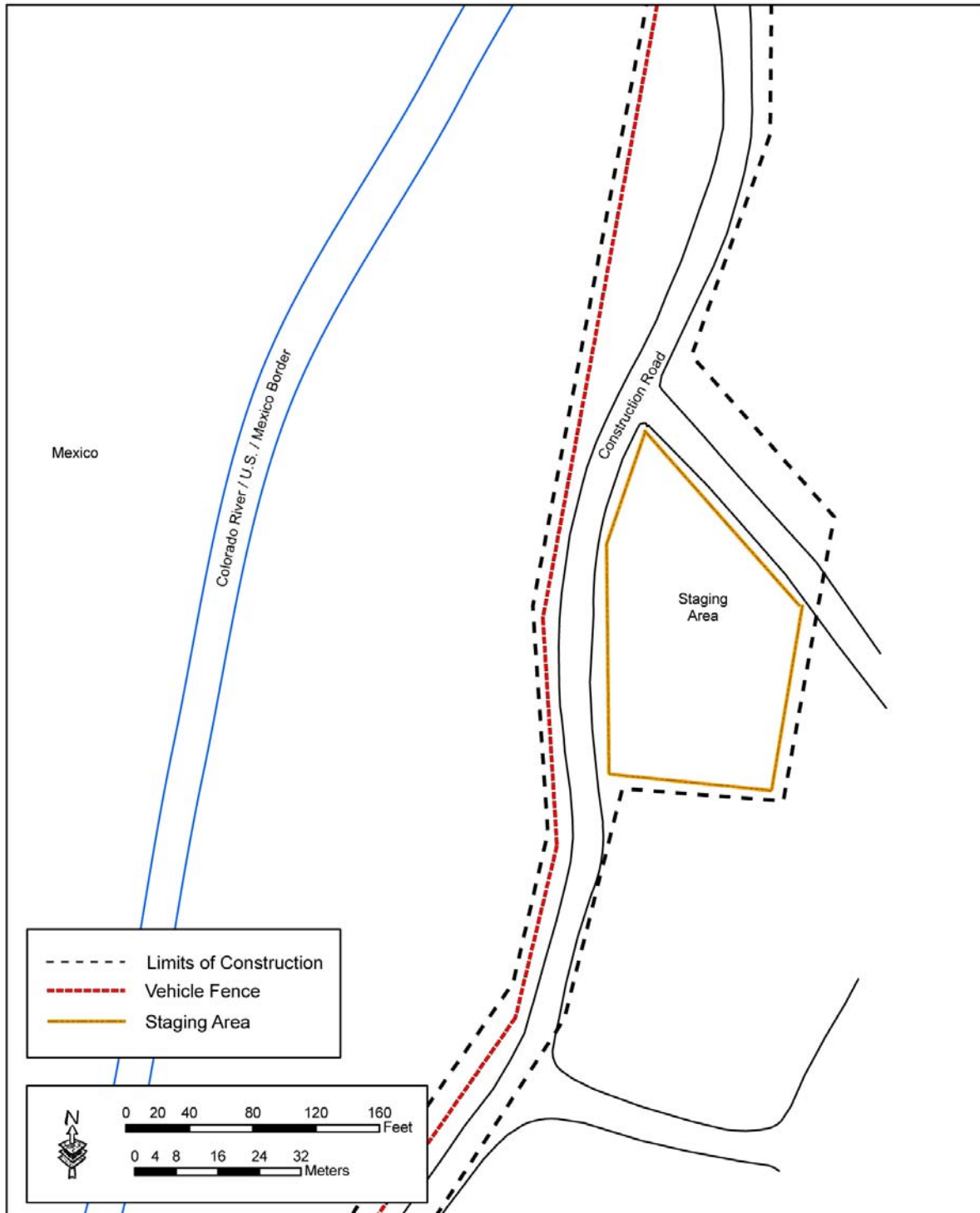


Figure 1-6. Schematic of the Section CV-1A Project Corridor

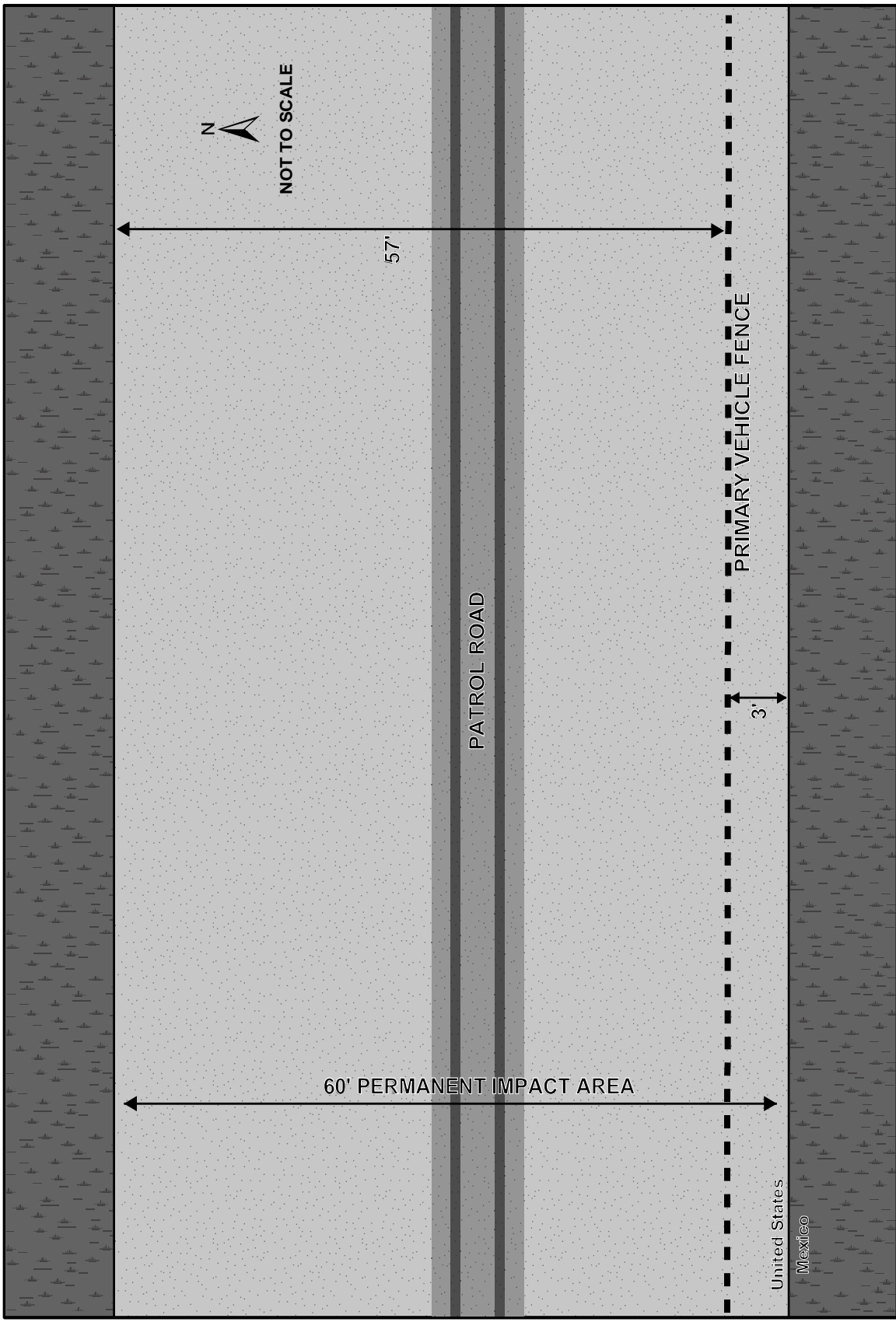


Figure 1-7. Schematic of the Section CV-2 Project Corridor

Section CV-2a. The vehicle fence will impact an approximately 60-foot-wide corridor along the fence segment (see **Figure 1-7**). Due to the remote nature of the area and the travel time required to access the site, a campsite will be developed on CPNWR lands in coordination with CPNWR personnel. Vegetation will be cleared and grading would occur if needed. Wherever possible, existing roads will be used for construction access. Portions of the Project area subject to construction and future maintenance and enforcement activities will result in permanent impacts on vegetation; this area totals 32.83 acres. Temporary staging areas will result in direct temporary impacts due to destruction of cryptobiotic crust, vegetation crushing, nonnative species invasion, and increased erosion potential; this area totals 0.79 acre. Permanent and temporary vegetative impacts associated with Section CV-2a are presented in **Table 1-2**.

Table 1-2. Permanent and Temporary Vegetative Impacts Associated with Section CV-2a

Vegetation Type	Permanent Impacts (acres)	Temporary Impacts (acres)
Yellow Paloverde–Creosotebush Shrubland	9	0
Ocotillo Shrubland	3	0
Creosote–Burrobush Shrubland	21	1
Total	33	1

1.2.1 Fence Installation

It is anticipated that the vehicle fence that will be employed will be primarily post-on-rail-style fence (see **Figure 1-2**) for the majority of the length, with Normandy-style fence (see **Figure 1-3**) utilized in areas of washes and steeper grades in all three sections.

Vehicle fence will be transported to the site by small trucks with lowboy trailers. Depending on the soil type encountered, post-on-rail-style fence sections will be permanently installed using a small truck with an auger. No pile driving or trenching will be required for construction of either fence type.

In Section CV-1A, the fence will be installed on the western edge of the existing road, to the extent practicable. In Section CV-2, the fence will be installed a few feet north of the international border. Section CV-2a will also be installed just north of the border with the exception of approximately 1,100 feet of fencing that will parallel a wash, requiring fence placement to be 10 to 15 feet from the border. The primary project corridor is the area where the majority of construction and maintenance activities will occur.

1.2.2 Roads

Section CV-1A. It is anticipated that 4.5 miles of existing access roads will be used to gain access to the CV-1A construction corridor. Additionally, four new road segments, totaling 0.5 miles will need to be constructed.

The construction roads will also include the construction of new drainage structures or low water crossings (LWCs), as appropriate. Drainage structures will consist of corrugated pipe or concrete box culverts, while LWCs will consist of concrete slabs designed with suitable approach angles. Culverts can also be incorporated into the design of LWCs, as appropriate. The size and number of culverts required will depend upon the width of the drainage and the expected flood flow volumes and velocities at each of the drainage crossings. Each drainage structure will be designed to ensure that flows are not impeded, thus avoiding creation of backwater areas.

Section CV-2. It is anticipated that approximately 28.7 miles of access road will be used to gain access to the border construction corridor, where an additional 8.82 miles of road will be constructed to support fence installation.

The primary access road will be an old historic route named the Camino del Diablo. This route runs west to east approximately 3.5 miles from, and parallel to, the U.S./Mexico international border. At both the west and east ends of the general Project area, ancillary access roads will branch from Camino del Diablo, south to the border. The western north-south access road will service the 6.7-mile fence and will be located mostly located on BMGR property, crossing into the CPNWR just north of the border. The eastern north-south road is entirely within the CPNWR, and will branch at two locations to service all three of the smaller fence sections. In all instances where access roads currently exist, improvements will be required to support construction equipment. Any necessary aggregate or fill material will be clean material obtained by construction contractors that will not pose an adverse impact on biological or cultural resources.

Section CV-2a. It is anticipated that approximately 3.07 miles of access road will be used to gain access to the border construction corridor, where an additional 1.58 miles of road will be constructed to support fence installation.

The primary access road will be an existing border road connected to the adjacent Section CV-3 vehicular fence project. This route runs east to west parallel to the U.S./Mexico international border to a point just east of Section CV-2a, where it turns to the northwest along an existing trail that continues beyond the project area ultimately joining the Camino del Diablo. There are no plans to access the Project area from this direction. At both the west and east ends of the general Project area, short ancillary access roads will branch from the existing trail south to the border. In all instances, whether access roads currently exist or not, improvements will be required to support construction equipment. Traffic control measures (such as flagmen and a one-way system

where practicable) will be instituted to ensure the movement and passage of equipment stays within the designated 60-foot impact corridor. Any additional necessary aggregate or fill material will be clean material obtained by construction contractors from commercially available sources that will not pose an adverse impact on biological or cultural resources.

1.2.3 Staging Areas

Staging areas are needed to accommodate construction equipment and stockpile materials. All vegetation within these staging areas will be cleared. Following completion of construction, staging areas will be restored to a vegetated state (see **Section 1.3**). Staging areas will be placed in previously disturbed areas to the extent practicable.

Section CV-1A. Section CV-1A includes one staging area, temporarily impacting 0.4 acres.

Section CV-2. Section CV-2 includes 4 staging areas, temporarily impacting 42 acres. Staging areas will be placed within the BMGR and CPNWR properties. Temporary impacts associated with Section CV-2 are presented in **Table 1-1**.

Section CV-2a. A 0.79-acre staging area will be constructed just to the north of the mid-point of the fence in Section CV-2a, adjacent to the access road (see **Figure 1-1**). Temporary impacts associated with Section CV-2 are presented in **Table 1-2**.

1.2.4 Operations and Maintenance

There will be no significant change in overall USBP Sector operations resulting from the Project.

The fences will be made from nonreflective steel. No painting will be required. Fence maintenance will include removing any accumulated debris on the fence after a rain. Sand that builds up against the fence and brush will also be removed as needed. Brush removal could include mowing, removal of small trees, and application of herbicide if needed. To the extent practicable, and as operational schedule permits, CBP personnel will report fence conditions requiring maintenance. Any destruction or breaches of the fence will be repaired, as needed.

1.3 BEST MANAGEMENT PRACTICES

1.3.1 Construction Best Management Practices

The following BMPs should be implemented to avoid or minimize impacts associated with the Project. These represent Project objectives for implementation to the extent practicable and will be incorporated into construction and monitoring contracts.

1. The perimeter of all areas to be disturbed during construction or maintenance activities will be clearly demarcated using flagging or temporary construction fence, and no disturbance outside that perimeter will be authorized. This includes designated access routes, vehicle turnaround locations, and staging areas.
2. CBP will develop (in coordination with the U.S. Fish and Wildlife Service [USFWS]) a training plan regarding Trust Resources for construction personnel. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area, their general ecology, sensitivity of the species to human activities, project features designed to reduce the impacts on these species and promote continued successful occupation of the Project area environments by the species. Included in this program will be color photos of the listed species, which will be shown to the employees. Following the education program, the photos will be posted in the office of the contractor and resident engineer, where they will remain throughout the duration of the project. The selected construction manager will be responsible for ensuring that employees are aware of the listed species. This BMP does not apply to Border Patrol operations.
3. Project Reports. For fence construction, within 3 months of project completion, a Project Report will be developed that details the BMPs that were implemented, identifies how well the BMPs worked, discusses ways that BMPs could be improved for either protection of species and habitats or implementation efficiency, and reports on any federally listed species observed at or near the Project site. If site restoration was included as part of the Project, the implementation of that restoration and any follow-up monitoring will be included. Annual reports could be required for some longer-term projects. The Project and any annual reports will be made available to the USFWS.
4. Biological surveys will be conducted prior to fence construction.
5. Relocation of individuals of federally listed plants found in the Project area is generally not a suitable activity. Relocation of aquatic species is not appropriate. Relocation of small cacti has not been very successful, and is not recommended. Survival rates of translocated plants are usually very low; however, translocation can be considered where there are no other alternatives. For particular actions, the USFWS will advise CBP regarding the relocation of plants.
6. Individual federally listed animals found in the Project area will be relocated by a qualified biologist to a nearby safe location in accordance with accepted species-handling protocols, if appropriate, and to the extent practicable. This includes flat-tailed horned lizards, but does not include Sonoran pronghorns (see species specific BMPs for Sonoran pronghorn below). All construction and maintenance projects in federally listed habitats should have a designated biological monitor on site during the work. The biological monitor should document implementation of

construction-related BMPs as designed for the Project to reduce the potential for adverse effects on the species or their habitats. Reports from the biological monitor should be used for developing the Project Report.

7. Where, based on species location maps or results of surveys, individuals of a federally listed species could be present on or near the Project site, a designated biological monitor will be present during the activity to protect individual federally listed species from harm. Duties of the designated biological monitor will include ensuring that activities stay within designated Project areas, evaluating the response of individuals of federally listed species that come near the Project site, and ensuring implementation of the appropriate BMPs. The designated biological monitor will notify the construction manager of any activities that could harm or harass an individual of a federally listed species. Upon such notification, the construction manager will temporarily suspend activities in the vicinity of the federally listed species and notify the Contracting Officer, the Administrative Contracting Officer, and the Contracting Officer's Representative of the suspension so that the key U.S. Army Corps of Engineers (USACE) personnel can be notified and apprised of the situation for resolution. CBP will ensure that the USFWS Tucson Field Office and the refuge manager at CPNWR is notified in the event any federally listed species may be directly impacted during construction activities and BMPs implemented to avoid or minimize the impact.
8. Where a project could be located within 1 mile of occupied species habitats but the individuals of the species are not likely to move into the project area, a biological monitor is not needed. However, the construction monitor will be aware of the species location and ensure that BMPs designed to minimize habitat impacts are implemented and maintained as planned. This category includes the following species: lesser long-nosed bat, Mexican long-nosed bat, and all aquatic threatened and endangered species.
9. Particular importance is given to proper design and location of roads so that the potential for road bed erosion into federally listed species habitat will be avoided or minimized.
10. Particular importance is given to proper design and location of roads so that the potential for entrapment of surface flows within the roadbed due to grading will be avoided or minimized. Depth of any pits created will be minimized so animals do not become trapped.
11. Particular importance is given to proper design and location of roads so that the widening of existing or created road bed beyond the design parameters due to improper maintenance and use will be avoided or minimized.
12. Particular importance is given to proper design and location of roads so that excessive use of unimproved roads for construction purposes that results in their deterioration that affects the surrounding federally listed

species habitat areas will be minimized. Road construction and road use for construction will be monitored and documented in the Project Report.

13. Particular importance is given to proper design and location of roads so that the fewest roads needed for construction will be developed and that these are maintained to proper standards. Roads no longer needed by the government should be closed and restored to natural surface and topography using appropriate techniques. The Global Positioning System (GPS) coordinates of roads that are thus closed should be recorded and integrated into the CBP Geographic Information System (GIS) database. A record of acreage or miles of roads taken out of use, restored, and revegetated will be maintained.
14. The width of all roads that are created or maintained by CBP for construction purposes will be measured and recorded using GPS coordinates and integrated into the CBP GIS database. Maintenance actions should not increase the width of the road bed or the amount of disturbed area beyond the roadbed.
15. Construction equipment will be cleaned prior to entering and departing the Project corridor to minimize the spread and establishment of nonnative invasive plant species.
16. Surface water from untreated sources, including water used for irrigation purposes, will not be used for construction or maintenance projects located within 1 mile of aquatic habitat for federally listed aquatic species. Groundwater or surface water from a treated municipal source will be used when close to such habitats. This is to prevent the transfer of invasive animals or disease pathogens between habitats if water on the construction site was to reach the federally listed species habitats.
17. Materials such as gravel or topsoil will be obtained from existing developed or previously used sources, not from undisturbed areas adjacent to the project area.
18. If new access is needed or existing access requires improvements to be usable for the Project, related road construction and maintenance BMPs will be incorporated into the access design and implementation.
19. When available, areas already disturbed by past activities or those that will be used later in the construction period will be used for staging, parking, and equipment storage, where practicable.
20. Within the designated disturbance area, grading or topsoil removal will be limited to areas where this activity is needed to provide the ground conditions needed for construction or maintenance activities. Minimizing disturbance to soils will enhance the ability to restore the disturbed area after the project is complete.
21. Removal of trees and brush in habitats of federally listed species will be limited to the smallest amount needed to meet the objectives of the project. This type of clearing is likely to be a permanent impact on habitat.

22. Water for construction use will be from wells or irrigation water sources at the discretion of the landowner (depending on water rights). If local groundwater pumping is determined by the biological monitor to be an adverse environmental effect on aquatic, marsh, or riparian dwelling federally protected species, treated water from outside the immediate area will be utilized by the Contractor.
23. Surface water from aquatic or marsh habitats will not be used for construction purposes if that site supports aquatic federally protected species or if it contains nonnative invasive species or disease vectors and there is any opportunity to contaminate a federally protected species habitat through use of the water at the Project site.
24. Water tankers that convey untreated surface water will not discard unused water where it has the potential to enter any aquatic or marsh habitat.
25. Water storage on the Project area will be in closed on-ground containers located on upland areas, not in washes.
26. Pumps, hoses, tanks, and other water storage devices will be cleaned and disinfected with a 10 percent bleach solution at an appropriate facility before use at another site, if untreated surface water was used (this water is not to enter any surface water area). If a new water source is used that is not from a treated or groundwater source, the equipment will require additional cleaning. This is important to kill any residual disease organisms or early life stages of invasive species that could affect local populations of federally listed species.
27. CBP will develop and implement storm water management plans for every project.
28. All construction will follow DHS Management Directive 5110.1 for waste management.
29. A CBP-approved spill protection plan will be developed and implemented at construction and maintenance sites to ensure that any toxic substances are properly handled and that escape into the environment is prevented. Agency standard protocols will be used. Drip pans underneath equipment, containment zones used when refueling vehicles or equipment, and other measures are to be included.
30. Nonhazardous waste materials and other discarded materials, such as construction waste, will be contained until removed from the construction site. This will assist in keeping the Project area and surroundings free of litter and reduce the amount of disturbed area needed for waste storage.
31. To prevent attracting predators of protected animals, all food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed daily from the Project site.
32. Waste water is water used for project purposes that is contaminated with construction materials, or was used for cleaning equipment and thus

carries oils or other toxic materials or other contaminants in accordance with state regulations. Waste water will be stored in closed containers on site until removed for disposal. Concrete wash water will not be dumped on the ground, but is to be collected and moved offsite for disposal. This wash water is toxic to aquatic life.

33. If an individual of a federally listed species is found in the designated Project area, work will cease in the area of the species until either a qualified biological monitor can safely remove the individual, or it moves away on its own, to the extent practicable and construction schedule permitting. Such occurrences will be documented by the biological monitor.
34. Construction speed limits will not exceed 35 miles per hour (mph) on major unpaved roads (graded with ditches on both sides) and 25 mph on all other unpaved roads. Nighttime travel speeds will not exceed 25 mph and might be less based on visibility and other safety considerations. Construction at night will be minimized.
35. No pets owned or under the care of the construction contractor or construction workers will be permitted inside the Project's construction boundaries, adjacent native habitats, or other associated work areas. This BMP does not apply to any animals under service to the USBP (such as canine and horse patrols).
36. If construction or maintenance activities continue at night, all lights will be shielded to direct light only onto the area required for worker safety and productivity. The minimum wattage needed will be used and the number of lights will be minimized.
37. Light poles and other pole-like structures will be designed to discourage roosting by birds, particularly ravens or raptors that might use the poles for hunting perches.
38. Noise levels for day or night construction and maintenance will be minimized. All generators will be in baffle boxes (i.e., a sound-resistant box that is placed over or around a generator), have an attached muffler, or use other noise-abatement methods in accordance with industry standards.
39. Materials used for onsite erosion control in uninfested native habitats will be free of nonnative plant seeds and other plant parts to limit potential for infestation. Since natural materials cannot be certified as completely weed-free, if such materials are used, there will be follow-up monitoring to document establishment of nonnative plants, and appropriate control measures will be implemented for a period of time to be determined in the site restoration plan.
40. Fill material brought in from outside the Project area will be identified by its source location and will be weed-free to the extent practicable.
41. For purpose of construction, infrastructure sites will only be accessed using designated roads. Parking will be in designated areas. This will

- limit the development of multiple trails to such sites and reduce the effects to federally listed habitats in the vicinity.
42. For temporarily disturbed areas (e.g., staging areas), appropriate techniques to restore the original grade, replace soils, and restore proper drainage will be implemented.
 43. In temporarily disturbed areas, a site restoration plan for federally listed species and habitat will be developed during Project planning. The restoration plan pertains only to activities up to and including reseeding. If seeding with native plants is identified as appropriate, seeding will take place at the proper season and with seeds from nearby stocks, to the extent practicable. It is understood that some sites cannot be restored, and the Project planning documents should acknowledge this.
 44. Site restoration of temporarily disturbed areas such as staging areas and construction access routes will be monitored as appropriate.
 45. In Sections CV-2 and CV-2a, during follow-up monitoring and during maintenance activities, invasive plants that appear on the site will be removed. Mechanical removal will be done in ways that eliminate the entire plant and remove all plant parts to a disposal area. All chemical applications on refuges must be used in coordination with the refuge or land manager. Herbicides will be used according to label directions. If herbicides are used, the treated plants will be left in place. The monitoring period will be defined in the site restoration plan. Training to identify nonnative invasive plants will be provided for CBP contractor personnel or contractors, as necessary.
 46. Maintenance activities will not increase the existing disturbed areas. Use of existing roads and trails will be maximized in areas of suitable habitat for cactus and agaves. Protection of the cactus will be stressed in environmental education for contractors involved in construction or maintenance of facilities.
 47. To prevent entrapment of wildlife species during the construction of the project, all excavated, steep-walled holes or trenches will either be covered at the close of each working day by plywood or provided with one or more escape ramps constructed of earth fill or wooden planks. The ramps will be located at no greater than 1,000-foot intervals and will be sloped less than 45 degrees. Each morning before the start of construction and before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. Any animals so discovered will be allowed to escape voluntarily (by escape ramps or temporary structures), without harassment, before construction activities resume, or removed from the trench or hole by the biological monitor and allowed to escape unimpeded.
 48. To prevent entrapment of wildlife species during the emplacement of vertical posts/bollards, all vertical fence posts/bollards that are hollow (i.e., those that will be filled with a reinforcing material such as concrete),

will be covered so as to prevent wildlife from entrapment. Covers will be deployed from the time the posts or hollow bollards are erected to the time they are filled with reinforcing material.

49. All equipment maintenance, laydown, and dispensing of fuel, oil, or any other such activities, will occur in staging areas identified for use in the Project description. The designated staging areas will be located in such a manner as to prevent any runoff from entering waters of the United States, including wetlands.
50. All access routes into and out of the Project disturbance area will be flagged, and no construction travel outside those areas will be authorized. No off-road vehicle activity will occur outside of the Project footprint by the Project workers, and Project contractors.

1.3.2 Species-Specific BMPs

Southwestern Willow Flycatcher (Section CV-1A)

1. Whenever practicable, road construction and maintenance will not improve or create new available access to flycatcher habitats.
2. In planning for roads and fences that will require land clearing, placement of these facilities in riparian vegetation communities will be avoided to the extent practicable. Since these areas could also be in flood-prone areas, this avoidance might also contribute to reduced maintenance requirements.
3. Removal of dense understory or midstory vegetation from breeding or migration habitat will be avoided to the extent practicable. Removal compromises the ability of the habitat to support flycatcher use.
4. Actions will be taken to avoid transporting salt cedar leaf beetles (biocontrols used to eradicate salt cedar in some areas) to areas occupied by flycatchers. Actions will include inspection of vehicles and equipment and subsequent beetle removal, or equipment cleaning if the equipment was used in areas where leaf beetles have been released to eradicate salt cedar.
5. Maintenance activities for facilities can occur at any time; however, for major work on roads or fences where significant amount of equipment will be required, the October to April period is preferred.

Lesser Long-Nosed Bat (Sections CV-2 and CV-2a)

1. Activities should be planned to avoid areas containing columnar cacti (saguaro, organ pipe) or agaves that provide the forage base for the bat. If they cannot be avoided, appropriate mitigation will be performed for any columnar cacti and agaves that are affected. Any restoration (e.g., planting of cacti or agaves raised off-site or purchased) will be a compensation measure (see Compensation below).

Sonoran Pronghorn (Sections CV-2 and CV-2a)

1. To the extent practicable, the number of vehicle trips related to construction per day to and from the Project site should be minimized to reduce the likelihood of disturbing pronghorn in the area or injuring an animal on the road. The use of vehicle convoys, multi-passenger vehicles, and other methods are appropriate.
2. During fence construction, if a pronghorn is seen within 1 mile of the activity, any construction work that could disturb the pronghorn should cease. For vehicle operations, this should entail stopping the vehicle until the pronghorn moves away. Vehicles may continue on at reduced speeds (10 to 15 miles per hour) once the pronghorn has moved away. The biological monitor should request that work cease until the pronghorn moves out of the area. As the schedule permits, construction crews will wait up to 3 hours from the initial sighting for the pronghorn to move beyond 1 mile away from the Project activity or vehicle. Should the pronghorn not leave, project personnel may retreat from the area in the direction from which they came. During maintenance activities and to the extent practicable, appropriately trained staff will suspend maintenance activities until the pronghorn move away.
3. During the fawning season (March 1 to July 15), it is especially important to avoid disturbance to females and fawns. Vehicle activity related to construction should be restricted to the extent practicable during those times in areas where there are fawns present.
4. During construction and maintenance, the minimum amount of personnel and equipment should be used to reduce the amount of activity. This may be adjusted if additional personnel and equipment will complete the work faster and thus reduce the time the disturbance is in effect.

1.3.3 Compensation and Mitigation

It is CBP's policy to reduce impacts through the sequence of avoidance, minimization, mitigation, and, finally, compensation, if appropriate. Current estimates of impacts for each habitat type are presented in **Table 1-3**. Using funds contributed to the compensation pool by CBP, USFWS may offset permanent direct and indirect impacts on habitat used by federally listed species. USFWS may use these monies to fund conservation actions benefitting these species.

Southwestern Willow Flycatcher (Section CV-1A)

1. Using funds from the mitigation pool established by CBP, USFWS may undertake restoration of riparian areas at the site of the disturbance to restore the acreage lost. If this is not possible, funding from the mitigation pool may be used to replace riparian areas in a protected area or to restore and manage flycatcher habitat within the planning unit.

Table 1-3. Summary of Permanent Impacts of the Project on Habitat

Habitat Type	Section	Estimated Acres of Permanent Impact
Colorado River Riparian (habitat for southwestern willow flycatcher and includes approximately 1 acre of overlapping yellow-billed cuckoo habitat)	CV-1A	14
Saguaro / Creosotebush – White Bursage Wooded Shrubland (habitat for lesser long-nosed bat)	CV-2	9
Total =		23 acres

Lesser Long-Nosed Bat (Sections CV-2 and CV-2a)

1. If columnar cacti (saguaro and organ pipe) and agaves cannot be avoided, CBP will conduct appropriate mitigation. USFWS or relevant land management agencies may use funds from the mitigation pool established by CBP to conduct restoration for columnar cacti and agaves. Planting should be done in accordance with a restoration plan that includes success criteria and monitoring.

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2. DESCRIPTION OF SPECIES AND THEIR HABITAT

This section summarizes information regarding species and habitats that may be affected by the Project. Some listed species are not included here because they do not occur in the project area or the implementation of the agreed-upon BMPs and conservation measures are anticipated to provide conditions that avoid adverse effect. For more complete information and supporting citations regarding species' descriptions, distribution and abundance, habitat needs, life history, and population ecology, the local USFWS office can be contacted.

2.1 SOUTHWESTERN WILLOW FLYCATCHER

The southwestern willow flycatcher (*Empidonax traillii extimus*) was listed as Endangered on February 27, 1995 (60 *Federal Register* 10694) with critical habitat designated in 50 Code of Federal Regulations [CFR] 60886 on October 19, 2005.

Critical habitat was finalized and designated in southern California, southwestern Utah, Arizona, and New Mexico on October 19, 2005.

2.1.1 Species description

The southwestern willow flycatcher is a migratory bird about 15 centimeters (cm) (6 inches) long, with grayish-green back and wings, a white throat, a light gray-olive breast, and a pale yellowish belly. Two wingbars are visible and the eye ring is faint or absent. The species is best identified by vocalizations. While perched, it characteristically flicks its tail slightly upward (USFWS 2004).

2.1.2 Distribution and Abundance

The historical range includes southern California, southern Nevada, southern Utah, Arizona, New Mexico, western Texas, southwestern Colorado, and extreme northwestern Mexico (USFWS 2004).

As of the end of the 2005 breeding season, slightly more than 1,200 breeding territories were estimated to occur across its range. Since listing, breeding territories have been detected in all states of its historical range, with the exception of western Texas. In Arizona, since listing, breeding territories have been detected on the Agua Fria, Gila, Little Colorado, Salt, San Pedro, Colorado, San Francisco, Hassayampa, Verde, Big Sandy, Santa Maria, Virgin and Bill Williams rivers, and Pinal, Tonto and Cienega creeks. Most birds likely winter in Mexico, Central America, and possibly northern South America (USFWS 2004).

2.1.3 Habitat

The species nests and forages in dense riparian habitats along streams, rivers, lakesides, and other wetlands. Some of the more common plant species used

for nesting are willow, boxelder, tamarisk, Russian olive, buttonbush, cottonwood, and mesquite. Nests are found in dense thickets of these and other plant species that are about 4 to 7 meters (13 to 23 feet) in height. Migration habitat is believed to primarily occur along riparian corridors. Habitat occurs at elevations below 8,500 feet (2,590 meters) (USFWS 2004).

2.1.4 Threats

The species is endangered primarily due to riparian habitat reduction, degradation, and elimination as a result of agricultural and urban development. Other naturally occurring reasons for the decline/vulnerability of the flycatcher include the fragmented distribution and low numbers of the current population; predation; brood parasitism by cowbirds; and other events (e.g., fires and floods) that are more frequent and intensified by exotic vegetation and degraded watersheds (USFWS 2004).

2.2 YELLOW-BILLED CUCKOO

USFWS announced a 12-month finding for a petition to list the yellow-billed cuckoo (*Coccyzus americanus*) in the western continental United States on July 25, 2001 (50 CFR 38611).

2.2.1 Species description

The yellow-billed cuckoo is a medium-sized bird with a slender, long-tailed profile, and a slightly down-curved bill, which is blue-black with yellow on the lower half. Plumage is grayish-brown above and white below, with rufous primary flight feathers (USFWS 2007).

2.2.2 Distribution and Abundance

Yellow-billed cuckoos are a neotropical migrant, wintering primarily in South America and breeding primarily in the United States (but also in southern Canada and northern Mexico). As a migrant it is rarely detected, but can occur outside of riparian areas. Cuckoos are found nesting statewide in Arizona below 7,000 feet in elevation, but are mostly found below 5,000 feet in central, western, and southeastern Arizona. Nesting cuckoos are associated with relatively dense wooded streamside riparian habitat, with varying combinations of Fremont cottonwood, willow, velvet ash, Arizona walnut, mesquite, and tamarisk. Some cuckoos have also been detected nesting in velvet mesquite, netleaf hackberry, Arizona sycamore, Arizona alder, and some exotic neighborhood shade trees (USFWS 2007).

2.2.3 Habitat

Habitat consists of large blocks of riparian woodlands (e.g., cottonwood, willow, or tamarisk galleries).

Western cuckoos breed in large blocks of riparian habitats (particularly woodlands with cottonwoods (*Populus fremontii*) and willows (*Salix* sp.), while eastern cuckoos breed in a wider range of habitats, including deciduous woodlands and parks. Dense understory foliage appears to be an important factor in nest site selection, while cottonwood trees are an important foraging habitat in areas where the species has been studied in California (USFWS 2007).

The lower Colorado River, on the California-Arizona border, supported an estimated 180 to 240 pairs in 1976 to 1977, a number that had declined by an estimated 80 to 90 percent in 1986. Arizona probably contains the largest remaining cuckoo population among states west of the Rocky Mountains. The species was historically widespread and locally common. Losses of riparian habitats from historic levels have been substantial in Arizona (USFWS 2007).

Losses have been greatest at lower elevations (below about 3,000 feet) along the Lower Colorado River and its major tributaries, which have been strongly affected by upstream dams, flow alterations, channel modification, and clearing of land for agriculture. Recent surveys for the species in Arizona along the Gila and Salt rivers near Phoenix found yellow-billed cuckoos only in areas which had dense willow and cottonwood cover, and some areas where yellow-billed cuckoos have been found in the past had no detections. Other surveys in the Prescott National Forest, north of Phoenix, were only able to confirm a single nesting pair of yellow-billed cuckoo (USFWS 2007).

A total of 168 cuckoo pairs and 80 single birds were located in Arizona in 1999, based on preliminary results from a statewide survey which covered 265 miles (426 kilometers (km)) of river and creek bottoms. From these results, it is evident that cuckoo numbers in 1999 are substantially less than some previous estimates for Arizona, including a 1976 estimate of 846 pairs for the lower Colorado River and five major tributaries 1976 (USFWS 2007).

2.2.4 Threats

The primary threat to yellow-billed cuckoos is alteration of its nesting and foraging habitat. Principal causes of riparian habitat losses are conversion to agricultural and other uses, dams and river flow management, stream channelization and stabilization, and livestock grazing. Available breeding habitats for cuckoos have also been substantially reduced in area and quality by groundwater pumping and the replacement of native riparian habitats by invasive nonnative plants, particularly tamarisk (USFWS 2007).

2.3 LESSER LONG-NOSED BAT

The lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*) was listed as endangered on September 30, 1988 (53 *Federal Register* 38456) without critical habitat.

2.3.1 Species Description

The lesser long-nosed bat is a yellow-brown or cinnamon-gray bat, with a total head and body measurement of approximately 3 inches (7.62 cm). It is distinguished by its elongated muzzle, small noseleaf, long tongue, and minute tail that appears to be missing. Known to roost in caves and abandoned tunnels below 6,000 feet (1,830 meters) above mean sea level, it forages at night on nectar, pollen, and fruit of agaves and columnar cacti.

2.3.2 Distribution and Abundance

The species historically ranged from central Arizona and southwestern New Mexico through much of Mexico to El Salvador. Records exist for occurrences in the southern Peloncillo Mountains of New Mexico.

The current range is similar to its historic range; however, the number of occupied roost sites and the number of individuals per colony have recently declined drastically. These bats are seasonal (April to September) residents of southeastern Arizona, and possibly extreme western Arizona (i.e., Cochise, Pima, Santa Cruz, Graham, Pinal and Maricopa counties, Arizona).

A single young is born in mid-May. When the young are able to fly, adults and young move to higher elevations to feed on agave nectar. Although there is controversy among bat experts, the recovery plan suggests there may be as many as 60,000 individuals that reside and feed in the southwestern United States, primarily in Arizona and New Mexico (USFWS 2006).

The maternity roost at CPNWR is one of three known major maternity roosts in the United States. The refuge installed a steel fence ranging from 2.5 to 3 meters (8 to 10 feet) high around the roost entrance to discourage human entry. CPNWR staff periodically monitors the entrance to the roost to assess bat use and document damage caused by unauthorized human use. A few lesser long-nosed bats have also been found inhabiting smaller roost sites at the CPNWR (USFWS 2006).

The lesser long-nosed bat appears to use two migration routes. An early spring route connects maternity colonies in coastal Sonora and southwestern Arizona and Jalisco via the west coast of Mexico. The route used later in the season connects transitory roosts in southeastern Arizona with winter range via a path along the foothills of the Sierra Madre (USFWS 2006).

2.3.3 Habitat

Habitat for the species includes mainly desert scrub habitat in the U.S. portion of its range. After breeding in the desert, lesser long-nosed bats move east into the mountains and valleys of southeastern Arizona, which are a combination of forested lands, grasslands, and desert scrub. In Mexico, the species occurs up

into high elevation pine-oak and ponderosa pine forests. Altitudinal range is from 1,600 to 11,500 feet (480 to 3,450 meters) above mean sea level.

Critical resources include suitable day roost sites and nearby extensive populations of columnar cacti and agaves. Roosting occurs in caves, abandoned mines, and unoccupied buildings at the base of mountains where agave, saguaro, and organ pipe cacti are present. Criteria for suitable maternity roosts have not been identified as the conditions vary. Maternity roosts are usually warm and poorly ventilated (USFWS 2006).

The species is highly mobile. It forages long distances for up to 6 hours a night and can visit more than 100 flowers per night. Lesser long-nosed bats are the major pollinators of columnar cacti and paniculate agaves and a potential seed disperser of columnar cacti, which are distinctive elements of the flora of the Sonoran Desert (USFWS 2006).

2.3.4 Threats

Considerable evidence exists for the interdependence of *Leptonycteris* bat species and certain agaves and cacti. Excess harvest of agaves in Mexico, the collection of cacti in the United States, and the conversion of habitat for agricultural uses, livestock grazing, wood-cutting, and other development could contribute to the decline of long-nosed bat populations. These bats are particularly vulnerable due to many individuals using only a small number of communal roosts.

2.4 SONORAN PRONGHORN

The Sonoran pronghorn (*Antilocapra americana sonoriensis*) was listed as endangered on March 11, 1967 (32 *Federal Register* 4001) without critical habitat.

2.4.1 Species Description

Pronghorn are long-legged, small-bodied artiodactyls (i.e., hooved mammals with an even number of toes on each foot). Upper parts are tan; the underpart, rump, and two bands across the neck are white. The male has two black cheek patches. Both sexes have horns, although they are larger in males. Males weigh 100 to 130 pounds, while females weigh 75 to 100 pounds (USFWS 2002a).

The five recognized subspecies are American pronghorn (*A.a.americana*), Oregon pronghorn (*A.a.oregona*), Mexican pronghorn (*A.a.mexicana*), Sonoran pronghorn (*A.a.sonoriensis*), and peninsular pronghorn (*A.a.peninsularis*). The Sonoran pronghorn is the smallest and palest subspecies of *Antilocapra americana* (USFWS 2002a).

2.4.2 Distribution and Abundance

The U.S. subpopulation currently occupies approximately 2,500 square miles (6,500 square km) of Federal lands in southwestern Arizona, including portions of the BMGR, CPNWR, Organ Pipe Cactus National Monument, and a small area of Bureau of Land Management lands east of the CPNWR and west of Highway 85. The CPNWR lies at the heart of the Sonoran pronghorn range in Arizona and connects locations used on the BMGR and Organ Pipe Cactus National Monument (USFWS 2006). Although Sections CV-2 and CV-2a will occupy part of the historical range for Sonoran pronghorn, the Project is outside the current range of the species.

In 2004, the population estimate was 58 individuals and the trend has generally been downward since 1992. In 2002, extreme drought resulted in the loss of 85 percent of the U.S. Sonoran pronghorn herd.

2.4.3 Habitat

All Sonoran pronghorn populations occur in Sonoran desert scrub vegetation communities. Creosote (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) compose the major vegetation in the Lower Colorado River Valley subdivision. Plant species along major water courses include ironwood (*Olneya tesota*), blue palo verde (*Parkinsonia floridum*), and mesquite (*Prosopis velutina* and *P. glandulosa*). Species in the Arizona Upland include foothill palo verde (*Parkinsonia microphyllum*), catclaw acacia (*Acacia greggii*), chain fruit cholla, teddy bear cholla (*Cylindropuntia bigelovii*), buckhorn cholla (*C. acanthocarpa*), and staghorn cholla (*C. versicolor*). Typical habitat ranges in elevation from 2,000 to 4,000 feet (610 to 1,219 meters) above mean sea level (USFWS 2002a).

Sonoran pronghorns inhabit sites with good visibility and escape opportunities (e.g., the alluvial fans and plains) but will use higher elevation alluvial fans and hills with less visibility where vegetation is more abundant. Their preferred forage is annual forbs, but they also use the shrubs and trees of desert washes and hills as the forbs dry. Vegetation associated with desert washes provide important thermal cover. Sonoran pronghorns use free-standing water when it is available and also rely on moisture from vegetation in addition to metabolic water (e²M 2008).

2.4.4 Threats

The lack of newborns entering the population, insufficient forage or water, drought coupled with predation, barriers to movement, illegal hunting, habitat degradation from livestock grazing, diminishing size and loss of access to the Gila and Sonoita rivers, and human encroachment are considered contributing factors in the population decline of Sonoran pronghorn (USFWS 2006). Conversion of habitat to other uses and barriers to movement caused by roads,

canals, train tracks, and fences are the primary causes of the decline of the Sonoran pronghorn (USFWS 2002a).

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3. ACTION AREA

The action area consists of those lands that will be directly and indirectly impacted by the Project and are known to be occupied or potentially occupied by federally listed species. The action area is defined by a corridor that extends approximately 300 feet from construction access routes, staging areas, and construction sites. This is the area directly affected by the Project. The extension of 300 feet represents the approximate distance that Project-related noise is estimated to attenuate from approximately 80 A-weighted decibels (dBA) to approximately ambient noise levels of around 55 dBA. The action area includes primary vehicle fence and access road construction activities, construction access roads, and construction staging areas.

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4. EFFECTS OF THE PROJECT

The following is an analysis of the effects of the Project. Implementation of the Project may affect, but is not likely to adversely affect, the southwestern willow flycatcher (*Empidonax traillii extimus*) and yellow-billed cuckoo (*Coccyzus americanus*) in CV-1A. The Project may affect, but is not likely to adversely affect, the Sonoran pronghorn (*Antilocapra americana sonoriensis*) and the lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*) in Sections CV-2 and CV-2a. Potentially suitable habitat exists within the Project corridor for the species listed above. The vegetation alliances that will be impacted by construction activities in Section CV-2 and the species with habitat in those vegetation alliances are presented in **Table 4-1**. The vegetation alliances that will be impacted in Section CV-2a are presented in **Table 1-2**. Implementing general and species-specific BMPs will help to avoid impacts on these species and their habitats (see **Section 1.3**).

4.1 SOUTHWESTERN WILLOW FLYCATCHER

The Project may affect, but is not likely to adversely affect, the southwestern willow flycatcher throughout the impact areas in Sections CV-1A. NatureServe data indicate that the southwestern willow flycatcher occurs immediately west of the Section CV-1A Project corridor (NatureServe 2008). Southwestern willow flycatchers are only expected to occur in the Project area from April until mid-September (USFWS 2002b). Because construction will occur from October through December 2008, southwestern willow flycatchers are not expected to be present during construction. The Project will result in the loss of approximately 14 acres of suitable willow flycatcher habitat. The impact of this loss will be negligible compared to the available habitat in the Project area and along the Colorado River. Additionally, the Project corridor is disturbed and is in close proximity to agricultural development, further reducing the effects associated with loss of habitat. However, BMPs will help to reduce or avoid these impacts (see **Section 1.3**).

4.2 YELLOW-BILLED CUCKOO

The Project may affect, but is not likely to adversely affect, the yellow-billed cuckoo throughout the impact areas in Sections CV-1A. NatureServe data indicate that yellow-billed cuckoo occurs in Section CV-1A within the Project corridor (NatureServe 2008). Yellow-billed cuckoos are only expected to occur in the Project area from late May until late August (Wiggins 2005). Because construction will occur from October through December 2008, yellow-billed cuckoos are not expected to be present during construction. The Project will result in the loss of approximately 1 acre of yellow-billed cuckoo habitat. The impact of this loss will be negligible compared to the available habitat in the Project area and along the Colorado River. Additionally, the Project corridor is

Table 4-1. Vegetation Alliances Impacted by Construction Activities in Section CV-2

Vegetation Alliance	Access Road (acres)	Fence Corridor (acres)	Staging Areas (acres)	Species with Habitat in Vegetation Alliance
Grassland				
Annual Herbaceous Vegetation/ Barrens	24.81	5.56	0.82	--
Total Herbaceous	24.81	5.56	0.82	
Tall Shrubland				
Smoketree – Catclaw Acacia Desert Wash Shrubland	1.3	0.5	--	--
Total Tall Shrubland	1.3	0.5	--	--
Short Shrubland				
Brittlebush – Creosotebush Volcanic Cobble Shrubland	--	0.48	--	--
Creosotebush / Annual Herbaceous Vegetation Shrubland	5.67	--	5.47	--
Creosotebush – Brittlebush – Teddy Bear Cholla Volcanic Cobble Shrubland	3.46	3.58	--	--
Creosotebush – Brittlebush – White Bursage Shrubland	38.52	2.39	20.26	--
Creosotebush – Limberbush – White Bursage Shrubland	8.34	4.58	5.53	--
Creosotebush – Ocotillo Volcanic Cobble Shrubland	0.27	13.17	0.47	--
Creosotebush – White Bursage Shrubland	80.3	20.98	5.33	--
Creosotebush – White Bursage Volcanic Cobble Shrubland	0.98	3.09	--	--
Creosotebush – White Bursage – Four-wing Saltbush Shrubland	5.16	0.19	--	--
Four-wing Saltbush – Catclaw Acacia Desert Wash Shrubland	3.41	--	--	--
Rock Outcrop Sparse Shrubland	0.25	--	--	--
Total Short Shrubland	146.36	48.46	37.06	--

Vegetation Alliance	Access Road (acres)	Fence Corridor (acres)	Staging Areas (acres)	Species with Habitat in Vegetation Alliance
Wooded Shrubland				
Ironwood / Brittlebush Desert Wash Wooded Shrubland	4.07	0.3	2.19	--
Paloverde – Ironwood / Mixed Shrub Desert Wash Wooded Shrubland	5.11	5.77		--
Honey Mesquite / Mixed Shrubs Riparian Wooded Shrubland	5.08	0.71	0.28	--
Saguaro / Creosotebush – White Bursage Wooded Shrubland	8.73	--	--	Lesser long-nosed bat
Paloverde – Ocotillo – Creosotebush Mountain Slope Wooded Shrubland	1.7	4.32	0.1	--
Total Wooded Shrubland	24.69	11.1	2.57	
Miscellaneous				
Unvegetated Desert Wash Channels	0.93	0.62	0.31	--

disturbed and is in close proximity to agricultural development, further reducing the effects associated with loss of habitat. However, BMPs will help to reduce or avoid these impacts (see **Section 1.3**).

4.3 LESSER LONG-NOSED BAT

The Project may affect, but is not likely to adversely affect, the lesser long-nosed bat in Sections CV-2 and CV-2a. Lesser long-nosed bats use roost sites within CPNWR, including one of three maternity roosts in the United States (e²M 2008). However, at its closest point the maternity roost is approximately 15 miles from the project corridor. There are no known occurrences of this species within or immediately adjacent to the Project corridors (NatureServe 2008). Effects could occur through the direct loss of forage habitat. Based on the known forage distances of up to 40 miles for lesser long-nosed bats, it is likely that this species forages throughout portions of the CPNWR, where flowers and fruit of saguaro, organ pipe, prickly pear, and agave are available (USFWS 2006, USFWS 2007).

A total of 8.73 acres of suitable lesser long-nosed bat forage habitat (saguaro/creosotebush – white bursage wooded shrubland) will be permanently impacted by construction of tactical infrastructure in Section CV-2. Approximately 260 saguaros occur in the Project corridor. In Section CV-2a, approximately 16 saguaros occur in the Project corridor. However, based on the dominant vegetation types, Section CV-2a does not contain optimal foraging

habitat. This potential loss of lesser long-nosed bat habitat is small compared to the suitable forage habitat available to the lesser long-nosed bat throughout the action area. Additionally, sensitive or protected plant species will be avoided when possible and when it is not possible to avoid saguaros, CBP will conduct appropriate mitigation to lessen the impact of the Project. Therefore, the Project might affect, but is not likely to adversely affect, the lesser long-nosed bat.

4.4 SONORAN PRONGHORN

The Project may affect, but is not likely to adversely affect the Sonoran pronghorn throughout the impact areas in Sections CV-2 and CV-2a. Sonoran pronghorns occur within the proposed project region within BMGR and CPNWR, with the CPNWR being central to its distributional range (USFWS 2006). Sonoran pronghorns most frequently use the valleys and hills of Pinta Sands, Mohawk Valley, San Cristobal Valley, and Growler Valley east of the proposed Project area (e²M 2008). Arizona Game and Fish Department documented an individual radiotagged Sonoran pronghorn that crossed the Section CV-2 project corridor and joined a herd in Mexico (Young 2008). This is perceived to be an extralimital occurrence, based on the species' current range and the fact that this was an individual pronghorn. Although Sections CV-2 and CV-2a will occupy part of the historical range for Sonoran pronghorn, the Project is outside the current range of the species. Additionally, because of the lack of water sources, the Project area is considered only marginal seasonal habitat (e²M 2008). Therefore, no direct effect on Sonoran pronghorn or its habitat are expected.

As stated above threats to Sonoran pronghorn include barriers to movement caused by roads, canals, train tracks, and fences (USFWS 2002a). However, pronghorn (*Antilocapra americana*) have been documented to cross under barbed wire fences with a clearance of 22 inches, with a low aversion rate (Karhu and Anderson 2003) and post on rail type ("buck and pole") fences with a clearance of 18 inches (NDGFD 2006). The clearance under a post on rail fence associated with the Project is 36 inches high and the clearance under a Normandy style vehicle fence is 32.5 inches.

Improvements to the Camino del Diablo could increase vehicle and recreational use in Sonoran pronghorn habitat. However, these increases are likely to be negligible. Camino del Diablo is currently open to permitted four-wheel-drive traffic and this will not change as a result of the Project. Increased human disturbance of Sonoran pronghorn in adjacent habitat, associated with construction could occur. Increased human disturbance could result in physiological effects, such as elevated heart rate or the additional energy expended in moving away from perceived danger. Studies of captive pronghorn, other than the Sonoran subspecies, have shown that they are sensitive to disturbance such as human presence and vehicular noise. Human and vehicular traffic caused an increased heart-rate response in American pronghorn in half-acre holding pens. During times of drought, disturbances that cause pronghorns to startle and run energetically will have a more significant effect. Such expenditures of energy, particularly during times of stress, could lead to lower

reproductive output or reduced survival for individual animals (USFWS 2006). However, impacts are expected to be negligible since construction will be focused outside the current range of the species.

A beneficial effect is anticipated from the Project is the reduction of illegal traffic and other illegal human activities on habitat for this species. In one area, illegal traffic has created a 38-mile road since 1999 that traverses pronghorn habitat. In addition, there are hundreds of additional miles of single vehicle tracks laid down across the otherwise undisturbed desert by cross-border violators. These activities undoubtedly result in adverse effects due to the reduction of habitat quantity and quality available to Sonoran pronghorns (USFWS 2006) and through direct disturbance of individuals. The expected reduction and potential cessation of these illegal activities in this area could result in short- and long-term, minor to major, beneficial effects on this species through improvement of the habitat north of the Project such that pronghorn might once again inhabit the area in the future.

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5. DETERMINATION OF EFFECT

Table 5-1 summarizes the federally listed species and habitats that are known to occur within 25 miles of the U.S./Mexico international border in Yuma County.

There are nine federally listed species that are known to occur, or have the potential to occur, within or adjacent to the project area. Additionally, one of the listed species has designated critical habitat near the Project area. The Project may affect, but is not likely to adversely affect, the southwestern willow flycatcher (*Empidonax traillii extimus*) and yellow-billed cuckoo (*Coccyzus americanus*) in Section CV-1A. The Project may affect, but is not likely to adversely affect, the Sonoran pronghorn (*Antilocapra americana sonoriensis*) and the lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*) in Sections CV-2 and CV-2a. The Project will have no effect on the razorback sucker (*Xyrauchen texanus*) or its critical habitat, the wintering population of bald eagle (*Haliaeetus leucocephalus*), California brown pelican (*Pelecanus occidentalis californicus*), and Yuma clapper rail (*Rallus longirostris yumanensis*) in Section CV-1A and flat-tailed horned lizard (*Phrynosoma mcallii*) in Section CV-2. The reasons for the no effect determinations are detailed below.

Razorback Sucker. There are no known occurrences of this species within or immediately adjacent to the Project corridor (NatureServe 2008). Additionally, the Project corridor does not contain suitable habitat for the razorback sucker (GSRC 2008). The only portion of the Section CV-1A that will occur within the floodplain of the Colorado River is a section of Normandy-style fence that will connect to the Morelos Dam. No changes to hydrology are expected as a result of the Project. Therefore, no impacts on the razorback sucker are anticipated.

Razorback Sucker Critical Habitat. Razorback sucker critical habitat does not occur within the Project corridor.

Bald eagle. Once endangered, the bald eagle was downlisted to threatened on August 11, 1995, and delisted August 8, 2007. Threatened status was reinstated for desert nesting bald eagles, and the species is being monitored in several counties by USFWS. However, Yuma County is not one of those counties, and no bald eagle nests are known in the area of the Project (Driscoll et al. 2006). There are no known occurrences of this species within or immediately adjacent to the project corridor (NatureServe 2008). Additionally, suitable nesting habitat, which is composed of large trees or cliffs near water (e.g., reservoirs, rivers, and streams) with abundant prey, does not exist within the Project corridor (USFWS 2008).

California brown pelican. This subspecies is found on the Pacific Coast and is an uncommon transient in Arizona on lakes and rivers. Individuals wander up from Mexico in summer and fall. There are no known occurrences of this species within or immediately adjacent to the project corridor (NatureServe 2008). There

Table 5-1. Federally Listed Species and Designated Critical Habitats Known to Occur or with Potential to Occur Within Project Area in Yuma County, Arizona, and the Determination of Effects

Species	Fence Section	Listing Status, Critical Habitat	Effect Determination
Fish			
Razorback sucker, <i>Xyrauchen texanus</i>	CV-1A	Endangered	No effect
Razorback sucker Critical Habitat	CV-1A	Critical Habitat upstream of the Project area	No effect
Reptiles			
Flat-tailed horned lizard, <i>Phrynosoma mcallii</i>	CV-2	Conservation Agreement Species*	No effect
Birds			
Bald eagle (wintering population), <i>Haliaeetus leucocephalus</i>	CV-1A	Threatened**	No effect
California brown pelican, <i>Pelecanus occidentalis californicus</i>	CV-1A	Threatened , Proposed delisted	No effect
Southwestern willow flycatcher, <i>Empidonax traillii extimus</i>	CV-1A	Endangered	Not likely to adversely affect
Yellow-billed cuckoo, <i>Coccyzus americanus</i>	CV-1A	Candidate	Not likely to adversely affect
Yuma clapper rail, <i>Rallus longirostris yumanensis</i>	CV-1A	Endangered	No effect
Mammals			
Lesser long-nosed bat, <i>Leptonycteris curasoae</i>	CV-2, CV-2a	Endangered	Not likely to adversely affect
Sonoran pronghorn, <i>Antilocapra americana sonoriensis</i>	CV-2, CV-2a	Endangered	Not likely to adversely affect

Source: USFWS 2008

Notes:

* This species is not federally-listed; however, the USFWS participates in the Flat-tailed Horned Lizard Rangewide Management Strategy which has been prepared to provide guidance for the conservation and management of sufficient habitat to maintain extant populations of flat-tailed horned lizards.

**Once endangered, this species was downlisted to threatened on August 11, 1995, and delisted August 8, 2007. Threatened status was reinstated for desert nesting bald eagles.

are no breeding records of this species in Arizona. Suitable habitat, which is composed of coastal land and islands, and around Arizona lakes and rivers, does not exist within the Project corridor (USFWS 2008).

Yuma clapper rail. NatureServe data indicate that Yuma clapper rail occurs in Section CV-1A within the Project corridor (NatureServe 2008). Yuma clapper rail is associated with dense riparian and marsh vegetation. It requires a wet substrate, such as a mudflat, sandbar, or slough bottom, that supports cattail and bulrush stands of moderate to high density adjacent to shorelines (USFWS 2002c). However, suitable habitat for Yuma clapper rail will not be affected by the Project (GSRC 2008). Therefore, impacts on individuals associated with construction will not be expected.

Flat-tailed Horned Lizard. There are no known occurrences of this species within or immediately adjacent to the Project corridor (NatureServe 2008). The flat-tailed horned lizard is adapted to active sand dunes and flats and could occur in the Pinta Sands area east of the proposed Project corridor (USFWS 2006). Suitable habitat for the flat-tailed horned lizard does not occur within the Project corridor (e²M 2008).

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APPENDIX G

Air Quality Calculations and Emissions Calculations



Summary	Summarizes total emissions by calendar year.
Combustion	Estimates emissions from non-road equipment exhaust as well as painting.
Fugitive	Estimates fine particulate emissions from earthmoving, vehicle traffic, and windblown dust
Grading	Estimates the number of days of site preparation, to be used for estimating heavy equipment exhaust and earthmoving dust emissions
Generators	Estimates emissions from diesel-powered generators used during Project implementation.
Operations and Maintenance	Estimates emissions from maintenance equipment and from operational use of roads
AQCR Tier Report	Summarizes total emissions for the Mohave-Yuma Intrastate AQCR Tier Reports for 2001, to be used to compare project to regional emissions.G

Air Quality Emissions from Proposed Action

	NO_x (ton)	VOC (ton)	CO (ton)	SO₂ (ton)	PM₁₀ (ton)	PM_{2.5} (ton)	CO₂ (ton)
CY2008							
Construction Combustion	0.500	0.031	0.189	0.010	0.031	0.030	59.298
Construction Fugitive Dust	-	-	-	-	10.036	1.004	-
Construction Generators	6.030	0.492	1.299	0.397	0.424	0.397	224.245
TOTAL CY2008	6.530	0.523	1.487	0.407	10.490	1.430	283.543

Note: Total CY2008 PM_{10/2.5} fugitive dust emissions are assuming USEPA 50% control efficiencies.

	NO_x (ton)	VOC (ton)	CO (ton)	SO₂ (ton)	PM₁₀ (ton)	PM_{2.5} (ton)	CO₂ (ton)
CY2009							
Operations & Maintenance	0.308	0.039	0.285	0.0003	0.011	0.010	35.353
TOTAL CY2009	0.308	0.039	0.285	0.0003	0.011	0.010	35.353

	NO_x (ton)	VOC (ton)	CO (ton)	SO₂ (ton)	PM₁₀ (ton)	PM_{2.5} (ton)	CO₂ (ton)
Total Emissions							
TOTAL Project Emissions	6.838	0.562	1.772	0.407	10.501	1.440	318.896

Since future year budgets were not readily available, actual 2001 air emissions inventories for the counties were used as an approximation of the regional inventory. Because the Proposed Action is several orders of magnitude below significance, the conclusion would be the same, regardless of whether future year budget data set were used.

Mohave-Yuma Intrastate Air Quality Control Region

Year	Point and Area Sources Combined					
	NO _x (tpy)	VOC (tpy)	CO (tpy)	SO ₂ (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)
2001	22,973	21,200	143,134	1,241	20,173	5,876

Source: USEPA-AirData NET Tier Report (<http://www.epa.gov/air/data/geosel.html>). Site visited on 8 July 2008.

Determination Significance (Significance Threshold = 10%)

CY2008

	Point and Area Sources Combined					
	NO _x (tpy)	VOC (tpy)	CO (tpy)	SO ₂ (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)
Regional Emissions	22,973	21,200	143,134	1,241	20,173	5,876
CY2008 Emissions (Highest Year)	6.5297	0.5232	1.4875	0.4065	10.4903	1.430
CY2008 %	0.0284%	0.0025%	0.0010%	0.0328%	0.0520%	0.0243%

Regional Emissions

CY2008 Emissions (Highest Year)

CY2008 %

Determination Significance (Significance Threshold = 10%)

CY2009

	Point and Area Sources Combined					
	NO _x (tpy)	VOC (tpy)	CO (tpy)	SO ₂ (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)
Regional Emissions	22,973	21,200	143,134	1,241	20,173	5,876
CY2009 and beyond Emissions	0.3080	0.0390	0.2850	0.0003	0.0110	0.0100
CY2009 %	0.0013%	0.0002%	0.0002%	0.00003%	0.0001%	0.0002%

Regional Emissions

CY2009 and beyond Emissions

CY2009 %

Combustion Emissions for CY 2008

Combustion Emissions of VOC, NO_x, SO₂, CO, PM_{2.5}, PM₁₀, and CO₂ due to Construction

Includes:

Assumption: Construction corridor for access road improvements is 2.66 miles long by 60 feet wide.

Assumption: Construction corridor for new access road construction is 0.44 miles long by 60 feet wide.

Assumption: Construction corridor for vehicle fence and new access road is 1.58 miles long by 60 feet wide.

Assumption: Construction staging area is approximately 2.0 acres.

All Construction for vehicle fence and roads 1,569,743 ft² 36.04 acres

Total Disturbed Area: 1,569,743 ft²
 Construction Duration: 2 months
 Annual Construction Activity: 60 days/yr

Emission Factors Used for Construction Equipment

References: Guide to Air Quality Assessment, SMAQMD, 2004; and U.S. EPA NONROAD Emissions Model, Version 2005.0.0

Emission factors are taken from the NONROAD model and were provided to e²M by Larry Landman of the Air Quality and Modeling Center (Landman.Larry@epamail.epa.gov) on 12/14/07. Factors provided are for the weighted average US fleet for CY2007.

Assumptions regarding the type and number of equipment are from SMAQMD Table 3-1 unless otherwise noted.

Grading

Equipment	No. Req ^d . ^a per 10 acres	NO _x (lb/day)	VOC ^b (lb/day)	CO (lb/day)	SO ₂ ^c (lb/day)	PM ₁₀ (lb/day)	PM _{2.5} (lb/day)	CO ₂ (lb/day)
Bulldozer	1	13.60	0.96	5.50	1.02	0.89	0.87	1456.90
Motor Grader	1	9.69	0.73	3.20	0.80	0.66	0.64	1141.65
Water Truck	1	18.36	0.89	7.00	1.64	1.00	0.97	2342.98
Total per 10 acres of activity	3	41.64	2.58	15.71	0.83	2.55	2.47	4941.53

- The SMAQMD 2004 guidance suggests a default equipment fleet for each activity, assuming 10 acres of that activity, (e.g., 10 acres of grading, 10 acres of paving, etc.). The default equipment fleet is increased for each 10 acre increment in the size of the construction project. That is, a 26 acre project would round to 30 acres and the fleet size would be three times the default fleet for a 10 acre project.
- The SMAQMD 2004 reference lists emission factors for reactive organic gas (ROG). For the purposes of this worksheet ROG = VOC. The NONROAD model contains emissions factors for total HC and for VOC. The factors used here are the VOC factors.
- The NONROAD emission factors assume that the average fuel burned in nonroad trucks is 1100 ppm sulfur. Trucks that would be used for the Proposed Actions will all be fueled by highway grade diesel fuel which cannot exceed 500 ppm sulfur. These estimates therefore over-estimate SO₂ emissions by more than a factor of two.
- Typical equipment fleet for building construction was not itemized in SMAQMD 2004 guidance. The equipment list above was assumed based on SMAQMD 1994 guidance.

PROJECT-SPECIFIC EMISSION FACTOR SUMMARY

Source	Equipment Multiplier*	Project-Specific Emission Factors (lb/day)						
		NO _x	VOC	CO	SO ₂ **	PM ₁₀	PM _{2.5}	CO ₂
Grading Equipment	4	166.565	10.308	62.840	3.331	10.182	9.877	19766.105

*The equipment multiplier is an integer that represents units of 10 acres for purposes of estimating the number of equipment required for the project.

**Emission factor is from the evaporation of solvents during painting, per "Air Quality Thresholds of Significance", SMAQMD, 1994

Example: SMAQMD Emission Factor for Grading Equipment NO_x = (Total Grading NO_x per 10 acre)*(Equipment Multiplier)

Summary of Input Parameters

	Total Area (ft ²)	Total Area (acres)	Total Days
Grading:	1,569,743	36.04	6

(from "CY2008 Grading" worksheet)

Total Project Emissions by Activity (lbs)

	NO _x	VOC	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂
Grading Equipment	999.39	61.85	377.04	19.99	61.09	59.26	118,597
Total Emissions (lbs):	999.39	61.85	377.04	19.99	61.09	59.26	118,597

Results: Total Project Annual Emission Rates

	NO _x	VOC	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂
Total Project Emissions (lbs)	999.39	61.85	377.04	19.99	61.09	59.26	118,597
Total Project Emissions (tons)	0.4997	0.0309	0.1885	0.0100	0.0305	0.0296	59.2983

Construction Fugitive Dust Emissions

Construction Fugitive Dust Emission Factors

	Emission Factor	Units	Source	Conversion Factors
General Construction Activities	0.19	ton PM ₁₀ /acre-month	MRI 1996; EPA 2001; EPA 2006	0.00002296 acres per square feet (ft ²)
New Road Construction	0.42	ton PM ₁₀ /acre-month	MRI 1996; EPA 2001; EPA 2006	5,280 feet per mile

PM_{2.5} Emissions

PM _{2.5} Multiplier	0.10	(10% of PM ₁₀ emissions assumed to be PM _{2.5})	EPA 2001; EPA 2006
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Control Efficiency

Control Efficiency	0.50	(assume 50% control efficiency for PM ₁₀ and PM _{2.5} emissions)	EPA 2001; EPA 2006
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Project Assumptions

Road Improvements (0.19 ton PM₁₀/acre-month)

Duration of Construction Project	2 months	
Length	2.66 miles	Constuction corridor for access road improvements is 2.66 miles long by 60 feet wide.
Length (converted)	14,045 feet	
Width	60 feet	
Area	19 acres	

Construction Staging Area Activities (0.19 ton PM₁₀/acre-month)

Duration of Construction Project	2 months	
Area	87,119 square feet	Construction staging area is approximately 2.0 acres.
Area	2 acres	

Fence and New Road Construction (0.42 ton PM₁₀/acre-month)

Duration of Construction Project	2 months	
Length	2.02 miles	Construction corridor for new access road construction is 0.44 miles long by 60 feet wide.
Length (converted)	10,666 feet	
Width	60 feet	Construction corridor for vehicle fence and new access road is 1.58 miles long by 60 feet wide.
Area	14.7 acres	

	Project Emissions (tons/year)			
	PM ₁₀ uncontrolled	PM ₁₀ controlled	PM _{2.5} uncontrolled	PM _{2.5} controlled
Road Improvements	7.35	3.68	0.74	0.37
Construction Staging Area Activities	0.38	0.19	0.04	0.02
Fence and New Road Construction	12.34	6.17	1.23	0.62
Total	20.07	10.04	2.01	1.00

Construction Fugitive Dust Emission Factors

General Construction Activities Emission Factor

0.19 ton PM₁₀/acre-month Source: MRI 1996; EPA 2001; EPA 2006

The area-based emission factor for construction activities is based on a study completed by the Midwest Research Institute (MRI) Improvement of Specific Emission Factors (BACM Project No. 1), March 29, 1996. The MRI study evaluated seven construction projects in Nevada and California (Las Vegas, Coachella Valley, South Coast Air Basin, and the San Joaquin Valley). The study determined an average emission factor of 0.11 ton PM₁₀/acre-month for sites without large-scale cut/fill operations. A worst-case emission factor of 0.42 ton PM₁₀/acre-month was calculated for sites with active large-scale earth moving operations. The monthly emission factors are based on 168 work-hours per month (MRI 1996). A subsequent MRI Report in 1999, Estimating Particulate Matter Emissions From Construction Operations, calculated the 0.19 ton PM₁₀/acre-month emission factor by applying 25% of the large-scale earthmoving emission factor (0.42 ton PM₁₀/acre-month) and 75% of the average emission factor (0.11 ton PM₁₀/acre-month). The 0.19 ton PM₁₀/acre-month emission factor is referenced by the EPA for non-residential construction activities in recent procedures documents for the National Emission Inventory (EPA 2001; EPA 2006). The 0.19 ton PM₁₀/acre-month emission factor represents a refinement of EPA's original AP-42 area-based total suspended particulate (TSP) emission factor in Section 13.2.3 Heavy Construction Operations. In addition to the EPA, this methodology is also supported by the South Coast Air Quality Management District as well as the Western Regional Air Partnership (WRAP) which is funded by the EPA and is administered jointly by the Western Governor's Association and the National Tribal Environmental Council. The emission factor is assumed to encompass a variety of non-residential construction activities including building construction (commercial, industrial, institutional, governmental), public works, and travel on unpaved roads. The EPA National Emission Inventory documentation assumes that the emission factors are uncontrolled and recommends a control efficiency of 50% for PM₁₀ and PM_{2.5} in PM nonattainment areas.

New Road Construction Emission Factor

0.42 ton PM₁₀/acre-month Source: MRI 1996; EPA 2001; EPA 2006

The emission factor for new road construction is based on the worst-case conditions emission factor from the MRI 1996 study described above (0.42 tons PM₁₀/acre-month). It is assumed that road construction involves extensive earthmoving and heavy construction vehicle travel resulting in emissions that are higher than other general construction projects. The 0.42 ton PM₁₀/acre-month emission factor for road construction is referenced in recent procedures documents for the EPA National Emission Inventory (EPA 2001; EPA 2006).

PM_{2.5} Multiplier

0.10

PM_{2.5} emissions are estimated by applying a particle size multiplier of 0.10 to PM₁₀ emissions. This methodology is consistent with the procedures documents for the National Emission Inventory (EPA 2006).

Control Efficiency for PM₁₀ and PM_{2.5}

0.50

The EPA National Emission Inventory documentation recommends a control efficiency of 50% for PM₁₀ and PM_{2.5} in PM nonattainment areas (EPA 2006). Wetting controls will be applied during project construction.

References:

EPA 2001. *Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999*. EPA-454/R-01-006. Office of Air Quality Planning and Standards, United States Environmental Protection Agency. March 2001.

EPA 2006. *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants*. Prepared for: Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards, United States Environmental Protection Agency. July 2006.

MRI 1996. *Improvement of Specific Emission Factors (BACM Project No. 1)*. Midwest Research Institute (MRI). Prepared for the California South Coast Air Quality Management District, March 29, 1996.

Grading Schedule for CY 2008

Estimate of time required to grade a specified area.

Input Parameters

Construction area: 36.04 acres/yr (from Combustion Worksheet)
 Qty Equipment: 11.00 (calculated based on 3 pieces of equipment for every 10 acres)

Assumptions.

Terrain is mostly flat.

An average of 6" soil is excavated from one half of the site and backfilled to the other half of the site; no soil is hauled off-site or borrowed.

200 hp bulldozers are used for site clearing.

300 hp bulldozers are used for stripping, excavation, and backfill.

Vibratory drum rollers are used for compacting.

Stripping, Excavation, Backfill and Compaction require an average of two passes each.

Excavation and Backfill are assumed to involve only half of the site.

Calculation of days required for one piece of equipment to grade the specified area.

Reference: Means Heavy Construction Cost Data, 19th Ed., R. S. Means, 2005.

Means Line No.	Operation	Description	Output	Units	Acres per equip-day	equip-days per acre	Acres/yr (project- specific)	Equip-days per year
2230 200 0550	Site Clearing	Dozer & rake, medium brush	8	acre/day	8	0.13	36.04	4.50
2230 500 0300	Stripping	Topsoil & stockpiling, adverse soil	1,650	cu. yd/day	2.05	0.49	36.04	17.62
2315 432 5220	Excavation	Bulk, open site, common earth, 150' haul	800	cu. yd/day	0.99	1.01	18.02	18.17
2315 120 5220	Backfill	Structural, common earth, 150' haul	1,950	cu. yd/day	2.42	0.41	18.02	7.45
2315 310 5020	Compaction	Vibrating roller, 6" lifts, 3 passes	2,300	cu. yd/day	2.85	0.35	36.04	12.64
TOTAL								60.38

Calculation of days required for the indicated pieces of equipment to grade the designated acreage.

(Equip)(day)/yr: 60.38
 Qty Equipment: 11.00
 Grading days/yr: 5.49

Mohave-Yuma Intrastate Air Quality Control Region

Row #	State	County	Area Source Emissions					Point Source Emissions							
			CO	NOx	PM10	PM2.5	SO2	VOC	CO	NOx	PM10	PM2.5	SO2	VOC	
SORT															
1	AZ	Mohave County	87,638	11,935	8,777	3,206	688	12,697	240	756	79.2	68.4	7.19	119	
2	AZ	Yuma Co	55,153	9,698	11,217	2,520	526	8,320	103	584	100	81.3	19.6	64.1	
Grand Total			142,791	21,633	19,994	5,726	1,214	21,017	343	1,340	179	150	27	183	

SOURCE:

<http://www.epa.gov/air/data/geosel.html>

USEPA - AirData NET Tier Report

*Net Air pollution sources (area and point) in tons per year (2001)

Site visited on 20 June 2008.

Mohave-Yuma Intrastate AQCR (40 CFR 81.268): Mohave County, Yuma County, AZ

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7. ACRONYMS AND ABBREVIATIONS

µg/m ³	micrograms per cubic meter	DOI	Department of the Interior
°F	degrees Fahrenheit	EO	Executive Order
ADA	Arizona Department of Agriculture	EPP	Environmental Protection Plan
ADEQ	Arizona Department of Environmental Quality	ESA	Endangered Species Act
AGFD	Arizona Game and Fish Department	ESP	Environmental Stewardship Plan
APE	Area of Potential Effect	FR	Federal Register
AQCR	air quality control region	FY	fiscal year
ASM	Arizona State Museum	GPS	Global Positioning System
BLM	Bureau of Land Management	HS	Highly Safeguarded
BMGR	Barry M. Goldwater Range	IA	illegal alien
BMP	Best Management Practice	IIRIRA	Illegal Immigration Reform and Immigrant Responsibility Act
CAA	Clean Air Act	IVCS	International Vegetation Classification System
CBP	U.S. Customs and Border Protection	MBTA	Migratory Bird Treaty Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	mg/m ³	milligrams per cubic meter
cm	centimeter	MMTCE	million metric tons of carbon equivalent
CM&R	Construction Mitigation and Restoration	MYAQCR	Mohave-Yuma Intrastate Air Quality Control Region
CO	carbon monoxide	NAAQS	National Ambient Air Quality Standards
CO ₂	carbon dioxide	NHPA	National Historic Preservation Act
CPNWR	Cabeza Prieta National Wildlife Refuge	NO ₂	nitrogen dioxide
CWA	Clean Water Act	NO _x	nitrogen oxide
DHS	U.S. Department of Homeland Security	NRHP	National Register of Historic Places
DOD	Department of Defense	NWR	National Wildlife Refuge
		O ₃	ozone

OHM	ordinary high water mark	SIP	state implementation plan
OPCNM	Organ Pipe Cactus National Monument	SO ₂	sulfur dioxide
OS/RR	Open Space, Recreation, and Resources Zoning District	SPCC	Spill Prevention Control and Countermeasures
OSHA	Occupational Safety and Health Administration	SR	Salvage Restricted
P.L.	Public Law	SWPPP	Storm Water Pollution Prevention Plan
Pb	lead	tpy	tons per year
PM ₁₀	respirable particulate matter equal to or less than 10 microns in diameter	TSCA	Toxic Substances Control Act
PM _{2.5}	respirable particulate matter equal to or less than 2.5 microns in diameter	U.S.C.	United States Code
POE	Port of Entry	USACE	U.S. Army Corps of Engineers
ppm	parts per million	USBP	U.S. Border Patrol
RCRA	Resource Conservation and Recovery Act	USEPA	U.S. Environmental Protection Agency
SARA	Superfund Amendments and Reauthorization Act	USFWS	U.S. Fish and Wildlife Service
SBI	Secure Border Initiative	UTM	Universal Transverse Mercator
SHPO	State Historic Preservation Office	VOC	volatile organic compound
		VRM	Visual Resources Management
		WSC	Wildlife of Special Concern