

October
2022



Draft

Environmental Assessment

Proposing Improvement of Existing Patrol Roads in the
U.S. Border Patrol Laredo Sector, Texas



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

ABBREVIATIONS AND ACRONYMS

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4	ACI	Archaeological Consultants, Inc.
5	ACM	Asbestos-containing material
6	ACS	American Community Survey
7	APE	Area of Potential Effect
8	AQCR	Air quality control region
9	ARPA	Archaeological Resources Protection Act
10	BLIAQCR	Brownsville-Laredo Intrastate AQCR
11	BLM	Bureau of Land Management
12	BMP	Best management practices
13	CAA	Clean Air Act
14	CBP	Customs and Border Protection
15	CBV	Cross-border violators
16	CEQ	Council on Environmental Quality
17	CFR	Code of Federal Regulations
18	CO	Carbon monoxide
19	CO ₂	Carbon dioxide
20	CWA	Clean Water Act
21	DHS	Department of Homeland Security
22	DNL	day-night average A-weighted noise level
23	EA	Environmental Assessment
24	EIS	Environmental Impact Statement
25	E.O.	Executive Order
26	ESA	Endangered Species Act
27	FEMA	Federal Emergency Management Agency
28	FIRM	Flood Insurance Rate Maps
29	FONSI	Finding of No Significant Impact
30	GHG	Greenhouse gas
31	HAP	Hazardous air pollutant
32	LBP	Lead-based paint
33	LRGV	Lower Rio Grande Valley
34	MBTA	Migratory Bird Treaty Act
35	NAAQS	National Ambient Air Quality Standards
36	NAGPRA	Native American Graves Protection and Repatriation Act
37	NEPA	National Environmental Policy Act
38	NHPA	National Historic Preservation Act
39	NO ₂	Nitrogen dioxide
40	NO _x	Nitrogen oxide
41	NPDES	National Pollutant Discharge Elimination System
42	NRHP	National Register of Historic Places
43	OSHA	Occupational Safety and Health Administration
44	O ₃	Ozone

1	PCB	polychlorinated biphenyls
2	PGA	Peak ground acceleration
3	PM	Particular matter
4	POE	Port of Entry
5	POL	Petroleum, Oil, and Lubricants
6	PSD	Prevention of Significant Deterioration
7	RCRA	Resource Conservation and Recovery Act
8	ROI	Region of influence
9	SIP	State Implementation Plan
10	SCGN	Species of greatest conservation need
11	SFHA	Special Flood Hazard Area
12	SGCN	Species of greatest conservation need
13	SHPO	State Historic Preservation Office
14	SOP	Standard operating procedure
15	SO _x	Sulfur oxide
16	SPCCP	Spill Prevention, Control, and Countermeasure Plan
17	SWPPP	Storm Water Pollution Prevention Plan
18	TBBA	Texas Bird Breeding Atlas
19	TCEQ	Texas Commission on Environmental Quality
20	TDOT	Texas Department of Transportation
21	TGLO	Texas General Land Office
22	THC	Texas Historical Commission
23	THPO	Tribal Historic Preservation Office
24	TIMR	Tactical Infrastructure Maintenance and Repair
25	TPWD	Texas Parks & Wildlife Department
26	tpy	tons per year
27	TSCA	Toxic Substances Control Act
28	U.S.	United States
29	U.S.C.	United States Code
30	USBP	United States Border Patrol
31	USEPA	United States Environmental Protection Agency
32	USFS	United States Forest Service
33	USFWS	United States Fish and Wildlife Service
34	USIBWC	United States International Boundary and Water Commission
35	USGS	United States Geologic Survey
36	VOC	Volatile organic compounds
37	WOTUS	Waters of the United States
38	%g	percent gravity
39		

1 **Cover Sheet**

2 **Draft Environmental Assessment**
3 **Proposing Improvement of Existing Patrol Roads in the**
4 **U.S. BORDER PATROL LAREDO SECTOR, TEXAS**
5

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

8 **Affected Location:** Webb County, Texas.

9 **Report Designation:** Draft Environmental Assessment (EA).

10 **Abstract:** CBP proposes to improve approximately 16 miles of existing patrol roads in the USBP
11 Laredo Sector, Webb County, Texas. As part of the proposed project, the roads would be improved
12 to Functional Class-2 (FC-2), all-weather roads. An FC-2 road is a two-lane, 24-foot-wide,
13 unpaved, all-weather road consisting of a surface of imported aggregate material such as milled
14 bituminous material or processed stone and gravel. The upgraded all-weather road would improve
15 mobility and accessibility for USBP agents responding to illegal cross-border traffic. The proposed
16 roads are located where the vanishing points for cross-border violators are measured in seconds to
17 minutes. In addition to road improvement, the Proposed Action includes the construction of three
18 bridges, multiple low water crossings, and pipe/culvert drainage crossings.

19 The EA presents the analysis and documents potential environmental consequences associated
20 with the Proposed Action and No Action Alternative. The analyses presented in this EA indicate
21 that implementation of the Proposed Action would not result in significant environmental impacts,
22 and a Finding of No Significant Impact is appropriate.

23 Status updates for the EA can be obtained via the CBP EA website at
24 <https://www.cbp.gov/about/environmental-management> or by emailing
25 LaredoComments@cbp.dhs.gov. Comments on the EA or information requests can be submitted
26 to *Environmental Assessment Proposing Improvement of Existing Patrol Roads in the U.S. Border*
27 *Patrol Laredo Sector, Webb County, Texas*, c/o Paul Enriquez, U.S. Customs and Border
28 Protection, U.S. Border Patrol Headquarters, 1300 Pennsylvania Ave. 6.5E Mail Stop 1039,
29 Washington, D.C. 20229, or by email at LaredoComments@cbp.dhs.gov.

30 **Privacy Advisory**

31 Comments on this document are requested. Letters or other written comments provided may be
32 published in the EA. Comments will be addressed in the EA and made available to the public. Any
33 personal information provided will be used only to identify a desire to make a statement during
34 the public comment period or to fulfill requests for copies of the EA or associated documents.
35 Private addresses will be compiled to develop a mailing list for those requesting copies of the EA.
36 However, only the names of the private citizens making comments and specific comments will be
37 disclosed; personal home addresses and telephone numbers will not be published in the EA.

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DRAFT

ENVIRONMENTAL ASSESSMENT
PROPOSING IMPROVEMENT OF EXISTING PATROL
ROADS IN THE
U.S. BORDER PATROL LAREDO SECTOR,
WEBB COUNTY, TEXAS

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

OCTOBER 2022

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1 INTRODUCTION

U.S. Customs and Border Protection (CBP) proposes to improve approximately 16 miles of existing patrol roads in the U.S. Border Patrol (USBP) Laredo Sector, Webb County, Texas (i.e., the Proposed Action). As part of the proposed project, the roads would be improved to Functional Class-2 (FC-2), all-weather roads. An FC-2 road is a two-lane, 24-foot-wide, unpaved, all-weather road consisting of a surface of imported aggregate material such as milled bituminous material or processed stone and gravel. The upgraded all-weather road would improve mobility and accessibility for USBP agents responding to illegal cross-border traffic. The proposed roads are located where the vanishing points for cross-border violators (CBV) are measured in seconds to minutes.

An Environmental Assessment (EA) has been prepared to describe and assess the potential environmental and socioeconomic impacts associated with the Proposed Action and alternatives. The EA complies with the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [U.S.C.] Section 4321–4347); the Council on Environmental Quality’s (CEQ) *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 Code of Federal Regulations [CFR] Parts 1500–1508); Department of Homeland Security’s (DHS) Directive 023-01, Rev-01, *Environmental Planning Program*; and DHS’s Directive 023-01-001-01, Rev-01, *Implementation of the National Environmental Policy Act*.

This EA is organized into six chapters plus appendices. **Chapter 1** provides background information on existing security measures and the USBP mission, identifies the purpose of and need for the Proposed Action, describes the area in which the Proposed Action would occur, and explains the public involvement process. **Chapter 2** provides a detailed description of the Proposed Action and alternatives, including the No Action Alternative. **Chapter 3** describes existing environmental conditions in the area where the Proposed Action would occur and identifies potential environmental impacts that could occur within each resource area. **Chapter 4** contains a cumulative analysis of impacts that the Proposed Action, combined with other projects in the area, could have on the environment. **Chapters 5** and **6** provide a list of references used to develop the EA, and a list of preparers who developed the EA, respectively. Finally, the appendices include other information pertinent to the development of the EA.

1.1 BACKGROUND

The mission of the USBP is to detect and prevent CBVs, terrorists, and terrorist weapons from entering the United States, and prevent illegal trafficking of people and contraband. In many areas, tactical infrastructure, of which roads are considered an important component, is a critical element of border security, and contributes as a force multiplier for controlling and preventing illegal border intrusion.

To achieve effective control of our nation’s borders, CBP uses a multi-prong approach including a combination of personnel, technology, and infrastructure; the mobilization and rapid deployment of people and resources; and fostering of partnerships with other law enforcement agencies. CBP must ensure that tactical infrastructure functions as intended, which includes facilitation of meeting the following mission requirements:

- 1 • Establish substantial probability of apprehending terrorists and their weapons as they
- 2 attempt to illegally enter between the Ports of Entry (POEs)

- 3 • Deter illegal entries through improved enforcement

- 4 • Detect, apprehend, and deter smugglers of humans, drugs, and other contraband.

5 Furthermore, well-maintained tactical infrastructure allows ready access to the U.S./Mexico
6 international border and surrounding areas for rapid response to detected threats and facilitates the
7 ability to quickly adjust to changing threats.

8 1.2 LOCATION

9 The USBP Laredo Sector encompasses 96 counties and covers 84,041 square miles of
10 southwestern and northeastern Texas. The Rio Grande is both the southwestern and international
11 boundary. The USBP Laredo Sector is situated between the Del Rio and Marfa Sectors on the west
12 and the Rio Grande Valley Sector on the southeast. The northern boundary extends to the
13 Oklahoma border. There are approximately 139 miles of riverfront between the northwestern point
14 of intersection between Webb County and the Rio Grande and the southeastern corner of Zapata
15 County at a point on Falcon Lake near the Falcon Dam. Eight stations fall within the USBP Laredo
16 Sector including Laredo North, Laredo South, Zapata, Hebbbronville, Cotulla, Freer, Dallas, and
17 San Antonio.

18 The Proposed Action would consist of improving and widening approximately 14.2 miles of
19 existing patrol road and 1.7 miles of access roads in Webb County, Texas. The existing patrol road
20 is split into two separate segments of 7.5 miles and 6.7 miles within USBPs Laredo North and
21 Laredo South sectors, respectively. The Laredo North patrol road begins approximately 1 mile
22 south of the World Trade Bridge POE and runs south along the U.S./Mexico international border
23 stopping at the Texas Mexican Railway International Bridge POE (refer to **Figure 1-1**). The
24 Laredo South patrol road begins at the Juarez-Lincoln POE and runs south along the U.S./Mexico
25 international border stopping approximately one-half of a mile south of the Laredo College South
26 Campus (refer to **Figure 1-2**). The existing patrol road is currently used primarily by CBP for
27 USBP operations and is generally not used by the public. In addition to road improvements, the
28 Proposed Action includes the construction of three bridges, multiple low water crossings, and
29 pipe/culvert drainage crossings.

30 1.3 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

31 The purpose of the Proposed Action is to ensure that the physical integrity of the existing patrol
32 road, access roads, and associated supporting elements continue to perform as intended. The road
33 assists the USBP in securing the U.S/Mexico international border in Texas. The improvement of
34 the road would enhance agent safety and effectiveness by providing efficient, reliable, and safe
35 routes to remote areas that require patrolling. The road is critical to USBP Laredo Sector's ability
36 to maintain easy access to portions of the border region. The current FC-4, two-track road is
37 composed of unimproved road, wagon trail, and 4-wheel drive road and is 10–12-foot wide through
38 most of its length. As “two-track” implies, the road consists of two parallel tracks created by the

Figure 1-1. Laredo North Patrol Road Project Area

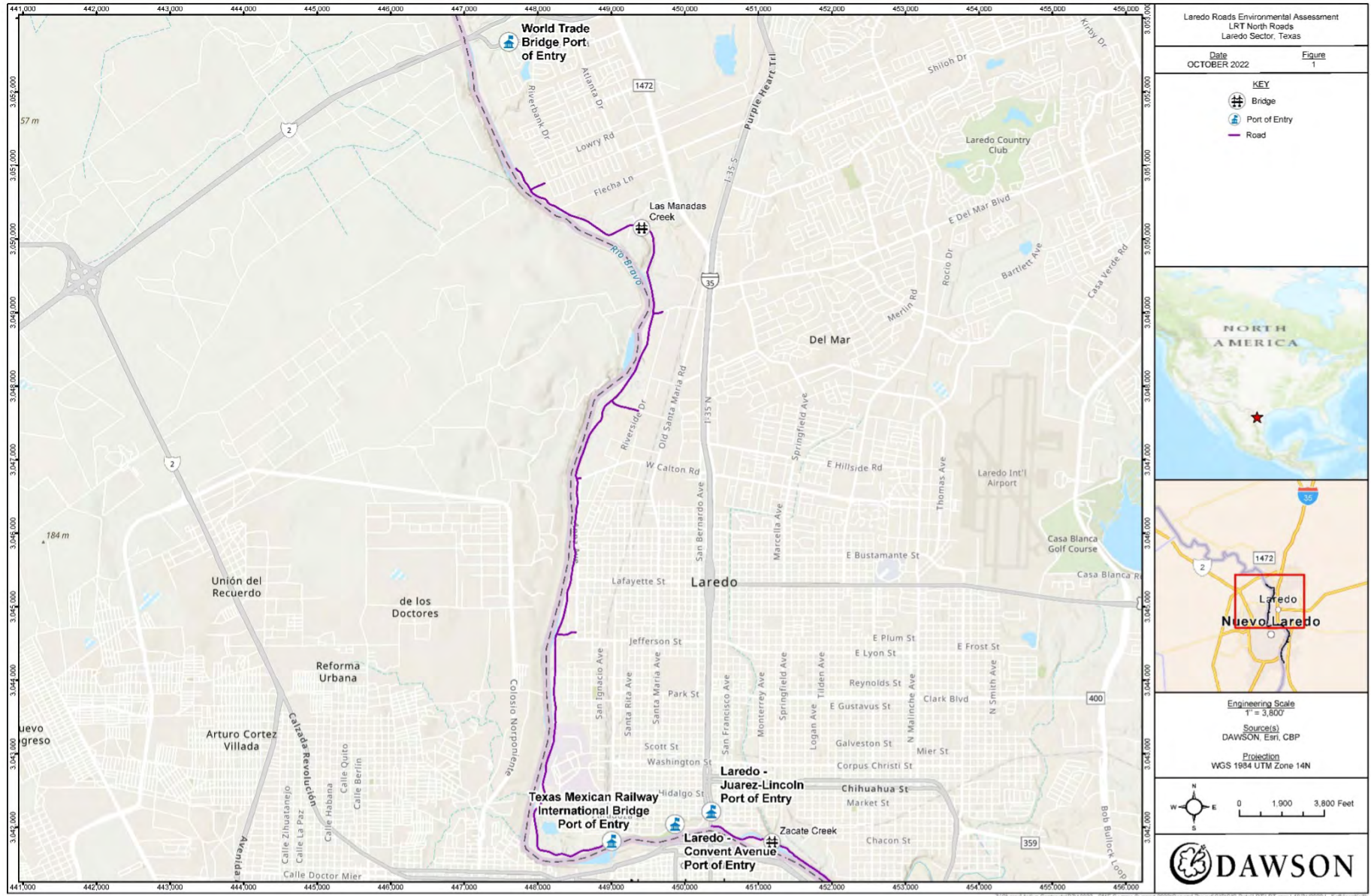
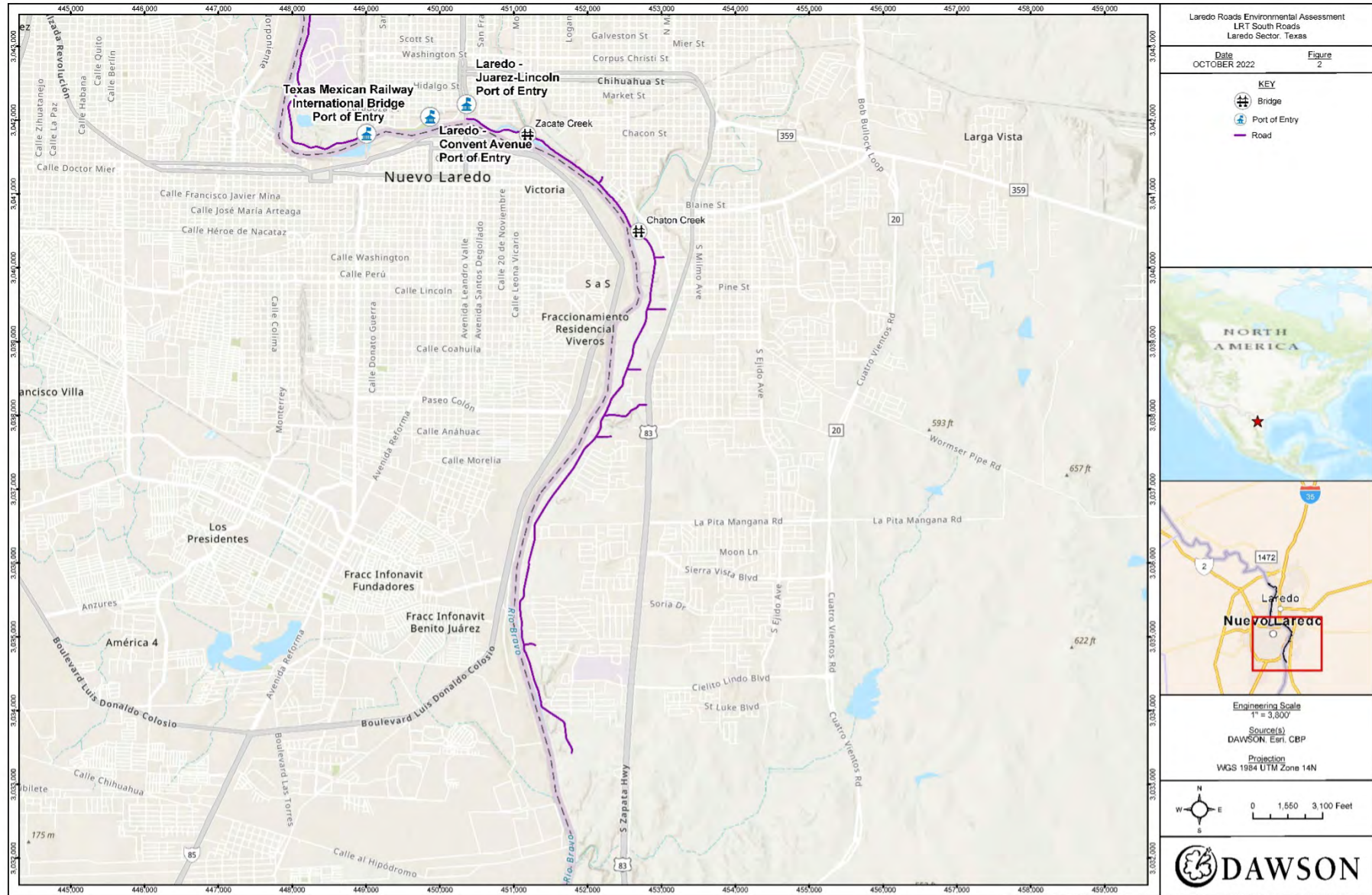


Figure 1-2. Laredo South Patrol Road Project Area



1 loss of vegetation where the tires contact and compact the earth, between which lies a strip of low-
2 growth vegetation (refer to **Figure 1-3** for current road conditions). In many areas, the central
3 vegetated strip has succumbed to erosion. The road has received no maintenance since it was built
4 10 years ago. The road has no crown and does not have any improved drainage features or ditches.
5 The proposed activities would ensure that the road is passable, providing faster response time to

Figure 1-3. Current Project Area Conditions



border incidents in strategically valuable areas. The need for the Proposed Action is to ensure that the increased level of border security provided by the Laredo North and South patrol roads is not compromised by natural events or breaches in road integrity. Furthermore, roads and other tactical infrastructure are crucial to mission readiness and need to be kept in optimal working order to facilitate successful day-to-day USBP operations.

1.4 PUBLIC INVOLVEMENT

Agency and public involvement in the NEPA process promotes open communication between the public and the government and enhances the decision-making process. All persons or organizations with a potential interest in the Proposed Action are encouraged to submit input into the decision-making process. NEPA and implementing regulations from CEQ direct agencies to make their NEPA documents available to the public as part of the decision-

27 making process and prior to actions being taken. One of the premises of NEPA is that the quality
28 of Federal decisions will be enhanced if proponents provide information to the public and involve
29 the public in the planning process.

30 Through the public involvement process, CBP will notify by electronic mail and/or standard mail
31 relevant Federal, state, and local agencies of the Proposed Action and the availability of the Draft
32 EA, and request input on environmental concerns they might have regarding the Proposed Action.
33 The public involvement process provides CBP with the opportunity to cooperate with and consider
34 state and local views in its decision regarding implementation of this Federal proposal.

35 CBP will coordinate with agencies such as U.S. Fish and Wildlife Service (USFWS); Bureau of
36 Land Management (BLM); U.S. Army Corps of Engineers (USACE); U.S. Forest Service; Texas
37 Department of Transportation (TDOT); Texas Parks & Wildlife Department (TPWD); the State
38 Historic Preservation Office (SHPO), Texas Historical Commission (THC); Texas Commission
39 on Environmental Quality (TCEQ); Texas General Land Office (TGLO); Texas Department of
40 Agriculture, U.S. International Boundary and Water Commission (USIBWC); local agencies; and
41 with appropriate Native American tribes and nations.

1 A Notice of Availability for the EA, draft Finding of No Significant Impact (FONSI) will be
2 published in the *Laredo Morning Times*. This is done to solicit comments on the Proposed Action
3 and alternatives and involve the local community in the decision-making process. Hard copies of
4 the Draft EA will be made available at the Joe A. Guerra; Barbara Fasken; Bruni Plaza; Lamar
5 Bruni Vergara Inner City; and Sophie Christen McKendrick, Francisca Ochoa, and Fernando A.
6 Salinas branches of the Laredo Public Library.

7 Throughout the NEPA process, the public can obtain information concerning the status and
8 progress of the EA via the project website at [https://www.cbp.gov/about/environmental-](https://www.cbp.gov/about/environmental-management)
9 *management*. Comments received from tribal, state, and Federal agencies will be incorporated into
10 the Final EA.

11 1.5 FRAMEWORK FOR ANALYSIS

12 CEQ is the principal Federal agency responsible for the administration of NEPA. The purpose of
13 NEPA is to help inform decision-making regarding the environment. CEQ regulations mandate
14 that all Federal agencies use a systematic, interdisciplinary approach to environmental planning
15 and the evaluation of actions that might affect the environment. This process evaluates potential
16 environmental consequences associated with a proposed action and considers alternative courses
17 of action, as well as the No Action Alternative.

18 The process for implementing NEPA is codified in 40 CFR §§ 1500–1508, *Regulations for*
19 *Implementing the Procedural Provisions of the National Environmental Policy Act*. CEQ was
20 established under NEPA to implement and oversee Federal policy in this process. CEQ regulations
21 specify that an EA can be prepared for the following reasons:

- 22 • Provide evidence and analysis to determine whether to prepare a FONSI or an
23 Environmental Impact Statement (EIS),
- 24 • Aid in an agency’s compliance with NEPA when an EIS is unnecessary,
- 25 • Facilitate preparation of an EIS when one is necessary.

26 Within DHS and CBP, NEPA is implemented using DHS Directive 023-01, *Environmental*
27 *Planning Program*, DHS’s Directive 023-01-001-01, Rev-01, *Implementation of the National*
28 *Environmental Policy Act*, and CBP policies and procedures.

29 The NEPA process for actions proposed by Federal agencies involves a study of other relevant
30 environmental statutes and regulations. However, the NEPA process does not replace procedural
31 or substantive requirements of other environmental statutes and regulations. It addresses them
32 collectively in the form of an EA or EIS, which enables the decision maker to have a
33 comprehensive view of major environmental issues and requirements associated with a proposed
34 action. According to CEQ regulations, the requirements of NEPA must be integrated “with other
35 environmental review and consultation requirements.”

36 Within the framework of environmental impact analysis under NEPA, additional authorities that
37 might be applicable include the Clean Air Act (CAA), Clean Water Act (CWA) (including a

1 National Pollutant Discharge Elimination System [NPDES] storm water discharge permit and
2 Section 404 permit), Noise Control Act, Endangered Species Act (ESA), Migratory Bird Treaty
3 Act (MBTA), National Historic Preservation Act (NHPA), Archaeological Resources Protection
4 Act (ARPA), Native American Graves Protection and Repatriation Act (NAGPRA), Resource
5 Conservation and Recovery Act, Toxic Substances Control Act, and various Executive Orders
6 (E.O.). Major Federal and state permits, approvals, and interagency coordination required for the
7 proposed improvement of the existing patrol roads are listed in **Table 1-1**. CBP is currently
8 conducting consultation with USFWS and the Texas SHPO to comply with Section 7 of the ESA
9 and Section 106 of the NHPA. Comments received during the consultation process would be
10 incorporated into the document, as appropriate.

11 **Table 1-1. Key Permits and Approvals (as applicable) and Interagency Coordination**

Agency	Permit/Approval/Coordination
USACE	- CWA Section 404 permit
USFWS	- Section 7 ESA coordination/consultation - MBTA coordination
Federally recognized Indian Tribes	- Consultation regarding potential effects on traditional cultural properties
Texas SHPO	- NHPA Section 106 consultation
Texas CEQ	- CWA Section 401 State Water Quality Certification - CWA NPDES permit - CAA permit consultation

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2 PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This chapter provides detailed information on CBPs proposal to improve existing patrol and access roads in the USBP Laredo Sector, Webb County, Texas. As discussed in **Section 1.5**, the NEPA process evaluates potential environmental consequences associated with a proposed action and considers alternative courses of action. Reasonable alternatives must satisfy the purpose of and need for a proposed action, which are defined for this action in **Section 1.3**. CEQ guidance advocates the inclusion of a No Action Alternative against which potential effects can be compared. While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, it is analyzed in detail as recommended by CEQ regulations.

2.2 SCREENING CRITERIA FOR ALTERNATIVES

The range of reasonable alternatives considered in this EA is constrained to those that would meet the purpose of and need for the Proposed Action as described in **Section 1.3**, which is to improve existing patrol roads in the USBP Laredo Sector. Such alternatives must also meet essential technical, engineering, and economic threshold requirements to ensure that each is environmentally sound and economically viable and complies with governing standards and regulations.

CBP developed and applied selection criteria during earlier phases of planning to assist in determining suitable locations consistent with the project's purpose and need for the road improvements. The site-selection criteria applied are as follows:

- ***Maintaining Situational Awareness.*** Implementation of proposed activities must provide USBP Laredo agents the ability to stay abreast of cross-border violations around the Laredo North and South patrol roads.
- ***Facilitating Effective Response.*** Implementation of proposed activities must facilitate the efficient and effective response to cross-border violations around Laredo North and South patrol roads.
- ***Minimize and/or Avoid Environmental Impacts.*** Implementation of proposed activities must consider the environment to minimize and avoid current and future impacts.

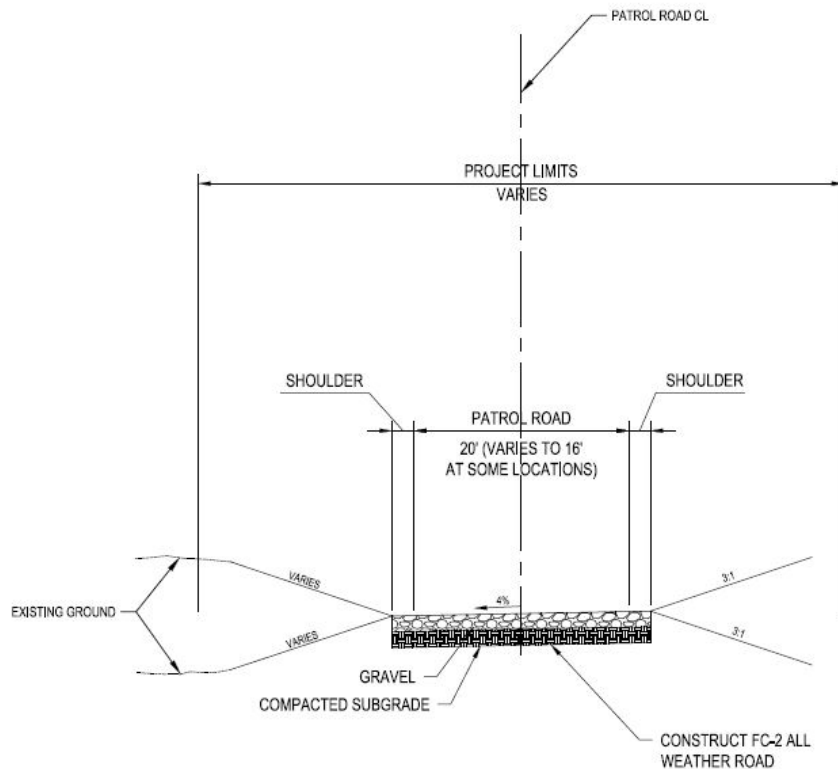
2.3 ALTERNATIVE 1: IMPROVEMENT OF THE EXISTING LAREDO NORTH AND LAREDO SOUTH PATROL ROADS (PREFERRED ALTERNATIVE)

The Proposed Action would include the improvement and widening of approximately 16 miles of the existing patrol and access roads in Laredo, Webb County, Texas, as described in **Section 1.2**. The Proposed Action would also include the construction of three bridges, multiple low water crossings, and pipe/culvert drainage crossings. The Proposed Action would result in 44 acres of land disturbance. The Proposed Action would not include nor does this EA analyze the impacts of continued maintenance of the patrol and access roads. The patrol and access roads would continue

1 to be maintained under USBPs Comprehensive Tactical Infrastructure Maintenance and Repair
2 program.

3 Under this alternative, the patrol and access roads would be improved to FC-2 all-weather roads.
4 An FC-2 road is a two-lane, 24-foot-wide, unpaved, all-weather road consisting of a surface of
5 imported aggregate material such as milled bituminous material or processed stone and gravel.
6 FC-2 roads typically consist of two 12-foot travel lanes at a 4 percent cross-slope (refer to **Figure**
7 **2-1**). A cross-slope is built into the road to provide a drainage gradient so water will run off the
8 surface to a drainage system such as a street gutter or ditch (refer to **Appendix A** for details on

Figure 2-1. Typical Road Section



road classifications). The upgraded all-weather road would improve mobility and accessibility for USBP agents responding to illegal cross-border traffic. The proposed roads are located where the vanishing points for CBVs are measured in seconds to minutes.

Bridges would be constructed across three major tributaries that run through the project area – Las Manadas Creek, Zacate Creek, and Chacon Creek.

All necessary materials such as gravel, topsoil, or fill would be imported to the site. No on-site materials will be used except for the material within the existing roadway. To the maximum

31

32 extent practicable, all material sources would be certified weed-free.

33 Wherever possible, CBP would limit disturbance to the proposed width of the proposed FC-2 road
34 and ancillary structures. Where turnouts and passing lanes would be required for construction,
35 CBP would use currently disturbed areas (e.g., locations where a secondary trail has been created
36 due to impassable road conditions), to the maximum extent practicable, and would restore all such
37 areas upon completion of the Proposed Action.

38 Equipment and materials would be stored at a staging area within the project area. The staging
39 area would be an unimproved, previously disturbed area. The types and numbers of equipment
40 used would be kept to a minimum. It is anticipated that backhoes, graders, and dump trucks would
41 be necessary for road improvement activities. Water trucks would be employed to aid in dust

1 suppression. All equipment would be cleaned prior to entering and departing the project corridor
2 to minimize the spread and establishment of non-native invasive plant species.

3 The finished roads would be a reinforced roadbed with a soil stabilizer (e.g., Lignin, Soiltac,
4 Envirotec, or some other suitable soil stabilizer) applied during the late summer/early fall months.
5 Proper use of a non-toxic road stabilizer helps to avoid impacts on federally listed species habitat
6 by minimizing road runoff and is neither toxic nor harmful to sensitive species.

7 2.3.1 Summary of Environmental Impacts and Best Management Practices

8 The Proposed Action could result in impacts on several resource categories; however, best
9 management practices (BMPs) are recommended to minimize or eliminate impacts on the
10 evaluated resources. Specific BMPs would be implemented to ensure minimal disturbance to the
11 resources within the project area.

12 An overview of potential environmental impacts by specific resource area and a summary of
13 associated BMPs are provided in **Table 2-1**. A full list of BMPs is provided in **Appendix B**.
14 **Sections 3.2** through **3.13** provide an evaluation of potential environmental impacts.

**Table 2-1. Summary of Environmental Impacts, Mitigation, and
Best Management Practices**

Resource Area	Impacts of the Proposed Action	Best Management Practices/ Conservation Measures
Noise	Construction noise from the Proposed Action would result in short-term, minor, adverse impacts on the ambient noise environment. The nearest sensitive receptors would not be substantially impacted by temporary construction equipment noise. Noise from construction would vary depending on the type of equipment being used, the area in which the activity would occur, and the distance of the receptor from the noise source.	Equipment would be operated on an as-needed basis. Mufflers and properly working construction equipment would be used to reduce noise. Generators would have baffle boxes, mufflers, or other noise abatement capabilities. Blasting mats would be used to minimize noise and debris.
Land Use, Recreation, and Aesthetics	The Proposed Action would result in minor to moderate, adverse, short- and long-term impacts to land use.	CBP would limit disturbance to the proposed width of the proposed road and ancillary structures. All necessary materials such as gravel, topsoil, or fill would be imported to the site.
Air Quality	Short-term, minor impacts on air quality would occur during construction; all calculated air emissions would likely remain below <i>de minimis</i> levels. Fugitive dust emissions would likely decrease in the long-term due to the Proposed Action.	Bare soil would be wetted to suppress dust, and equipment would be maintained according to specifications. Speed limits during construction work would be implemented.

Resource Area	Impacts of the Proposed Action	Best Management Practices/ Conservation Measures
Geology and Soils	The Proposed Action would result in minor to moderate, long-term, adverse impacts to the local topography and soil resources. Approximately 44.2 acres of soil would be permanently disturbed by the Proposed Action.	Construction-related vehicles would remain on established or existing roads as much as possible, and areas with highly erodible soils would be avoided where possible. Gravel or topsoil would be obtained from developed or previously used sources. Where grading is necessary, surface soils would be stockpiled and replaced following construction.
Groundwater	The Proposed Action would have negligible impacts on the availability of water resources in the region.	Equipment maintenance, staging, laydown, or fuel dispensing would occur upland to prevent runoff. A Storm Water Pollution Prevention Plan (SWPPP) and Spill Prevention, Control, and Countermeasure Plan (SPCCP) would be implemented as part of the Project.
Surface Waters and Wetlands	Approximately 0.67 acres of wetlands and 4.09 acres of Waters of the U.S. (WOTUS) features could experience short- and long-term, moderate, adverse impacts.	Construction activities would stop during heavy rains. All fuels, oils, and solvents would be collected and stored. Stream crossings would not be located at bends to protect channel stability. Equipment maintenance, staging, laydown, or fuel dispensing will occur upland to prevent runoff. A SPCCP and SWPPP would be implemented as part of the project. CBP would pursue a Section 401 Certification from TDEQ and 404 permit from USACE.
Floodplains	The Proposed Action has the potential to result in moderate, short- and long-term, permanent impacts on floodplains. There are approximately 91.2 acres of regulatory floodway and 69.2 acres of floodplain subject to the 1 percent annual chance flood within a 100-foot corridor that could be impacted.	Construction activities within the floodplain would be conducted in a manner consistent with E.O. 11988 and other applicable regulations. Appropriate agencies would be notified.
Vegetation	Under the Proposed Action, short- and long-term, negligible to minor, direct and indirect, adverse effects on vegetation would occur from construction activities.	Construction equipment would be cleaned to minimize spread of non-native species. Removal of brush in federally protected areas would be limited to the smallest amount possible. Invasive plants that appear on project area would be removed. Fill material, if

Resource Area	Impacts of the Proposed Action	Best Management Practices/ Conservation Measures
		<p>CBP would provide mitigation for impacts to federally listed threatened and endangered species habitat in coordination with USFWS through formal Section 7 ESA consultation.</p>
Terrestrial and Aquatic Wildlife Resources	<p>The Proposed Action would have short- and long-term, negligible to minor, direct and indirect, adverse effects on wildlife. A permanent loss of a relatively small area of wildlife habitat would result from widening the patrol roads.</p>	<p>All project activities would occur within the defined project area and necessary construction turnouts and equipment and staging areas would be placed in previously disturbed areas. General BMPs would avoid and reduce impacts on wildlife and aquatic resources.</p> <p>CBP will comply with the MBTA to avoid impacts to nesting birds during the migratory bird breeding season.</p>
Protected Species and Critical Habitat	<p>The Proposed Action is unlikely to adversely affect any threatened or endangered species or their habitat.</p>	<p>Biological BMPs would be implemented to minimize impacts to species. Any work adjacent to the Rio Grande, including these areas where large creek tributaries merge with the Rio Grande, would follow all appropriate BMPs to prevent sediment from erosion to the river or creek channel, prevent streamflow alteration, and avoid degradation of water quality.</p> <p>CBP would provide mitigation for impacts to federally listed threatened and endangered species habitat in coordination with USFWS through formal Section 7 ESA consultation.</p>
Cultural Resources	<p>The Proposed Action could cause moderate adverse, short- and long-term impacts to cultural resources. At least eight archaeological sites would be impacted. In addition, four above-ground resources could be visually impacted, and possibly physically impacted.</p>	<p>All construction would be restricted to previously surveyed areas. If any cultural material is discovered during construction, all activities within the vicinity of the discovery would be halted until consultation with the SHPO, Tribal Historic Preservation Office (THPO) (if applicable). Tribes and if needed, the Advisory Council on Historic Preservation. Potential impacts to above-ground resources will be identified and assessed during the cultural resources survey of the project area.</p>

Resource Area	Impacts of the Proposed Action	Best Management Practices/ Conservation Measures
Infrastructure	The Proposed Action would result in minor, adverse, short- and long-term impacts on local infrastructure, such as transportation, stormwater system, and the solid waste management system.	Access to the project area would use existing roads. Off-road vehicular travel would be limited to the designed/approved construction corridor. All parking would occur in designated disturbed areas.
Hazardous Materials and Waste	Long-term, negligible to minor, adverse impacts due to hazardous substances, petroleum products, and hazardous and petroleum wastes would be expected from implementation of the Proposed Action.	All waste materials and other discarded materials would be removed from the project area as quickly as possible. Equipment maintenance, staging, laydown, or fuel dispensing would occur upland to prevent runoff.
Safety	Project activities could cause long-term beneficial impacts to health and human safety as the Proposed Action would offer a more stable and safer driving surface for vehicles. Short-term, negligible, adverse impacts on human safety could occur during construction. The Proposed Action would not expose members of the general public to increased safety risks.	All personnel would be required to adhere to regulatory requirements and safety protocols. Contractors would be required to establish and maintain safety programs at the construction site.
Socioeconomics	The Proposed Action is expected to have short- and long-term, beneficial impacts on socioeconomic resources in the surrounding community. There would be no measurable adverse impact because the patrol road already exists, and the Proposed Action would improve the road. Short-term, negligible, beneficial impacts on the local socioeconomic would be expected because of expenditures necessary for the Proposed Action.	None required.
Environmental Justice and Sensitive Receptors	The Proposed Action is expected to cause minor, short-term, adverse impacts to minority and low-income populations.	Access to the construction site would be restricted to prevent residents or non-crew members from entering the site. Additionally, all OSHA guidelines would be followed.

1
2 CBP followed specially developed design criteria to reduce adverse environmental impacts, which
3 involved consulting with Federal and state agencies and other stakeholders to develop appropriate
4 BMPs and minimize physical disturbance where practicable. BMPs include implementation of a
5 SPCCP, SWPPP, Environmental Protection Plan, Dust Control Plan, and Fire Prevention and

1 Suppression Plan. CBP would have environmental monitors on site and impacts would be
2 documented during construction to determine the extent and scope of mitigation measures
3 necessary to reduce or offset adverse environmental impacts.

4 **2.4 ALTERNATIVE 2: NO ACTION ALTERNATIVE**

5 Under the No Action Alternative, CBP would not improve the existing patrol and access roads in
6 the USBP Laredo Sector. As described in **Section 1.3**, the current FC-4, two-track roads have
7 received no maintenance in more than 10 years and many areas have succumbed to erosion. The
8 roads have no crown and do not have any improved drainage features or ditches. Failure to improve
9 the roads could lead to continued erosion and poor drainage control, which could diminish agent
10 safety and operational security. Under continued use of the current roads, CBP would be unable to
11 meet operational requirements to secure the U.S./Mexico international border within the USBP
12 Laredo Sector.

13 The No Action Alternative does not satisfy CBPs purpose of and need for the Proposed Action, as
14 identified in **Section 1.3**. However, inclusion of the No Action Alternative is prescribed by CEQ
15 regulations and has been analyzed in tis EA. The No Action Alternative also serves as a baseline
16 against which to evaluate the impacts of the Proposed Action.

17 **2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER DETAILED** 18 **ANALYSIS**

19 CBP evaluated other possible alternatives to improving the patrol roads in Laredo, Texas. This
20 section addresses options that were reviewed but not carried forward for further detailed analysis
21 in the EA.

22 **2.5.1 Alternative Roadway Alignment**

23 CBP considered alternate routes for the Laredo North and South patrol roads. However, as
24 alternate routes would include the construction of new roadway in addition to the improvement of
25 existing roadway, the action would result in more significant impacts on resources. Therefore,
26 CBP has not carried this alternative forward for further analysis in the EA.

27 Additionally, these alternate routes were evaluated to determine whether they could be constructed
28 outside of the floodplain. However, considering the proximity of the border to the City of Laredo
29 and the need for CBP to operate patrol roads safely to maintain its mission, there is no practicable
30 alternative to working in the floodplain.

31 **2.6 IDENTIFICATION OF THE PREFERRED ALTERNATIVE**

32 CBP has identified its Preferred Alternative as Alternative 1: Proposed Action. Implementation of
33 the Proposed Action would best meet CBP's purpose and need as described in **Section 1.3**.

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3 AFFECTED ENVIRONMENT

This section provides a discussion of the affected environment, as well as an analysis of the potential direct and indirect impacts that the alternatives could have on the affected environment. Cumulative impacts and unavoidable adverse impacts are also included in the chapter. Cumulative effects, which are effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time. All potentially relevant resource areas were initially considered in this EA. In accordance with NEPA, CEQ regulations, and DHS Instruction Manual 023-01-001-01, Rev-01, this evaluation focuses on those resources and conditions potentially subject to effects, and are, therefore, deserving of study and consideration. It does not go into detail on insignificant issues.

The following categories describe various types of impacts that could potentially result from the proposed project:

- *Short-term or long-term.* These characteristics are determined on a case-by-case basis and do not refer to any rigid time period. In general, short-term effects are those that would occur only with respect to a particular activity or for a finite period or only during the time required for maintenance and repair activities. Long-term effects are those that are more likely to be persistent and chronic.
- *Direct or indirect.* A direct effect is caused by and occurs contemporaneously at or near the location of the action. An indirect effect is caused by a proposed action and might occur later in time or be farther removed in distance, but still be a reasonably foreseeable outcome of the action. For example, a direct effect of erosion on a stream might include sediment-laden waters in the vicinity of the action, whereas an indirect impact of the same erosion might lead to lack of spawning and result in lowered reproduction rates of indigenous fish downstream.
- *Negligible, minor, moderate, or major.* These relative terms are used to characterize the magnitude or intensity of an impact. Negligible effects are generally those that might be perceptible but are at the lower level of detection. A minor effect is slight, but detectable. A moderate effect is readily apparent. A major effect is one that is severely adverse or exceptionally beneficial.
- *Adverse or beneficial.* An adverse effect is one having unfavorable, or undesirable, outcomes on the man-made or natural environment. A beneficial effect is one having positive outcomes on the man-made or natural environment. A single act might result in adverse effects on one environmental resource and beneficial effects on another resource.

3.1 PRELIMINARY IMPACT SCOPING

Some environmental resources and issues that are often analyzed in an EA have been omitted from detailed analysis. The following provides the basis for such exclusions.

1 The sound pressure level noise metric describes steady noise levels. Very few noises are constant;
2 therefore, additional metrics have been developed to describe noise. The day-night average A-
3 weighted noise level (DNL) averages the sum of all noise-producing events over a 24-hour period.
4 DNL is a useful descriptor for noise because it averages ongoing yet intermittent noise and
5 measures total sound energy over a 24-hour period with penalties applied to noise levels during
6 nighttime hours (FAA 2022).

7 **Regulatory Overview.** Under the Noise Control Act of 1972, the Occupational Safety and Health
8 Administration (OSHA) established workplace standards for noise. The minimum requirement
9 states that constant noise exposure must not exceed 90 dBA over an 8-hour period (OSHA 2018).
10 If noise levels exceed these standards, employers are required to provide hearing protection
11 equipment that reduce sound levels to acceptable limits. The highest allowable sound level to
12 which workers can be constantly exposed is 115 dBA; exposure to this level must not exceed
13 15 minutes within an 8-hour period (OSHA 2018). The standards limit instantaneous exposure,
14 such as impact noise, to 140 dBA.

15 **Construction Sound Levels.** Noise generated by construction activities has the potential to quickly
16 surpass ambient sound levels. The type and intensity of the sound is dependent upon the type of
17 construction activity taking place. The predicted noise levels for various construction equipment
18 that might be used during the Proposed Action are presented in **Table 3-2**.

19 **3.2.2 Affected Environment**

20 The proposed project site is bounded by residential homes and businesses on both the United States
21 and Mexico sides of the project corridor for the whole of the two segments. The immediate
22 proposed project area consists of developed land, which includes the existing patrol roads.
23 However, the project corridor falls within 100 feet of residential areas in some portions of the
24 segments. Sensitive receptors in the vicinity include residences, shopping centers, schools, Sacred
25 Heart Children’s Home, the Laredo Community College South Campus, and various other
26 commercial buildings.

27 **3.2.3 Environmental Consequences**

28 The impacts associated with noise were evaluated based on the changes to the ambient noise
29 environment that would result from implementation of the Proposed Action. Impacts would be
30 considered adverse if the Proposed Action were to result in the violation of applicable Federal,
31 state, or local noise regulations, or create appreciable areas of incompatible land use.

32 **Table 3-2. Predicted Noise Levels for Typical Construction Equipment**

Construction Equipment	Predicted Noise Level at 50 feet (dBA)	Predicted Noise Level at 500 feet (dBA)	Predicted Noise Level at 1,000 feet (dBA)	Predicted Noise Level at 2,000 feet (dBA)	Predicted Noise Level at 4,000 feet (dBA)
Clearing and Grading					
Bulldozer	80	60	54	48	42
Grader	80-93	60-73	54-67	48-61	42-55
Truck	83-94	63-74	57-68	51-62	45-56

Construction Equipment	Predicted Noise Level at 50 feet (dBA)	Predicted Noise Level at 500 feet (dBA)	Predicted Noise Level at 1,000 feet (dBA)	Predicted Noise Level at 2,000 feet (dBA)	Predicted Noise Level at 4,000 feet (dBA)
Excavation					
Backhoe	72-93	52-73	46-67	40-61	34-55
Jackhammer	81-98	61-78	55-72	49-66	43-60
Roadway Improvement					
Concrete Mixer	74-88	54-68	48-62	42-56	36-50
Paver	86-88	66-68	60-62	54-56	48-50

1 Source: USEPA 1971

2 Note: Construction equipment equipped with noise control devices (e.g., mufflers) and use of sound barriers would
3 result in lower noise levels than shown in this table.

4 **3.2.3.1 Alternative 1: Improvement of the Existing Laredo North and Laredo South Patrol Roads**
5 **(Preferred Alternative)**

6 Construction noise from the proposed improvements to the Laredo North and South patrol roads
7 would result in short-term, minor, adverse impacts on the ambient noise environment. Increases in
8 noise levels would occur intermittently during construction. Noise from construction would vary
9 depending on the type of equipment being used, the area in which the activity would occur, and
10 the distance of the receptor from the noise source. No impacts due to operations would be expected.

11 Heavy construction equipment would be periodically used during construction; therefore, noise
12 levels would fluctuate. Most equipment used would be expected to produce noise levels between
13 approximately 70 and 100 dBA at a distance of 50 feet (refer to **Table 3-2**). Noise levels at the
14 upper end of this range would be limited to intermittent spurts. Sound levels on the lower end of
15 the range would be more constant during construction activities. These noise levels would decrease
16 with distance from the construction area. Noise levels associated with typical construction
17 equipment would noticeably attenuate to below 65 dBA between approximately 500 and 4,000
18 feet from the source, depending on the equipment used (refer to **Table 3-2**).

19 Construction activities usually require simultaneous use of several pieces of equipment. In general,
20 the addition of a piece of equipment with identical noise levels to another piece of equipment
21 would add approximately 3 dB to the overall noise environment, which is barely perceptible by
22 the human ear (TRS Audio 2017). Aggregate noise associated with multiple pieces of construction
23 equipment operating simultaneously would increase the overall noise environment by a few dB
24 over the noisiest equipment, depending on the noise levels.

25 In addition, noise generation due to construction would be temporary, only lasting for the duration
26 of construction activities. All applicable noise laws and guidelines would be followed to reduce
27 effects from noise produced by construction. Construction workers would be required to use proper
28 personal hearing protection to limit exposure and would use the appropriate noise attenuation
29 equipment.

30 The nearest sensitive receptors (i.e., permanent residences within approximately 100 feet of the
31 footprint of the proposed project area) would not be substantially impacted by temporary
32 construction equipment noise. For example, a paver would register at 86–88 dBA 50 feet from the

1 source. This is approximately the same sound level as a noisy restaurant (refer to **Table 3-1**).
2 Construction equipment noise impacts on sensitive receptors would be minor because of the
3 minimal aggregate contribution of the construction equipment to existing ambient noise levels
4 from traffic and the use of noise attenuation equipment to ensure that noise levels would not exceed
5 an average of 75 dB over an 8-hour period. While existing noise sources produce elevated noise
6 levels intermittently, noise during construction would be more continuous (with temporary
7 increases in noise levels from the use of the loudest equipment) between the hours of 7 a.m. and 7
8 p.m.

9 Short-term, minor, adverse impacts on wildlife would occur as a result of temporary noise
10 disturbances associated with construction activities. Temporary, adverse effects on wildlife due to
11 noise would be expected, but the effects should be minor and short-term in nature as there is
12 sufficient habitat for wildlife to move away from project-related noise. Additionally, it is unlikely
13 that the entire project area would be subject to project activities at the same time. Project-specific
14 noise-reduction BMPs would be implemented to decrease impacts. No night-time work would
15 occur. **Section 3.7** discusses impacts of noise on biological resources in greater detail.

16 **3.2.3.2 Unavoidable Adverse Impacts**

17 Construction activities require the use of heavy construction equipment, which is inherently noisy,
18 causing increased noise levels. To reduce adverse impacts on the ambient noise environment,
19 construction equipment would include noise abatement components and noise-reducing BMPs
20 would be implemented. Although these measures would help reduce impacts on the ambient noise
21 environment, construction equipment could still produce noise levels beyond ambient levels.
22 These unavoidable impacts would be negligible to minor.

23 **3.2.3.3 No Action Alternative**

24 The No Action Alternative is reactive in nature and would eventually result in greater deterioration
25 of the roadways over time due to a lack of preventative maintenance, which could result in more
26 frequent maintenance and repair activities over time and create more frequent noise generation.
27 Long-term, minor, adverse impacts due to noise generation would be expected from the No Action
28 Alternative. Therefore, the No Action Alternative could result in greater impacts from noise than
29 the Proposed Action.

30 **3.3 LAND USE, RECREATION, AND AESTHETICS**

31 **3.3.1 Definition of the Resource**

32 Land use refers to real property classifications indicating either natural conditions or the types of
33 human activity occurring on a parcel of land. In many cases, land use descriptions are organized
34 in master planning and local zoning laws. Land use planning helps ensure orderly growth and
35 compatible uses among adjacent property parcels or areas. Land use is described by humans'
36 economic and cultural activities that are practiced in a given place (USEPA 2022a). Natural
37 property conditions can be described or categorized as unimproved, undeveloped, conservation or
38 preservation area, and natural or scenic area. A wide variety of land use categories result from
39 human activity. Descriptive terms for human activity land uses generally include commercial,

1 industrial, military, residential, agricultural, institutional, transportation, communications, and
2 utilities, and recreational.

3 For Federal projects, a proposed action needs to be evaluated for its potential effects on a project
4 area and adjacent land uses. The foremost factor affecting a proposed action in terms of land use
5 is its compliance with any applicable land use or zoning regulations. Other relevant factors include
6 matters such as existing land use at the project area, the type of land uses on adjacent properties
7 and their proximity to a proposed action, the duration of a proposed activity, and its permanence.

8 In general, a land use impact would be considered adverse if it were to cause the following:

- 9 • Be inconsistent or in noncompliance with existing land use plans or policies,
- 10 • Preclude the viability of existing land use,
- 11 • Preclude continued use or occupation of an area,
- 12 • Be incompatible with adjacent land use to the extent that public health or safety is
13 threatened,
- 14 • Conflict with planning criteria established to ensure the safety and protection of human life
15 and property,
- 16 • Interfere with the use or function or otherwise diminish the value of recreation areas.

17 3.3.2 Affected Environment

18 The proposed project area runs through the City of Laredo, Texas, along the northern bank of the
19 Rio Grande on the U.S./Mexican border. The city of Nuevo Laredo, Mexico is located on the
20 southern bank of the Rio Grande. Land use impacts would be focused on those anticipated to occur
21 in the United States. The existing unimproved patrol roads are generally close to the Rio Grande
22 River on undeveloped property in the riparian corridor. A mixture of the residential, recreational,
23 commercial, and industrial properties is present beyond the riparian corridor, generally 50 to 200
24 yards from the project area.

25 The existing patrol and access roads traverse parcels of land owned by the City of Laredo and
26 private landowners. A prior agreement between CBP and the landowners enabled CBP to construct
27 the existing patrol roads on land owned by the City of Laredo and private landowners. CBP has
28 no ownership or rights to the land surrounding the patrol roads.

29 It is necessary for CBP to acquire additional land or obtain permission from the existing
30 landowners to expand the road to the proposed 24-foot width under the Proposed Action. The
31 current patrol roads and road expansion, under the Proposed Action, traverse a total of 83 parcels
32 of land. Land use class designation information for the affected parcels is indicated in **Table 3-3**
33 below.

Table 3-3. Land Parcels affected by the Proposed Action

Land Use Class	Number of Parcels Affected by Patrol Roads (out of 83)	Percentage of Land Use Class Affected
Commercial	24	28.91
Industrial	16	19.28
Residential	43	51.81

Source: Castaneda 2022

As indicated above, residential parcels are the most frequently affected by the existing patrol roads and road expansion under the Proposed Action, followed by commercial and residential.

3.3.3 Environmental Consequences

3.3.3.1 Alternative 1: Improvement of the Existing Laredo North and Laredo South Patrol Roads (Preferred Alternative)

All necessary materials such as gravel, topsoil, or fill would be imported to the site. Wherever possible, CBP would limit disturbance to the proposed width of the proposed FC-2 road and ancillary structures. Where turnouts and passing lanes would be required for construction, CBP would use currently disturbed areas (e.g., locations where a secondary trail has been created due to impassable road conditions), to the maximum extent practicable, and restore all such areas upon completion of the Proposed Action.

Equipment and materials for the construction would be stored at a staging area within the project area. The staging area would be an unimproved, previously disturbed area. It is anticipated that additional land would be required by CBP under the Proposed Action for construction purposes for the road expansion and staging areas. The land use of the additionally acquired land would change from the respective designated land use to road. However, the overall land use designation of the parcels owned by the City of Laredo and private landowners are not anticipated to change.

3.3.3.2 Unavoidable Adverse Impacts

The Proposed Action would result in minor to moderate, adverse, long-term impacts on land use.

Additional land would need to be acquired by CBP or CBP would need to obtain permission from the City of Laredo and private landowners to execute the Proposed Action. The land would be used for the road expansion and would result in permanent land use change of the acquired land to infrastructural elements owned and operated by CBP.

Land would be acquired and used during the construction process as staging areas for equipment and turnouts and passing lanes. CBP would use currently disturbed areas (e.g., locations where a secondary trail has been created due to impassable road conditions) to the maximum extent practicable and restore all such areas upon completion of the Proposed Action. This would result in minor, adverse, short-term impacts as the construction is a temporary activity.

1 Land acquired and converted to road and used for construction under the Proposed Action is
2 expected to have minor impacts on the overall long-term functions of the commercial, industrial,
3 and residential uses of properties.

4 3.3.3.3 No Action Alternative

5 Under the No Action Alternative, the proposed infrastructure would not be constructed, and the
6 existing conditions would remain unchanged. No new impacts on land use would occur as a result
7 of the No Action Alternative.

8 3.4 AIR QUALITY

9 3.4.1 Definition of the Resource

10 Air quality is defined by the concentration of various pollutants in the atmosphere at a given
11 location. The air quality in a region is a result of not only the types and quantities of atmospheric
12 pollutants and pollutant sources in an area, but also surface topography, the size of the topological
13 “air basin,” and the prevailing meteorological conditions.

14 Under the CAA, the USEPA developed numerical concentration-based standards, or National
15 Ambient Air Quality Standards (NAAQS), for pollutants that have been determined to affect
16 human health and the environment. The NAAQS represent the maximum allowable concentrations
17 for ozone (O₃), measured as either volatile organic compounds (VOCs) or total nitrogen oxides
18 (NO_x), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur oxides (SO_x), respirable particulate
19 matter (including particulate matter equal to or less than 10 microns in diameter [PM₁₀] and
20 particulate matter equal to or less than 2.5 microns in diameter [PM_{2.5}]), and lead (40 CFR Part
21 50). The CAA also gives the authority to states to establish air quality rules and regulations.

22 Texas has not established its own ambient air quality standards for these pollutants.

23 The USEPA classifies the air quality in an air quality control region (AQCR), or in subareas of an
24 AQCR, according to whether the concentrations of criteria pollutants in ambient air exceed the
25 NAAQS. Areas within each AQCR are therefore designated as either “attainment,”
26 “nonattainment,” “maintenance,” or “unclassified” for each of the six criteria pollutants.
27 Attainment means that the air quality within an AQCR is better than the NAAQS. Nonattainment
28 indicates that criteria pollutant levels exceed NAAQS. Maintenance indicates that an area was
29 previously designated nonattainment but is now attainment, and an unclassified air quality
30 designation by USEPA means that there is not enough information to appropriately classify an
31 AQCR, so the area is considered to be in attainment. In accordance with the CAA, each state must
32 develop a State Implementation Plan (SIP), which is a compilation of regulations, strategies,
33 schedules, and enforcement actions designed to move the state into compliance with all NAAQS.

34 The General Conformity Rule requires that any Federal action meet the requirements of a SIP or
35 Federal Implementation Plan. More specifically, CAA conformity is ensured when a Federal
36 action does not cause a new violation of the NAAQS; contribute to an increase in the frequency or
37 severity of violations of NAAQS; or delay the timely attainment of any NAAQS, interim progress
38 milestones, or other milestones towards achieving compliance with the NAAQS. The General

1 Conformity Rule applies only to regionally significant actions in nonattainment or maintenance
2 areas.

3 Federal Prevention of Significant Deterioration (PSD) regulations apply in attainment areas to a
4 major stationary source, (i.e., source with the potential to emit of 250 tons per year [tpy] of any
5 criteria pollutant), and a significant modification to a major stationary source, (i.e., change that
6 adds 15 to 40 tpy to the facility's potential to emit, depending on the pollutant). PSD regulations
7 can also apply to stationary sources if (1) a proposed project is within 6.21 miles of national parks
8 or wilderness areas, (i.e., Class I Areas), and (2) regulated stationary source pollutant emissions
9 would cause an increase in the 24-hour average concentration of any regulated pollutant in the
10 Class I area of 1 microgram per cubic meter or more (40 CFR 52.21[b][23][iii]). A Class I area
11 includes national parks larger than 6,000 acres, national wilderness areas and national memorial
12 parks larger than 5,000 acres, and international parks. PSD regulations also define ambient air
13 increments, limiting the allowable increases to any area's baseline air contaminant concentrations,
14 based on the area's class designation (40 CFR 52.21[c]).

15 Title V of the CAA Amendments of 1990 requires states and local agencies to use a permitting
16 process for major stationary sources. A major stationary source has the potential to emit more than
17 100 tpy of any one criteria air pollutant, 10 tpy of a hazardous air pollutant (HAP), or 25 tpy of
18 any combination of HAPs. The purpose of the permitting rule is to establish regulatory control
19 over large, industrial-type activities and monitor their impact on air quality. Section 112 of the
20 CAA defines the sources and kinds of HAPs.

21 Greenhouse gases (GHGs) are gaseous emissions that trap heat in the atmosphere. These emissions
22 occur from natural processes and human activities. The most common GHGs emitted from natural
23 processes and human activities include carbon dioxide (CO₂), methane, and nitrous oxide. GHGs
24 are mainly produced by the burning of fossil fuels and through industrial and biological processes.
25 On September 22, 2009, the USEPA issued a final rule for mandatory GHG reporting from large
26 GHG emissions sources in the United States. The purpose of the rule is to collect comprehensive
27 and accurate data on CO₂ and other GHG emissions that can be used to inform future policy
28 decisions. In general, the threshold for reporting is 25,000 metric tons or more of CO₂-equivalent
29 (CO₂-e) emissions per year, but excludes mobile source emissions. CO₂-e emissions are calculated
30 as the number of metric tons of CO₂ emissions with the same global warming potential as one
31 metric ton of another greenhouse gas.

32 GHG emissions are also factors in PSD and Title V permitting and reporting, according to a
33 USEPA rulemaking issued on June 3, 2010 (75 FR 31514). GHG emissions thresholds of
34 significance for stationary sources are 75,000 tons CO₂-e per year and 100,000 tons CO₂-e per year
35 under these permit programs.

36 The nearest sensitive receptors (i.e., permanent residences within approximately 100 feet of the
37 footprint of the proposed project area) would not be substantially impacted by temporary increase
38 in fugitive dust due to construction activities. BMPs (i.e., water application for dust suppression)
39 would be stringently implemented when construction activities generate dust in the vicinity of
40 sensitive receptors.

1 **3.4.2 Affected Environment**

2 The project area is within the City of Laredo and Webb County, and within the Brownsville-Laredo
3 Intrastate AQCR (BLIAQCR) (40 CFR 81.185). Neither the BLIAQCR nor Webb County is
4 designated by USEPA as nonattainment or maintenance status for any criteria pollutant (USEPA
5 2022b). No statewide SIPs exist for the criteria pollutants listed above.

6 Air emission sources in the area consist of typical urban activities, including vehicle traffic, water
7 treatment plants, and a natural gas-fired power plant.

8 The project corridor falls within 100 feet of residential areas in some portions of the segments.
9 Sensitive receptors in the vicinity include residences, shopping centers, the Laredo Community
10 College South Campus, and various other commercial buildings.

11 **3.4.3 Environmental Consequences**

12 The environmental consequences on local and regional air quality conditions near a proposed
13 action are determined based upon the increases in regulated pollutant emissions relative to existing
14 conditions and ambient air quality.

15 Based on compliance with the NAAQS, the General Conformity Rule is not applicable in Webb
16 County to emissions of any criteria pollutants. However, as outlined in 40 CFR § 93.153(b), the
17 applicable *de minimis* threshold for criteria pollutants listed above is 100tpy in nonattainment
18 areas. And while the General Conformity Rule is not applicable to emissions of the criteria
19 pollutants, it is being applied as a conservative measure to determine the level of impacts under
20 NEPA. The rationale for this conservative threshold is that it is consistent with the highest General
21 Conformity *de minimis* levels for nonattainment areas and maintenance areas. In addition, it is
22 consistent with Federal stationary source major source thresholds for Title V permitting, which
23 formed the basis for the nonattainment *de minimis* levels.

24 The TCEQ does not provide quantitative screening level thresholds for construction or mobile
25 source-related impacts. Major, adverse impacts on air quality would occur if the Proposed Action
26 meaningfully contributed to the potential effects of global climate change.

27 **3.4.3.1 Alternative 1: Improvement of the Existing Laredo North and Laredo South Patrol Roads**
28 **(Preferred Alternative)**

29 The Proposed Action would only generate temporary air pollutant emissions during construction
30 and maintenance activities. The road improvement activities associated with this alternative would
31 generate air pollutant emissions through grading, filling, compacting, trenching, and other
32 activities related to road improvement; however, these emissions would be temporary and would
33 not be expected to generate major offsite effects.

34 In addition, fugitive dust (PM₁₀ and PM_{2.5}) generation would likely decrease in the long-term due
35 to the proposed roadway improvements because traffic on gravel-surfaced roads typically
36 generates less dust than traffic on unimproved roads. The Proposed action is not anticipated to
37 result in a net increase in USBP traffic along the roadway. Therefore, the emissions associated

1 with the Proposed Action from existing USBP traffic would not result in an adverse impact on
2 local or regional air quality.

3 Criteria pollutant and GHG emissions would be produced from the combustion of fuels in heavy
4 equipment. Particulate matter air emissions, such as fugitive dust, would be produced from ground-
5 disturbing activities and the combustion of fuels in heavy equipment. Fugitive dust emissions
6 would be greatest during the initial site grading and excavation and vary day to day depending on
7 the work phase, level of activity, and prevailing weather conditions. The quantity of uncontrolled
8 fugitive dust emissions from a construction site is proportional to the area of land being worked
9 and the level of activity. Construction would incorporate BMPs and environmental control
10 measures (e.g., wetting the ground surface) to minimize fugitive emissions. Additionally, work
11 vehicles would be well-maintained and use diesel particulate filters to reduce particulate matter
12 emissions.

13 Workers and truck drivers commuting to and from the job site in their personal vehicles and heavy-
14 duty diesel vehicles hauling materials and equipment to the job site would also result in criteria
15 pollutant and GHG emissions.

16 All criteria pollutant and GHG emissions resulting from the Proposed Action as well as applicable
17 thresholds are summarized in **Table 3-4**. Criteria pollutant emissions from construction would be
18 below the *de minimis* threshold of 100 tpy of each pollutant; therefore, impacts would be minor
19 and a General Conformity determination (applicable to O₃ and CO) is not required. TCEQ
20 screening level thresholds do not apply to construction emissions. Detailed emissions calculations
21 are provided in **Appendix C**.

22 The road improvement activities associated with the Proposed Action would have minor effects
23 on regional or local air quality. The Proposed Action would generate emissions well below
24 *de minimis* levels for all criteria pollutants in the BLIAQCR, and all increased emissions would be
25 temporary. Once construction activities have subsided, operations would be anticipated to generate
26 emissions similar to or slightly less than current levels due to road improvements resulting in
27 reduced fugitive dust emissions.

28 The Proposed Action would contribute directly to emissions of GHGs from the combustion of
29 fossil fuels from maintenance and repair activities and commuting of support personnel. CO₂
30 accounts for 92 percent of all GHG emissions; transportation is the primary source of
31 anthropogenic CO₂, followed by electric utilities (CARB 2019).

32 **Table 3-4. 2020 Estimated Construction Air Emissions from the Proposed Action**

Emissions Source ¹	NO _x (tpy)	VOC (tpy)	CO (tpy)	SO ₂ (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)	GHGs (tpy)
Combustion	5.978	0.346	2.428	0.515	0.366	0.355	737.75
Fugitive Dust	-	-	-	-	63.0	6.75	-
Haul Truck On-Road	2.661	0.238	0.886	0.006	0.105	0.097	730.75
Construction Commuter	0.033	0.033	0.501	<0.001	0.001	0.001	51.80
Total	8,067	0.62	3.81	0.52	63.47	6.75	1,520.30
Thresholds ²	100	100	100	100	100	100	NA

33 Key: NA = not applicable

1 1 Lead, sulfates, hydrogen sulfide, and visibility reducing particulates emissions are not included as they are negligible
2 for the types of emission sources under this Proposed Action.
3 2 General Conformity Rule de minimis thresholds or surrogate.

4 The U.S. Energy Information Administration estimated that in 2019, gross CO₂ emissions in the
5 State of Texas were 683.2 million metric tons of CO₂-e (EIA 2019). The total annual CO₂
6 emissions from the Proposed Action would be 1,520.3 metric tons, or approximately 0.0002
7 percent of the state CO₂ emissions (refer to **Appendix C**). Therefore, the Proposed Action would
8 represent a negligible contribution towards statewide GHG inventories.

9 The Proposed Action is estimated to emit approximately 1,520 metric tons of GHGs from
10 construction during 2022. By comparison, 1,520 metric tons of CO₂-e are approximately the
11 respective GHG footprints of 328 gasoline-powered passenger vehicles driven for one year
12 (USEPA 2022c). As such, these increases and decreases of GHG emission rates would not
13 meaningfully contribute to or lessen the potential effects of global climate change (e.g., increases
14 in atmospheric temperature, sea level, storm activity, accelerated coastal erosion, hydrological
15 changes and flooding, and vegetation and wildlife changes).

16 Ongoing changes to regional climate patterns could increase average temperatures, alter
17 precipitation patterns, and increase the frequency and severity of droughts in Southern Texas
18 (Kloesel et al. 2018). However, even under severe drought conditions or during warmer
19 temperatures, it is unlikely these ongoing climate change impacts would impair implementation of
20 The Proposed Action or prevent CBP from fulfilling its mission.

21 3.4.3.2 Unavoidable Adverse Impacts

22 The use of heavy construction equipment and ground disturbance activities are required for
23 implementation of the Proposed Action. Combustion of fuels, which produces emissions of criteria
24 pollutants, is needed to operate construction equipment, and ground disturbance activities
25 intrinsically produce fugitive dust air emissions. To reduce emissions of criteria pollutants and
26 suppress fugitive dust, construction activities would incorporate BMPs and environmental control
27 measures, which could include employing diesel particulate filters to reduce particulate matter air
28 emissions and wetting the ground surface to reduce fugitive dust emissions. Therefore, the
29 unavoidable impacts would be minor.

30 3.4.3.3 No Action Alternative

31 Under the No Action Alternative, CBP would not be improving the patrol and access roads. CBP
32 enforcement actions would be maintained at current levels or diminish over time due to
33 increasingly reduced accessibility of the area to CBP agents. Therefore, no impacts on air quality
34 would be expected from the implementation of the No Action Alternative because no improvement
35 activities would occur in the project area.

3.5 GEOLOGY AND SOILS

3.5.1 Definition of the Resource

Geological resources consist of the Earth's surface and subsurface materials. Within a given physiographic province, these resources typically are described in terms of topography and physiography, geology, soils, and, where applicable, geologic hazards. Geology is the study of the Earth's composition and provides information on the structure and configuration of surface and subsurface features. Topography and physiography pertain to the general shape and arrangement of the land surface, including its height and the position of its natural and man-made features. In appropriate cases, soil properties must be examined for their compatibility with construction activities or types of land use.

Geologic hazards are defined as a natural geologic event that can endanger human lives and threaten property. Examples of geologic hazards include earthquakes, landslides, rock falls, ground subsidence, and avalanches.

3.5.2 Affected Environment

Regional Geology. The Proposed Action footprint is within the Gulf Coastal Plains physiographical region, which includes three sub-provinces. From the northwest to the southeast, the Gulf Coastal Plains includes: Blackland Prairies, the Interior Coastal Plains, and the Coastal Prairies. The existing Laredo patrol roads are in the Interior Coastal Plains sub-province; however, this area is riverine as the site is directly adjacent to the Rio Grande (CBP 2016). The geological area of the Proposed Area is within the Laredo formation, comprised of sands, sandstones, limestones, and clay (Gardner 1938).

Topography and Soils. Elevations along the Interior Coastal Plains within the border region gently decrease in the southeastern direction. The highest elevations are approximately 800 feet above sea level and lowest elevations are approximately 300 feet above sea level. There are parallel ridges and valleys with chalks and marls bedrock types in the Interior Coastal Plains physiographical region. The elevation of the Proposed Action area is approximately 420 feet above sea level (BEG 1996; CBP 2016).

Soil characteristics determine their potential for wind and water erosion, and the soil's suitability for siting buildings, roads, and pipelines, which are important factors to consider when planning for construction and stabilization of disturbed areas. The predominant soils found within the project area are listed in **Table 3-5** and shown in **Figures 3-1 to 3-7** (USDA 2016). Though there are soils with prime farmland designation, none of the project area is available for agricultural use.

Geological Hazards. The U.S. Geological Survey (USGS) 2014 Texas Seismic Hazard Map shows that the seismic hazard for the Texas portion of the U.S./Mexico international border ranges from having a 2-4 percent gravity (%g) peak ground acceleration (PGA) in the past 50 years, which is the second to lowest range possible. PGA is a parameter used to index hazard to short building infrastructure up to seven stories, and %g is how the force caused by an earthquake is measured. Approximately 10 faults have been identified within 30 miles of the Texas portion of the U.S./Mexico international border. The Proposed Action area is depicted as a geologically and

1 seismically stable (2-4 %g PGA) area over the past 50 years on the USGS 2014 Texas Seismic
2 Hazard Map (USGS 2014; USGS 2019).

3 3.5.3 Environmental Consequences

4 3.5.3.1 Alternative 1: Improvement of the Existing Laredo North and Laredo South Patrol Roads 5 (Preferred Alternative)

6 The Proposed Action would result in both short- and long-term impacts on the local topography
7 and soil resources. No impacts on regional geology or geologic hazards are anticipated, and thus
8 there would be no change to the existing geologic features. Therefore, regional geology and
9 geologic hazards will not be discussed further.

10 **Topography and Soils.** The Proposed Action is expected to result in minor to moderate, long-term,
11 adverse impacts on the local topography and soil resources due to the improvement activities of
12 the existing patrol roads. Under the Proposed Action, approximately 44.2 acres of soil would be
13 permanently disturbed from ground disturbance from the patrol road upgrade construction.

14 **Table 3-5. Soil Characteristics**

Soil Series	Slope (percent)	Runoff	Drainage Class	Farmland Classifications	Acreage Within Proposed Action Area (Acres)
Lagloria Silt Loam	0 to 1%	Low	Well-drained	Prime farmland if irrigated	9.1
Lagloria Silt Loam	1 to 3%	Negligible	Well-drained	Prime farmland if irrigated	6.0
Rio Grande Very Fine Sandy Loam	0 to 1%	Negligible	Well-drained	Not prime farmland	28.0
Verick Fine Sandy Loam	1 to 5%	Low	Well-drained	Not prime farmland	0.4
Jimenez-Quemado Complex	1 to 7%	High	Well-drained	Not prime farmland	0.7
Total Acreage					44.2

15 Source: USDA 2022a

16 Of the total disturbed 44.2 acres, 15.1 acres is designated as Lagloria Silt Loam, which is prime
17 farmland, if irrigated. Prime farmland as defined by the U.S. Department of Agriculture, is land
18 that has the best combination of physical and chemical characteristics for producing food, feed,
19 fiber, and oilseed crops and is available for these uses. Both the North and South segments of the
20 Proposed Action contain Lagloria Silt Loam. The direct impact of soils from ground disturbance
21 would be negligible due to the small size of the project footprint relative to the amount of the same
22 soils throughout the region of influence (ROI). Additionally, the soils within the project area are
23 not currently irrigated and are therefore not considered to be available as prime farmland soils
24 (USDA 2022b; USDA 2022).

1 The improvement activities could include minor ground disturbance, minor disturbances to soils,
2 grading to address surface water runoff during storm events, and potential installation of grade-
3 control structures. Construction activities could further disturb the already-exposed soils, which
4 would increase their susceptibility to water and wind erosion. However, BMPs such as wetting
5 soils to decrease erosion would be implemented.

6 The use of heavy equipment or vehicles during construction could potentially result in localized
7 soil compaction, altering their normal function relative to water storage, infiltration, or filtration.
8 However, the use of existing paved roads, and already disturbed surfaces during improvement
9 activities would minimize these soil effects within the project area. CBP intends to use locations
10 where impacts outside of the existing roadbed have previously occurred due to impassable road
11 conditions for turnouts, passing lanes, and staging areas for equipment and materials. To the
12 maximum extent practicable, CBP would restore all such areas upon completion of the Proposed
13 Action, to include regrading and any revegetation.

14 All necessary materials such as gravel, topsoil, or fill would be imported to the site. No on-site
15 materials would be used except for the material within the existing roadway. The types and
16 numbers of equipment used would be kept to a minimum. Water trucks would be employed to aid
17 in dust suppression to reduce soil erosion.

18 The Proposed Action would implement strategies to minimize soil erosion and sedimentation using
19 environmental protection measures and appropriate BMPs. The finished road would be reinforced
20 roadbed with a soil stabilizer (e.g., Lignin, Soiltac, Envirotec, or some other suitable soil stabilizer)
21 that minimizes road runoff as well as avoids impacts on sensitive species and habitats. Temporary
22 waterbars would be included during construction activities to help manage erosion and water
23 runoff. The upgraded all-weather road would improve the existing road conditions and enhance
24 agent safety and effectiveness by providing efficient, reliable, and safe routes to remote areas that
25 require patrolling.

3.5.3.2 Unavoidable Adverse Impacts

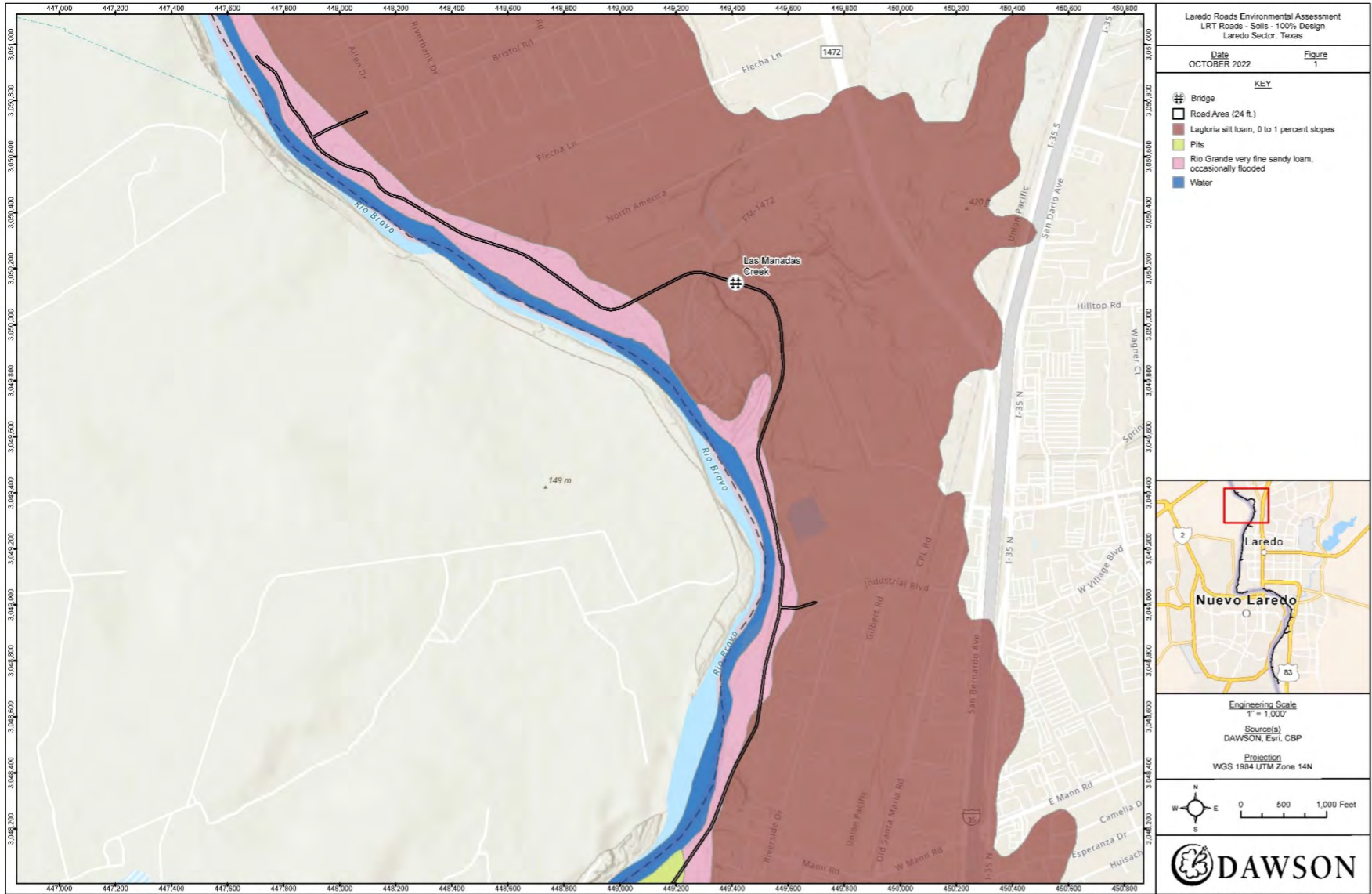
27 Under the Proposed Action, unavoidable short-term, negligible, adverse impacts would occur and
28 include topographical and soil disturbances. Implementation of environmental controls and BMPs
29 would minimize disturbances to the Proposed Action area, and ultimately the improved patrol
30 roads would minimize overall disturbance to the area and improve mobility and accessibility for
31 USBP agents responding to illegal cross-border traffic.

3.5.3.3 No Action Alternative

33 Under the No Action Alternative, the existing patrol roads would not be improved upon and
34 conditions would remain the same. Over time, road conditions would continue to decline, which
35 could result in increasingly deteriorating conditions, including increased soil erosion and
36 sedimentation. Therefore, the impact on geological resources would continue to worsen and USBP
37 agents would be unable to meet operational requirements to secure the U.S./Mexico international
38 border within the USBP Laredo Sector.

1

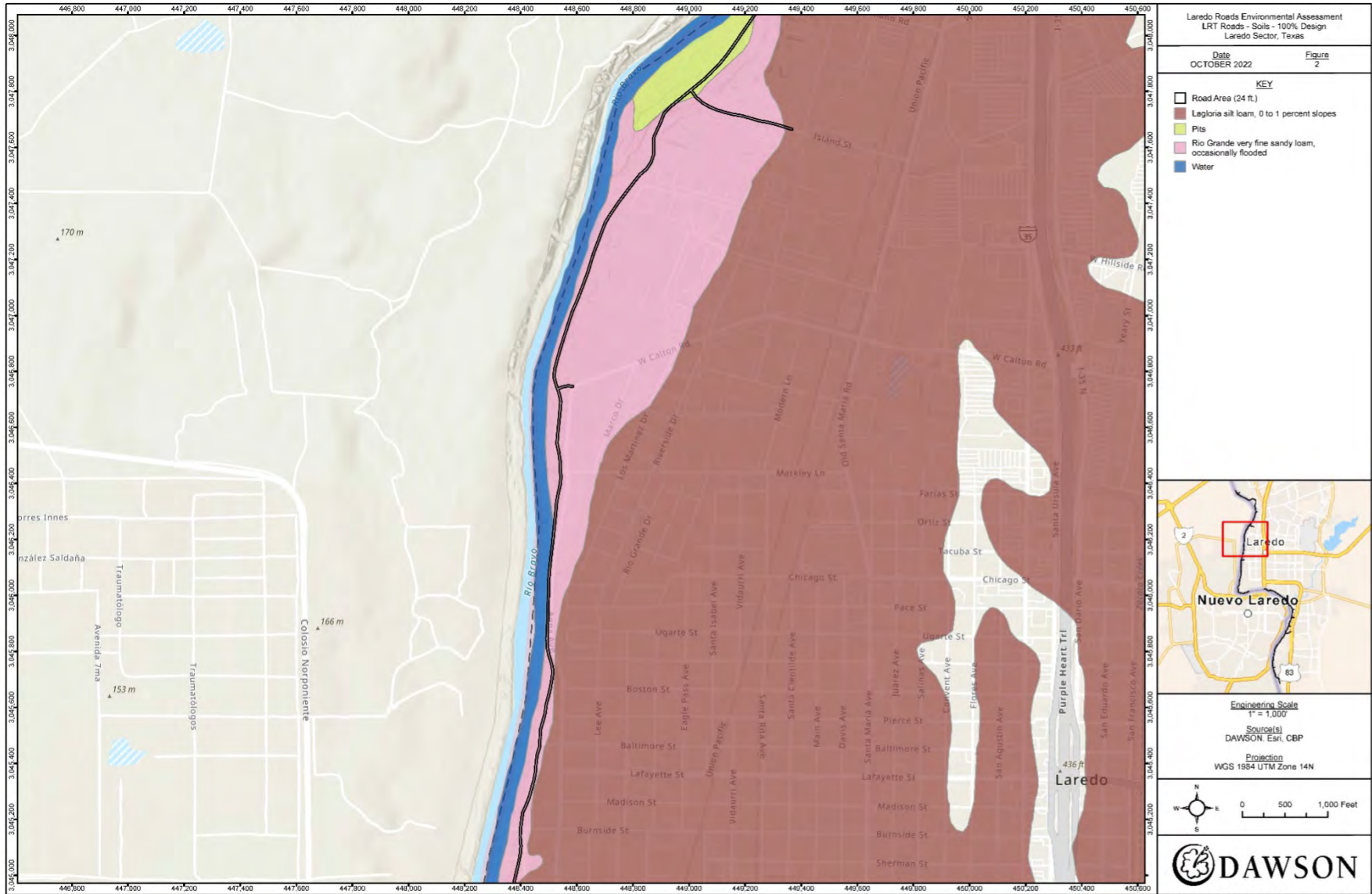
Figure 3-1. Map of Soil Associations - Map 1



2

1

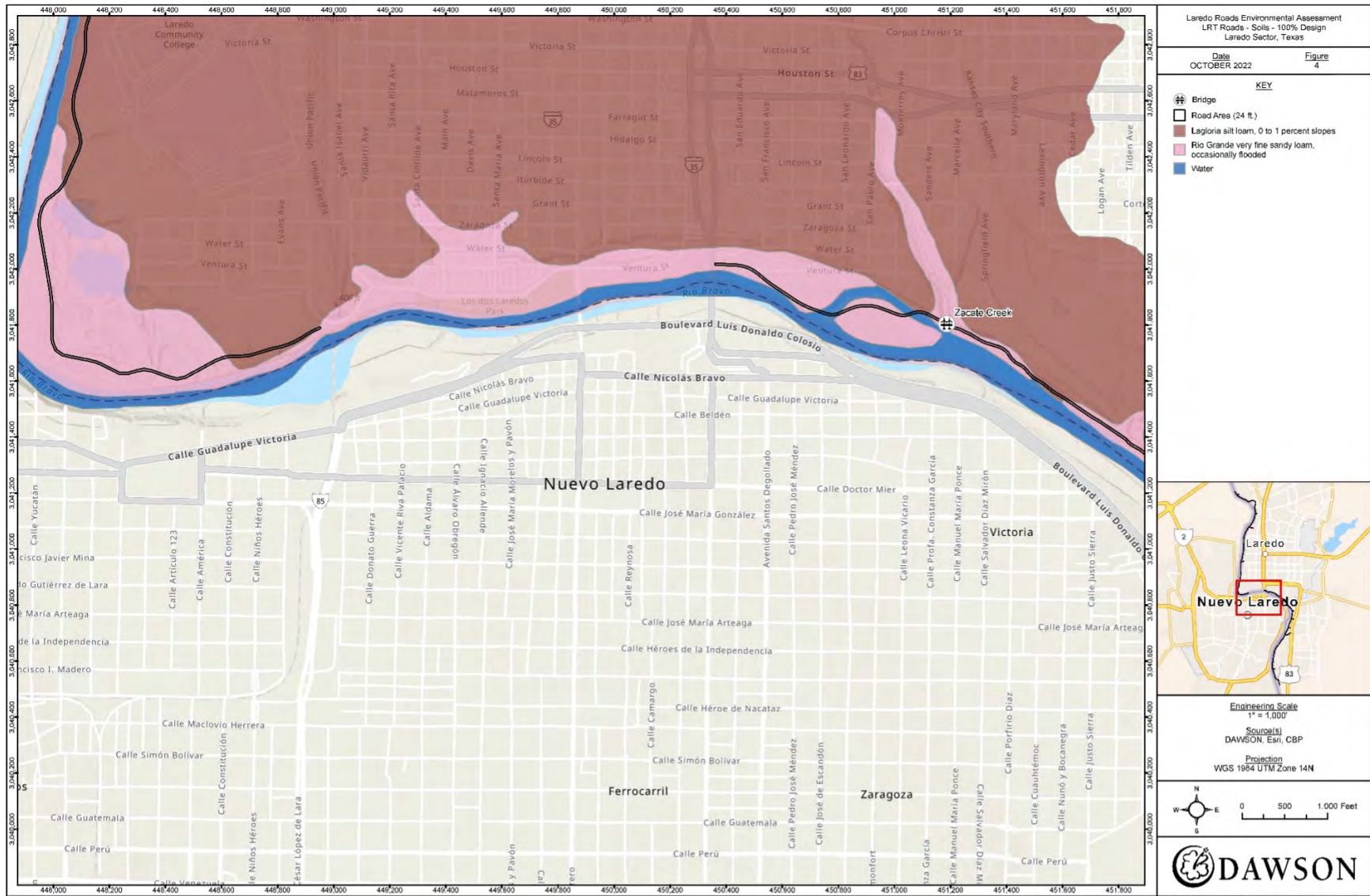
Figure 3-2. Map of Soil Associations - Map 2



2
3

1

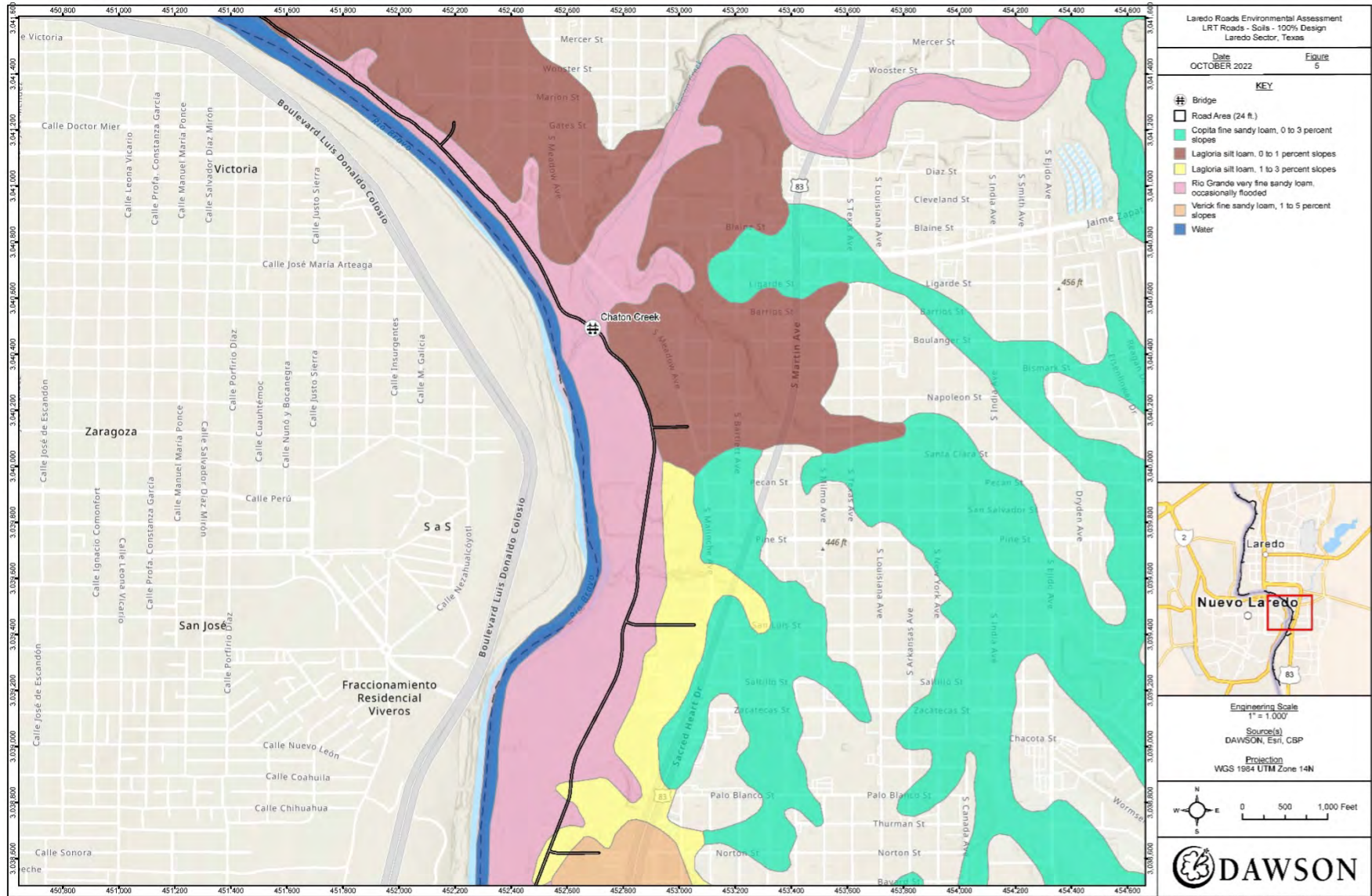
Figure 3-4. Map of Soil Associations - Map 4



2

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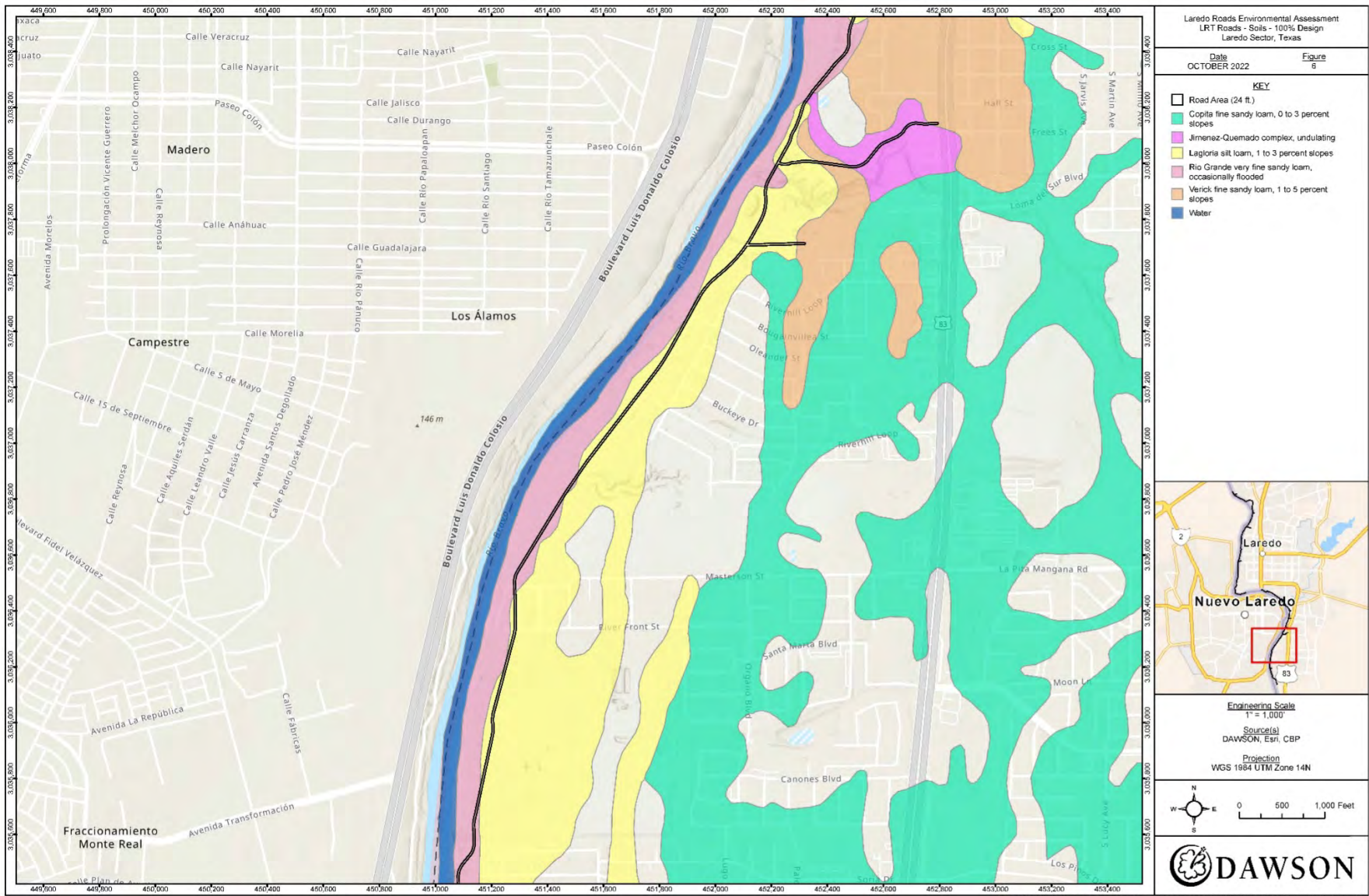
Figure 3-5. Map of Soil Associations - Map 5



2

1

Figure 3-6. Map of Soil Associations - Map 6



2

1 **3.6 WATER RESOURCES**

2 **3.6.1 Definition of the Resource**

3 Water resources are natural and man-made sources of water that are available for use by, and for
4 the benefit of, humans and the environment. Water resources relevant to the location of the
5 Proposed Action in and near the City of Laredo, Texas, include groundwater, surface waters,
6 wetlands, and floodplains.

7 **Groundwater.** Groundwater is water that exists in the saturated zone beneath the Earth’s surface
8 that collects and flows through aquifers and is used for drinking, irrigation, and industrial purposes.
9 Groundwater typically can be described in terms of depth from the surface, aquifer or well
10 capacity, water quality, and recharge rates.

11 **Surface Water.** Surface water includes natural, modified, and man-made water confinement and
12 conveyance features above groundwater that may or may not have a defined channel and
13 discernable water flow. Stormwater is an important component of surface water systems because
14 of its potential to introduce sediments and other contaminants that could degrade surface waters,
15 such as lakes, rivers, or streams. Energy Independence and Security Act Section 438 (42 U.S.C. §
16 17094) establishes into law stormwater design requirements for Federal development projects that
17 disturb a footprint of greater than 5,000 square feet. Under these requirements, pre-development
18 site hydrology must be maintained or restored to the maximum extent technically feasible with
19 respect to temperature, rate, volume, and duration of flow.

20 Water quality standards are regulated by U.S. Environmental Protection Agency, under the Safe
21 Drinking Water Act and the CWA. Section 303(d) of the CWA requires states to identify and
22 develop a list of impaired water bodies where technology-based and other required controls have
23 not provided attainment of water quality standards. The CWA also establishes Federal limits,
24 through the NPDES permit process, for regulating point and non-point discharges of pollutants
25 into the WOTUS and quality standards for surface waters. The term “Waters of the United States”
26 has a broad meaning under the CWA and incorporates deep water aquatic habitats and special
27 aquatic habitats (including wetlands).

28 USACE regulates WOTUS under authority of the Section 404 of the CWA and under the Rivers
29 and Harbors Act of 1899. WOTUS is defined in the CFR as traditionally navigable waters that are
30 susceptible to use in commerce or subject to the ebb and flow of the tide, including interstate waters
31 and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries
32 (33 CFR 328.3). TCEQ is responsible for conducting Section 401 certification reviews of all
33 permits issued in Texas under the Section 404 Nationwide Permitting and Individual Permit
34 Program.

35 Wetlands are a protected resource under E.O. 11990, Protection of Wetlands, “to avoid to the
36 extent possible the short- and long-term, adverse impacts associated with the destruction or
37 modification of wetlands and to avoid direct or indirect support of new construction in wetlands
38 wherever there is a practicable alternative.” Wetlands have been defined by agencies responsible
39 for their management.

1 Potential wetland areas are identified by the presence of (1) hydrophytic vegetation, (2) hydric
2 soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient
3 duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as
4 “non-wetland waters” and are characterized by an Ordinary High Water Mark. Non-wetland waters
5 generally include lakes, rivers, streams, and other open-water habitats.

6 **Floodplains.** Floodplains are areas of low, level ground present along rivers, stream channels, or
7 coastal waters that are subject to periodic or infrequent inundation because of rain or melting snow.
8 Flood potential is evaluated by Federal Emergency Management Agency (FEMA), which defines
9 the 100-year floodplain as an area within which there is a one percent chance of inundation by a
10 flood event in a given year, or a flood event in the area once every 100 years. Executive Order
11 (E.O.) 11988, *Floodplain Management*, requires Federal agencies to determine whether a proposed
12 action would occur within a floodplain and to avoid floodplains to the maximum extent possible
13 wherever there is a practicable alternative. Where the only practicable alternative is to site in a
14 floodplain, a specific step-by-step process must be followed to comply with E.O. 11988 outlined
15 in the FEMA document *Further Advice on E.O. 11988 Floodplain Management*.

16 Floodplains within the United States are protected under E.O. 11988, which requires Federal
17 agencies to determine whether a proposed action would occur within a floodplain. This
18 determination typically involves consultation of appropriate FEMA Flood Insurance Rate Maps
19 (FIRMs), which contain enough general information to determine the relationship of the project
20 area to nearby floodplains. If a Federal agency action encroaches within the floodplain and alters
21 the flood hazards designated on a FIRM (e.g., changes to the floodplain boundary), an analysis
22 reflecting any changes must be submitted to the FEMA.

23 3.6.2 Affected Environment

24 **Groundwater.** The Proposed Action overlies the Carrizo-Wilcox Aquifer, which extends from the
25 Louisiana border to the Mexico border in a wide band covering 66 counties in Texas (Bruun et al.
26 2016). The aquifer is primarily composed of sand locally interbedded with gravel, silt, clay, and
27 lignite. Hydraulic connectivity ranges from 0.01 to 4,000 feet per day and has a mean of about 6
28 feet per day. Transmissivity ranges from 0.1 to 10,000 feet squared per day. While some portions
29 of the aquifer are unconfined, the portion of the aquifer that underlies the project area is confined
30 by the Reklaw Formation. The sum of average annual baseflow is approximately 0.3 cubic feet per
31 second within Webb County where the Proposed Action is located.

32 Total storage within the aquifer is estimated to be about 5.2 billion acre-feet; however, annual
33 groundwater availability within the aquifer is about 1.2 million acre-feet. Well yield is commonly
34 500 gallons per minute but can reach 3,000 gallons per minute in some areas (TWDB, n.d.). Webb
35 County and other areas in Southern Texas that overlie the aquifer have experienced increasing
36 drawdown since 2005. The presence of high iron and manganese is characteristic of much of the
37 aquifer. Groundwater near the Proposed Action is saline to moderately saline.

38 **Surface Water.** Surface water is important to the water supply in Texas since it accounts for
39 approximately 40 percent of water used in the state. The Proposed Action lies within the Rio
40 Grande River Basin – the largest basin in Texas (TWDB 2022a). The Rio Grande originates in
41 Colorado and flows 1,896 miles to the Gulf of Mexico. The basin is approximately 182,000 square

1 miles in size, of which 49,000 square miles is located in Texas. The river's average flow is 645,000
2 acre-feet per year (TWDB 2022b). The Proposed Action generally runs along the international
3 border through the City of Laredo.

4 The Rio Grande serves as the primary source of drinking water for the City of Laredo and other
5 cities along the border in Webb County (Laredo 2020, USGS 2005). The City of Laredo owns
6 approximately 62,009 acre-feet of municipal water rights. Portions of the river that run near the
7 Proposed Action are on the 303(d) list of impaired water bodies for bacteria and other microbes
8 (USEPA 2022d).

9 The Proposed Action includes the construction of three bridges. The first bridge would cross Las
10 Manadas Creek above the creek's confluence with the Rio Grande. Aerial images of the creek
11 show a defined, unimproved channel with mostly woody vegetation. The second bridge would
12 cross Zacate Creek above the creek's confluence with the Rio Grande. The Zacate Creek watershed
13 drains approximately 16 square miles. Aerial images show a defined, improved trapezoidal
14 channel that runs in the middle of the watershed. The third bridge would cross Chaton Creek above
15 the creek's confluence with the Rio Grande and downstream of Lake Casa Blanca.

16 **Wetlands.** Between December 2, 2020, and March 8, 2022, CBP conducted a wetland delineation
17 of a 100-foot corridor of the Proposed Action in accordance with *Section D, Subsection 2, of*
18 *Technical Report Y-87-1, Corps of Engineers Wetlands Delineation Manual* and the *2010 Regional*
19 *Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region*
20 (USACE 1987, USACE 2010), which involved establishing sampling plots within each observed
21 vegetation community. A soil boring pit was excavated within each sampling plot. Dominant
22 vegetation and wetland hydrology indicators were also recorded at each sample plot. Survey results
23 are provided in **Section 3.6.3**.

24 **Floodplains.** The Rio Grande is the major surface water in the project area associated with the
25 floodplain in the region. Other floodplains are associated with Las Manadas Creek, Zacate Creek,
26 Chaton Creek and numerous other arroyos, streams, and resacas.

27 A review of the FIRMs shows that parts of the Proposed Action occur within a regulatory floodway
28 (refer to **Figures 3-3 and 3-4**). A regulatory floodway is defined as the channel of a river or other
29 watercourse and the adjacent land area that must be kept free of encroachment so that the 1 percent
30 annual chance flood can be free to water flow without substantial increases in flood heights.
31 (FEMA 2021). Parts of the Proposed Action also occur within a Special Flood Hazard Area
32 (SFHA) subject to inundation by the 1 percent annual chance flood (100-year floodplain) (FEMA
33 2022). Other parts of the Proposed Action are determined to be in areas subject to 0.2 percent
34 annual chance flood and 1 percent annual chance flood (FEMA 2022).

35 3.6.3 Environmental Consequences

36 3.6.3.1 Alternative 1: Improvement of the Existing Laredo North and Laredo South Patrol Roads 37 (Preferred Alternative)

38 **Groundwater.** The Proposed Action is expected to cause short- and long-term, negligible, adverse
39 impacts on groundwater resources. During road improvement activities, soil disturbances could

1 lead to increased sediment transportation during rainfall events that could eventually enter
2 groundwater through recharge points. Best practices and planning during construction could
3 minimize such impacts by controlling the movement of surface water runoff and ensuring no direct
4 access to groundwater recharge points. BMPs could include using temporary construction of
5 barriers such as fiber logs or silt fences, which would be placed based on site-specific evaluations
6 on an as-needed basis.

7 Long-term, negligible to minor, indirect, beneficial impacts on groundwater could occur from a
8 decrease in soil erosion because roadways would be properly maintained, which would reduce the
9 effects incurred from negligence, such as washout and long-term sedimentation. Impacts on
10 groundwater would also be minimized due to the confined nature of the underlying aquifer.

11 Vehicles and equipment used during the implementation of the Proposed Action could increase
12 the potential for petroleum or hazardous material spills, typically due to leaks or accidents at the
13 work site. Any such leaks or spills could be transported to groundwater either by surface water
14 runoff or soil leaching. Proper housekeeping, maintenance of equipment, and containment of fuels
15 and other potentially hazardous materials would be conducted to minimize the potential for an
16 unintended release of fluids. Due to the implementation of best practices and minimal groundwater
17 recharge in the area, implementation of the Proposed Action would result in minor impacts on
18 groundwater.

19 **Surface Water and Wetlands.** Short- and long-term, moderate, adverse impacts would be expected
20 during implementation of the Proposed Action. Within the surveyed project area, the Proposed
21 Action could impact approximately 0.67 acres of wetlands and 4.09 acres of WOTUS features
22 (**Appendix D**).

23 CBP would need to obtain a Section 404 permit prior to the start of construction. Mitigation for
24 impacts to wetlands and non-wetland WOTUS would be required as conditions of permit approval.
25 A Section 401 Water Quality Certification would also be required through TCEQ.

26 The Proposed Action could transport sediment and other material into the WOTUS features and
27 the nearby Rio Grande, which acts a source water supply of drinking water for the region, or other
28 surface water drainages. Unmanaged stormwater flow also causes general erosion to occur,
29 washing out complete sections of road and in many instances making roads impassable. Erosion-
30 control BMPs would be adopted to maintain runoff on site and would minimize the potential for
31 adverse effects on downstream water quality. Pertinent local, state, and Federal permits would be
32 obtained for any work, including work that could occur near surface water or ephemeral drainages.

33 Due to the proximity of the Proposed Action to the international boundary and the Rio Grande
34 River, it would be necessary to coordinate with the USIBWC prior to the implementing the
35 Proposed Action. A USIBWC out-grant application is necessary for any work, such as construction
36 or dredging, that results in the use of USIBWC Federal real property by lease, easement, license,
37 or permit.

38 **Floodplains.** The Proposed Action has the potential to result in moderate, short- and long-term,
39 impacts on SFHAs, including regulatory floodways and floodplains that are subject to inundation
40 by the 1 percent annual chance flood. There are approximately 22.9 acres of the regulatory

1 floodway and 20.6 acres of floodplain subject to the 1 percent annual chance flood within the 24-
2 foot project area. A floodplain development permit would be required prior to any construction or
3 development within any SFHA (44 CFR 60.3). Approximately 2.3 acres of the project area are
4 within areas subject to the 0.2 percent annual chance flood (**Figures 3-8 to 3-14**).

5 Widening of the road and clearing of vegetation would result in an increase in the volume and
6 velocity of flow. The construction contractor would implement BMPs, appropriate design
7 standards and practices, and drainage measures to minimize any potential impacts on floodplains.

8 No impacts on floodplains would be expected from routine repair and maintenance of the all-
9 weather road if standard BMPs are implemented and any necessary local, state, or Federal
10 permitting requirements are met.

11 Per E.O. 11988, CBP conducted a thorough analysis to determine the viability of alternatives to
12 the Proposed Action to avoid working within a floodplain. As discussed in **Section 2.5.1**, there is
13 no practicable alternative to working in the floodplain as the patrol roads need to be sited in
14 proximity to the border to ensure CBP mission and operational success. The Proposed Action,
15 however, would not introduce any new habitable structures or obstructions that would impede or
16 divert overland floodwater flow nor increase/create flood hazards. Therefore, CBP has determined
17 a Finding of No Practicable Alternative is suitable for this action.

18 3.6.3.2 Unavoidable Adverse Impacts

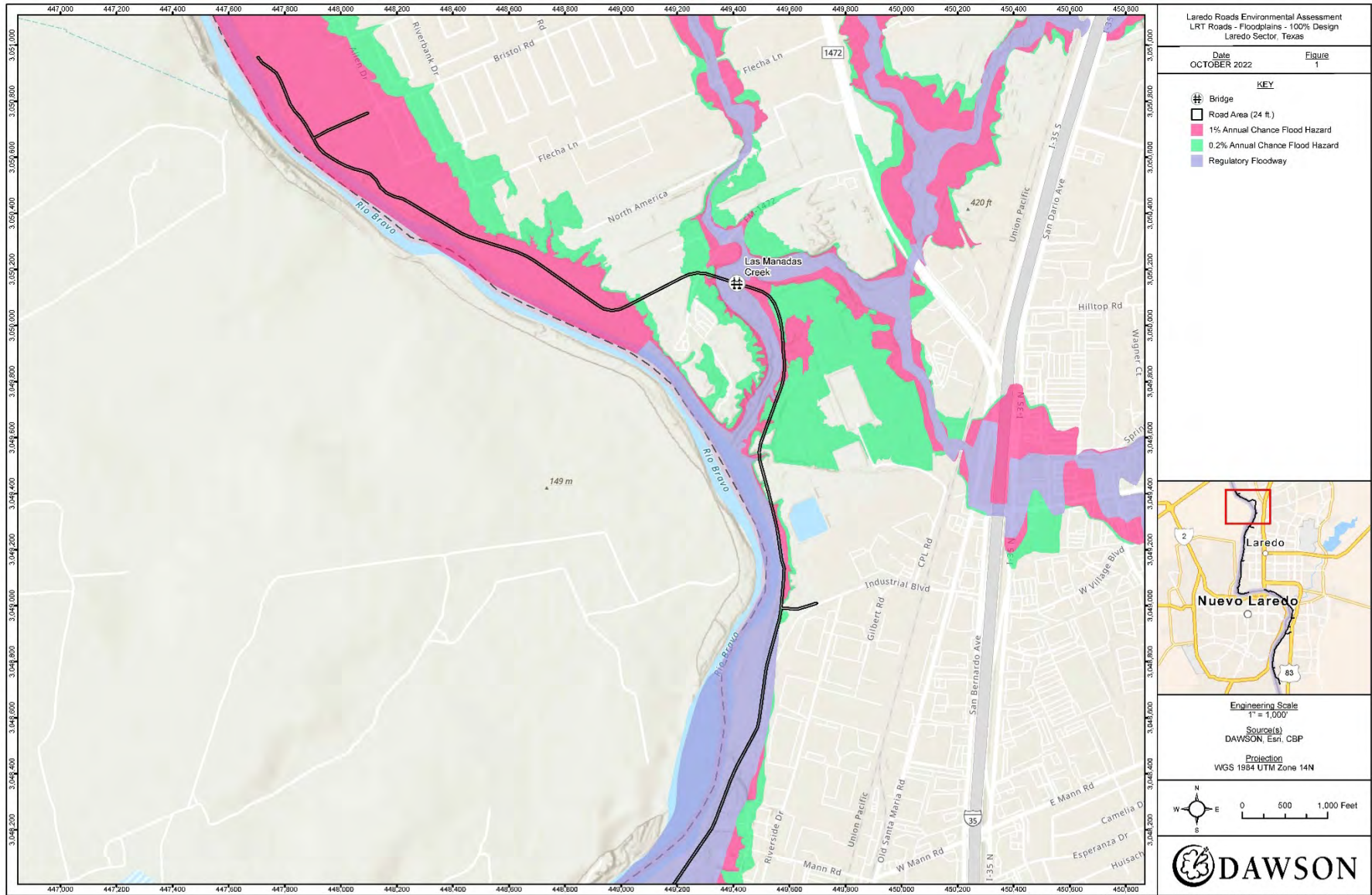
19 The Proposed Action would cause unavoidable impacts to floodplains and surface water features,
20 including wetlands and jurisdictional waters. Mitigation would be required to achieve a no-net-
21 loss of wetland and non-wetland waters, as a condition of the appropriate Section 401 and 404
22 permit obtained from USACE. Floodplain mitigation measures would be implemented as
23 necessary. The Proposed Action would also require water for dust suppression during construction
24 activities. Adverse impacts would be minimized to the greatest possible through the
25 implementation of BMPs.

26 3.6.3.3 No Action Alternative

27 Under the No Action Alternative, patrol road improvements would not occur, and the existing
28 conditions would remain unchanged. Since maintenance and repair activities would not be
29 conducted, degrading roadway and blocked drainage structure could impair flow, which could
30 increase flood risk. Additionally, without road improvements, surface waters could be impacted
31 during standard operation by increased runoff, resulting in increased erosion, sedimentation, and
32 conveyance of non-point source pollutants in runoff.

1

Figure 3-8. Floodplains within the Proposed Action – Map 1



1 **Figure 3-9. Floodplains within the Proposed Action – Map 2**

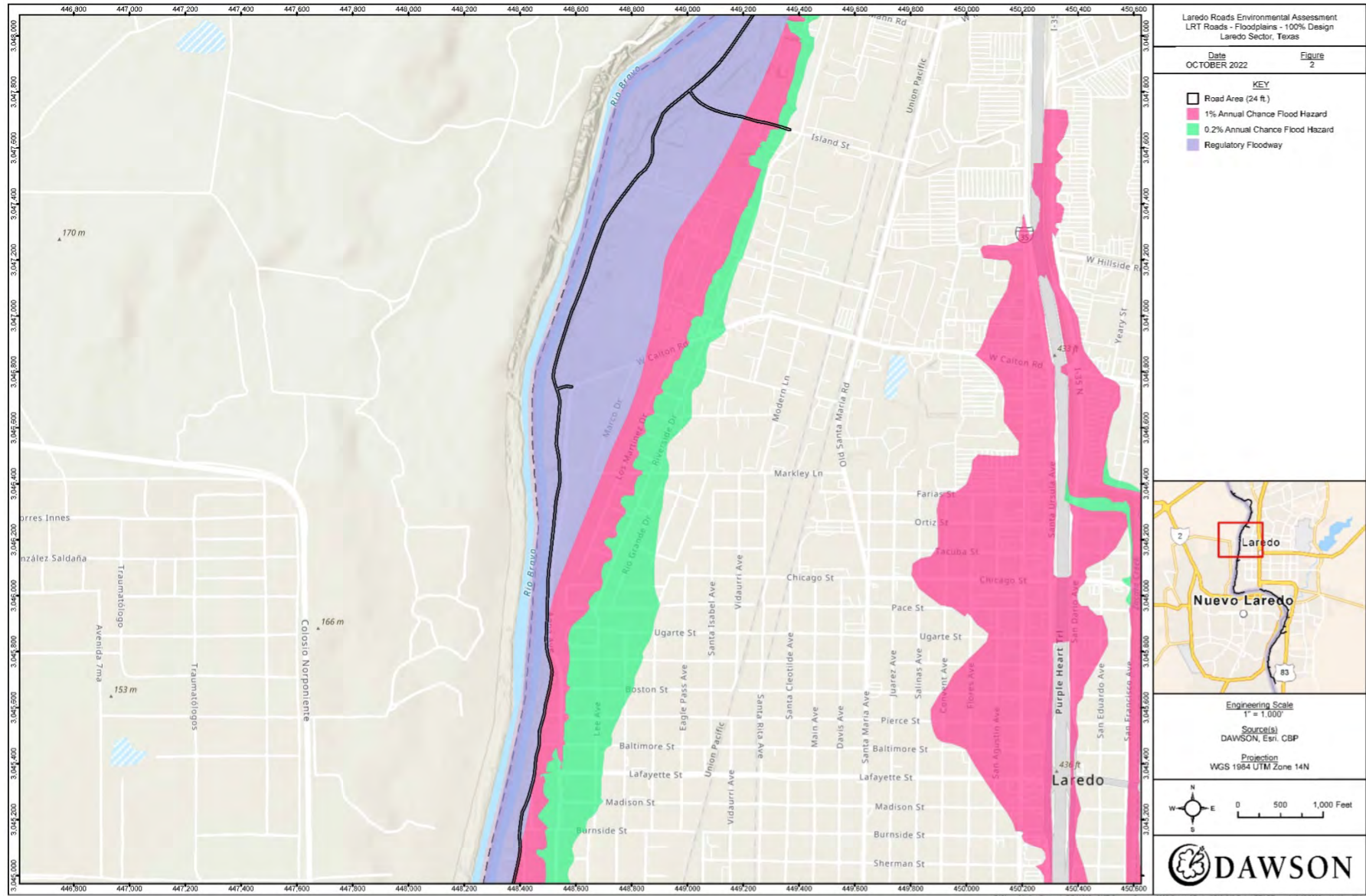


Figure 3-10. Floodplains within the Proposed Action – Map 3

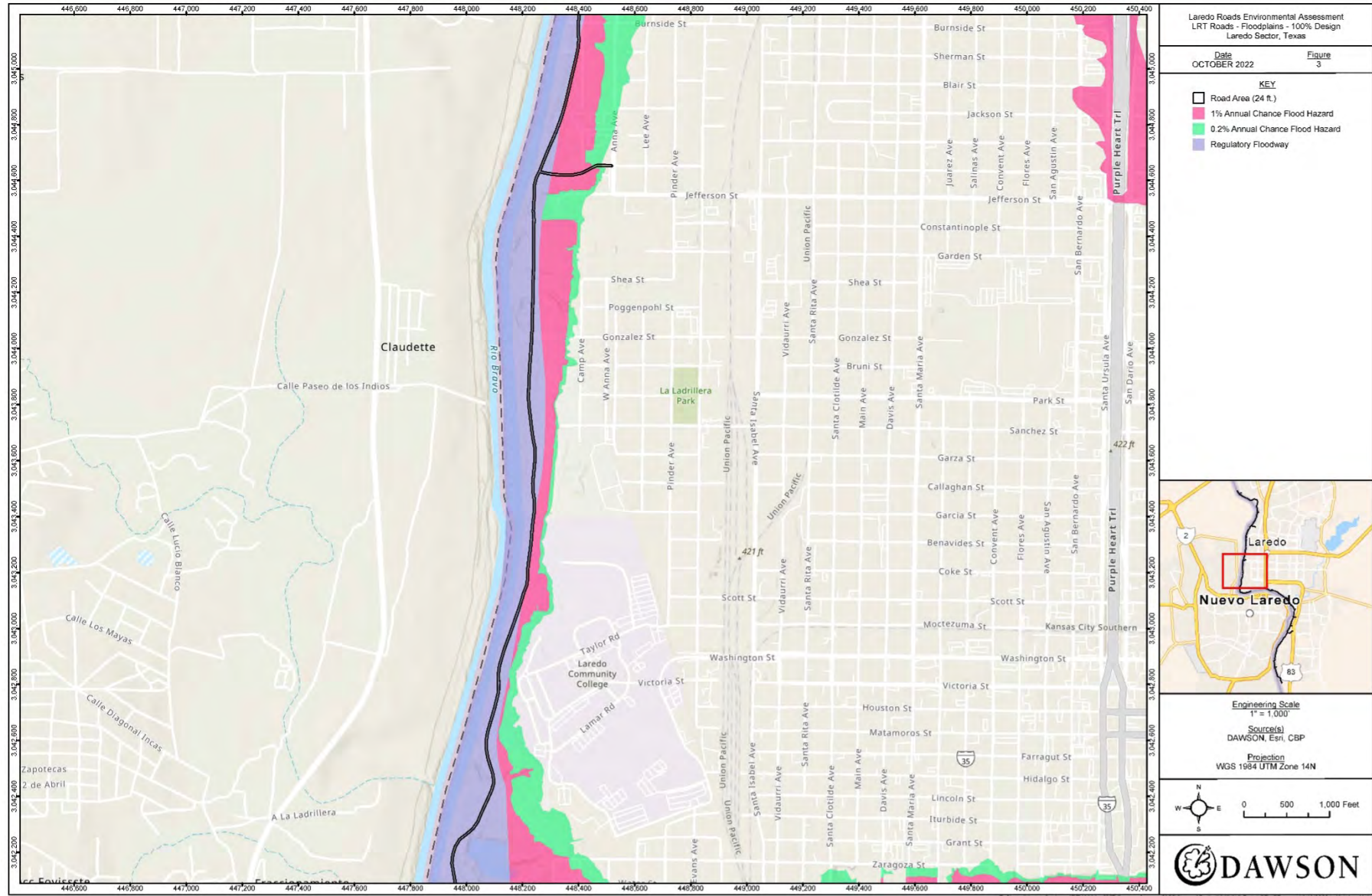
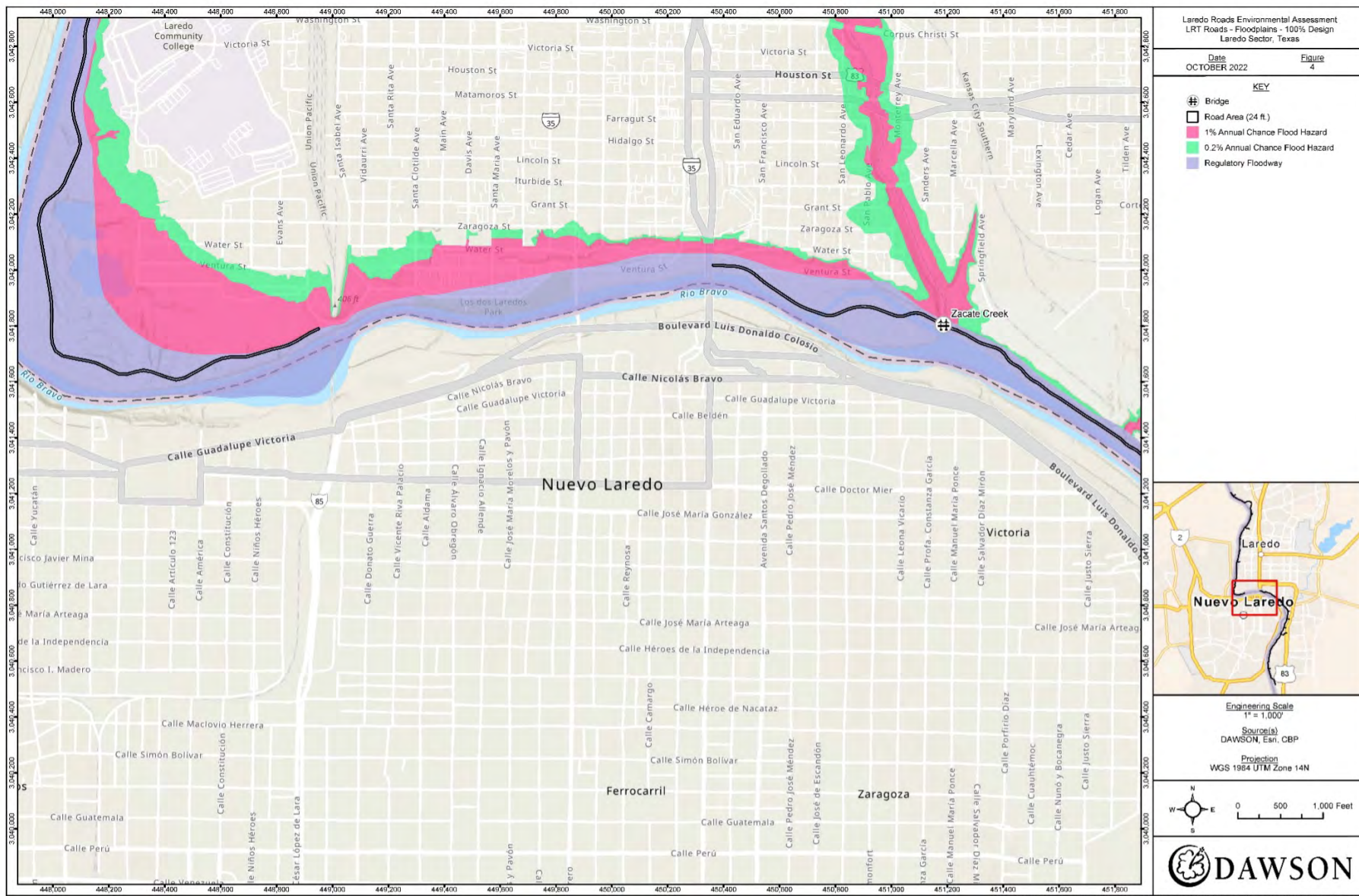
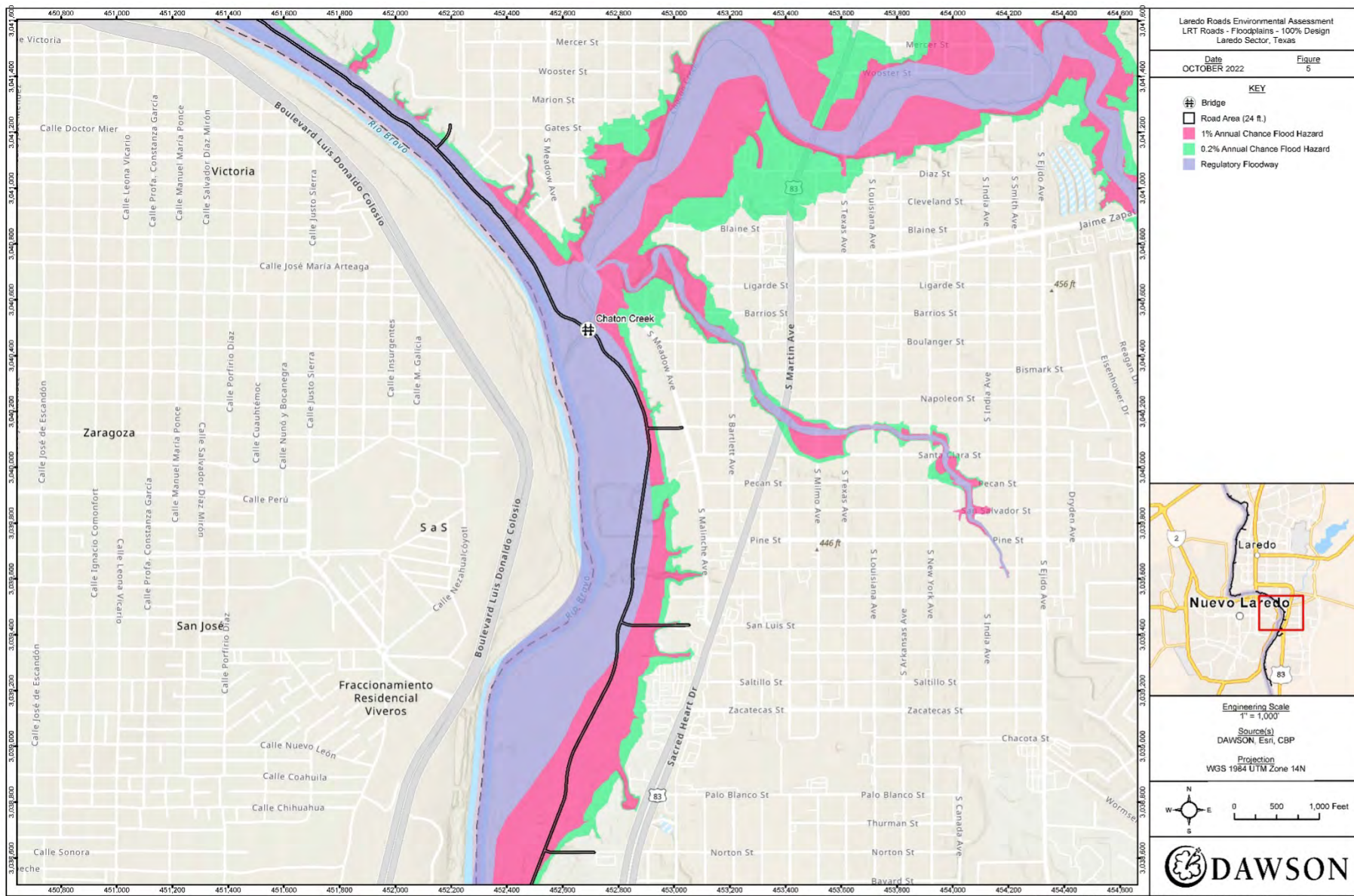


Figure 3-11. Floodplains within the Proposed Action – Map 4



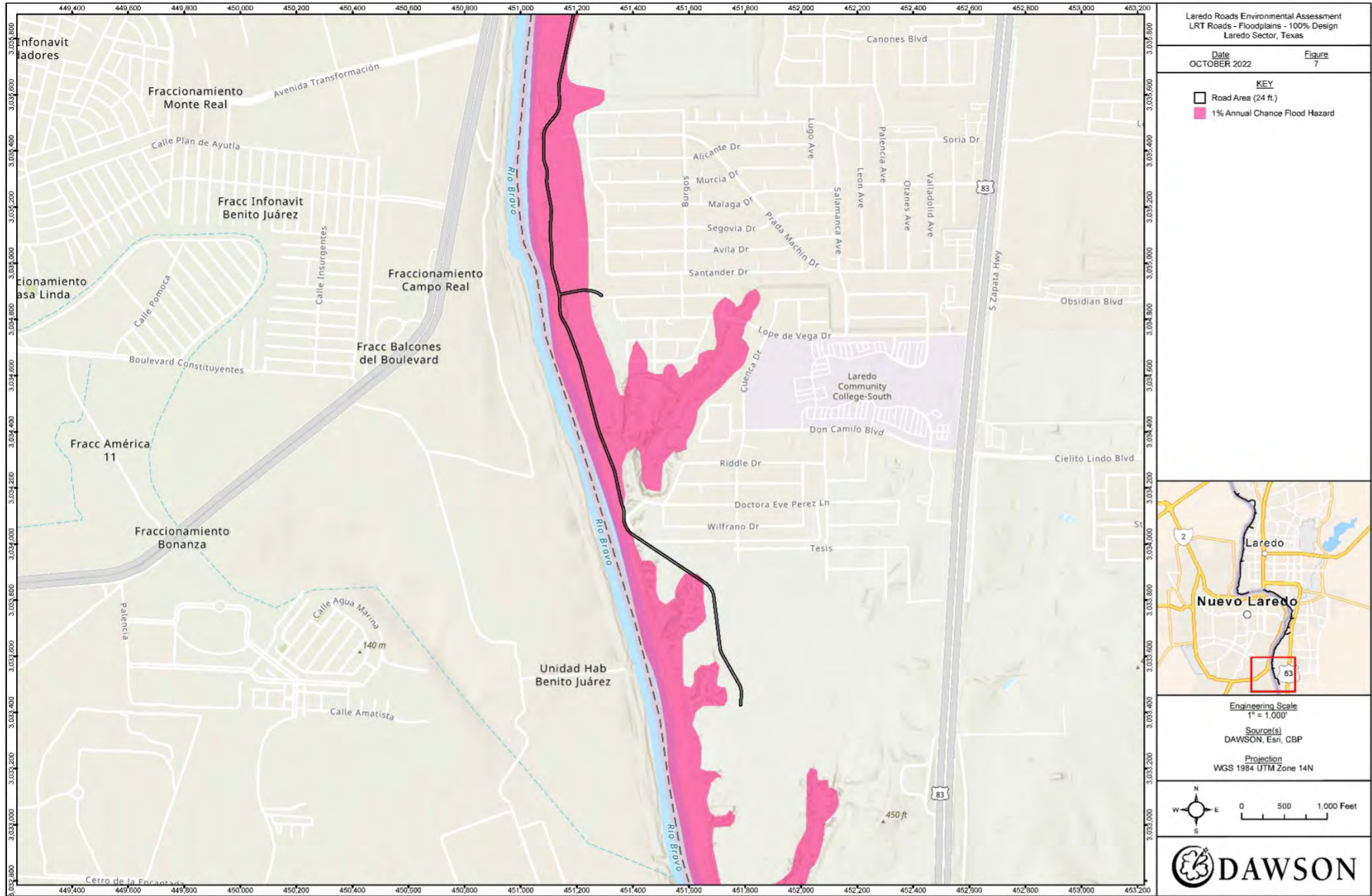
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Figure 3-12. Floodplains within the Proposed Action – Map 5



1

Figure 3-14. Floodplains within the Proposed Action – Map 7



1 **3.7 BIOLOGICAL RESOURCES**

2 **3.7.1 Definition of the Resource**

3 **Vegetation.** Vegetation includes native, non-native, and naturalized plants and the vegetation
4 communities in which they exist. This section includes a description of all plant species and
5 vegetation communities occurring within the affected environment of the proposed project area.
6 Vegetation communities defined within the project area are derived from the TPWD Ecological
7 Mapping System (TPWD 2022) and NatureServe Explorer (NatureServe 2022).

8 Local special status, rare plants or vegetation communities as defined by TPWD are discussed and
9 considered in the same general manner in this section and are not individually analyzed by species
10 in this EA. Federal and state-threatened, endangered, and candidate plant species are discussed
11 further in the Terrestrial and Aquatic Wildlife Species portion of this section.

12 **Terrestrial and Aquatic Wildlife Species.** Terrestrial and aquatic wildlife resources include native
13 or naturalized terrestrial and aquatic wildlife and the habitats in which they exist. This section
14 includes a description of terrestrial and aquatic wildlife species and their habitats that are likely to
15 be found in the project area.

16 **Threatened and Endangered Species.** Threatened and endangered species are frequently
17 protected due to reductions in their historic range or available suitable habitat, and remaining
18 habitat can only support a small number of individuals. Some species have declined for natural
19 reasons, but declines are commonly exacerbated or accelerated by anthropogenic influences.
20 Anthropogenic influences that have contributed to decreased species range, declining habitat
21 quality or reduced populations include habitat conversion to agriculture, declining native habitat
22 due to livestock grazing, habitat fragmentation from urban development and road construction,
23 overcollection, trampling and off-road vehicle use, hydrologic modifications, and altered fire
24 regimens. The physical disturbance of natural vegetation communities and wildlife habitat can
25 expose these areas to non-native species who can take advantage of disturbed conditions to out-
26 compete native species. Some species occupy narrow ecological ranges, so even minor alterations
27 can result in major effects to a species.

28 Species listed as threatened or endangered under the ESA (federally listed species), as well as
29 designated critical habitat that have the potential to be affected, are discussed in this section. A list
30 of potential threatened, endangered, or candidate species was compiled from USFWS and TCEQ.
31 USFWS is responsible for maintaining and tracking a list of federal threatened, endangered, and
32 candidate species. TCEQ is responsible for maintaining a similar list of species for the State of
33 Texas. In terms of protection and habitat suitability, any species listed as a federal or state
34 candidate is assessed in a manner as though it has already been listed threatened or endangered.
35 This section presents those federal-and state-listed species that are known to occur or have the
36 potential to occur within the project area.

37 CBP is currently conducting consultation with USFWS to comply with Section 7 of the EA.

1 **3.7.2 Affected Environment**

2 **Vegetation.** Vegetation communities were identified during surveys conducted from winter 2020
 3 through spring 2022 and described in a biological survey report (**Appendix E**). The project area
 4 is in the South Texas Plains ecoregion, between the Chihuahuan Desert to the west and Tamaulipan
 5 brushland and subtropical woodlands of the Rio Grande and coastal grasslands to the east. The
 6 project area is characterized by thorny shrubs and trees with scattered patchy distributions of palms
 7 and subtropical woodland vegetation communities. The South Texas Plains ecoregion is an area
 8 of high species diversity and is home to a number of rare plant and animal species.

9 A total of 140 native and non-native plant species in five vegetation communities were identified
 10 within the project area in addition to developed areas (**Table 3-6**). Vegetation communities in the
 11 project area include Tamaulipan thornscrub, Mesquite savannah/woodland, Tamarisk woodland,
 12 Disturbed woodland, and Maintained vegetation (**Appendix F**). The most common vegetation
 13 community observed was the Mesquite savanna/woodland. Vegetation community mapping will
 14 be refined to include areas where the existing roadway, i.e. disturbed habitat, occurs within the
 15 alignment and areas where vegetation community information is missing, i.e. where “no data” is
 16 available.

17 **Local Special Status Plant Species.** Special status plant species include those that are listed as
 18 endangered or threatened at the Federal or state level, and TPWD species of greatest conservation
 19 need (SGCN).

20 Two federally listed plant species were assessed as having the potential to occur in the project
 21 area: ashy dogweed (*Thymophylla tephroleuca*) and Zapata bladderpod (*Physaria thamnophila*),
 22 which are discussed further in the document. (TPWD lists 19 special status plant species occurring
 23 in Webb County, Texas (TPWD 2020, TPWD 2022b). One special status plant species was
 24 observed in the project area, Fitch’s hedgehog cactus (*Echinocereus reichenbachii* ssp. *fitchii*),
 25 which is a TPWD SGCN, but not a Federal- or state-listed species.

26 **Table 3-6. Vegetation Communities in the Project Area**

Vegetation Community	Acres in the Survey Area	Proposed Action Project Area
Tamaulipan thornscrub	9.23	1.95
Mesquite savanna/woodland	150.33	29.48
Tamarisk woodland	7.71	0.54
Disturbed woodland	17.28	3.02
<i>Sub-total</i>	<i>184.55</i>	<i>34.99</i>
Maintained vegetation	8.11	1.8
Developed	8.00	0.3
No Data*	8.72	8.72
<i>Sub-total</i>	<i>24.83</i>	<i>10.82</i>
TOTAL	209.38	45.81

27 **Terrestrial and Aquatic Wildlife Species.** The proposed project area can support a variety of
 28 terrestrial wildlife, including reptiles, amphibians, birds, mammals, insects and mollusks. TPWD
 29 list 46 species of terrestrial wildlife in Webb County as sensitive at the level of state-listed

1 threatened or endangered, or SCGN (TPWD 2020, TPWD 2022b, **Appendix F**). The TPWD also
2 lists eight sensitive aquatic species known to occur in Webb County (**Appendix F**).

3 **Threatened and Endangered Species.** Based on the results of biological surveys (CBP 2022) and
4 a review of previous projects in the Laredo Sector (CBP 2016), CBP determined that eight
5 federally listed species have potential to occur in or adjacent to the project area: Ashy dogweed
6 (*Thymophylla tephroleuca*), Zapata bladderpod (*Physaria thamnophila*), Texas hornshell
7 (*Popenaias popeii*), piping plover (*Charadrius melodus*), red knott (*Calidris canutus rufa*),
8 jaguarundi (*Herpailurus yaguarondi*) and ocelot (*Leopardus pardalis*). One Federal candidate
9 species, the monarch butterfly (*Danaus plexippus*), has the potential to occur. No federally listed
10 or candidate species were observed during 2022 biological surveys (**Appendix F**; CBP 2022).

11 Per USFWS directive (USFWS 2022), effects on piping plover and red knot do not need to be
12 discussed unless the proposed action concerns the development of a wind-energy generation
13 facility in the species' flyway. Therefore, these two species will not be discussed further.

14 No critical habitat designations overlap the project area; however, critical habitat for the Texas
15 hornshell ends approximately 0.25 miles north of the project area within the Rio Grande.

16 **Ashy dogweed (*Thymophylla tephroleuca*).** Ashy dogweed was listed as a federally
17 endangered species in July 1984. At the time of listing, ashy dogweed was only known
18 from Starr County (USFWS 2011) but additional populations have been identified in
19 southern Webb and Zapata counties. Ashy dogweed is an erect perennial herb of the
20 Sunflower Family (Asteraceae) numerous woolly stems up to 12 inches in height with oil-
21 bearing cells that give off a pungent aroma when crushed. Flowers are yellow and consist
22 of 30-to-70-disc flowers surrounded by 12-to-13-ray flowers in a typical sunflower-like
23 arrangement. Ashy dogweed is restricted to sandy pockets of Maverick-Catarina, Copita-
24 Zapata, and Nueces-Comita soils in Tamaulipan thornscrub vegetation communities of the
25 South Texas Plains ecoregion.

26 Ashy dogweed has been observed growing in disturbed habitats, but it is unknown if it prefers
27 this or undisturbed vegetation communities. Critical habitat has not been designated for
28 this species.

29 No ashy dogweed was observed in the project area during biological surveys and
30 Tamaulipan thornscrub vegetation capable of supporting ashy dogweed occurrences are
31 limited to one small segment (CBP 2022). Suitable sandy soils for ashy dogweed do not
32 occur in the project area.

33 **Zapata bladderpod (*Physaria thamnophila*).** Zapata bladderpod is a silvery-green
34 herbaceous perennial plant with sprawling stems. It can be found growing in open thorn
35 shrublands consisting of cenizo (*Leucophyllum frutescens*) and guajillo (*Acacia*
36 *berlanderi*) on graveled to sandy loam upland terraces above the Rio Grande floodplain
37 (USFWS 2004). Current populations occur in the Jimenez-Quemado soil association and
38 Catarina series soils in Starr County and Zapata-Maverick soil association in Zapata
39 County. Soils are generally well-drained with a calcareous sandstone and clays, shales, or
40 gypsum. Zapata bladderpod can be found in sparse vegetation communities or under a

1 canopy of shrubs where the shrubs act as “nurse” plants, reducing the intensity of the
2 sunlight or maintaining soil moisture in the root area (USFWS 2004). Associated shrubs
3 may also reduce soil erosion around bladderpod roots and deter browsing by native wildlife
4 and livestock.

5 Zapata bladderpod is known from Starr and Zapata Counties, however there is also
6 potential for it to be found in Webb County where the project is located. There are small
7 areas of suitable Jimenez-Quemando soil association within the project area in disturbed
8 woodland habitat.

9 **Texas hornshell (*Popenaias popeii*).** The Texas hornshell is a medium-size freshwater
10 mussel that formerly ranged throughout the Rio Grande drainage in the United States and
11 Mexico and in Gulf Coast streams in Mexico. Five populations are known to exist in the
12 United States (USFWS 2020).

13 The Texas hornshell has an olive green to dark brown exterior shell coloration and may
14 reach a length of 4.5 inches, with a lifespan of up to 20 years. Texas hornshell had not been
15 documented in the wild since the mid-1970s until a large population was discovered near
16 Laredo. This population was estimated to contain approximately 8,000 individuals and is
17 the largest population reported from the Rio Grande (USFWS 2020). Texas hornshell are
18 found in “flow refuges” within river habitats that include crevices, undercut banks,
19 travertine shelves and under large boulders where small-grained material, such as clay, silt
20 or sand gathers to provide substrata for anchoring. These flow refuges allow the mussel to
21 remain secure during high-volume flow events. They are not known to live in water
22 impoundments and low-head dams potentially restrict its habitat and distribution. Larval
23 Texas hornshell are obligate parasites on fish where they attach to the gills, fins, or head
24 of suitable host fish species and feed off the host’s body fluids. As adults, they are filter
25 feeders like all adult freshwater mussels, and feed on bacteria, plankton, and organic and
26 inorganic material siphoned from the water column (USFWS 2020).

27 Threats to the long-term persistence of the Texas hornshell include river fragmentation due
28 to habitat inundation by impoundments, alterations to natural streamflow (e.g.,
29 impoundments, drought, groundwater withdrawal, and sediment accumulations that
30 smother mussels), and declining water quality throughout its range. The segment of the Rio
31 Grande in and above Laredo where Texas hornshell were recently discovered has been
32 designated a mussel sanctuary, prohibiting the collection of mussels, but the species is still
33 vulnerable to water flow alteration that impact habitat quality (USFWS 2020).

34 No focused surveys Texas hornshell mussels were observed conducted during biological
35 surveys; however, suitable habitat is present where the project area crosses freshwater at
36 Chaton Creek, Zacate Creek, and Las Manadas Creek (CBP 2022). The Rio Grande
37 between Eagle Pass and Laredo is considered to be an area currently occupied by Texas
38 hornshell (TWPD 2014). Critical habitat has been designated for this species in the Rio
39 Grande, approximately 0.25 miles north of the project area (**Appendix F**).

40 **Monarch butterfly (*Danaus plexippus*).** The monarch butterfly was given Federal
41 candidate species status in December 2020 (USFWS 2022) and has not yet been listed or

1 proposed for listing. Adult monarch butterflies are large, conspicuous, and readily
2 identified with orange wings with black and white borders and covered with black wing
3 veins. Monarchs lay their eggs primarily on plants of the milkweed genus (*Asclepias* spp.).
4 Larvae emerge from eggs after two to five days and develop through five larval instars over
5 a 9- to 18-day period while feeding on milkweed vegetation. It is during this period of
6 larval feeding that the larvae will build up appropriate levels of cardenolide chemicals from
7 the milkweed host plants used as defense against predators. Following larval development,
8 a chrysalis is formed for the larvae to pupate and after a period of 6 to 14 days, an adult
9 butterfly emerges from the chrysalis. Multiple generations of adult monarchs are produced
10 during the breeding season, with each adult living approximately two to five weeks.
11 Individuals overwintering as adults suspend reproductive activities and live six to nine
12 months. Monarchs in warmer regions may breed year-round, but in temperate climates,
13 like eastern and western North America, they will undertake a long-distance migration.
14 Migrating monarchs live for a longer period and may travel as much as 1,800 miles over a
15 period of two months to reach overwintering sites. In the spring, these same migrating
16 adults return northward to their respective breeding grounds to start the seasonal cycle
17 again.

18 No monarch butterflies were observed in the project area during biological surveys and no
19 critical habitat is designated for candidate species. Suitable milkweed host plants of the
20 genus *Asclepias* were not observed. Climbing milkweed (*Funastrum cynanchoides*) was
21 noted during biological surveys and may serve as a secondary or less preferred host plant
22 species (Nature Collective 2022). The project area does, however, contain nectar sources
23 that could potentially support adult butterflies during migration through the region.

24 **Gulf Coast jaguarundi (*Puma yagouaroundi cacomitli*).** The Gulf Coast subspecies of
25 the jaguarundi was listed as an endangered species in 1976 (41 FR 24062). The jaguarundi
26 is a small cat, with a slender build, long neck, short head, and a flattened head. It has a long
27 tail that resembles that of a weasel (*Mustela* sp.) more than a cat (USFWS 2013). The
28 jaguarundi is a nocturnal species inhabiting lowland forest and brush habitats. In Mexico,
29 it occurs in the eastern lowlands but has not been recorded in the Central Highlands. In
30 Southern Texas, jaguarundis will use dense thorny shrublands (USFWS 2013).

31 The historic range of the jaguarundi in Texas has been limited to the southern portion of
32 the state and includes Starr, Willacy, Hidalgo, and Cameron counties (USFWS 2013).
33 Verified records of the Gulf Coast subspecies only occur in the extreme southern part of
34 Texas; however, there is little historic information to determine the extent and abundance
35 of the species (USFWS 2013). The last confirmed sighting of a jaguarundi in the United
36 States was in 1986 when a road-killed specimen was collected two miles east of
37 Brownsville, Texas. Numerous unconfirmed sightings have been reported, including
38 sightings in Webb County in the mid-1980s and 1993 (USFWS 2013). The closest known
39 population of jaguarundi is in Nuevo Leon, Mexico.

40 Evidence of Gulf Coast jaguarundi was not reported from biological surveys, but suitable
41 habitat may be present in Tamaulipan thronscrub vegetation communities.

1 **Ocelot (*Leopardus pardalis*).** The U.S. population of ocelot was listed as an endangered
2 species on July 21, 1982, following an inadvertent oversight that omitted the U.S.
3 population when foreign populations of ocelot were listed in 1972 (47 FR 31670). The
4 ocelot is a medium-sized cat with a spotted fur pattern and nocturnal habits (USFWS 2016).
5 Up to 11 subspecies of ocelot range from the southwestern United States. south to northern
6 Argentina (USFWS 2016). Two subspecies range into the United States, the
7 Arizona/Sonoran ocelot, *L. p. sonoriensis*, and the Texas/Tamaulipas ocelot, *L. p.*
8 *albescens*.

9 Ocelots use a variety of habitats throughout their range, but it is not a true habitat generalist.
10 They make use of a relatively narrow range of habitats that are linked by dense vegetative
11 cover (USFWS 2016). Ocelots in Southern Texas prefer shrub-dominated communities
12 with greater than 95 percent canopy cover and avoid areas with less than 75 percent canopy
13 cover (USFWS 2016). Other features that characterize preferred ocelot habitat is a canopy
14 height of more than 7.8 feet with approximately 89 percent visual obscurity at a range of 3
15 to 6 feet. Ground cover has large amounts of woody debris with little herbaceous cover,
16 which are the likely result of the dense canopy. Between 1980 and 2010, ocelots have been
17 verified from specimens or photographs in Cameron, Willacy, Kenedy, Hidalgo, and Jim
18 Wells counties with a current estimated state population of approximately 50 individuals
19 in two separate populations. One population is at the laguna Atoscosa National Wildlife
20 Refuge, and the other is on private ranches in Willacy and Kenedy counties (USFWS
21 2016). Individuals observed outside of these locations are assumed to be dispersing
22 individuals that are not part of a breeding population.

23 Potential habitat for ocelots may be present in Tamaulipan thornscrub, or potentially denser
24 portions of mesquite savanna/woodlands. However, these vegetation communities are
25 generally small in acreage and not suitable for permanent residence of one or more ocelots.
26 They may, however, be valuable habitat patches for dispersing individuals moving to more
27 distant suitable habitat from established populations in Southern Texas.

28 **Critical Habitat.** The ESA calls for the conservation of designated critical habitat, defined as the
29 areas of land, water, and air space necessary for an endangered species to survive. Critical habitat
30 includes such things as food and water, breeding sites, cover or shelter habitat, and sufficient areas
31 of habitat to allow for normal population growth and behavior. Critical habitat has been designated
32 for the Zapata bladderpod and Texas hornshell, but both boundaries occur outside the project area.

33 3.7.3 Environmental Consequences

34 Impacts on vegetation would be considered major and adverse if a large portion of the vegetation
35 community was affected or if the Proposed Action permanently affected the range of a sensitive
36 species or population size of a rare plant community.

37 Impacts on wildlife and aquatic resources would be considered major and adverse if they included
38 a substantial reduction in ecological processes or populations that would threaten the long-term
39 viability of a sensitive species or result in the substantial loss of a sensitive species' habitat that
40 could not be offset or otherwise compensated.

1 3.7.3.1 Alternative 1: Improvement of the Existing Laredo North and Laredo South Patrol Roads
2 (Preferred Alternative)

3 **Vegetation.** Under the Proposed Action, short- and long-term, negligible to minor, direct and
4 indirect, adverse effects on vegetation would occur from construction activities due to vegetation
5 clearing, crushing, and potential accidental spills. Turnouts or passing lanes that are required
6 during road widening and installation of the all-weather road would be kept to a minimum and
7 would occur in previously disturbed areas to the maximum extent practicable. Areas used
8 temporarily during construction that do not become part of the improved road would be restored
9 upon completion of construction and maintenance activities.

10 To minimize potential impacts, staging areas would be designated in unimproved, previously
11 disturbed areas; staged construction equipment and materials would be kept to a minimum.
12 Construction equipment would be cleaned prior to entering and departing the project area and all
13 materials such as gravel, topsoil, or fill would be certified weed-free to the extent practicable. A
14 non-toxic soil stabilizer (e.g., Lignin, Soiltac, Envirotec, or other suitable soil stabilizer) would be
15 used to avoid impacts on special status species.

16 Long-term, negligible to minor, adverse impacts would occur from the loss of 1.95 acres of
17 Tamaulipan thornscrub, 29.48 acres of mesquite savanna/woodland, 3.02 acres of disturbed
18 woodland, and 0.54-acre of tamarisk woodland habitat during widening of the road into two 12-
19 foot travel lanes. Road improvement activities have the potential to create dust, which could lightly
20 cover vegetation communities adjacent to the construction area and reduce plant photosynthesis
21 and respiration. To minimize the potential for dust impacts on vegetation, water trucks would be
22 employed to wet soil during construction.

23 Under this alternative, a long-term, beneficial impact on erosion would occur from the improved
24 control of surface water as storm water would be diverted into street gutter or drainage systems by
25 way of a 4 percent cross-slope grade. Erosion and associated sedimentation would further be
26 minimized by channeling runoff into appropriate drainage location, potentially improving water
27 quality and habitat.

28 **Terrestrial and Aquatic Wildlife Species.** The Proposed Action would have short- and long-term,
29 negligible to minor, direct and indirect, adverse effects on wildlife. A permanent loss of a relatively
30 small area of wildlife habitat would result from widening the patrol roads. Clearing vegetation to
31 expand the width of the existing road could also result in the temporary relocation of mammals,
32 migratory breeding birds, and reptiles in areas adjacent to the project area. Smaller, less mobile
33 species, like some insects, terrestrial mollusks, and spiders could be inadvertently impacted during
34 construction activities. Wildlife could additionally be impacted during the transportation of
35 materials, equipment, and personnel during project activities. To minimize these effects, all project
36 activities would occur within the defined project area and necessary construction turnouts and
37 equipment and staging areas would be placed in previously disturbed areas.

38 The direct disturbance of vegetation would result in a disturbed habitat edge at the lateral extents
39 of the expanded road width and could lead to the establishment of invasive plant species and lead
40 to a degradation or conversion of the habitat. However, appropriate BMPs would be implemented
41 to minimize the potential for the introduction and establishment of new invasive species in the

1 project area, or the expansion of existing invasive species populations resulting from the
2 disturbance of habitat.

3 Localized habitat degradation would also occur through accidental release of petroleum products
4 or other hazardous materials into terrestrial or aquatic habitats. However, all regulatory
5 requirements for handling and storage of fuels, oils, and other hazardous materials (such as the
6 development of a CBP-approved SWPPP) would be implemented. Thus, habitat degradation
7 resulting from accidental releases of hazardous materials would be negligible.

8 Temporary, adverse effects could result from the erosion of sediment and subsequent siltation of
9 aquatic habitats. These impacts would be minimized through the development and implementation
10 of a CBP-approved SWPPP that identifies the use of appropriate sediment barriers to prevent
11 construction-related sediment from entering adjacent aquatic habitats. The SWPPP will also define
12 appropriate requirements for handling and storage of fuels, oils and other hazardous materials.

13 Short-term, minor, adverse impacts on wildlife would occur as a result of temporary noise
14 disturbances associated with construction activities. Loud noise can disturb wildlife resulting in
15 escape or avoidance behaviors; however, these effects would be temporary. Noise can also distort
16 or mask bird communications signals (e.g., songs, warning calls, fledgling begging calls) and their
17 ability to find prey or detect predators. If noise persists in a particular area, animals could leave
18 their habitat and avoid it permanently. Avoidance behavior by animals requires the expenditures
19 of excess energy that is needed for survival (e.g., finding new food sources, water sources, and
20 breeding and nesting habitats) (Ellis et al. 1991). Noises associated with construction would only
21 be expected to affect individual animals within close proximity (typically within 400 to 800 feet)
22 to the noise sources. Wildlife species would generally be expected to recover quickly from noise
23 disturbance once the construction activities have ceased. As a result, population-level impacts
24 would not be expected to occur. Additionally, it is unlikely that the entire project area would be
25 subject to project activities at the same time. Project-specific noise-reduction BMPs would be
26 implemented to decrease impacts. No night-time work would occur.

27 To minimize effects to nesting migratory birds, CBP would conduct surveys prior to project
28 activities, to identify active nests of migratory bird species, and take appropriate steps to avoid
29 disturbing these areas until migratory bird nesting activities at that location are complete. CBP
30 operates under Special Purpose – Miscellaneous Permit Number MBPER0014908 issued by
31 USFWS.

32 ***Threatened and Endangered Species.*** The Proposed Action is unlikely to adversely affect any
33 threatened or endangered species or their habitat (**Table 3-7**). CBP is currently conducting Section
34 7 consultation for the following species: ocelot, Gulf coast jaguarundi, and Texas hornshell for
35 concurrence with CBP’s determination.

36 Ocelot or Gulf Coast jaguarundi could potentially wander through the project area; however, the
37 vegetation communities within the project area are not considered typical or preferred habitat for
38 either species. Additionally, the area is not large in size to support a breeding population.
39 Both species prefer thick thornscrub habitat with restrictive canopy cover and vertical cover
40 limitations that do not occur to substantial quantity in the project area. Any occurrences of either
41 species would be considered transient individuals dispersing to other habitats. Therefore, CBP has

1 determined that the Proposed Action is not likely to adversely affect the ocelot or Gulf Coast
2 jaguarundi.

3 Short- and long-term, minor, direct and indirect, adverse effects on Texas hornshell would occur
4 from implementation of the Proposed Action. Suitable habitat for Texas hornshell could be present
5 where road improvement work would be conducted near the confluences of three large creeks, the
6 Manadas, Zacate, and Chacon, with the Rio Grande. CBP has initiated consultation with USFWS
7 regarding the Texas hornshell and will proceed with a formal or informal Section 7 consultation,
8 as appropriate. CBP will develop mitigation measures and implement BMPs, as described below.

9 Any work adjacent to the Rio Grande, including these areas where large creek tributaries merge
10 with the Rio Grande, should follow all appropriate BMPs to prevent sediment from erosion to the
11 river or creek channel, prevent streamflow alteration, and avoid degradation of water quality that
12 could damage Texas hornshell habitat.

13 Temporary, minor degradation to Texas hornshell habitat could result from sedimentation and
14 alteration of water flow during the construction of water crossings at these large creek locations.
15 Localized degradation of Texas hornshell habitat would also occur if petroleum products or other
16 hazardous materials are accidentally released during operation or storage of maintenance vehicles
17 and other equipment.

18 After construction, the FC-2 all-weather road would be topped with an application of non-toxic
19 soil stabilizer (e.g., Lignin, Soiltac, Environtec, or other suitable soil stabilizer) to minimize
20 sediment runoff from the finished road into adjacent aquatic habitats. Soil stabilizer would be
21 reapplied following any road maintenance that disturbs the roadbed surface in the area of the
22 disturbance; when the road surface shows signs of wear and erosion, leading to sediment runoff
23 into adjacent aquatic habitats; or at a minimum annual reapplication to maintain the surface. The
24 soil stabilizer used to top the upgraded FC-2 all-weather road will be confirmed by aquatic wildlife
25 specialists to be non-toxic to freshwater mussels and host fish species that are integral to the Texas
26 hornshell lifecycle to prevent long-term adverse impacts to Texas hornshell.

27 Construction of the water crossings would minimize the disruption of waterflow through the creek
28 and into the Rio Grande. This would include conducting water-crossing construction work during
29 the dry-season to the extent practicable to minimize water levels in the construction area. Creek
30 flow could be temporarily diverted around active construction areas, providing that downstream
31 flow rates are not reduced. Should Texas hornshell individuals be encountered in the construction
32 area, all construction would stop until the appropriate regulatory agency (e.g., USFWS) can be
33 contacted for input on how to proceed. Long-term, indirect, beneficial effects to Texas hornshell
34 would result from a reduction of sediment runoff from the existing FC-4 jeep track by upgrading
35 to the FC-2 all-weather road surface with associated channeling of stormwater and reduced
36 erosion. Reduced sediment runoff would improve water quality in aquatic habitats adjacent to the
37 existing patrol road.

1

Table 3-7. Species and Determination of Effect

Common Name	Scientific Name	Federal Status	State Status	CBP Determination
Ashy dogweed	<i>Thymophylla tephroleuca</i>	FE	SE	Unlikely to adversely affect
Zapata bladderpod	<i>Physaria thamnophila</i>	FE	SE	Unlikely to adversely affect
Texas hornshell	<i>Popenaias popeii</i>	FE	SE	Minor adverse effects
Gulf Coast jaguarundi	<i>Puma yagouaroundi cacomitli</i>	FE	SE	Unlikely to adversely affect
Ocelot	<i>Leopardus pardalis</i>	FE	SE	Unlikely to adversely affect

2 Key:
 3 N/A – Not Applicable
 4 FE: Federal Endangered
 5 FT: Federal Threatened
 6

7 Short-term, negligible, indirect adverse effects on monarch butterflies would occur from removal
 8 of flowering vegetation used by adult butterflies as foraging resources through the widening of the
 9 existing FC-4 jeep track. Suitable preferred larval host plants of the monarch butterfly are not
 10 present in the project area. Climbing milkweed, a secondary host plant has been identified in the
 11 project area. Suitable adult nectar food sources are available throughout areas adjacent to the
 12 project area and in neighboring urban landscapes. Due to the lack of suitable preferred larval host
 13 plants and an abundance of adult butterfly nectar resources in adjoining undeveloped and
 14 developed urban landscapes, the implementation of the Proposed Action is not expected to
 15 adversely affect monarch butterflies.

16 **3.7.3.2 Unavoidable Adverse Impacts**

17 Vegetation communities and wildlife habitat would be impacted from implementation of the
 18 Proposed Action. Adverse impacts would be minimized to the greatest extent possible through the
 19 implementation of BMPs.

20 **3.7.3.3 No Action Alternative**

21 Under the No Action Alternative, CBP would not improve the existing patrol roads in the USBP
 22 Laredo Sector. Impacts on vegetation would be long-term, minor, and adverse from the continued
 23 use of the unimproved roads from increased erosion created from lack of road maintenance.
 24 Additionally, continued and increased siltation of aquatic habitats in the region could impact
 25 terrestrial and aquatic species. Continued use of the unimproved roads could have long-term, direct
 26 and indirect adverse effects on Texas hornshell due to sedimentation into aquatic habitats, which
 27 could lead to increase mortality of adult Texas hornshell and would lead to an overall degradation
 28 of the Texas hornshell habitat. Under continued use of the current FC-4 two-track road, CBP would
 29 be unable to meet operational requirements to secure the U.S./Mexico international border within
 30 the USBP Laredo Sector.

3.8 CULTURAL RESOURCES

3.8.1 Definition of the Resource

The term “cultural resources” refers to a broad range of properties relating to history, prehistory, or places important in traditional religious practices. Several Federal laws and E.O.s, including the NHPA, the Archaeological and Historic Preservation Act, the American Indian Religious Freedom Act, the Archaeological Resources Protection Act, and the NAGPRA refer to cultural resources.

The NHPA focuses on property types such as prehistoric and historic sites, buildings and structures, districts, and other places that have physical evidence of human activity considered important to a culture or a community for scientific, traditional, religious, or other reasons. These resources can prove useful in understanding and describing the cultural practices of past peoples or retain cultural and religious significance to modern groups. Resources judged significant under criteria established in the NHPA are considered eligible for listing in the National Register of Historic Places (NRHP). The NRHP refers to these places as “historic properties” and they are protected under the NHPA. The NHPA requires Federal agencies to consider the effects of their activities and programs on NRHP-eligible properties.

Regulations for Protection of Historic Properties (36 CFR Part 800) present a process for Federal agencies to consult with the appropriate SHPO/THPO, federally recognized Indian Tribes, Native Hawaiian groups, other interested parties, and, when appropriate, the Advisory Council on Historic Preservation. This is to ensure that the impacts from the undertaking are adequately considered on historic properties. NAGPRA is a Federal law passed in 1990 that provides a process for museums and Federal agencies to return certain Native American cultural items—human remains, funerary objects, sacred objects, or objects of cultural patrimony—to lineal descendants, and culturally affiliated Indian tribes and Native Hawaiian organizations.

3.8.2 Affected Environment

A cultural resources records review was conducted for the Proposed Action’s project area by a SOI-qualified cultural resources management professional. Of the estimated 15.9 miles of proposed roadway, 7.88 (47 percent) has been examined for cultural resources. The records review indicated that in those areas that were examined there have been several investigations conducted within the project area. Five projects are presented in the Texas Historic Sites Atlas (Texas Atlas) within the project area, but the Texas Atlas does not provide details on the projects, or complete summaries of the results. Those studies for which the original reports were available are cited; the remaining information comes from the entries on the Texas Atlas. A summary of previously recorded resources near the project area is summarized in **Table 3-8**.

Five above-ground resources are located within, or near to, the project area (**Figure 3-15**). Fort McIntosh (NRIS 75002011) is a historic district listed in 1975. It is also designated as 41WB11. The Fort was established in 1849 (originally named Camp Crawford until 1850). The Battle of Laredo was fought nearby in 1864 and in the late nineteenth century several army units were based there including the tenth Cavalry (Buffalo Soldiers). The Fort was deactivated in 1946. This property is listed on the National Register of Historic Places under criteria A and C, with

1 significance in Military, Transportation and Architecture. There is a prehistoric component located
2 within this property and is discussed below.

3 The Barrio Azteca Historic District is a 53-block residential and small-scale commercial section
4 of Laredo (**Figure 3-16**). The neighborhood that now comprises Barrio Azteca is actually two
5 separate neighborhoods. El Ranchero, the older of the two, lies on the banks of the Rio Grande
6 and includes Iturbide Street, a major east-west commercial arterial. The blocks above Iturbide are
7 referred to as El Azteca for a ca. 1922 theater of that name in the 300 block of Lincoln Street.
8 Barrio Azteca's earliest known development arose from Spanish/Mexican ranching traditions in
9 the Laredo area in the mid-nineteenth Century. This district was listed in 2003 under criteria A and
10 C, with significance in Architecture, Community Planning and Development, Ethnic Heritage –
11 Hispanic.

12 The San Agustin (San Augustin in Texas Atlas) de Laredo Historic District was listed in 1973 and
13 is the center of the original townsite of Laredo, established in 1755. Most of the buildings in the
14 district reflect Spanish and Mexican influences and are made from masonry. The district is
15 considered the last example of Spanish colonization of the Lower Rio Grande Valley. Many of the
16 houses are individually significant as well. This district is listed under criterion C, with
17 significance in Architecture.

18 **Table 3-8. Previously Recorded Cultural Resources within the Project Area**

Number/Name	Site Type	Designation/Eligibility	Area of Significance
41WB11 Fort McIntosh	Prehistoric Lithic Scatter/ Historic Fort	Prehistoric Component recommended not eligible. Historic Component is listed on NRHP, NRIS: 75002011,	Criteria A and C, Military, Transportation, Architecture
Barrio Azteca Historic District	District	Listed on NRHP, NRIS: 034000431	Criteria A and C, Architecture, Community Planning and Development, Ethnic Heritage - Hispanic
San Augustin de Laredo Historic District	District	Listed on NRHP, NRIS 034000431	Criterion C, Architecture
Laredo Convent Avenue Port of Entry	Historic Building	Listed on NHRP, NRIS: 14000600	Criterion A and C, Architecture, Politics/Government
TX-Mexican Railway Bridge	Historic Bridge	Unknown eligibility not listed on Texas Atlas	N/A
41WB12	Large, multicomponent prehistoric	Recommended eligible, unevaluated status in current project area	N/A
41WB13	Prehistoric	Unevaluated Eligibility	N/A
41WB15	Unknown	Unevaluated status in current project area	N/A

Number/Name	Site Type	Designation/Eligibility	Area of Significance
41WB16	Unknown	Unevaluated status in current project area	N/A
41WB20	Prehistoric, contains human remains	State Antiquities Landmark, Eligible for NRHP. Subsequent surveys did not locate evidence of this site in the current project area.	Criterion D. Landmark number 8200000682
41WB54	Prehistoric	Unevaluated Eligibility	N/A
41WB83	Prehistoric, with some historic trash	Prehistoric component recommended ineligible, historic component eligible pending further investigation.	N/A

1

2 The Laredo Convent Avenue Port of Entry is located just north of the Rio Grande. The inspection
3 station consists of a two-story Spanish Colonial Revival style building with a three-story tower,
4 with stucco walls and a terra cotta roof. Some interior architectural details remain unchanged,
5 while the building contains mostly modern office and storage space. Over time, the Laredo
6 Inspection Station has been altered mainly due to flooding and the modernization of the interior
7 office space. This building was listed in 2014 under criteria A and C, with significance in
8 Architecture and Politics/Government.

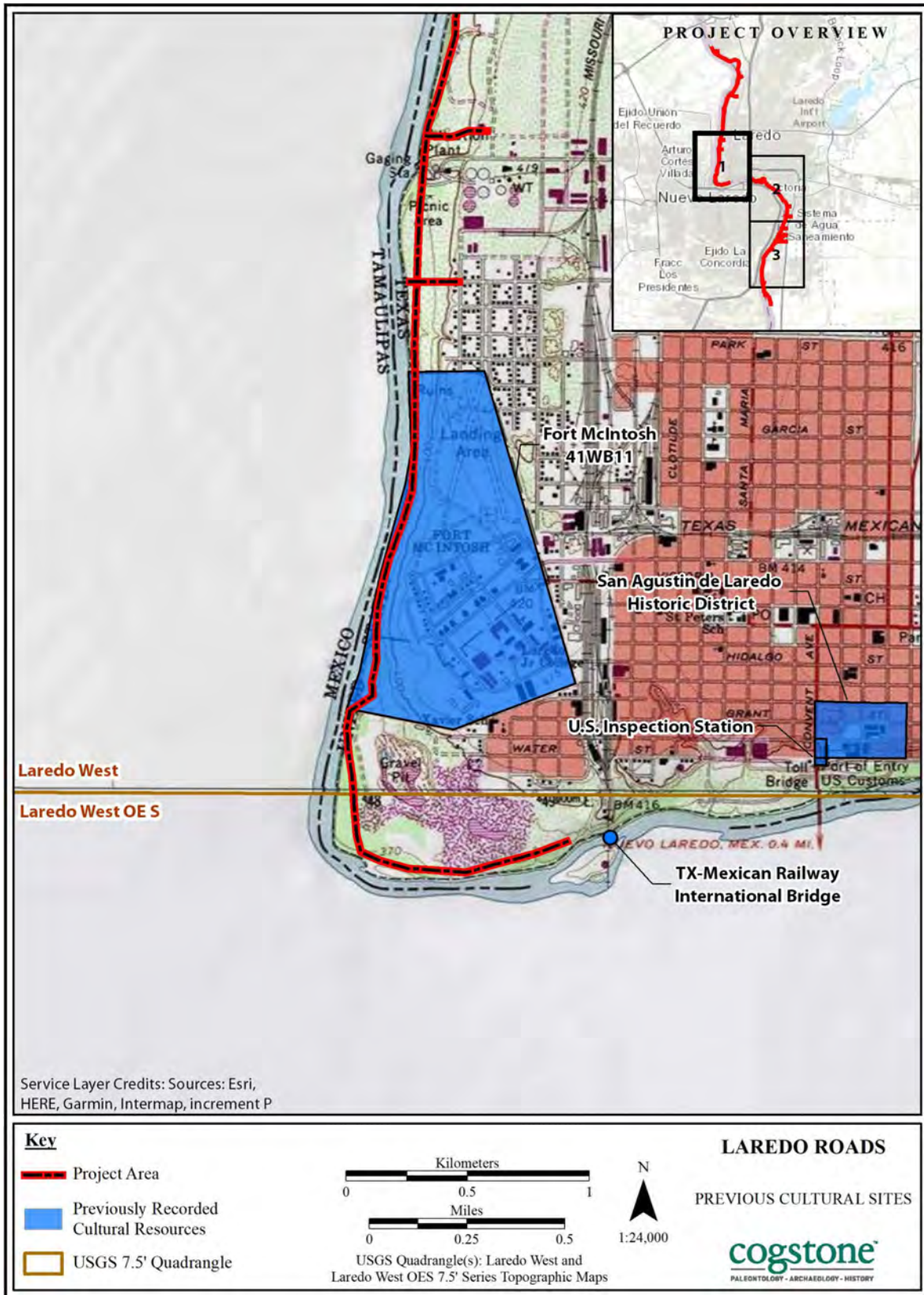
9 The Texas Mexican Railway International Bridge is a railway truss bridge crossing the Rio Grande
10 from the United States to Mexico. The bridge was opened in 1920. This bridge is not listed on the
11 Texas Atlas, and one previous survey that intersects the bridge Right-of-Way did not assess its
12 significance. This resource will be treated as NRHP-eligible unless it is determined to be not
13 eligible.

14 The earliest archaeological investigation, which was not plotted on Texas Atlas, was completed in
15 1979 as part of the Laredo Water Quality Enhancement Loan Project. This investigation identified
16 five archaeological sites—41WB12, 41WB13, 41WB15, 41WB16, and 41WB20—within the
17 project area. Two of these sites—41WB12 and 41WB20—were recommended eligible for the
18 NRHP. The site 41WB12 was recorded as a large multicomponent site with potential of subsurface
19 deposits and was recommended eligible for the NRHP. 41WB20 was revisited by the University
20 of Texas San Antonio for further testing of eligibility. This testing program recovered significant
21 subsurface material including three prehistoric burials and recommended the site eligible for the
22 NRHP. 41WB20 is listed as a State Antiquities Landmark and was determined eligible for the
23 NRHP by SHPO on March 7, 1984, and again on January 18, 2012. The remaining three sites
24 remain unevaluated for NRHP eligibility.

25 A 1982 investigation conducted by Lone Star Archaeological Services as part of a proposed
26 vegetation management project overlaps portions of the project area. This investigation identified
27 portions of the NRHP-listed 41WB11—Historic Fort/District of Fort McIntosh—overlapping the
28 project area. In addition, Archaeological Consultants, Inc. undertook testing in 1997 within the
29 district boundaries. Significant historic and prehistoric remains were located below the current
30 ground surface. No separate assessment of the prehistoric component of 41WB11 was located.

1

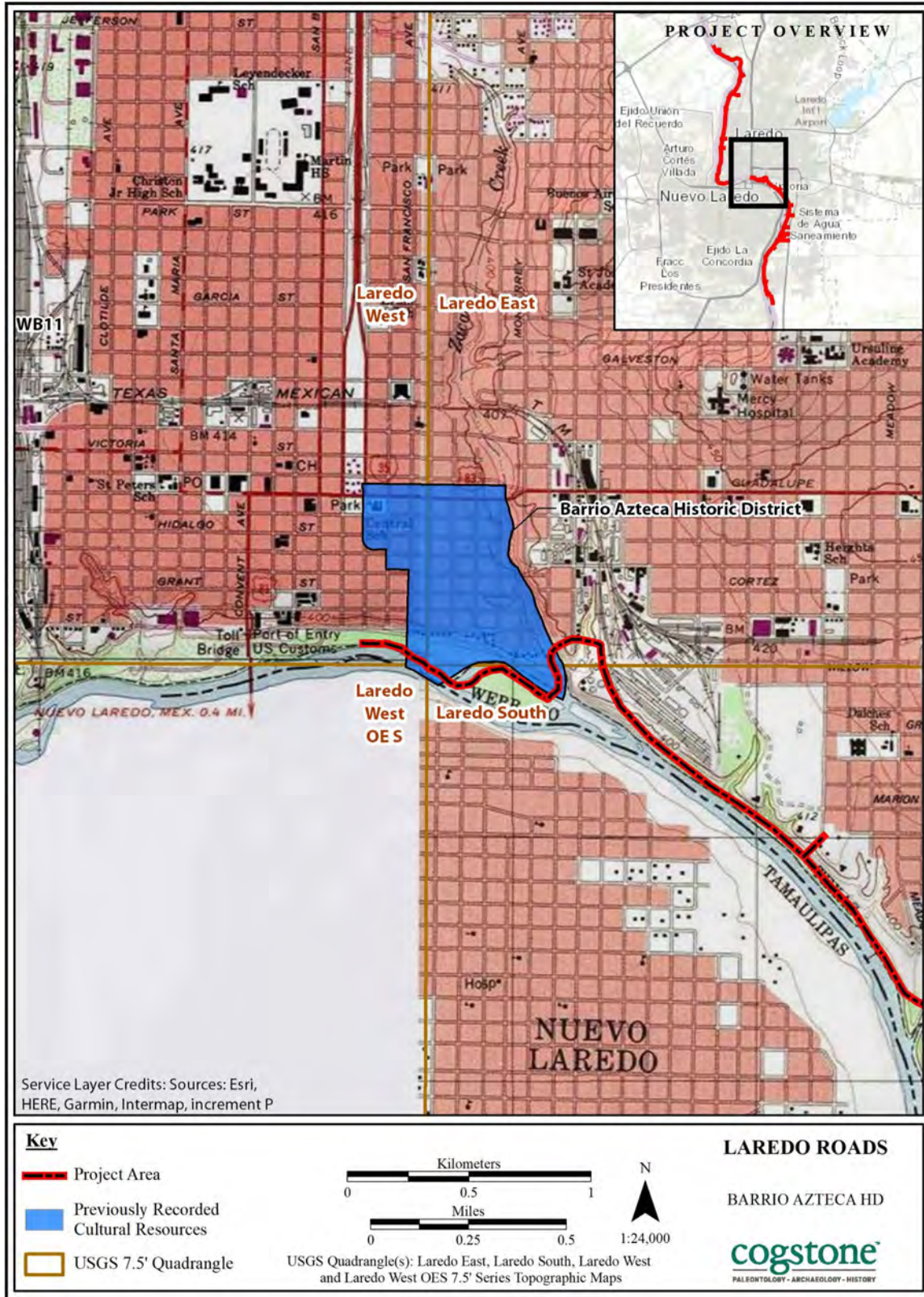
Figure 3-15. Map of Historic Districts, Laredo North



2

1

Figure 3-16. Map of Historic Districts, Laredo South



2

1 Three City of Laredo-sponsored investigations that overlap the project area were conducted by
2 Archaeological Consultants, Inc. (ACI) from 1996 through 2008. ACI completed the large block
3 survey investigation associated with the Deerfield Recreational Complex, which overlaps portions
4 of the northern patrol road. No archaeological sites were identified during this investigation. The
5 2004 linear investigation complete by ACI—not plotted on Texas Atlas—as part of the Addition
6 to the Zacate Creek Linear Park Project identified one prehistoric archaeological site (41WB54).
7 The NRHP eligibility status of 41WB54 remains unknown.

8 In 2008, ACI conducted an archaeological investigation of 50 acres for the Slaughter Park
9 Construction Project, which overlaps the project area. During the intensive pedestrian survey, the
10 multicomponent site 41WB83 was identified. It was described as a broad scatter of chipped stone,
11 burned chert, and occasional mussel shell (along with some 20th century trash) exposed in an open
12 field (fallow) and in erosional features on a high alluvial terrace overlooking the Rio Grande. ACI
13 recommended the prehistoric component of this site as ineligible for the NRHP and the historic
14 component eligible for the NRHP pending further investigation.

15 USACE and DHS funded three investigations, which overlap portions of the project area. These
16 investigations include one pedestrian survey conducted by TRC, and two construction monitoring
17 projects completed by Gulf South Research Corp. During these three investigations, no
18 archaeological resources that overlap the project area were identified.

19 The remaining ten previous investigations overlapping multiple areas of the Proposed Action are
20 projects sponsored by CBP, Office of Border Patrol associated with numerous tactical
21 infrastructure projects, including construction of Remote Video Surveillance Systems tower
22 locations and access road construction and maintenance. These projects were completed by TRC
23 and Northland Research, Inc. from 2005 to 2019 (Billstrand 2018; Cox 2012; Gage 2012a and
24 2012b; Goar 2005; Kober 2015; Northland 2016; Rainey 2014 and 2017; Steber 2019). None of
25 these projects identified new archaeological resources overlapping the Laredo Road Improvement
26 Project.

27 Surveys conducted by Northland Research Inc. in 2015 and 2019 revisited the previously recorded
28 41WB12, 41WB13, 41WB15, 41WB16, and 41WB20 during their investigations (Kober 2015;
29 Steber 2019). The 2015 Northland Research, Inc. intensive pedestrian survey of 11.4 miles of
30 proposed access road improvements revisited 41WB12, 41WB13, and 41WB20. During the
31 investigation, no evidence of these sites was observed within the survey area (Kober 2015). The
32 2019 Northland Research, Inc. intensive pedestrian survey of 11.34 miles of proposed access road
33 improvements revisited 41WB12, 41WB15, 41WB16, and 41WB20. No evidence of any of these
34 sites was identified within the 2019 survey area (Steber 2019).

35 Both surveys recommend that due to the lack of cultural material identified within the project area,
36 the portions of these sites are recommended ineligible for the NRHP. However, the remaining
37 portions of these three sites—41WB12, 41WB15, and 41WB16—overlapping the Laredo Road
38 Improvement Project remain unevaluated. Likewise, the portions of 41WB20 outside of the 2015
39 and 2019 surveys remain recommended eligible for the NRHP.

1 **3.8.3 Environmental Consequences**

2 **3.8.3.1 Alternative 1: Improvement of the Existing Laredo North and Laredo South Patrol Roads**
 3 **(Preferred Alternative)**

4 Adverse effects on cultural resources can include physically altering, damaging, or destroying all
 5 or part of a resource; altering characteristics of the surrounding environment that contribute to the
 6 resource’s significance; introducing visual or audible elements that are out of character with the
 7 property or that alter its setting; neglecting the resource to the extent that it deteriorates or is
 8 destroyed; or selling, transferring, or leasing the property out of agency ownership (or control)
 9 without adequate legally enforceable restrictions or conditions to ensure preservation of the
 10 property’s historic significance. Ground-disturbing activities associated with the implementation
 11 of the Proposed Action constitute the most relevant potential impacts on archaeological resources.
 12 Visual effects can impact above-ground resources. Construction activities including transportation
 13 of materials and labor, noise, and dust could have temporary impacts on historic properties.

14 Under the Proposed Action, eight archaeological sites would be impacted by the proposed
 15 construction and five historic structures may be impacted (**Table 3-9**). Two of the archaeological
 16 sites are eligible for the NRHP and are considered significant cultural resources. Of the two eligible
 17 sites (41WB20) is listed as a State Antiquities Landmark. The remaining six archaeological sites
 18 have an undetermined or unknown eligibility for the NRHP, pending additional archaeological
 19 investigations needed to determine their eligibility for the NRHP. One of these archaeological sites
 20 is a prehistoric component underlying Fort McIntosh. Those archaeological sites would be treated
 21 as eligible until testing can be conducted and their eligibility for the NRHP can be determined.
 22 Additional NRHP eligibility testing would be conducted on those sites before any ground-
 23 disturbing activities are conducted within their boundaries. If any of the sites are determined
 24 eligible for the NRHP and cannot be avoided (the first option considered), then appropriate
 25 mitigation measures, including avoidance, for those sites would be developed in consultation with
 26 the THC prior to any ground-disturbing activities being conducted within those site boundaries.

27 **Table 3-9. Summary of Impacts to Cultural Site in Project Area**

Number/Name	No Impact	Impact
41WB11 Fort McIntosh	Should be no impact; waiting on results of cultural survey. Prehistoric component in project area unevaluated.	Viewshed analysis underway
Barrio Azteca Historic District	Should be no impact; waiting on results of cultural survey	Viewshed analysis underway
San Augustin de Laredo Historic District	Should be no impact; waiting on results of cultural survey	Viewshed analysis underway
Laredo Convent Avenue Port of Entry	Should be no impact; waiting on results of cultural survey	Viewshed analysis underway

Number/Name	No Impact	Impact
TX-Mexican Railway Bridge	Should be no impact; waiting on results of cultural survey	Viewshed analysis underway
41WB12	No impact if road is relocated outside of the site boundaries, or if the maintenance and repair activities are prohibited in site areas	If testing/data recovery occurs prior to road construction, and/or monitor present during construction/maintenance activities, impacts can be minimized
41WB13	No impact if road is relocated outside of the site boundaries, or if the maintenance and repair activities are prohibited in site areas	Unevaluated eligibility; mitigative measures should be implemented if resource is found eligible to avoid any impacts
41WB15	No impact if road is relocated outside of the site boundaries, or if the maintenance and repair activities are prohibited in site areas	Unevaluated status in current project area; mitigative measures should be implemented if resource is found eligible to avoid any impacts
41WB16	No impact if road is relocated outside of the site boundaries, or if the maintenance and repair activities are prohibited in site areas	Unevaluated status in current project area: mitigative measures should be implemented if resource is found eligible to avoid any impacts
41WB20	No impact if road is relocated outside of the site boundaries, or if the maintenance and repair activities are prohibited in site areas	If testing/data recovery occurs prior to road construction, and/or monitor present during construction/maintenance activities, impacts can be minimized
41WB54	No impact if road is relocated outside of the site boundaries, or if the maintenance and repair activities are prohibited in site areas	Unevaluated eligibility; mitigative measures should be implemented if resource is found eligible to avoid any impacts
41WB83	No impact if road is relocated outside of the site boundaries, or if the maintenance and repair activities are prohibited in site areas	If testing/data recovery occurs prior to road construction, and/or monitor present during construction/maintenance activities, impacts can be minimized

- 1
- 2 Visual impacts to the historic structures will be assessed during the cultural resources survey. Of
- 3 the five properties only one is inside the current project area. As the current project is maintenance
- 4 and repair of existing surface roads, and one small segment of a new surface road, there should be

1 no visual impacts. None of the proposed activity would result in a raised profile of the project road.
2 In addition, all the properties are surrounded by other in-use roadways.

3 All mitigation measures developed for archaeological sites through consultation with the THC
4 would be implemented or instigated prior to construction in any of those site areas. Full compliance
5 with Section 106 of the NHPA would ensure proper mitigative measures, including avoidance,
6 would be implemented. In addition, a cultural resources survey of the unexamined project area
7 needs to occur. Mitigation measures for impacts to above-ground resources may continue after the
8 project is completed.

9 Beneficial impacts in the form of increased knowledge of the past, including site density and
10 distribution, are realized as a result of surveys conducted as part of this EA. Additionally,
11 previously recorded and unidentified cultural resource sites within the project area and the region
12 would receive increased protection from disturbance by deterring illegal foot and vehicle traffic
13 moving through surrounding areas. Furthermore, improved access provided by the road
14 improvements would reduce the enforcement footprint in non-disturbed habitats and subsequently
15 reduce potential impacts on cultural resources.

16 **3.8.3.2 Unavoidable Adverse Impacts**

17 The Proposed Action would not cause unavoidable impacts to cultural resources. Any cultural sites
18 or archaeological materials found with the project area would be undergo data collection and
19 appropriate treatment. Visual impacts to existing structures are considered to be non-existent, but
20 is pending completion of the cultural resources survey.

21 **3.8.3.3 No Action Alternative**

22 The No Action Alternative would remove the necessity for construction activities and therefore
23 cultural resources in the project area would not be directly impacted. However, the continuation
24 of natural impacts would continue.

25 **3.9 INFRASTRUCTURE**

26 **3.9.1 Definition of the Resource**

27 Infrastructure consists of the man-made systems and physical structures that enable a population
28 in a specified area to function. Infrastructure components to be discussed in this section include
29 transportation elements, utilities, and solid waste management. Transportation includes the
30 existing patrol road and bridges that are being improved as the Proposed Action and access paths
31 for construction vehicles. Utilities generally include electrical supply, water supply, natural
32 gas/propane supply, sanitary sewer and wastewater, stormwater drainage, and communications
33 systems. However, most of these are currently present at the proposed project site and would not
34 be expected to be added under the Proposed Action. Solid waste management primarily relates to
35 the availability of landfills to support a population's residential, commercial, and industrial needs.

1 **3.9.2 Affected Environment**

2 **Transportation / Road Network.** The transportation network under the Proposed Action consists
3 of 16 miles of patrol road along the northern bank of the Rio Grande River in Webb County, Texas.

4 Currently, the patrol road consists of an FC-4 two-track road composed of unimproved road,
5 wagon trail, and 4-wheel drive road and is 10-12 feet wide. The two parallel tracks were created
6 by the loss of vegetation where the tires made contact with and compacted the earth, between
7 which lies a strip of low-growth vegetation. In many areas, the central vegetated strip has
8 succumbed to erosion. The existing patrol road was constructed in 2012 and has not received any
9 general maintenance since. As a result, several areas along the existing road are heavily eroded
10 and could become impassible without maintenance.

11 **Electrical System.** Electrical power is not available or provided to the proposed project area. No
12 electrical sources would be installed under the Proposed Action. Equipment requiring electricity
13 would need to be powered via batteries or generators transported on site; however, no impacts on
14 electrical systems would be expected. Therefore, electrical systems are not discussed further.

15 **Natural Gas.** Natural gas is not available or provided to the proposed project area. Natural gas
16 would not be required under the Proposed Action. Therefore, natural gas is not discussed further.

17 **Petroleum, Oil, and Lubricants (POL) / Liquid Fuel Systems.** POL / liquid fuel is not available
18 or provided to the proposed project area. POL / liquid fuel needed for construction (e.g.,
19 construction equipment) would come from local fuel suppliers outside of the proposed project
20 area. Construction contractors and project personnel would be responsible for sourcing the POL /
21 liquid fuel needed under the Proposed Action.

22 **Water Supply System.** A water supply system is not available or provided to the proposed project
23 area. Water needed for construction (e.g., drinking water, cleaning equipment) would be obtained
24 from sources outside of the proposed project area. Construction contractors and project personnel
25 would be responsible for sourcing the water needed under the Proposed Action. It is anticipated
26 that water trucks would be used on site to aid in dust suppression during construction activities.

27 **Wastewater System / Collection System.** A wastewater treatment and collection system is not
28 available in the proposed project area as there is no water supply available. A wastewater system
29 / collection system would not be constructed under the Proposed Action. Therefore, these systems
30 are not discussed further.

31 **Stormwater Discharge / Collection System.** The existing patrol road is unpaved and does not have
32 any improved drainage features or ditches to mitigate surface runoff. As a result, there are
33 segments of the road that have been washed out due to erosion. The proposed project area is within
34 the Chicon Creek-Rio Grande Watershed and all stormwater ultimately drains to the Rio Grande,
35 which is adjacent to the project area (TPWD 2022a).

36 **Heating / Cooling distribution System.** A heating / cooling distribution system is not currently
37 available or provided to the proposed project area. If necessary, per the contractor's discretion,

1 heating and cooling would be the responsibility of the construction contractor to provide for
2 construction crews and project personnel in the event of extreme temperature variances.

3 **Solid Waste Management.** Reducing waste streams minimizes environmental compliance
4 requirements, disposal and transportation costs and long-term liabilities. Reduced hazardous waste
5 handling and disposal also reduces costs and exposure risks. Solid wastes can be solid, semi-solid,
6 liquid, or a contained gas. Solid wastes include garbage, refuse, sludge, materials that have served
7 their intended purpose, discarded products, and manufacturing by-products. Solid wastes can also
8 be materials with intent to be discarded but are awaiting discarding such as chemicals in storage
9 that are no longer usable and cannot be reclaimed or recycled. Construction and cleanup wastes
10 are properly handled, labeled and disposed of as part of the contract requirements.

11 A solid waste management system is not currently available or provided to the proposed project
12 area. Solid waste generated during construction of the Proposed Action would be the responsibility
13 of the construction contractors to manage and dispose of safely and appropriately. The goal of the
14 contractor's Waste Management Plan is to salvage and/or recycle 50 percent of the weight of total
15 nonhazardous solid waste generated by the work.

16 The closest landfills to the proposed project area are the Laredo Landfill at 6912 TX-359 #10 and
17 the Ponderosa Regional Landfill at 1075 TX-359. Waste generated from the construction and
18 maintenance of the roads and bridges under the Proposed Action would be transported to this
19 landfill. The closest recycling center is the IMC Recycling, Inc Metal Recycling and Processing at
20 531 Riverside Drive which will be used to recycle demolition and construction waste. Waste
21 generated from construction activities on this project shall be sorted on-site and placed in their
22 respective containers. Containers shall be collected when full and hauled to the appropriate
23 location by the landfill or recycling center.

24 3.9.3 Environmental Consequences

25 3.9.3.1 Alternative 1: Improvement of the Existing Laredo North and Laredo South Patrol Roads 26 (Preferred Alternative)

27 **Transportation.** Under the Proposed Action, the patrol roads would be improved to FC-2 all-
28 weather roads and three bridges would be installed. A cross-slope would be built into the road to
29 provide a drainage gradient so that water would run off the surface to a drainage system such as a
30 street gutter or ditch.

31 The Proposed Action would result in minor, adverse, short- and long-term impacts on the
32 transportation system. Construction and maintenance activities associated with the Proposed
33 Action would be expected to result in short-term roadway closures and detours while construction
34 is being completed; however, most of the roadways proposed for maintenance and repair would
35 be used solely by USBP. Therefore, the public would not be impacted by these roadway closures
36 or detours. Roadway closures and detours would be temporary, so USBP patrols would experience
37 only minor disruptions.

38 Coordination with CBP would ensure construction vehicles and personnel have access to the
39 existing patrol and access roads and that necessary safety precautions are taken when accessing

1 these patrol roads. Typical construction-related traffic would include backhoes, graders, dump
2 trucks, a water suppression truck, and passenger vehicles. However, these improvements would
3 also be expected to provide long-term, beneficial impacts on the overall road network by reducing
4 erosion and washout.

5 **Stormwater Management.** A stormwater mitigation system is not currently in place as no draining
6 features are present along the existing patrol road. Under the Proposed Action, a cross-slope would
7 be built into the road to provide a drainage gradient so that water would run off the surface to a
8 drainage system, such as a ditch.

9 Construction under the Proposed Action would result in the addition of stormwater management
10 infrastructure, rendering minor, beneficial, short- and long-term impacts on stormwater
11 management. Any disruption in the natural drainage patterns, contamination of stormwater
12 discharge, and increased sediment loading from construction activities would be mitigated by
13 BMPs. The Proposed Action would include appropriate stormwater-control measures, stormwater
14 runoff requirements, and low impact development techniques in compliance with Section 438 of
15 the Energy Independence and Security Act to reduce, limit, and control stormwater runoff to
16 preconstruction rates. Also, areas of land disturbed as part of the construction would be
17 revegetated.

18 **Solid Waste Management.** The Proposed Action would result in minor, adverse, short-term
19 impacts on solid waste management at the proposed project area. Construction activities would
20 generate minimal amounts of solid waste. Waste disposal would be conducted in accordance with
21 all Federal, state, and local laws and regulations.

22 3.9.3.2 Unavoidable Adverse Impacts

23 Under the Proposed Action, the use and generation of solid waste during construction of the new
24 infrastructure would be unavoidable; however, the materials and wastes would be handled in
25 accordance with Federal, state, and local policies and is expected to result in minor or negligible
26 impacts.

27 3.9.3.3 No Action Alternative

28 Under the No Action Alternative, the new infrastructure improvement to the existing patrol roads
29 and addition of bridges would not be completed. The No Action Alternative would maintain the
30 current inefficient state of the patrol roads.

31 3.10 HAZARDOUS MATERIALS AND WASTE

32 3.10.1 Definition of the Resource

33 Hazardous materials are defined by 49 CFR 171.8 as “hazardous substances, hazardous wastes,
34 marine pollutants, elevated temperature materials, materials designated as hazardous in the
35 Hazardous Materials Table (49 CFR 172.101), and materials that meet the defining criteria for
36 hazard classes and divisions” in 49 CFR Part 173. Transportation of hazardous materials is
37 regulated by U.S. Department of Transportation regulations within 49 CFR Parts 105–180.

1 A hazardous substance, pursuant to the Comprehensive Environmental Response, Compensation,
2 and Liability Act (42 U.S.C. 9601(14)), is defined as “(A) any substance designated pursuant to
3 section 1321(b)(2)(A) of Title 33; (B) any element, compound, mixture, solution, or substance
4 designated pursuant to section 9602 of this title; (C) any hazardous waste having the characteristics
5 identified under or listed pursuant to section 3001 of Resource Conservation and Recovery Act
6 (RCRA), as amended, (42 U.S.C. 6921); (D) any toxic pollutant listed under section 1317(a) of
7 Title 33; (E) any HAP listed under Section 112 of the CAA (42 U.S.C. 7412); and (F) any
8 imminently hazardous chemical substance or mixture which the Administrator of the USEPA has
9 taken action pursuant to section 2606 of Title 15.” The term hazardous substance does not include
10 petroleum products.

11 Hazardous wastes are defined by RCRA at 42 U.S.C. 6903(5), as amended by the Hazardous and
12 Solid Waste Amendments, as “a solid waste, or combination of solid wastes, which because of its
13 quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or
14 significantly contribute to an increase in mortality or an increase in serious irreversible, or
15 incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human
16 health or the environment when improperly treated, stored, transported, or disposed of, or
17 otherwise managed.”

18 Special hazards are those substances that might pose a risk to human health and are addressed
19 separately from other hazardous substances. Special hazards include asbestos-containing material
20 (ACM), polychlorinated biphenyls (PCBs), and lead-based paint (LBP). The USEPA has authority
21 to regulate these special hazard substances by the Toxic Substances Control Act (TSCA) Title 15
22 U.S.C. Chapter 53. The USEPA has established regulations regarding asbestos abatement and
23 worker safety under 40 CFR Part 763, with additional regulation concerning emissions (40 CFR
24 Part 61). Whether from lead abatement or other activities, depending on the quantity or
25 concentration, the disposal of LBP waste may be regulated by RCRA at 40 CFR 260. The disposal
26 of PCBs is addressed in 40 CFR Parts 750 and 761.

27 All generators of hazardous oil and gas waste must employ reasonable and appropriate measures
28 in operating and maintaining the generation site to minimize the possibility of a fire, explosion, or
29 any unplanned sudden or non-sudden release of hazardous oil and gas wastes to air, soil, or surface
30 water that could threaten human health or the environment. Evaluation of hazardous materials and
31 wastes focuses on the storage, transport, handling, and use of pesticides, herbicides, petroleum
32 products, fuels, solvents, and other hazardous substances. However, pesticides would not be used
33 during roadway improvement and will, therefore, not be discussed further. Evaluation also extends
34 to generation, storage, transportation, and disposal of hazardous wastes when such activity occurs
35 at or near the project site. In addition to being a threat to humans, the improper release of hazardous
36 materials and wastes can threaten the health and well-being of wildlife species, vegetation, soils,
37 and water resources. If hazardous materials or wastes are released, the extent of contamination
38 varies based on the type of soil, topography, and water resources.

39 Solid waste management primarily relates to the availability of landfills to support a population’s
40 residential, commercial, and industrial needs. In some localities, landfills are designed specifically
41 for and limited to disposal of construction debris. Recycling programs are available for various
42 waste categories.

1 **3.10.2 Affected Environment**

2 Federal and state agencies regulate the management of hazardous substances, petroleum products,
3 hazardous and petroleum wastes, pesticides, solid waste, ACMs, LBP, and PCBs. Each state has
4 its own regulatory agency and associated regulations. The state agencies either adopt the Federal
5 regulations or have their own regulations that are more restrictive than the Federal regulations.
6 Likewise, the Federal government and state agencies also have regulations for the handling,
7 disposal, and remediation of special hazards. However, under the Proposed Action no hazardous
8 substances would be stored on site.

9 The Waste Reduction Policy Act of 1991 was adopted by the Texas Legislature to prevent
10 pollution in Texas. The TCEQ adopted corresponding rules. In conducting infrastructure
11 maintenance and repair activities as needed, USBP or its contractors store, transport, handle, use,
12 generate, and dispose of various types and quantities of hazardous substances, petroleum products,
13 and hazardous and petroleum wastes. These materials are used for or generated directly by the
14 maintenance and repair activities. The primary hazardous substances and petroleum products
15 likely include materials such as lead-acid batteries, motor oil, antifreeze, paint and paint thinners,
16 cleaners, hydraulic oils, lubricants, and liquid fuels (diesel and gasoline). The hazardous
17 substances, petroleum products, and hazardous and petroleum wastes are stored at various USBP
18 or contractor maintenance shops and managed in accordance with each group’s standard operating
19 procedures (SOPs) for hazardous materials. The wastes are recycled or disposed of offsite in
20 accordance with Federal, state, and local regulations.

21 **3.10.3 Environmental Consequences**

22 Impacts on hazardous materials management would be considered adverse if a Proposed Action
23 resulted in worker, resident, or visitor exposure to these materials above established limits or
24 resulted in noncompliance with applicable Federal and state regulations, or increased the amounts
25 generated or procured beyond current CBP hazardous materials management procedures and
26 capacities. An effect on solid waste management would be major if the Proposed Action exceeded
27 existing capacity or resulted in a long-term interruption of waste management, a violation of a
28 permit condition, or a violation of an approved plan for that utility.

29 **3.10.3.1 Alternative 1: Improvement of the Existing Laredo North and Laredo South Patrol Roads**
30 **(Preferred Alternative)**

31 Long-term, negligible to minor, adverse impacts due to hazardous substances, petroleum products,
32 and hazardous and petroleum wastes would be expected from implementation of the Proposed
33 Action. Because the roads would be repaired using compacted material and good drainage
34 practices, fewer repairs would be expected to be required in the future. Maintenance vehicles
35 containing hazardous substances such as petroleum products would be deployed less frequently
36 than in the No Action Alternative, decreasing the probability of a spill or release. No impacts due
37 to ACMs, LBP, or PCBs would be expected from the Proposed Action, as the proposed
38 infrastructure is not anticipated to contain ACMs, LBP, or PCBs. No impacts on solid waste
39 management would be expected from the Proposed Action. The volumes of solid waste produced
40 during construction activities would be minimal and unlikely to increase.

1 Soils in the project area could be impacted by hazardous or toxic materials in the event of an
2 accidental spill, which could lead to groundwater contamination. However, BMPs would be
3 implemented during construction activities to avoid any release into the environment as well as to
4 anticipate capture requirements in advance of any potential release. To prevent contamination, care
5 would be taken to avoid impacting the project area with hazardous substances (e.g., antifreeze,
6 fuels, oils, lubricants) used during construction activities. These activities would include
7 implementing primary and secondary containment measures, developing a SPCCP prior to the start
8 of construction, and briefing all personnel on the implementation and responsibilities of the
9 SPCCP.

10 Petroleum, oils, and lubricants would be stored at designated temporary staging areas to maintain
11 and refuel construction equipment. Cleanup materials (e.g., oil mops) would be maintained on site,
12 in accordance with the SPCCP, to allow for immediate action in the event of an accidental spill.
13 Drip pans would be provided for stationary equipment to capture any POLs spilled during
14 construction activities or in the event of equipment leaks. A concrete washout containment system
15 would be established to ensure concrete washout is safely managed and properly disposed.

16 Sanitation facilities would be provided during construction activities and waste products would be
17 collected and disposed of by licensed contractors. No gray water would be discharged to the
18 ground. Disposal contractors would use only established roads to transport equipment and
19 supplies. Proper permits would be obtained by the licensed contractor tasked to handle any
20 unregulated solid waste. All waste would be disposed of in strict compliance with Federal, state,
21 and local regulations, in accordance with the contractor's permits. Therefore, no hazards to the
22 public would be expected to occur through the transport, use, or disposal of unregulated solid waste
23 activities.

24 Long-term, minor, adverse impacts would be expected from the disturbance of green and open
25 spaces that would occur when the existing road is widened. CBP would incorporate
26 environmentally sustainable practices (e.g., solid waste recycling, water conservation practices)
27 during construction and continued maintenance of the road. Impacts on the sustainability of
28 resources and CBP operations from the incorporation of sustainability strategies would be long-
29 term, minor, and beneficial because CBP would meet mission requirements while reducing the
30 depletion of critical resources like water and raw materials. BMPs and SWPP would be used to
31 prevent the introduction of pollutants into waterways.

32 **3.10.3.2 Unavoidable Adverse Impacts**

33 The use and generation of hazardous materials and wastes during construction and operation of
34 the new infrastructure would be unavoidable; however, the materials and wastes would be handled
35 in accordance with Federal, state, and local policies and would result in minor to negligible
36 impacts.

37 **3.10.3.3 No Action Alternative**

38 The No Action Alternative is reactive in nature and would eventually result in greater deterioration
39 of the roadways over time due to a lack of preventative maintenance, which could result in more
40 frequent maintenance and repair activities over time. This would create greater volumes of solid

1 waste. Long-term, minor, adverse impacts due to hazardous substances, petroleum products, and
2 hazardous and petroleum wastes would be expected from the No Action Alternative.

3 Because the existing roads would not be repaired to design specifications using compacted
4 materials and appropriate drainage infrastructure, repairs could be expected to increase in
5 frequency and severity. The No Action Alternative does not guarantee that all BMPs would be
6 implemented during emergency repair activities. Therefore, the No Action Alternative could result
7 in greater impacts from hazardous materials and wastes than the Proposed Action.

8 **3.11 SAFETY**

9 **3.11.1 Definition of the Resource**

10 A safe environment is one in which there is no, or an optimally reduced, potential for death, serious
11 bodily injury or illness, or property damage. Safety addresses workers' and public health and safety
12 during any construction, demolition, or project activities (CBP 2016).

13 Construction safety is largely a matter of adherence to regulatory requirements imposed for the
14 benefit of employees and implementation of operational practices that reduce risks of illness,
15 injury, death, and property damage. The health and safety of on-site construction workers are
16 safeguarded by OSHA and the USEPA standards, which specify the amount and type of training
17 required for industrial workers, the use of personal protective equipment and clothing, engineering
18 controls, and maximum exposure limits for workplace stressors (CBP 2019).

19 Safety and accident hazards can often be identified and reduced or eliminated. Necessary elements
20 for an accident-prone situation or environment include the presence of the hazard itself together
21 with the exposed (and possibly susceptible) population. The degree of exposure depends primarily
22 on the proximity of the hazard to the population. Activities that can be hazardous include
23 transportation, maintenance and repair activities, and the creation of extremely noisy
24 environments. The proper operation, maintenance, and repair of vehicles and equipment carry
25 important safety implications (CBP 2019).

26 **3.11.2 Affected Environment**

27 The Proposed Action would affect contractors involved in the existing patrol road construction
28 and bridge construction activities and USBP personnel and agents; each are discussed below in
29 further detail.

30 **Contractor Safety.** Human health and safety concerns during the Proposed Action of
31 improvement construction towards the existing patrol roads involve exposing workers to
32 conditions that pose a health or safety risk. Construction site safety is largely a matter of adherence
33 to regulatory requirements. These regulatory requirements are imposed for the benefit of
34 employees, and they implement operational practices that reduce risks of illness, injury, death, and
35 property damage. OSHA issues standards that specify the amount and type of safety training and
36 education required for industrial workers, the use of protective equipment and clothing,
37 engineering controls, and maximum exposure limits with respect to workplace stressors (29 CFR
38 § 1910). CBP applies and adheres to these standards in policy and practice (CBP 2019).

1 **USBP Personnel Safety.** USBP personnel are responsible for complying with the OSHA and the
2 DHS safety and health requirements. DHS Directive 066-01, Safety and Health Programs,
3 establishes DHSs policies, responsibilities, and requirements regarding safety and health
4 programs. The purpose of DHS safety and health programs are to prevent or minimize the loss of
5 DHS resources and to protect employees, contractors, and the visiting public from accidental
6 death, injury, or illness by managing risks through implementation of the tenets of operational risk
7 management and response plans (CBP 2019).

8 **3.11.3 Environmental Consequences**

9 **3.11.3.1 Alternative 1: Improvement of the Existing Laredo North and Laredo South Patrol Roads** 10 **(Preferred Alternative)**

11 Project activities could cause long-term, beneficial impacts on health and human safety as the
12 Proposed Action would offer a more stable and safer driving surface for vehicles. Short-term,
13 negligible, adverse impacts on human safety could occur during construction; however,
14 construction site safety is largely a matter of adherence to regulatory requirements imposed for the
15 benefit of employees and implementation of operational practices. OSHA and USEPA issue
16 standards that specify the amount and type of training required for industrial workers, the use of
17 protective equipment and clothing, engineering controls, and maximum exposure limits with
18 respect to workplace stressors (CBP 2021).

19 Contractors would be required to establish and maintain safety programs at the construction site.
20 The Proposed Action would not expose members of the general public to increased safety risks
21 because the area is currently, and would remain, closed to the general public. Therefore, because
22 the Proposed Action would not introduce new or unusual safety risks, and assuming appropriate
23 protocols are followed and implemented, no impacts on safety would occur under the Proposed
24 Action.

25 **3.11.3.2 Unavoidable Impacts**

26 No unavoidable impacts on safety would occur, because CBP would adhere to all regulatory
27 requirements and BMPs.

28 **3.11.3.3 No Action Alternative**

29 Under the No Action Alternative, CBP would not improve the existing patrol roads in the USBP
30 Laredo Sector or improve the safety to USBP personnel and border communities. The poor
31 conditions of the existing patrol road limit USBP agents' options when responding to illegal cross
32 border traffic and inhibit the coordinated deployment of resources. Without improving the existing
33 patrol roads in the USBP Laredo Sector, USBP is unable to meet their authorized mission to detect
34 and interdict illicit cross border activity and support USBP operations and agent and personnel
35 safety.

1 **3.12 SOCIOECONOMICS**

2 **3.12.1 Definition of the Resource**

3 Socioeconomics is defined as the basic attributes and resources associated with the human
4 environment, particularly characteristics of population and economic activity. Regional birth and
5 death rates and immigration and emigration affect population levels. Economic activity typically
6 encompasses employment, personal income, and industrial or commercial growth. Changes in
7 these fundamental socioeconomic indicators typically result in changes to additional
8 socioeconomic indicators, such as housing availability and the provision of public services.
9 Socioeconomic data at local, county, regional, and state levels permit characterization of baseline
10 conditions in the context of regional and state trends.

11 Demographics and employment characteristics data provide key insights into socioeconomic
12 conditions that might be affected by a proposed action. Demographics identify the population
13 levels and the changes in population levels of a region over time. Data on employment
14 characteristics identify gross numbers of employees (more than 16 years old and in the labor force),
15 employment by industry, and unemployment trends. Data on industrial or commercial growth or
16 growth in other sectors of the economy provide baseline and trend line information about the
17 economic health of a region.

18 Socioeconomic data shown in this section are presented at census tract(s), county, and state levels
19 to characterize baseline socioeconomic conditions in the context of regional and state trends.

20 **3.12.2 Affected Environment**

21 For the purposes of this socioeconomic analysis, three different community types are used, as
22 follows:

- 23 • The ROI encompassing 12 individual census tracts along the 16-mile stretch of the
24 Proposed Action,
- 25 • Webb County, Texas,
- 26 • State of Texas.

27 The ROI is comprised of the 12 individual census tracts (17.16, 17.17, 14.02, 6.02, 19.0, 3.0, 2.0,
28 1.05, 1.09, 18.06, 18.20, 18.19) along the 16-mile project corridor because most of the construction
29 workers and supplies for the Proposed Action would likely come from those nearest residential
30 and developed areas (**Figure 3-15**). The ROI best illustrates socioeconomic characteristics for
31 where the most impacts from the Proposed Action would be expected because it encompasses the
32 specific population associated with the proposed project area. Additionally, all the proposed
33 improvement construction would occur in this area.

34 Data from Webb County, the City of Laredo, and the State of Texas is provided below for
35 comparison in **Tables 3-10** and **3-11**. Census tracts 18.20 and 18.19 did not have available 2015
36 total population census data due to census data collection not occurring in those tracts until the
37 2020 census. The 12 tracts in the ROI are combined into the census tracts (ROI) column to easily
38 compare the whole collective area to Webb County and the State of Texas).

**Table 3-10. 2015 and 2020 Total Population in the Region of Influence
as Compared to Webb County, the City of Laredo, and the State of Texas**

Location	2015	2020	Percent Change
Census Tracts (ROI)	37,120	43,290	16.6
Webb County	263,251	267,114	1.5
City of Laredo	248,855	260,571	4.7
Texas	26,538,614	28,635,442	7.9

Source: Census 2015, Census 2020
Key: Region of Influence (ROI)

**Table 3-11. 2020 Demographics in the Region of Influence as Compared to
Webb County and the State of Texas**

Categories	Census Tracts (ROI)	Webb County	Texas
Population 16 years and Older	30,322	192,461	22,078,090
Median Household Income (dollars)	22,226.60	50,296	63,826
Unemployment Rate (by percent)	5.0	4.9	5.3
Employment by Industry (by percent)			
Agriculture, forestry, fishing and hunting, and mining	3.9	3.2	2.8
Construction	9.0	6.4	8.6
Manufacturing	3.1	2.3	8.4
Wholesale trade	5.9	3.5	2.8
Retail trade	17.4	13.7	11.3
Transportation and warehousing, and utilities	17.1	14.0	6.0
Information	0.6	1.0	1.7
Finance and insurance, and real estate and rental and leasing	3.8	4.0	6.8
Professional, scientific, and management, and administrative and waste management services	8.9	7.4	11.7
Educational services, and health care and social assistance	28.4	24.3	21.8
Arts, entertainment, and recreation, and accommodation and food services	10.9	8.6	9.0
Other services, except public administration	6.2	5.2	5.1
Public administration	4.9	6.4	4.0

Source: Census 2020
Key: Region of Influence (ROI)

Each community type had an increase in total population between 2015 and 2020, with the ROI having the largest percent increase of 16.6 (Census 2015; Census 2020).

1 The 2020 American Community Survey (ACS) data shows that the unemployment rate within the
2 ROI is comparable, but slightly higher than the Webb County rate and slightly lower than the State
3 of Texas rate. The median household income (dollars) for the ROI is substantially lower than the
4 county and state (Census 2020).

5 As of 2020, the ROI had 9.0 percent of the workforce (more than 16 years old and in the labor
6 force) employed in Construction. In contrast, 6.4 percent of the labor force in Webb County and
7 8.6 percent in Texas were employed in Construction. The industry that employed the lowest
8 percentage of the workforce population for the ROI was Information followed by Agriculture,
9 forestry, fishing and hunting, and mining, and Manufacturing. The educational, health, and social
10 services industry was the most common employer for all community types (Census 2020).

11 The proposed project area is in Webb County, Texas. Laredo is the county seat of Webb County.
12 Webb County had a population of 267,114, with most of the population living within the City of
13 Laredo (255,205). The City of Laredo has experienced a 4.7 percent increase in total population
14 from 2015 to 2020. Comparatively, the State of Texas experienced a 7.9 percent growth rate in
15 total population since 2015 (Census 2022a).

16 3.12.3 Environmental Consequences

17 Impacts associated with socioeconomic resources are evaluated based on the changes to
18 demographics and employment caused by the implementation of a proposed action. An action
19 could have a major effect with respect to socioeconomic resources if it greatly increased or
20 decreased population or employment type when compared to the larger areas of study such as the
21 census tract compared to the county.

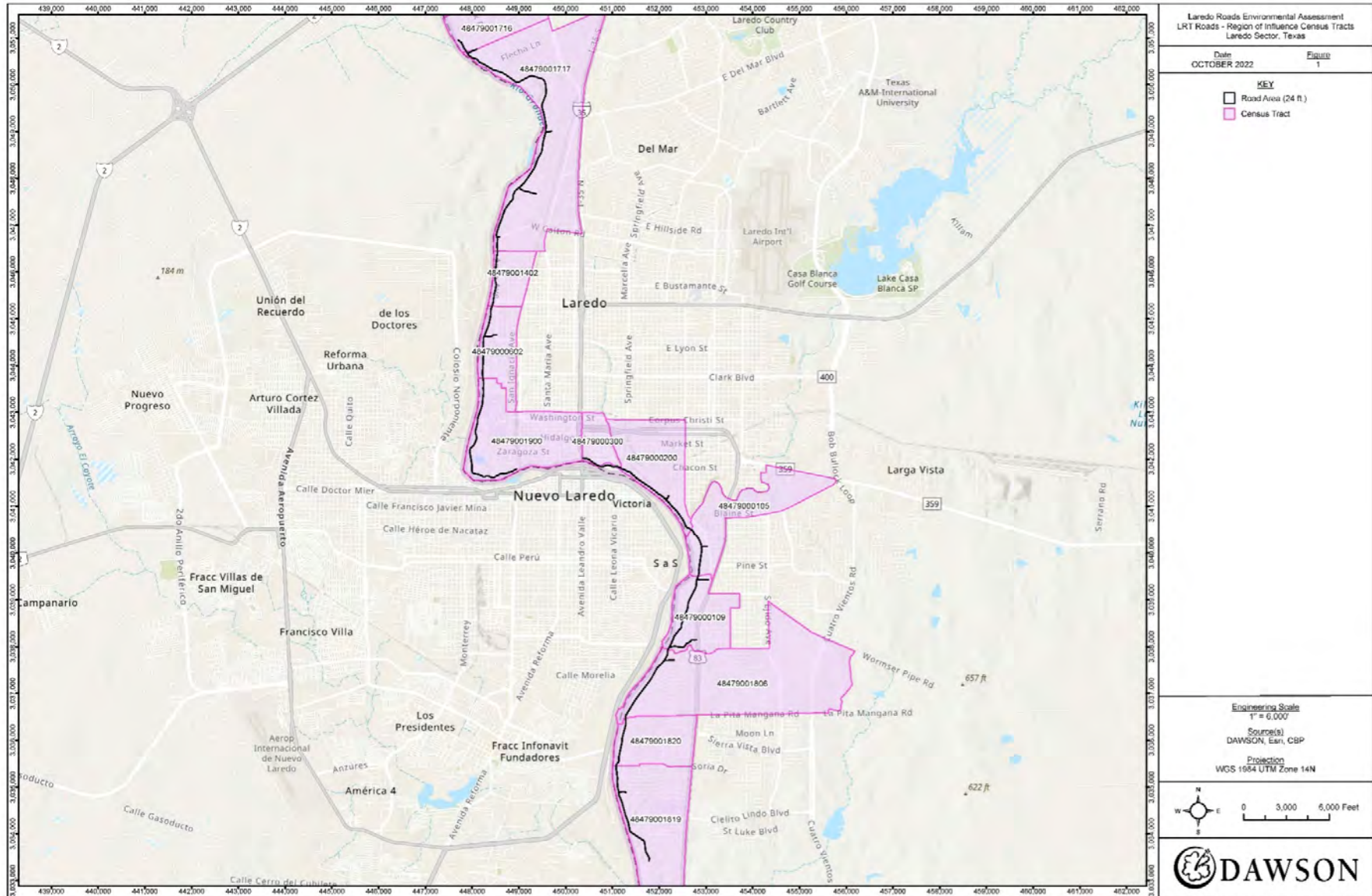
22 No population changes would occur as a result of the Proposed Action. Therefore, demand on
23 housing, schools, libraries, and parks and recreational facilities in Webb County would not change
24 due to the Proposed Action, and these services would not be affected because the existing capacity
25 would continue to be sufficient to serve the local population. Therefore, these resources are not
26 discussed further.

27 3.12.3.1 Alternative 1: Improvement of the Existing Laredo North and Laredo South Patrol Roads 28 (Preferred Alternative)

29 The Proposed Action would occur entirely within the ROI. There would be negligible short- and
30 long-term, beneficial effects on socioeconomic resources in the surrounding community because
31 of expenditures from the implementation of the proposed improvement construction. There would
32 be no measurable adverse impact, disproportionate or otherwise, on low-income or minority
33 communities inside or outside any of the discussed community types, because the patrol road
34 already exists and the construction would improve the road.

35 Short-term, negligible, beneficial effects on the local socioeconomics could occur under the
36 Proposed Action because of expenditures from the implementation of the selected construction

1 **Figure 3-17. Region of Influence for the Proposed Action**



1 improvements to the existing patrol roads. There is no guarantee the workforce would reside in the
2 ROI; however, local construction workers would be used where practicable. According to the 2020
3 ACS, the ROI area including all 12 census tracts along the 16-mile stretch of existing patrol roads,
4 contains approximately 990 construction workers, which collectively should be adequate to meet
5 the demands of the Proposed Action without impacting local construction projects requiring
6 workers. If needed, any additional construction workers would come from outside the region.
7 Short-term, negligible increases in local business volume and employment within the county
8 would be expected under the Proposed Action. The use of local construction workers would
9 produce increases in local sales volumes, payroll taxes, and the purchases of goods and services
10 resulting in short-term, indirect, negligible, and beneficial increases in the local economy.

11 Substantial short-term population increases during construction would not be expected to occur
12 because construction workers would likely be existing local residents, although a few construction
13 workers could come from outside the region. Therefore, no impacts on social conditions, including
14 property values, school enrollment, county or municipal expenditures, or crime rates due to
15 population increases would be anticipated during construction.

16 3.12.3.2 Unavoidable Adverse Impacts

17 No unavoidable adverse impacts on socioeconomics would result from the Proposed Action.

18 3.12.3.3 No Action Alternative

19 Under the No Action Alternative, the improvement construction to the existing patrol road would
20 not occur, and the existing conditions would remain unchanged. Therefore, no impacts on
21 socioeconomics would be expected because there would be no direct or indirect purchase of goods
22 and services, and no population changes that might require housing or other public services.

23 3.13 ENVIRONMENTAL JUSTICE AND SENSITIVE RECEPTORS

24 3.13.1 Definition of the Resource

25 E.O. 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-*
26 *Income Populations*, directs agencies to identify and address the environmental effects of their
27 actions on minority and low-income populations. The E.O. was enacted to ensure the fair treatment
28 and meaningful involvement of all people regardless of race, color, national origin, or income with
29 the respect to the development, implementation, and enforcement of environmental laws,
30 regulations, and policies.

31 E.O. 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, states that
32 each Federal agency “(a) shall make it a high priority to identify and assess environmental health
33 risks and safety risks that may disproportionately affect children; and (b) shall ensure that its
34 policies, programs, activities, and standards address disproportionate risks to children that result
35 from environmental health risks or safety risks.” Children might be more susceptible than adults
36 to certain environmental effects and risks. Therefore, activities occurring near areas that could
37 have higher concentrations of children during any given time, such as schools and childcare
38 facilities, might further intensify potential impacts on children.

1 Considerations of concerns related to environmental justice and protection of children include race,
2 ethnicity, and the poverty status of populations in the vicinity of a proposed action.

3 3.13.2 Affected Environment

4 Minority populations are those persons who identify themselves as Black, Hispanic, Asian
5 American, American Indian/Alaskan Native, Pacific Islander, or Other. Poverty status is used to
6 define low-income. Poverty is defined as the number of people with income below poverty level,
7 which was \$27,750 for a family of four in 2022 (HHS 2022). A potential disproportionate impact
8 may occur when the percent minority in the study area exceeds 50 percent and/or the percent low-
9 income exceeds 20 percent of the population.

10 More than 90 percent of the population in Webb County identifies as Hispanic or Latino (Census
11 2022b). Communities living near the Proposed Action are linguistically isolated where Spanish is
12 the primary language spoken by the vast majority of the population (USEPA 2022e). Furthermore,
13 the median household income in the ROI (\$22,227) is below the national, state, and county median
14 household income, and a greater percentage of the ROI population (32.1 percent) lives in poverty
15 relative to the county, state, and the country (**Table 3-12**). Sensitive receptors, including
16 residences, schools, a children’s home, and a college are within 1,000 feet of the Proposed Action.
17 Children make up approximately 32 percent of the ROI (Census 2020).

18 **Table 3-12. Minority Population and Poverty Rates in Webb County, 2020**

Area	Median Household Income	Persons in Poverty (Percent)
Census Tracts (ROI)	\$22,227	32.1 ¹
Webb County	\$50,296	19.9
Texas²	\$63,826	13.4
United States³	\$64,994	11.4

19 Key:

20 1 Eleven of the 12 tracts within the ROI had available census data for persons in poverty

21 2 Source : Census 2022c

22 3 Source : Census 2022d

23 3.13.3 Environmental Consequences

24 3.13.3.1 Alternative 1: Improvement of the Existing Laredo North and Laredo South Patrol Roads 25 (Preferred Alternative)

26 Impacts on environmental justice are considered adverse if they have a disproportionately high
27 and adverse effect on minority and low-income populations. The Proposed Action would occur in
28 an area where the percent minority exceeds 50 percent minority and the percent low-income
29 exceeds 20 percent of the population. Therefore, the Proposed Action could affect minority and/or
30 low-income populations due to proximity of these populations near the project area. However, the
31 project would not disproportionately affect these populations because the project site would
32 primarily follow a pre-existing route, construction activities would be temporary, and the project
33 would facilitate the efficient and effective response to cross-border violations for the existing
34 population.

1 The Proposed Action would result in short-term, minor, adverse impacts to the nearest sensitive
2 receptors, including residential housing and a children’s home. Residential housing is located
3 within 100 feet of the Proposed Action and the nearest sensitive receptor that includes children is
4 the Sacred Heart Children’s Home located within 350 feet of the Proposed Action. Impacts such
5 as construction noise would be temporary and limited to working hours.

6 The Environmental Justice Index for communities located near the Proposed Action falls within
7 the 90th percentile in the United States for PM_{2.5}, ozone, air toxics cancer risk, air toxics respiratory
8 hazard index, and Risk Management Plan facility proximity (USEPA 2022e). The Proposed Action
9 would cause only temporary impacts on air quality and appropriate BMPs would be used to
10 minimize any potentially disproportionate effects on minority and low-income populations.

11 3.13.3.2 Unavoidable Adverse Impacts

12 Unavoidable adverse impacts from the Proposed Action include temporary noise construction from
13 construction equipment. BMPs would be implemented to minimize impacts to the greatest extent
14 possible.

15 3.13.3.3 No Action Alternative

16 Under the No Action Alternative, border road improvements would not occur, and the existing
17 conditions would remain unchanged. Long-term, minor, adverse impacts to low income, minority
18 populations and children could occur from the lack of efficient border patrol. Border patrol
19 response time to incidents would decrease as road conditions erode. There would be no impacts
20 on people, so there would be no other disproportionately high and adverse human health or
21 environmental effects on children and minority populations and low-income populations are
22 expected.

23 24 3.14 RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

25 The relationship between short-term uses and enhancement of long-term productivity from
26 implementation of the Proposed Action is evaluated from the standpoint of short-term effects and
27 long-term effects. The balance or tradeoff between short-term uses and long-term productivity
28 needs to be defined in relation to the proposed activity in question. Each resource must be provided
29 with its own definitions of short-term and long-term (40 CFR 1502.16).

30 Short-term effects on the human environment include direct construction-related disturbances and
31 direct impacts associated with changes to population and activity that occur over a period of less
32 than 5 years.

33 Implementation of the Proposed Action would result in short-term construction-related impacts
34 such as interference with local traffic and circulation, limited air emissions, increase in ambient
35 noise levels, dust generation, disturbance of wildlife, increased storm runoff, and disturbance of
36 recreational and other public facilities. These impacts would be temporary and would occur only
37 during construction and are not expected to alter the long-term productivity of the natural
38 environment.

1 Long-term effects of the human environment include those impacts that occur over a period of
2 more than 5 years, including permanent resource loss. The Proposed Action requires widening the
3 existing road footprint from 10-12 feet to 24 feet, which means loss of vegetation would be a
4 negative, long-term effect of the project. However, the Proposed Action would also deliver
5 positive effects to long-term productivity: it would enhance USBPs capability for mission success
6 and improve the mobility and accessibility for USBP agents to respond to illegal cross-border
7 traffic.

8 Long-term maintenance and repair are carried out under the Tactical Infrastructure Maintenance
9 and Repair (TIMR) program and impacts of the respective activities are analyzed under the TIMR
10 EA. TIMR activities include maintenance and repair of fences, gates, roads, bridges/crossovers,
11 drainage structures, grates, designated open observation zones, boat ramps, lighting, ancillary
12 power systems, and communications and surveillance tower components.

13 3.15 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

14 Irreversible and irretrievable resource commitments are related to the use of non-renewable
15 resources and the impacts that the use of these resources would have on future generations.
16 Irreversible impacts primarily result from the use or destruction of a specific resource that cannot
17 be replaced within a reasonable timeframe (e.g., energy and minerals). The irreversible and
18 irretrievable commitments of resources that would result from implementation of the Proposed
19 Action involve the consumption of material resources used for construction, energy resources,
20 biological resources, and human labor resources. The use of these resources is considered to be
21 permanent.

22 **Material Resources.** Material resources used for the Proposed Action would potentially include
23 construction materials, gravel, topsoil, fill material, and various materials and supplies. Materials
24 that would be consumed are not in short supply, would not limit other unrelated construction
25 activities, and would be considered negligible to minor.

26 **Energy Resources.** Energy resources, including petroleum-based products (e.g., gasoline and
27 diesel), used for the Proposed Action would be irretrievably lost. During construction activities,
28 gasoline and diesel would be used for the operation of vehicles and construction equipment.
29 However, consumption of these energy resources would not place a significant demand on their
30 availability in the region. Therefore, only negligible to minor impacts would be expected.

31 **Biological Resources.** The Proposed Action would result in a minimal loss of vegetation and
32 wildlife habitat during the patrol road expansion. Since the project involves primarily the
33 expansion of the existing roads in a previously disturbed area, the impact to biological resources
34 would be minor. Previously disturbed land would be used to the maximum extent possible for
35 construction purposes, such as turnouts and passing lanes. These areas would be restored upon
36 completion of the Proposed Action.

37 **Human Resources.** The use of human resources for construction and maintenance activities is
38 considered an irretrievable loss only in that it would preclude such personnel from engaging in
39 other work activities. However, the use of human resources for the Proposed Action represents
40 employment opportunities and is considered beneficial.

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4 CUMULATIVE AND OTHER IMPACTS

4.1 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

Past actions are those within the cumulative impacts analysis areas that have occurred prior to the development of this EA. The impacts of these past actions are generally described in **Chapter 3**. Present actions include current or funded construction projects, CBP or other agency operations near the proposed site, and current resource management programs and land use activities within the cumulative impacts analysis areas. Reasonably foreseeable future actions consist of activities that have been approved and can be evaluated with respect to their effects. The following activities are present or reasonably foreseeable future actions:

Future Construction of Border Barrier in Laredo Sector. CBP proposes to construct, operate, and maintain a new border barrier system in the USBP Laredo Sector, Webb and Zapata counties, Texas. The project would consist of approximately 51 miles of new border barrier system in Webb County, Texas and approximately 18 miles of new border barrier system in Zapata County, Texas. The new primary pedestrian fence would fall within CBP's Laredo North and Laredo South sectors. The new border barrier system would begin at the Laredo Colombia Solidarity POE, run south along the U.S./Mexico international border through downtown Laredo, and end immediately south of El Cenizo city limits.

Future Construction of Border Barrier in Rio Grande Valley Sector. CBP proposes to construct and maintain approximately 84 miles of primary and levee border barrier and associated tactical infrastructure in the USBP Rio Grande Valley Sector in Texas to support USBP operations. The proposed barrier project would be comprised of eight project corridors that would fill in the gaps in the barrier constructed with the Fiscal Year 2018 and 2019 DHS funding. Each project corridor consists of multiple segments stretching between Falcon Dam and Brownsville, Texas. Segments range between 10 feet to 8 miles in length.

TDOT Road Resurfacing. TDOT is currently resurfacing upwards 20 miles of roadway and proposes to resurface upwards 30 miles of roadway within the next four years in the vicinity of the project area in the City of Laredo.

4.2 CUMULATIVE ANALYSIS BY RESOURCE AREA

A cumulative impacts analysis must be conducted within the context of the resource areas. The magnitude and context of the impact on a resource area depends on whether the cumulative effects exceed the capacity of a resource to sustain itself and remain productive. The following discusses potential cumulative impacts that could occur as a result of implementing the Proposed Action and other past, present, and reasonably foreseeable future actions. No major, adverse, cumulative impacts were identified in the cumulative impacts analysis. Implementation of the No Action Alternative could lead to moderate, adverse cumulative impacts due to further road deterioration.

1 **4.2.1 Noise**

2 The Proposed Action would result in short-term, negligible to minor, adverse impacts on the
3 ambient noise environment for the duration of the construction periods. No significant change in
4 ambient noise levels from operation of the new infrastructure would be expected following the
5 construction period. There would be no additional construction activities that would coincide with
6 the Proposed Action. Additionally, operation of the new infrastructure under the Proposed Action
7 would not result in an increase in the noise environment beyond ambient levels. Therefore,
8 cumulative impacts on the noise environment from the Proposed Action, combined with other
9 actions nearby, would be negligible to minor.

10 **4.2.2 Land Use, Recreation, and Aesthetics**

11 There are no foreseeable cumulative impacts associated with the Proposed Action.

12 **4.2.3 Air Quality**

13 The emissions generated during and after construction of the Proposed Action would be short-term
14 and minor. Therefore, cumulative impacts on air quality from the Proposed Action, when
15 combined with other actions in the vicinity, would not have a major impact on air quality.
16 Construction activities would result in short-term emissions of criteria pollutants and GHGs as
17 combustion products and evaporative emissions, and would generate particulate matter emissions
18 as fugitive dust from ground-disturbing activities. Although the Proposed Action would emit
19 GHGs, it would not meaningfully contribute or lessen the potential effects of global climate
20 change. When the Proposed Action is considered in combination with past, present, and reasonably
21 foreseeable actions, there would not be major, adverse, cumulative air quality impacts.

22 **4.2.4 Geology and Soils**

23 The Proposed Action would result in short-term, minor, adverse and beneficial, impacts on
24 topography and soils due to road improvements. The increase in impervious surfaces because of
25 construction activities could potentially affect stormwater drainage. The Proposed Action and
26 other nearby planned projects would have minor, cumulative, adverse effects on geological
27 resources.

28 **4.2.5 Water Resources**

29 Short-term, negligible to minor, adverse impacts would be expected on groundwater and surface
30 water, including wetlands and WOTUS features, during construction activities due to
31 implementation of the Proposed Action from potential leaks from heavy equipment. Impacts can
32 be minimized through use of BMPs and controls, such as temporary barriers and absorbent pads.

33 Road improvements within the floodplain would be expected to have long-term impacts on the
34 floodplain. The Proposed Action would require clearing vegetation and widening the road, which
35 could increase speed of water flow during floods and alter flood hazards.

1 Present and future construction projects conducted in the same region would also be held to the
2 same standard with minimal expected impacts. Therefore, the Proposed Action, in conjunction
3 with other foreseeable actions both on and off-base, would result in minor, cumulative impacts on
4 groundwater or surface water resources.

5 **4.2.6 Biological Resources**

6 The Proposed Action would have minor, cumulative impacts on native vegetation communities,
7 due to the vast amount of similar habitat contained within and surrounding the project area. Some
8 direct adverse impacts on wildlife within the project area could occur due to noise, lighting, or
9 conflict with construction equipment. Impacts would be minimized through the implementation of
10 appropriate BMPs for the protection of general plants and wildlife.

11 **4.2.7 Cultural Resources**

12 There are no foreseeable cumulative impacts associated with the Proposed Action.

13 **4.2.8 Infrastructure**

14 There are no foreseeable cumulative impacts associated with the Proposed Action.

15 **4.2.9 Hazardous Materials and Waste**

16 The Proposed Action, as well as present and reasonably foreseeable future projects in the area,
17 would incorporate appropriate BMPs and environmental protection measures to limit and control
18 hazardous materials and wastes into their design and operations plans. Therefore, the Proposed
19 Action, when combined with other actions nearby, would result in negligible to minor cumulative
20 impacts on hazardous materials and wastes management.

21 **4.2.10 Socioeconomics**

22 The Proposed Action would result in short-term, negligible, beneficial impact on socioeconomics.
23 Direct and indirect, beneficial impacts would result from increased payroll tax revenue and the
24 purchase of construction materials and goods in the area resulting in a beneficial impact on the
25 local economy of the ROI. Therefore, cumulative impacts on socioeconomics from the Proposed
26 Action would not be significant.

27 **4.2.11 Safety**

28 The Proposed Action would have negligible impacts on human safety.

29 **4.2.12 Environmental Justice and Sensitive Receptors**

30 The Proposed Action would result in long-term, minor, indirect, beneficial impacts on children
31 and minority and low-income populations. By increasing the effectiveness of USBP patrol and
32 security operations, the overall impact of the Proposed Action has the potential to decrease crime
33 rates and criminal activity in the vicinity, and increase employment opportunities.

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